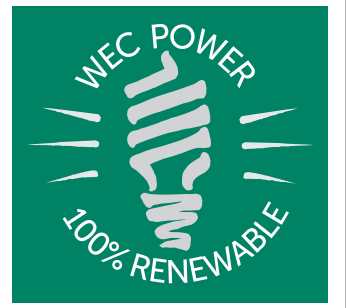




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CO-OP CURRENTS



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The newsletter of Washington Electric Cooperative, Inc., East Montpelier, Vermont.

January 2017

The Saga Of A Charging Station

Student Advocacy, Community Support, Influential at Harwood

It was a civics lesson and a science lesson rolled into one for some 20 to 30 Harwood Union High School students. They had embraced the concept of having an electric vehicle charging station installed by Washington Electric Cooperative in their school's parking lot; for them it was a small but symbolic, perhaps even a trend-setting step for nurturing the environment in the world they will inherit. Furthermore, the metered charging equipment would provide data they could collect and analyze as a part of teacher Brian Wagner's science curriculum.

That was the science part.

The civics lesson was experiential. The Harwood students played a leading role in influencing a vital community institution: their school. They advocated for something they believed in, overcame initial reluctance by the school board and administration, and partnered with adult members of the broader community to make it happen.

And now here it was, the morning of Friday, December 9. With snow swirling around them in a brisk and chilly wind, a dozen or so high-spirited high school kids gathered with a few of the teachers and administrators, a community representative or two, a journalist from *The Valley Reporter*

to document the event for the local paper, and Bill Powell and Patty Richards from Washington Electric Co-op, preparing to cut a makeshift

ribbon slung around the new charging station. It had actually been in service since the start of the school year, but this was the moment to celebrate it and make it official.

Also present was Dave Roberts, a senior consultant for Drive

Electric Vermont, a nonprofit created in partnership by the Vermont Energy Investment Corp. (VEIC) and the state agencies of transportation and natural resources and the Department of Public Service. As soon as he showed up, Dave connected his Nissan Leaf to the new charging station, while on the opposite side of the unit student Harrison Davis, who drives his family's Leaf, did the same.

The picture was now complete. A few camera clicks, the snip of the ribbon, high fives all around, and then the students and staff retreated to the warmth of the school, while the adults drove away, proud of what the kids and their community allies had accomplished.

"The excitement from those kids was infectious!" Richards said later.

Supported by a \$147,000 grant from VLITE, WEC's goal is to install five charging stations in its service territory.

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The big moment! December 9 brought a ribbon cutting for the new electric vehicle charging station at Harwood Union School. From left to right, foreground above, are: teacher Brian Wagner, advisor to the school's Sustainability Club; Harwood Co-Principal Lisa Atwood; and (wielding the scissors) student Harrison Davis, who drives his family's Nissan Leaf to school.

Election Deadlines Near As WEC Prepares For 78th Annual Meeting

There will be a new setting for Washington Electric Cooperative's Annual Meeting this year. The Co-op will hold its 78th Annual Membership Meeting on **Thursday evening, May 4, 2017, at Union 32 High School** (better known as U-32), which is officially in East Montpelier but is just across the line from Montpelier, high on a hilltop outside the capital city.

"We have held the Annual Meeting at the Canadian Club in Barre for the last couple of years," said WEC General Manager Patty Richards. "It's been a great location: centrally located, easy to get to, good food, well known by the membership, and the staff at the Canadian Club has been a wonderful group to work with.

"But we're having growing pains and we are pushing the limits on

space at the Canadian club. Also parking has been an issue due to growing attendance. Increased attendance is a good problem to have, so we're trying a larger venue this year. We think U-32 will be an excellent location with ample parking. Also many members have ties to the school either through their children attending U-32 or even from their own attendance. An added benefit is that any money the school makes from the event is funneled back into the school and back to the communities it serves. This is aligned with the Seventh Cooperative Principle: supporting our communities. We hope and expect to see lots of WEC members enjoying a good dinner with fellow Co-op members and participating in this

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Washington Electric Cooperative

East Montpelier, VT 05651

Inside

Money available for home-energy projects! Weatherization, pellet boilers, water-heating solutions, and more are covered by WEC's Tier III program. Page 8.

Goin' down to Georgia. Scott Martino has provided valuable service to WEC and its members for 25 years, but he's taken a new job in Atlanta. Scott's departure, and other news, is covered in the President's Message, page 2.

Little things add up. Marlene and David Reed's story in December, about living within WEC's low-cost block of energy, earned the admiration of at least one Co-op member. See Letter, page 3.



WEC member Andy Rudnik, above, attended an informational meeting concerning the 2017 changes to Vermont's net metering program. Story on page 6.

President's Message

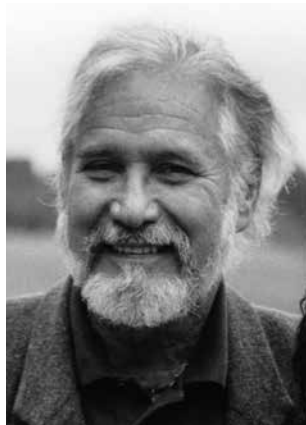
A January Of Change

New Faces in Montpelier, And Farewells to Valued WEC Employees

By Barry Bernstein

Happy New Year to all of our owner/members, employees, and readers. January has brought us a seesaw of weather changes, periods of cold mixed with days of milder temperatures. While we had a few outages on January 10-11, when winds in some places reached 50-60 miles per hour, we were fortunate not to experience widespread damages. Tree clearing and right-of-way maintenance are really helping to improve our reliability during stormy weather. Our increased long-term investments in this area have paid off.

