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CO-OP CURRENTS



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

March 2021

“It Checks Every Single Box. Except for Internet.”

How Vermont’s spotty internet service affects one family of remote-working new WEC members

In many ways, Sam and Sarah Rosenberg and four-year-old Sonny are a poster family for the COVID migration of young families to Vermont. The Rosenbergs left Brooklyn for a home on WEC’s lines in Moretown, and brought their remote work along with them. Just two years ago, the state initiated a program to pay families like theirs to move here. But in 2020, Vermont’s low population density was an incentive on its own—not to mention the state’s proactive pandemic response.

Both Sam and Sarah work in New York based industries—she works for a credit card company, he’s a video editor for television—and figured they might eventually move as far out as the city’s suburbs. But by March 2020, under lockdown with COVID cases surging, the Rosenbergs were ready to leave, completely. “It got very scary,” said Sarah. “My parents live in the Adirondacks, and they said, ‘Get up here. Get out of New York. We’re concerned for your health, we’re concerned for your sanity. Get up here, and we’ll figure out the rest.’”

Because both Sam and Sarah were already working from home, they did. First, they stayed with Sarah’s parents; then, they rented a home in the Mad River Valley with Sam’s parents. For months, they planned to return to Brooklyn in the fall, so Sonny could attend school.

But as the summer went by, they realized they didn’t feel comfortable

returning, so they rented out their Brooklyn apartment. And because there was no market in Vermont for year-long rentals, they decided to try to buy a house.

Soon, they found the house of their dreams on a Moretown hillside, with an attached apartment for Sam’s parents, Sybil Schlesinger and Steve Rosenberg. “As soon as we saw it, we said, oh—this is a place we want to be,” said Sarah.

Outdoorsy, outgoing, and hardworking, the Rosenbergs find Vermont suits their lifestyle. Even within the isolation of COVID, they’ve made connections and found networks expand to welcome them: friends of friends, hiking and biking enthusiasts, neighborhood groups. Sonny is happy in his pre-K program in the Moretown schools. If COVID forever changes the expectation of office-based work, they decided, they could build a life here.

There’s just one problem. “It checks every single box. Except for internet,” said Sarah.

The internet conundrum

The Rosenbergs were able to leave New York because their work went remote. But secure, high speed internet is simply essential to their jobs: the mechanism through which all their work gets done. Sam’s video editing, he explained, “is contingent on having a solid internet connection of 50 mbs [megabits per second] or

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Sam, Sonny, and Sarah Rosenberg in their Moretown home. The Rosenbergs moved to Vermont in 2020, bringing their remote work along with them. The only catch: both Sarah and Sam’s jobs require high-speed internet, which their home does not have.

WEC’s New Rate Structure: A Year in the Books

A conversation with GM Patty Richards about the unanticipated good timing of dropping members’ rates in 2020, and the immediate, and predicted, impacts of changing the way WEC charges for electric service

Co-op Currents: One of the key changes to the rate structure is increasing all members’ monthly customer service charge in three stages, while simultaneously lowering what WEC charges for energy. Have you seen WEC’s finances stabilize as a result?

Patty Richards: It’s too soon to tell how the monthly service charge is impacting us financially. We wanted to jump the charge from \$15 to

\$25 in one action. The Public Utility Commission (PUC) said they agreed it should be higher, but told us to phase it in gently, in three phases. The first phase was in July 2020: we went from roughly \$15 to \$18, so it was a three dollar increase. The second phase takes effect in July 2021, and a year after that, the monthly service charge will reach the \$25 mark. That’s before rate increases are applied, in the event

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Washington Electric Cooperative

East Montpelier, VT 05651

Inside

Obstacles and solutions: Patty and Barry discuss WEC’s work to address EAB, rolling out broadband, SHEI transmission constraints. P. 2

Incumbent bios: Get to know the Directors up for re-election in 2021. P. 4

Upgrade your ride: Capstone’s MileageSmart program could get you \$5,000 off a used high MPG vehicle. Energy Coach, p. 4

Service reliability index: How WEC—and WEC’s transmission power suppliers—fared in keeping your lights on in 2020. P. 7.