This is a year of significant leadership change in Washington, D.C.,



and in Montpelier. We are witnesses to a world and planet in which people and the very climate are in constant turmoil. We have a new president who won the Electoral College but lost the popular vote, a recipe for controversy. And, nationally, we have a population of citizens – at least as indicated by the 50 percent who voted –

who have difficulty carrying on a civil discourse about critical issues that face us all: climate change, our environment, health care, education, energy, race, and cultural relations. Policy changes in Washington will affect the federal revenue stream that supplements many programs that provide critical services to Vermonters, and we will have to wait to see the impact of these changes.

Gov. Scott has been clear that he supports Vermont's goal of reaching 90-percent renewables by 2050. His gubernatorial appointments and reappointments, in my opinion, have been of qualified and capable people.

In Vermont, where we are fortunate not to have lost our civility nor our ability to talk to each other, we have a new governor, a new speaker of the Vermont House, and a new president pro tem of the Senate. Congratulations to Gov. Phil Scott, House Speaker Mitzi Johnson (a Vermont Electric Cooperative owner/member and former director on that co-op's board), and Senate President Pro Tem Tim Ashe.

While there will be differences between the executive and legislative branches on how Vermont addresses the critical issues we face, we can be assured of a vigorous but respectful debate and actual dialogue, and an ability to compromise moving forward.

Gov. Scott has been clear that he supports Vermont's goal of reaching 90-percent renewables by 2050, in the areas of electricity, heating, and transportation. He has stated his support for solar generation, though not for ridgeline wind. His gubernatorial appointments and reappointments, in my opinion, have been of qualified and capable people, with skills and experience in the areas they will be responsible for. As I write this, I anticipate that we will get more detail on how he will address issues when his budget is presented in late January.

We have an opportunity and a responsibility in Vermont to lead by example, and I have faith that we will – in our discourse locally and at the state level.

Coventry

2017 brings some needed improvements at our Coventry, Vermont, generating plant, fueled by the methane collected from the adjacent landfill. In January, our new gas-scrubbing system came on line. It will enable us to remove more than 95 percent of the siloxanes that enter the waste stream from household products and many other materials, and are sent to the landfill, where they act as an abrasive that harms our engines. By improving our treatment capabilities we can provide a purer form of the gas before it reaches the engines, and thereby experience less wear and tear on the equipment and less downtime when we take the engines offline for cleaning and repair. This will improve our production. Just as important, it will give us cleaner emissions from the exhaust stacks of our engines.

We also have three new completely rebuilt engines, with engine overhauls for the two remaining units scheduled in

March. As a result of these investments, our Coventry plant will operate more cleanly and efficiently, and produce more electricity for our Co-op as an increasing amount of gas becomes available in the landfill.

Net Metering And Tier III

While we still await the final order on the new net metering regulations, clarification on some of the details has been issued by the PSB, which has now responded to inquiries made by WEC and other parties (see "Hashing It Out," page 6 of this issue).

The TIER III program, allowing WEC to work with our members to reduce their fossil fuel consumption from space heating, water heating, and transportation, has now become operational (see our article on page 8). We will continue to keep our members informed through *Co-op Currents*, so those who are interested can take advantage of the incentives and rebates offered by WEC and Efficiency Vermont for weatherization and other steps to lessen their dependence on fossil fuel energy. If you've been considering tightening up your house, switching to solar hot water, buying a pellet boiler, or some of the other improvements addressed in our Tier III plan, there could be no better time to do it. Read the article to learn what's covered and how to get started.

Rate Increase

In their January electric bills, our members will see a 6.52-percent "temporary surcharge" representing the rate increase that WEC filed for with the Vermont Public Service Board (PSB) in November 2016. Once the Public Service Department – which represents ratepayers in matters before the PSB – has reviewed our rate case filing and an agreement is reached on the final amount judged appropriate by both the Department and the Board, the surcharge will be removed from your bill and the adjusted rates will go into effect on a permanent basis.

This is our first rate-increase request since August, 2014. It is based on costs that can't be avoided: a drop in the market prices for renewable energy credits (RECs) that we earn from our investments in the Coventry plant and Sheffield Wind, and sell on the regional market; and increases in our transmission costs and employee-related costs such as health care.

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Co-op Currents

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WEC is part of the alliance working to advance and support the principles of cooperatives in Vermont.

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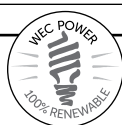
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Editorial Committee

Patty Richards Donald Douglas David Magida Anne Reed Will Lindner

The Board of Directors' regularly scheduled meetings are on the last Wednesday of each month, in the evening. Members are welcome to attend. Members who wish to discuss a matter with the Board should contact the president through WEC's office. Meeting dates and times are subject to change. For information about times and/or agenda, or to receive a copy of the minutes of past meetings, contact Administrative Assistant Dawn Johnson, at 224-2332.

This institution is an equal opportunity provider and employer. If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at http://www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.



To call the Co-op, dial 223-5245 Mon - Thur 7:30 am - 5 pm and Fri 7:30 am - 4 pm.; toll-free for reporting outages & emergencies, 1-800-WEC-5245.

Election Deadlines

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really important Co-op tradition.”

Among the most important functions of the Annual Meeting is to complete the elections for seats on Washington Electric's Board of Directors. The terms of three directors will expire at that time. Most of the balloting will take place by mail in the weeks prior to the meeting, but the poles will be open for 90 minutes (5:00 p.m. - 6:30 p.m.) on May 4, and the results of the election will be announced before adjournment.

With our Annual Meeting now on the horizon, the time has arrived for members interested in serving on the WEC Board of Directors to mobilize their candidacy. As announced in *Co-op Currents* in December, the directors whose terms will expire with this election cycle are Don Douglas of East Orange, Mary Just Skinner of Middlesex, and David Magida of Middlesex. While two of the incumbents, Don Douglas and Mary Just Skinner, will be seeking re-election,

David Magida, who has given nine years (three terms) of service to his electric co-op, has decided not to run again.

WEC, like all cooperatives, thrives on member involvement. Serving on the board is not the only way to participate, but it's a very important one. Directors are elected to three-year terms, and the election process is open to all qualified Co-op members. "Qualified" basically means being a Co-op member in good standing. Like all democratic institutions, Washington Electric Cooperative functions best when more members participate.

The materials required of board candidates include petitions signed by at least 25 WEC members, a brief biography and photo for use in *Co-op Currents*, and a document called an

"We think U-32 will be an excellent location. And any money the school makes will be funneled back into the school and the communities it serves, which is aligned with Co-op Principle #7: supporting our communities."

– Patty Richards

Affirmation of Receipt, Understanding, and Compliance. Time is now getting short. **Completed materials are due at WEC's office in East Montpelier by Friday, February 10, 2017.**


If you would like to serve your Co-op and community on the WEC Board of Directors, please contact Administrative Assistant Dawn Johnson (802-224-2332, or dawn.

johnson@wec.coop). She will send a packet that includes the necessary materials.

Bylaws petitions due sooner

Washington Electric Cooperative is governed by legally binding bylaws, and the annual election process provides members an opportunity to amend those bylaws. You can read the Co-op's bylaws on the web site: www.washingtonelectric.coop/about-wec/bylaws/

Along with your amendment proposal you must submit a petition with the signatures of at least 50 WEC members (the petition form can be obtained from the Co-op's office). **These materials will be due on or before Wednesday, February 8, 2017.**

It's your Co-op. Think now about participating. 

President's Message

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Changes At WEC

Our long-term and valued employee, Safety & Environmental Compliance Specialist **Scott Martino** has decided, after 25 years of working at WEC, to head south. Scott will become Safety & Health Consultant for Georgia Power, a very large utility with 10,000 employees, based in Atlanta. Scott spent many years as our inventory supervisor, keeping our warehouse stocked and supplied with the equipment needed to keep your lights on, and was promoted to the safety-related position in 2011. He took his new responsibilities seriously, returning to school to earn a bachelor's degree in Occupational Safety & Health. During Scott's tenure we received several national and state safety awards and achieved record-setting lengths of time with no accidents or injuries that caused missed hours of work.



Scott Martino

In July, our plant accountant, **Cathie Vandenberg**, Scott's partner of 21 years (and new wife as of January 7!), will also leave to join Scott in Georgia. It's hard to think of anyone who knows our Co-op better than Cathie, who has worked in the office and the warehouse in numerous positions since 1993 and participates as a nighttime dispatcher during serious storms. Scott and Cathie will always be part of the WEC family. We wish them the best in their new home, but we will surely miss them here.

Josh Diamond, our legal counsel

for the past 18 years, from Diamond & Robinson, will be leaving to become the deputy attorney general under recently elected Vermont Attorney General, TJ Donovan. Josh




Josh Diamond

has been a most valued counsel, working closely with the WEC board and management. His wisdom, his knowledge, and his dedicated service to our Co-op will be missed. But while his departure is a great loss for WEC, it's a great gain for the State of Vermont. We applaud his willingness to serve the greater good by giving public service to us all.

At the same time, we welcome **Ron Shems**, also of Diamond & Robinson, as our new general counsel. Ron was a former founding partner in the law firm of Shems Dunkiel Kassel & Saunders, and a former chair of the Vermont Natural Resources Board before joining Diamond & Robinson. **Richard Saudek**, who has served the state both as chairman of the Vermont Public Service Board and the first commissioner of the Vermont Department of Public Service, now works with Diamond & Robinson and will be available to aid us on utility issues. We welcome Ron and Dick and look forward to working with them.

The Legislature is back in session, and energy issues are always a focus of their work. We will keep you abreast of any developments that unfold during the session.

We hope all of our members have a safe winter and stay warm. Please know that we are here for you, and are only a phone call away if we can be of help. 

Members Write

Co-op Currents welcomes letters to the editor that address any aspect of WEC's policies and operations, or any matters related to electricity. Readers can write to wecmembers@wec.coop, or *Co-op Currents*, P.O. Box 8, East Montpelier, VT 05651. Letters to the editor will not be published in the Annual Meeting (April) issue.

The Virtues of Turning Stuff Off

Editor, *Co-op Currents*:

I loved the article about the Reeds in the latest *Co-op Currents* ("Living Below 200 kWh A Month," December 2016). The only efficiency improvement they needed was a replacement refrigerator. They likely did not install, as described on Page 1 (a separate story, about WEC's Tier III program), a heat pump domestic water heater, air-to-air heat pump, or a solar hot water system.

Nor is there any mention of LED lighting or similar technological wonders. They probably turn lights off instead. Bless them!

The Reed article focuses on limits to their electric use, their frugality, and how pleasant their house is, likely as a result of not using excess electricity. This is a wonderful article. I hope you publish more examples like the Reeds.

"Energy efficiency," on the other hand, implies there are no limits to our using electricity.

We can waste all the electricity we use, as long as we waste it efficiently. Energy efficiency is an excuse to use energy; the more electricity we use efficiently, the more electricity we save. You have heard this from me before.

A family with one Prius driven 100 miles per month has equal efficiency to a family with three Priuses driven 100,000 miles per year. A modest home like the Reeds' has equal efficiency to a gigantic mega-mansion with Btus per square foot per year equal to that of the Reeds.

So, I congratulate the Co-op on the Reed article and hope more common sense and energy wisdom is printed on future *Currents* pages.

— Andy Rudine, West Danville



Marlene and David Reed, of Washington, who are frugal in their use of energy, demonstrate that people can live at, or not far above, the inexpensive 200 kWh/month first block of power that WEC provides every member, without sacrificing comfort. The Reeds were featured in the December 2016 issue of Co-op Currents.