Telltale serpentine chew patterns of emerald ash borer (EAB) larvae under the bark of an ash that fell on a three-phase line in Plainfield on Dec. 25, 2020. WEC Safety & Environmental Compliance Specialist Rick Stergas believes WEC is the first utility in the state to incur infrastructure damage as a result of EAB. P. 6.

President's and General Manager's Message

Identifying and Dismantling Obstacles

Barry and Patty talk about removing ash trees as WEC incurs EAB damage, advocating for tax exemption to strengthen broadband partnerships, and working to stop generation curtailment in SHEI area

EAB a major issue in WEC service area

Patty: We had an outage on Christmas Day, December 25, that we've confirmed was a result of the emerald ash borer [EAB]. When we looked at the ash tree that fell, we could tell it was infested with EAB—you could see the remnants [the tunnels chewed by the borer larvae.] Once the bug leaves, the tree is dead, brittle, and subject to falling down easily. That entire right of way corridor is filled with ash trees, which means it's now filled with EAB. We're working now to take them down because they'll come down on their own if we don't, and they'll cause outages.

Barry: I'm really glad our operations

crews have been addressing this in a proactive way. We're dealing with it head on and not after the fact. It's a lot more expensive to deal with once it's taken full force in our territory. I'm proud of us doing that. However—this isn't a one-and-done issue; it will be ongoing. Patty, is everyone in the state doing the same thing?

Patty: It's on everyone's radar screen, but some distribution utilities have a high density of ash, and some don't. VEC's got them, we've got them, GMP has them of course, as they cover 75 percent of the state. The municipals are going to be hit or miss, since their service territories have fewer trees. But at WEC, we have tremendous numbers, and like

any wood species, they cluster in an area. That outage led us to find a high density of ash on that right of way that's likely to be infested.

Barry: Our policy is now taking any ash trees that are leaning toward the lines, isn't that right?

Patty: We're taking any ash that has the potential to hit our lines. It's 10 times more expensive and dangerous to take the ash after it's been infested, because it becomes brittle and splinters.

Your chance to advocate for broadband

Barry: On February 4, Patty and I testified before the Vermont House Committee on Energy and Technology for the second time this session.

Patty: We're proposing a property tax exemption on any new fiber infrastructure we deploy to help us bring broadband to our rural members. There's no change to our existing tax base, and we'll continue to pay property tax in all the towns we're based in—\$1.56 million per year. We're looking for an exemption to string fiber to unserved and underserved areas.

Barry: We're asking for the same exemption as CUDs [communication union districts] in our service territory so that we can better partner with them. If we can help the CUDs bring broadband to your home at a lower cost, that's going to be passed on to you in your monthly broadband charge.

Patty: The reason it's important for WEC to be at the table with CUDs is because as a rural electric cooperative, we can access low interest rate loans long term from the RUS [Rural Utilities Service, a program of the USDA], and in exchange that lower cost can be passed on through the CUD to the customer. Ultimately, it's about established partners leveraging our resources together to expedite bringing affordable high speed internet to our members who lack it.

Barry: We reached out to the House Committee on Energy and Technology because they've taken leadership on this. Under the lead of

Chair Tim Briglin and Vice Chair Laura Sibilia, the committee's been trying to find solutions to getting broadband to all rural Vermonters.

I hope that by the time this issue goes to press, we'll hear some good news in terms of a bill passing the committee. Patty, I thought it went pretty well, and there were some really good questions from representatives on the committee. How did you feel after our testimony?

Patty: I thought both sessions went really well. But as you know, Barry, for any bill, it's a long road before it passes. What legislators need to hear now is why this work matters to Vermonters. If you support WEC's efforts on behalf of our members, to bring broadband to our underserved service area, this is time to reach out to your legislator and ask them to support WEC's efforts. There's no bill number on this—you can just say you support WEC's property tax exemption. The more people reach out, the more it will help them make their decision.

Barry: It's important to share your individual stories with them. If you don't have reliable high speed internet, how does that affect your ability to work, your kid's ability to attend school, your internet-based appointments, visits with your health professionals?

Your Representatives want to hear from you—it's not an imposition. Email them or give them a call. We really believe that in partnership with CUDs and other internet service providers operating in our territory, WEC can help fulfill a promise the last several administrations have tried and tried to fulfill: broadband to every rural home and business.