The Saga of a Charging Station

continued from page 1

WEC, VLITE team up

This was the fourth electric vehicle (EV) charging station that WEC has sited in its service territory. Supported by a \$147,000 grant from the Vermont Low-Income Trust for Energy (VLITE, a public-benefit corporation formed in 2012), WEC's goal is to install a total of five. WEC has chosen a site in East Montpelier for the remaining station and hopes to have it in operation during 2017. The other units, all up and running, are at Rumney Memorial School in Middlesex, the commuter parking lot at I-89 Exit 9, and at Cabot Cooperative Creamery's administrative headquarters in Fayston. At the Cabot site, Harrison Davis' father, Creamery executive Jed Davis, was instrumental in placing the station in the employee parking lot.

One thing the Co-op has learned during this project is that one size does not fit all. Actually, the units themselves are the same – Level II stations that provide a faster electric charge than the 110-volt Level I stations that represented the first steps toward a now-expanding EV service infrastructure. The Harwood station is “dual port,” able to charge two cars simultaneously, and links to ChargePoint, a nationwide network with more than 35,000 charging locations. After connecting their vehicle to one of the cables attached to the tower, customers can hold their ChargePoint cards in front of a scanner and receive a monthly bill for their electric charges (like EZ Pass). Alternatively, they can pay with a credit card.

What has not been uniform, however, is the ease of installing the charging stations. To communicate with ChargePoint's network, the stations require a reliable cell signal, which in rural Vermont is not a given. Bill Powell, WEC Director of Products & Services, who heads up the Co-ops' EV project, has had to work around



“The excitement from those kids was infectious!”

— Patty Richards, WEC (standing at the far left in the photo above)

difficulties in a couple of the locations, and it happened again at Harwood Union. There was little flexibility about where the unit could be sited, but with the cooperation of school officials Powell solved the problem by extending a cable about 300 feet from the school's internet hub and using a microcell routing system to beam a signal to a receiver placed above the EV tower.

“The bandwidth is limited to just the machine,” says Powell, “so it's secure from other uses.”

‘Why would we not?’

The real challenge at the Harwood site, though, was whether the school board, the administration, and

Washington West Supervisory Union's leadership would agree to host it at all. It took the better part of a year, bargaining and renegotiating between Washington Electric Co-op and Harwood officials, and persuasive input from community members and the students to make it happen.

In the end, the parties reached an agreement that alleviated the school

of certain responsibilities they were reluctant to take on.

Powell was sympathetic. “There were a lot of decisions for them to think through, like who would be the target users for this machine that's on the school's grounds – the faculty, the students, people in the community.

“They had the strength of argument, and they learned that by pushing hard enough they could effect change.”

— Matt Henchen

Our attempt was to provide them with choices, and to help them understand how the ChargePoint system resolves some of those questions.

“Also,” said Powell, “there was the Act 46 stuff they were dealing with (Vermont's 2015 education-reform legislation, which imposed administration and budgeting challenges on public schools). They were overloaded. So they didn't want to administer the (EV charging) device.”

For much of Harwood's constituency, however, the offer that Powell presented to the school board in September of 2015 looked pretty good. Funded by the VLITE grant, WEC proposed, as at the other locations, to donate the charging machine – an \$18,000 value – and pay the service agreement costs for the first five years. After that, with the benefit of five years of data, the school could decide whether to keep it in service and how to price the charging time to help cover costs the school may incur.

The board's uncertainty – first postponing an answer to WEC, then going back and forth between accepting and declining – did not appear to be mirrored in the community. Letters to the editor in *The Valley Reporter* urged education officials to accept the deal. Then, in a December 2015 editorial, the newspaper opined: “As a community we espouse – exhort actually – living greener lives and reducing our carbon footprints. Students in our schools learn sustainability and conservation.” The editorial expressed dismay that “our union high school would reject this generous offer and all the opportunity it represents.”

Meanwhile, the students were organizing. One of the platforms for their action was a volunteer group called the Sustainability Club, for which Brian Wagner acts as an adviser. Another project the Sustainability Club



Student Harrison Davis, above left, and Dave Roberts, a senior consultant for Drive Electric Vermont, charge their electric vehicles simultaneously at the new EV charging station in Harwood Union High School's parking lot in Duxbury.



has spearheaded is a ban-the-bottle campaign against plastic water bottles. The Club took up the cause of the EV charging station, too. In an impromptu meeting this fall (by which time the station had actually been installed), some of the students reiterated their reasons.

“The board said it wouldn’t be all that useful,” said one young man. “But you’ve got to get the infrastructure in place. Having it here will encourage more electric vehicles.”

A female student added: “We said it would be a cool project that could tie into the curriculum. We would have a real world learning experience in terms of getting information from it.”

Other forums for the students’ advocacy were teacher Matt Henchen’s civics class, Creating Sustainable Communities, which has a strong service-learning component, and the Youth Lobby, which has undertaken climate change-related projects (and which Mr. Henchen assists as an advisor).

“The students felt they were being offered a way that *they* could help to address climate change, at least in some small way,” Henchen said. “Their thinking is that not enough is being done, so why would we not?” (accept the charging station).

The students also had allies among parents and other adults in the community. Red Hen Bakery owner Randy George was outspoken, and parent David Frank, of Fayston, committed time and energy to the cause, forming an “EV community advisory committee.” Frank also helped facilitate communication between Harwood’s leadership and Washington Electric Co-op, steering the participants to a resolution at a school board meeting last June.

WEC President Barry Bernstein accompanied Bill Powell to the meeting to underscore the Co-op’s willingness to address Harwood’s concerns. The meeting ended with the board’s final approval, paving the way to the unit’s installment over the summer and the raucous, snowy celebration on Friday morning, December 9.

Cool school

In the end, the agreement WEC and the Harwood and Washington West leadership finalized involves the Co-op assuming the oversight for the charging unit. While the standard arrangement would have had the school receiving revenues from ChargePoint for the monthly charge time at the station – minus that company’s percentage for facilitating purchases and processing the funds – ChargePoint will forward the distributions to WEC instead.

These aren’t large sums of money. EV owners often find that recharging their vehicles costs a small fraction of what it would cost to fill their gasoline tanks. So when WEC receives Harwood’s distributions from ChargePoint, the Co-op will hold those revenues until they reach at least \$50, and then apply them to the school’s electric bill. Harwood Union High School is Washington Electric’s largest Co-op member, purchasing more power monthly than any other

institution, business, or household on WEC’s lines.


“We accomplished what we set out to do, getting a station established in that part of our service area, and we’ve given them what they asked for to make it work out,” said Bill Powell.

The teachers, Mr. Wagner and Mr.

Henchen, believe the experience was a great lesson for their students.

“They worked for it,” said Matt Henchen. “They wrote to the newspaper, they put it on Front Porch Forum, they went to board meetings. They had the strength of argument, and they learned that by pushing hard

enough they could effect change.”

Science teacher Wagner cited the educational benefits. “This will contribute to the curriculum,” he said. Then, with his customary playful smile, he added, “And they get a little publicity out of it, too. ‘Hey, we’ve got a charging station here! We’re cool!’” 

Feathers Accumulate In Harwood’s Cap

Four Years Ago the School Won an ENERGY STAR Award

Progress seldom comes easily. It took sustained pressure and effort for students and members of the communities served by Harwood Union Middle/High School to persuade the powers that be to accept Washington Electric Cooperative’s cost-free offer to install an electric vehicle (EV) charging station on the school’s campus in Duxbury. The school board was divided, the administration reluctant to add to its duties.

But those who favored the project were persistent over the course of an entire school year. Happily, in the end, Harwood’s leadership was persuaded, and it helped that WEC agreed to perform fairly minor duties related to managing the flow of costs and revenues for the vehicle-charging system, a task normally handled by the entity hosting the apparatus. The important thing is that there’s now one more charging unit in central Vermont’s support network for non-polluting, non-greenhouse gas-emitting electric vehicles.

And because the new charging station is connected to Washington Electric’s power lines, there’s an even greater environmental benefit, because WEC’s power is 100-percent renewable. Few charging units in the United States can make that claim. (WEC now has four of them.)

So this latest Harwood project was no slam dunk. But it’s important to put that in context. Just a few years ago (2013) Harwood Union was one of 11 Vermont schools to receive an ENERGY STAR award, an accomplishment that placed it within the top 25 percent of schools nationwide in energy conservation and efficiency. ENERGY STAR-awarded schools also end up with improvements to their indoor environments (cleaner air, better lighting) that are conducive to better student and staff health and to educational success. These myriad benefits are why Efficiency Vermont and the Vermont Superintendents Association promote what’s known as the Whole School Energy Challenge – the pathway that can lead to ENERGY STAR recognition.

Schools that take up the Challenge can decide where to concentrate their efforts, consistent with the needs of their particular buildings. There was a lot that could be done at Harwood, which is a 1960s-vintage, flat-roofed, 170,000-square-foot building with more than 100 rooms, lots of glass, and a labyrinth of spacious hallways creating uneven heat distribution. A few years before the Challenge, in 2008, Harwood had purchased a woodchip


boiler, which cut its fuel oil consumption by around 80 percent.

To pursue the ENERGY STAR designation, Facility & Operations Director Ray Daigle replaced more than 30 old, inefficient refrigerators around the building with just a couple much-larger but energy-efficient ones. The school also replaced old water-pressure pumps with energy efficient variable-speed drive pumps, invested in an up-to-date industrial-sized dishwasher that cleans contents more efficiently with less water, and replaced a dated kitchen exhaust hood that was discovered to be a major energy drain. (It’s not uncommon for kitchen exhausts to be culprits when energy is being wasted.)

Meanwhile, science teacher Brian Wagner was getting his eighth-grade students involved. They formed an Energy Militia, concentrating mostly on studying and reducing the energy-consuming impact of lighting, and posting signs to remind other students – including the older, cooler, high-school crowd – to be conscientious about turning lights off when they’re leaving a room. The militia also paid attention to plugs and electrical outlets, a detail frequently overlooked by students and adults alike, who just want the gratification of their electrical stuff turning on. But care in using plugs, and attaching a multi-plug power strip when needed, can improve the efficiency of energy usage and is a safety precaution as well.

There were other elements in Harwood Union’s successful pursuit of the ENERGY STAR honor. The point is that, for most communities, their school buildings are some of the most constantly used, energy-intensive facilities in town, and most were built in an era before efficiency and conservation were priorities in construction.

In 2013 – and actually for a few years before – Harwood Union took the bull by the horns and lowered the school’s maintenance and operations costs for its constituent towns. And now there’s an EV charging station in the parking lot. Perhaps, in this month when Americans celebrate the life and the contributions of Dr. Martin Luther King, we might paraphrase one of his inspiring observations: “Let us realize that the arc of the moral universe is long, but it bends toward care for our planet.”

At least let us hope so. 



Harwood Union Middle/High School, Duxbury

Hashing It Out

WEC Net Meterers Discuss, Study, the State's New 2017 Program

Washington Electric Cooperative has about 260 members who own small renewable energy generating systems and participate in the state's net metering program. It's a program that maintains their connection to the electric grid so that power from their electric utility is available to supplement the power they generate and use themselves. Net metering also entitles them to compensation for any "excess" power (beyond their own usage) that they produce and channel into the grid – adding more clean, renewable energy to the state's resources.

People have various reasons for enrolling in net metering. WEC member Chris Preston probably spoke for many when he explained, at the Co-op's Community Meeting in Cookeville last October, that he had spent money for a solar generating system and enrolled in WEC's net metering program because he believed producing renewable power was "the right thing to do" for society and for the environment. Some people, though equally committed to the social/environmental cause, are mad tinkers with a bent for technology. Some believe, as many Vermonters do, that energy independence is a virtue in itself.