Renewable generation updates

Patty: We're in the home stretch of the FERC [Federal Energy Regulatory Commission] relicensing for our hydro plant at Wrightsville Reservoir. We made a major filing a few weeks ago and we're working with the Agency of Natural Resources on any final piece that may be needed for a water quality permit. Things look good, and fingers crossed, we'll have this approved by the end of the year. Our FERC relicense goes through October 2022, so if we get this wrapped up, we're way

Co-op Currents

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

Board of Directors

President	BARRY BERNSTEIN <i>(May 2022)</i>	1237 Bliss Road, Marshfield, VT 05658 Bbearvt@myfairpoint.net	456-8843
Vice President	ROGER FOX <i>(May 2021)</i>	2067 Bayley-Hazen Rd., East Hardwick, VT 05836-9873 rfox@pivot.net	563-2321
Treasurer	DONALD DOUGLAS <i>(May 2023)</i>	21 Douglas Rd., East Orange, VT 05086 dondougla@gmail.com	439-5364
Secretary	ANNE REED <i>(May 2022)</i>	3941 Hollister Hill Rd., Marshfield, VT 05658 annereed48@gmail.com	454-1324
	STEVEN FARNHAM <i>(May 2022)</i>	125 Farnham Road, Plainfield, VT 05667-9660 steven4wec@gmail.com	917-2581
	JEAN HAMILTON <i>(May 2023)</i>	3499 East Hill Road, Plainfield, VT 05667 Jean.myung.hamilton@gmail.com	777-6546
	STEPHEN KNOWLTON <i>(May 2021)</i>	160 White Rock Drive, #2, Montpelier, VT 05602 knowlsf@auburn.edu	223-2230
	RICHARD RUBIN <i>(May 2021)</i>	3496 East Hill Rd., Plainfield, VT 05667 richardirubin@gmail.com	454-8542
	MARY JUST SKINNER <i>(May 2023)</i>	P.O. Box 412, Montpelier, VT 05601 maryjustskinner@gmail.com	223-7123

PATTY RICHARDS
General Manager
patty.richards@wec.coop

KATIE TITTERTON
Editor
katie@clearspotvt.com

TIM NEWCOMB
Layout

Editorial Committee

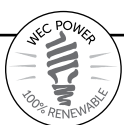
Patty Richards Donald Douglas Jean Hamilton Anne Reed Katie Titterton

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, or visit wec.coop/board-of-directors.

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Got something to say?

Letter to the editor, comment, or a story tip? Drop us a line at currents@wec.coop or Washington Electric Cooperative, Inc., P.O. Box 8, East Montpelier, VT 05651, Attn: Co-op Currents.



ahead of the game. We have some room here.

Barry: I also want to say we're beginning the year looking for another successful year with Coventry. Our landfill gas to electricity plant started operations in July 2005, and we had our best year ever in 2020. The plant generated 75 percent of our members' electricity needs.

However, we still experienced some financial losses in both of our renewable generation projects up in the Northeast Kingdom, Coventry and Sheffield Wind, due to the SHEI [Sheffield-Highgate Export Interface] transmission constraints in the northern tier. It's important for our members to know that since 2016, we've lost about \$576,000 due to having to curtail our renewables, because there's not enough transmission to handle new power coming online along with our existing renewable generation projects. Patty, I know you've been working really hard on that, and I know it's improving, but the issue continues to have an impact on our rates.

Patty: We have fewer issues in terms of curtailment at Coventry than Sheffield, so turning the plant off is not the issue. Instead, we're experiencing price suppression for the energy we do produce. We produced over 58 million kilowatt hours at the Coventry plant that we pushed to the grid. Because of SHEI, we're getting paid less than we would have had the transmission constraints not been in place. In regard to Sheffield Wind, we have a purchase power contract for 10 percent of that plant's energy output. They've experienced some curtailments, but because we don't own it, I don't have the curtailment records. But to us, it's a similar outcome: we're getting paid less money for the energy produced



What legislators need to hear now is why this work matters to Vermonters. If you support WEC's efforts on behalf of our members, to bring broadband to our underserved service area, this is time to reach out to your legislator and ask them to support WEC's efforts.