For other net metering members, practical economic calculations spurred them on.

"The reason I got into solar was to eliminate my electric bill because I was retiring, and \$80 a month (not spent on electricity) means a lot more for groceries and medicines," said a Co-op member who attended an informational meeting WEC held for net meterers on December 8, 2016, at the Old Brick Church next door to the Co-op's office headquarters. "Now," he worried, "you're saying that's going to be wiped out."

No, not wiped out.

But the terms of Vermont's net metering law were about to change at

Several members wanted to know if, after 20 years, their net metering benefits would abruptly end. Since the meeting, that question has been resolved. "The PSB has clarified that after 20 years of operation net excess generation will continue to be paid at the statewide blended rate," says WEC General Manager Patty Richards.



A number of people who participate in Vermont's net metering program gathered on December 8 in East Montpelier for an information session concerning new rules, debuting on January 1, 2017, for the program. Several, including the Co-op member above, worried that the rules would undermine the financial benefits their systems provide them, which are crucial to their home budgeting.

the first of the year (January 1, 2017), and WEC had called the December 8 meeting, contacting every member enrolled in Washington Electric's programs – to help prepare them for changes that at some point would alter their bill structure and level of compensation. For some participants, the impact of these changes lay months or years down the road. But for others, the effects could be immediate,

starting with their January electric bills.

About 30 people showed up for the hour-long, late-afternoon meeting. WEC General Manager Patty Richards, Member Services Supervisor Susan Golden (whose staff calculates members' monthly electric bills), and Products & Services Director Bill Powell were there to present information and answer questions. But at the time they had no answer for one of the first

subjects that arose, and which created the worry expressed by the gentleman planning his retirement and by others in the room. It concerned what seemed to be a sunset provision in Vermont's new net metering rules.

The rules state that people can remain on their original net metering programs until they've had their systems for 10 years. At that point, the rules under which they signed up are set aside and they become subject to the new rules that took effect on January 1. What alarmed some members, though, is that the PSB rules explicitly allow them to continue on the net metering program for 10 more years, but are silent about the years beyond that.

Several members wanted to know if, at that point, their net metering benefits would abruptly end. A few were angry at the idea that they would be providing their excess power to the grid with no compensation.

Richards and her staff had no definitive answer to that question, but said they had been pressing the PSB to clear it up.

Since then, however, it has been resolved.

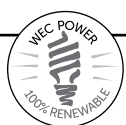
"The PSB clarified the rub spot for many who were at our meeting," Richards said in January. "After 20 years of operation net excess generation will continue to be paid at the statewide blended rate (currently set at 14.9 cents per kWh). Hence, the worries expressed at the December 8 meeting have been addressed. Based on the rules in place today," she emphasized, "net metering members will continue to be paid."

Of course, the original and enduring purpose of the net metering program is simply to make it affordable for people to install home-based, small-scale renewable generating systems so they can provide much of their own power.

continued on page 7



Listening intently. With information provided by WEC General Manager Patty Richards and other staff members, net metering members learned that the Co-op's "Legacy" program would remain in effect for them until their individual electric generating systems had been in operation for 10 years. Then they would be switched to re-written rules introduced by the state on January 1.





About 30 Washington Electric net metering participants, including the folks above, attended the information session the Co-op hosted on Thursday evening, December 8.

That's even more advantageous to them, considering that in doing so they displace electricity that would otherwise be charged to them at Washington Electric's highest rate, which is 21.8 cents per kilowatt-hour. (WEC's rate structure provides every member's first 200 kWh per month at a much less expensive 9.8 cents/kWh.)

Brass tacks

While there was a brief discussion about why the Public Service Board (PSB) had revised Vermont's net metering rules as they had – the

project itself was undertaken in response to a directive in 2014 by the state Legislature – the meeting's goals were very practical: to help members understand what the changes were, and when and how those changes would affect them. Net meterers' bills vary enormously, depending upon how much power they generate, whether they generate more than the homeowners use themselves, or less, and which of WEC's two pre-2017 net metering programs people were enrolled in.

Richards led the discussion,

which centered on a spreadsheet the staff had prepared for detailing the changes to come. Golden and Powell pitched in to help unravel some of the complexities, and a couple of the members present were also savvy about those calculations and helped clarify and update some of WEC's numbers.

"This is complicated stuff," Richards confessed, "and we're learning, too." She said the Co-op would refine its spreadsheet and send the corrected version to everyone who wanted it. (It's still available. People interested in having the updated spreadsheet can call WEC and speak to Susan or Bill.)

Actually, one of the complexities disappeared on January 1 – and that's because Washington Electric terminated its "grid service fee" (GSF) net-metering program, which had been in effect since July 2014. Members who had joined net metering after the GSF program was instituted were switched to WEC's original, or "Legacy," net metering program at the first of the year. The GSF, a monthly charge calculated on the basis of a participant's electricity generation, was created to ensure that net meterers (at least those who joined over the past two and a half years) would contribute more equitably to the Co-op's costs for supporting its 1,250-mile electric-distribution system. With all WEC net meterers now reverting to the Legacy program, the grid service fee will no longer be collected; that represents a modest, temporary financial gain for members formerly on the GSF program. (The first formerly GSF systems will reach their 10-year mark in 2024.)

The spreadsheet, however, was about the future, not the past. Assuming a monthly household energy use of 500 kilowatt-hours (kWh), which is approximately the WEC average, one section of the spreadsheet itemized the effects of the 2017 changes for people who produced *less* power than they consumed (and therefore purchased additional electricity from the Co-op). The other section itemized those effects for people who generated *more* power than they consumed and whose systems automatically contributed their surplus energy to the grid, so that they were essentially paid for their excess generation by other WEC members.

(Note: many net meterers could be in one camp in some given month – say, in summertime, when their solar systems are particularly productive – and in the other camp when the weather is cloudier or the days are shorter.)

Here are some of the variables on the spreadsheet:

- **Grid service fee:** goes away for those that built systems after July 2014;
- **Member service fee and energy efficiency charge** (supporting Efficiency Vermont): no longer offset, under the 2017 rules, after a system has been in operation and enrolled in net metering for 10 years;
- **Credit for net excess generation:** the level of credit, per kWh of surplus home-generated power,



WEC Products & Services Director Bill Powell (above) helps explain how net metering changes will affect members, based on several variables. Some of the members in attendance were also helpful in untangling the complexities of the program.

is modestly reduced when systems graduate to the 2017 rules after reaching 10 years in operation (details available on the spreadsheet, and in recent *Co-op Currents* articles);

- **Accumulation of credits:** these credits are tracked by WEC's billing system on a rolling basis and applied to members' electricity purchases from the Co-op, with the effect of reducing their bills. Credits expire after 12 months. "This part doesn't change with the 2017 program," said WEC's Bill Powell. "There's nothing new here." Added General Manager Richards, "We have very few accounts in which people lose their credits."
- **Siting adjusters:** these apply only to net metering projects coming online after January 1, 2017. The adjusters provide a reward – extra revenue – for projects that meet their criteria, and they are based on the *full generation of the project*, not just excess generation provided to the grid. Small projects (15 kW and less), and projects sited in environmentally preferred areas or areas designated for energy development by local municipalities, will qualify. Also, projects that turn over their renewable energy credits (RECS) to Washington Electric will get an additional incentive.

There are other calculations, as well, on the WEC spreadsheet. Net metering has always been a more complicated program than many participants realize. People are often attracted to the apparent simplicity of purchasing a system, providing their own power, and enjoying financial benefits when their systems are robust and productive. It's never been that simple. If you have questions about Vermont's net metering program – even though under the new rules WEC does not have a distinct program of its own – please contact the Co-op for information.

New applicants for net metering are encouraged, too.

PUBLIC NOTICE

PUBLIC NOTICE

HERBICIDE USE NOTIFICATION

Vermont utilities maintain electric line rights-of-way with several methods, including the selective use of herbicides on trees and brush. They also encourage low-growing shrubs and trees which will crowd tall-growing species and, thus, minimize the use of herbicides. The application of herbicides may start as early as April 1. **If you own or occupy land within 1000 feet of a utility right of way, you may request in writing to be notified when the line will be treated with herbicides. Written requests for placement on the mailing list must be received by the utility by February 15. Additionally, it is the landowner's duty to inform the utility in writing of any potentially affected water supply and any environmentally sensitive areas where herbicide application should be avoided.**

The Public Service Board requires Vermont utilities to carry out vegetation management techniques which allow maintenance of electrical systems in a cost-efficient manner. The types of herbicide treatment used to maintain vegetation on utility rights-of-way include the following applications: stump, injection, basal, soil, and foliar. These are the commonly used methods; your local utility may use other methods. Landowners have the option of requesting a utility to apply herbicide treatment on cut stumps only or that a utility refrain from applying herbicide. In the latter case, the landowner has to pay the utility an administrative fee. Only electric utility rights-of-way that have tall-growing tree species with the potential of threatening the electric utility system are treated.

Utilities advertise by radio and newspaper prior to herbicide applications on all lines. Utilities typically treat rights of way once every four-to-six years, depending on the utility's specific vegetation management cycle. Please check with your utility regarding the vegetation management cycle of a particular line.

Some utilities identify their poles with metal letters and numbers, e.g., V.E.C. (Vermont Electric Co-operative), or V.E.L.C.O. (Vermont Electric Power Company). These markings are not found on every utility pole. However, by checking of several poles on a line, you should be able to find a marked pole and determine which utility owns it.

Persons owning or occupying land within 1,000 feet of a utility right-of-way may request in writing that the utility notify them individually by mail anytime but at least 30 days prior to treatment of the line with herbicides. The landowner or resident is responsible for contacting the utility, in writing, to request placement on the mailing list. The utility should be provided with sufficient information as to the exact location of the residence and land. It is the duty of each landowner or resident to make the utility aware of the location of any potentially affected water supply, and any environmentally sensitive areas where herbicide application ought to be avoided.

CONTACT YOUR ELECTRIC UTILITY WITH QUESTIONS OR SUBMIT THE COUPON PROVIDED

If you have further questions or concerns contact:

Agency of Agriculture
Cary Giguere
116 State St., Montpelier, VT 05602
1-802-828-6531

Consumer Affairs & Public Information
Dept. of Public Service
112 State St., Montpelier, VT 05620
1-800-622-4496 or 1-802-828- 2332

LANDOWNER REQUEST TO BE ADDED TO HERBICIDE TREATMENT NOTIFICATION MAILING LIST	
Name	Town/City of Affected Property
Street Address	Telephone Number (Home)
Town	(Work)
State	Zip Code
Electric Account Number	O.K. to use Work Number: Yes <input type="checkbox"/> No <input type="checkbox"/>
Property of Concern: <input type="checkbox"/> Year Round Residence <input type="checkbox"/> Summer Residence <input type="checkbox"/> Commercial Property	Best Time to Call
<input type="checkbox"/> Water Supply <input type="checkbox"/> Land <input type="checkbox"/> Other	
Line and Pole Identification: Utility Initials	Numbers
We need all of this information in order to determine if you qualify for personal notification. If information is unobtainable, please state why. Use an extra sheet of paper if you need more space.	
RETURN TO YOUR LOCAL UTILITY	
VELCO17	



Hear Ye! Money Now Available For Weatherization, Other Energy Improvements

WEC's 'Tier III' Programs Are Now Underway

Saving energy saves money. And at the start of the year (2017), Washington Electric Cooperative kicked off a program that actually provides money to Co-op members to help them with the expenses associated with saving energy. It's a double financial benefit: members whose projects line up with the goals of what's called WEC's "2017 Annual Plan for Tier III Compliance" will be able to receive money for the purpose of saving further money down the road.