— Patty Richards

at the facility, which is really unfortunate. New renewable generation projects are working against those already built and online.

All the state utilities have been working collaboratively to come up with solutions. GMP increased the capacity on some of their transmission lines in the SHEI area. Other equipment has been installed at substations, hydro plants, and wind facilities. Utilities are doing work behind the scenes to fix the SHEI issues, and they've lessened the impact considerably. That said, we still have issues. It's not completely solved, and the struggle is, as more and more generating resources come on—almost all the new facilities are solar installations—it's worsening the situation. We want to see renewables deployed throughout the state. And it's important to put them

in places where the infrastructure can absorb them.

Barry: The utilities have jointly spent millions of dollars to help lessen the SHEI impact, but it still makes the most sense for the state as a whole to encourage developers to locate new solar projects—I'm talking 150 kilowatt to two megawatt or more—in areas where they have open transmission. It makes no sense to displace one renewable with another, or to install them in areas with transmission constraints when you can install them in places that can carry the power on.

Patty: I was thinking of a good metaphor to explain what's going on with SHEI. It's like someone building a big apartment building on a dirt road, and all of a sudden, all these cars are driving around. The road infrastructure can't handle the traffic, and during mud season, all those cars get stuck

and can't move. The transmission line isn't big enough to handle new generation at all times of year.

How did we get here? It happened over time. There's a two megawatt project interconnected on WEC's transmission line right by the Coventry landfill. There are several large solar projects. It's a compounding effect. All of a sudden, you reach a saturation point. Many of us were saying, "Hey, watch out! We're going to overload the system!" And guess what: we got there. The PUC recently denied Derby Solar, a 500 kilowatt system, because of lack of infrastructure.

Run for the Board

Patty: If you're interested in running for WEC's Board of Directors, there is still time to do that. The deadline to get all your materials in is March 8.

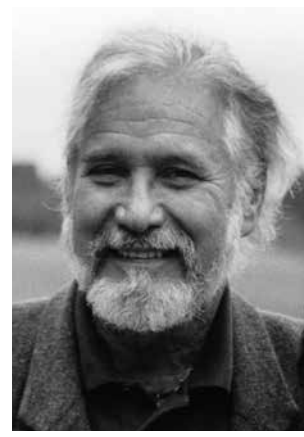
Barry: You'll see biographies from our incumbent Board candidates in this issue. If you're considering running for the board, we've put together a COVID-safe way to do that so you don't need to go knocking on doors to collect signatures. Contact Dawn Johnson at the WEC office for your options. There's a place on wec.coop where your fellow members can sign their support for you. If you're thinking of running, contact Dawn today.

COVID reflections

Barry: On a personal note, I'm fortunate to be getting my first COVID shot this month.

Patty: Yay, Barry!

Barry: A number of people in my family have gotten COVID, even though they've been very careful. Some cases have been more severe than others; fortunately, none life threatening.



It's important for our members to know that since 2016, we've lost about \$576,000 due to having to curtail our renewables, because there's not enough transmission to handle new power coming online along with our existing renewable generation projects.

— Barry Bernstein

By the end of this month, more than half a million Americans will have died from this virus. We have to remember that. We need to keep being vigilant. It's important for all of us. If not for me as an individual, after I'm vaccinated, it's still important for everyone I have contact with.

Patty: At the office we've had a handful of COVID scares. Employees have been required to test.

Our crews need to be in the field, of course. Our office staff, I'm encouraging to work from home as much as possible. For some critical functions like getting the mail and processing checks, our staff have to be at the office. Our practices are good: social distancing, mask wearing, handwashing, cleaning up after being

in a common area. We're asking all members to do their part to keep our workforce healthy, so when there's an outage, our line crews are ready to respond. In other words: wear your mask.

Barry: I want to compliment Patty and all our employees, because they've been really diligent about health the same way they've been diligent about safety. We've gone a number of years without an accident. They've gone after this the same way. That's for our members' benefit. If employees are safe, they're available to restore our members' power, and provide the most reliable service we can. Both statistics have gotten better over the very many years I've been here.

Patty: Barry, thank you for saying that. And we're hoping for the safety and health of all our members too.

What's your internet story?

As WEC works to make high speed internet available to all members, *Co-op Currents* is looking for stories from members about the role broadband—or the lack of it—plays in their lives. Drop us a line at currents@wec.coop.