However, there's not a bottomless well of funds available for these programs. Applications will be evaluated and awarded on a first come/first served basis until the money for the 2017 program runs out. No one knows how soon that will be, because this hasn't been done before.

The message, therefore, is Act Soon!

"Weatherization projects are our strongest priority for our Tier III programs," says WEC General Manager Patty Richards. "There are other improvements people can make to conserve energy and reduce their costs for electricity and fossil fuels, but those kinds of investments almost always have better outcomes and a greater impact if weatherization comes first."

A lot of the housing stock in WEC's rural territory is fairly old and would benefit from improvements in insulation, air sealing, tightening up gaps in the construction, replacing outdated windows with effective modern windows that lock in heat and eliminate drafts, and other measures.

"That's why our emphasis is on weatherization," Richards said.

Still, that's not the only kind of energy-related investments that WEC, and its partner in the 2017 Tier III Compliance program, Efficiency Vermont, will support. "Tier III" is called that because it is, essentially, the third component in Vermont's 2015 legislation known as Act 56, whose goal is to move the state toward greater reliance on renewable energy. An important way to do that is to decrease people's consumption of non-renewable energy – chiefly, fossil fuels. Weatherization accomplishes this by reducing the workload placed on oil- or propane-fueled heating systems.

Other elements of WEC's Tier III Compliance program address actual fuel switching, away from fossil fuels and toward renewables, whether that means electricity that's generated from renewable sources (WEC's power is 100-percent renewable) or, for example, solar technology or wood-pellet home heating.

Here are the components of the Co-op's 2017 Tier III program:

- **home weatherization;**
- replacing fossil fuel-fired water heaters with ENERGY STAR® **heat pump water heaters;**
- installing **solar water-heating** units;
- switching to **pellet boilers** as the primary home-heating source;
- installing **cold-climate heat pumps** as a component of a home's overall heating plan.

An additional component of WEC's Tier III Compliance plan is to continue installing publicly available charging stations for electric vehicles (EVs) within its service territory. WEC currently has four of these stations in operation, with a fifth scheduled to come on line in East Montpelier during 2017. That effort, however, is funded separately for WEC, from a grant from VLITE. (See "The Saga of A Charging System," page one.)

Number and type of projects

WEC's and EVT's goals for 2017 are ambitious. Working together in Washington Electric's 41-town service territory, the two organizations aim to:

- assist 55 homeowners to undertake weatherization projects;
- provide partial funding for 35 ENERGY STAR heat pump water heater installations;
- help pay for two solar hot water systems;
- support 4 pellet boiler installations for home heating;
- assist five Co-op members to incorporate cold climate heat pumps to reduce their dependence on their conventional (fossil fuel) heating systems. This benefit is more pronounced in Washington Electric Co-op territory because the electricity that powers them is 100-percent renewable; yet be aware that including weatherization in your plans will boost the heat pumps' efficacy in Vermont's cold winters.

WEC is working hard to publicize these programs. The primary reason for doing so is to support the state law (Act 56) that created this approach to striving to meet Vermont's Comprehensive Energy Plan: deriving 90 percent of the energy used in all sectors from renewables (including transportation; thus the EV charging stations) by 2050. Also important, however, is that Act 56 sets targets that Vermont's utilities must meet for their Tier III obligations, or pay a financial

There's not a bottomless well of funds available for these money- and energy-saving programs, so the message is Act Soon!

penalty if they don't.

Co-op members by now will have received their January electric bills, the first to include the 6.52-percent temporary surcharge that will, if and when the Vermont Public Service Board approves WEC's application, become a permanent rate increase. WEC's

leadership is therefore aware that from a financial perspective the timing isn't great for WEC to dedicate money for these programs; yet the future costs and burdens of contending with an environment that we have neglected makes expenditures like this a smart investment. In any case, our state law requires this of Vermont's electric utilities, so the Co-op has budgeted \$48,000 for its Tier III efforts in 2017.

Primarily, WEC's financial assistance will be in the form of incentives to alleviate some of the costs and encourage people to make these home-improvement, energy-saving measures. Efficiency Vermont's contributions will significantly enhance WEC's incentives.

A greater level of assistance will be available for members who qualify under the income-eligibility guidelines set by the Vermont Agency of Human Services. Low-income WEC members who take part in WEC's Tier III

home-weatherization opportunities will be served through the state's Weatherization Assistance Program, which will help conserve the money Washington Electric is investing and potentially broaden the impact of the Co-op's Tier III program.

Getting started

To learn more about your opportunities under WEC's 2017 Tier III Compliance program, the best place to start is by calling the Co-op's Energy Coach, WEC Products & Services Director Bill Powell. Bill can be reached at 802-224-2329. He will be able to answer your questions and help you make initial decisions about participating.

Ultimately, Efficiency Vermont will be administering this joint WEC/EVT program. For now, members can contact EVT toll-free at 888-921-5990, which is Efficiency Vermont's main number. Ultimately, that organization might establish a contact route specifically for the WEC program, but the above number will remain valid.

This is a rare opportunity to get financial help for projects you may have had in mind for years: improving your home's comfort, reducing your monthly energy costs, making Vermont more energy independent, and lightening our burden on the environment. The Energy Coach is chomping at the bit, eager to help you get going. 🐉



A challenge Vermont faces in developing its EV-charging infrastructure is that reliable cell signals, which are necessary for activating the units and facilitating payments, aren't available in many locations. At Harwood Union High School, this problem was surmounted by connecting a secure microcell routing system to the school's internet hub, which communicates with the receiver mounted above the charging apparatus (left).