WEC Office Closed to Public: Call or Email Only

WEC's office in East Montpelier is now closed to members of the public due to the spread of COVID. Thank you for understanding. You may reach any staff member or Board member by phone or email.

WEC's website is wec.coop and phone numbers are 802-223-5245 and toll free at 1-800-932-5245.

Thank you for doing your part to keep our community healthy and safe.

**Go Green.
Go Electric.
Go WEC!**



Three Incumbent Candidates Run for Re-Election to WEC's Board

In 2021, WEC's membership to vote by mail for candidates.

Submit your Annual Meeting questions for WEC leadership to currents@wec.coop

Every year, WEC's membership elects three fellow members to serve on the Co-op's nine-seat Board of Directors. The members who serve in these critical roles oversee management and staff and make policy and leadership decisions for the member-owned electric utility. This year, three incumbents are running for re-election. There are no additional candidates to date, though members have until March 8 to file materials.

The incumbents running for re-election are: **Roger Fox** of Walden, Vice President; **Stephen Knowlton** of East Montpelier, and **Richard Rubin** of Plainfield.

Below are biographical sketches submitted by each candidate. The April issue will provide a broader sense of their interests, viewpoints, and experience.

Your ballot will arrive in the mail: check the deadline to post your votes by

mail. WEC members may write in names of unofficial candidates. All candidates run at-large.

While WEC will hold a virtual Annual Meeting on Thursday, May 6, there will be no opportunity to vote in person this year, as COVID safety precautions prevent WEC from holding an in-person meeting. Please cast your votes by mail.

Every year, the March issue of *Co-op Currents* introduces Board candidates to members, and the April issue provides more in-depth information to prepare members for the Annual Meeting. Candidates' policy statements are accompanied by reports from the General Manager and Board officers. If you have questions for WEC leadership, please submit them as letters to the editor to currents@wec.coop. We will answer as many as possible in the April issue.

Stephen Knowlton

Residence: I live in the White Pine Co-housing community off of Dillon Rd. in East Montpelier, where I manage a 9.5 kW group net-metered solar array. I have lived there since 2012, and I have been a member of Washington Electric Cooperative since 2001. Members may contact me by mail at 160 White Rock Dr. #2, Montpelier, VT 05602, by email at knowlsf@auburn.edu, or by phone at 223-2230.



Stephen Knowlton

Background: I have lived in a number of different places in the US and abroad as a result of having been raised in a military family. I graduated from Middlebury College, and received my PhD in physics from MIT in 1984. I have spent my working life as a physics professor, and as a researcher in the science of alternative energy experiments both domestically and overseas. I spent most of my career at Auburn University, where I taught full-time at all levels from introductory physics to graduate courses. Furthermore, I led a federally supported experimental fusion energy research laboratory comprised of students, post-docs, technicians, and staff scientists. I retired from this position in 2012, although I continue to perform work with my old group to a lesser extent.

Community Service: In December 2014, I was appointed to serve on the Board of Directors of Washington Electric Cooperative to replace a deceased board member, and I have served out two full terms as a board member since May of 2015. During that time, I have served on the Power and Operations Committee, Policy Committee, and Members and Marketing Committee, which I now chair.

In local education efforts, I have acted as a mentor in U-32 high school's Branching Out program on several projects, and also serve as a science advisor to the Vermont Energy Education Project. I am a member of the Vermont Academy of Science and Engineering, and currently serve on its board as treasurer of the organization.

Roger Fox

Residence: I live at Dows Crossing in Walden, in the northern part of WEC's service territory, and I've been a Co-op member in Walden since 1971. You can contact me by mail at 2067 Bayley-Hazen Road, East Hardwick, VT 05836, by phone at (802) 563-2321, or by email at rfox@pivot.net.



Roger Fox

Background: I received a bachelor's engineering degree from M.I.T., and I worked on aerospace engineering projects in Florida and Massachusetts prior to becoming a Vermonter. Since 1974, I've operated a printing and graphic design business, Apocalypse Graphics, in Walden.

Community Service: I currently serve as Walden's town moderator, and as a justice of the peace and chair of the Board of Civil Authority. I've previously served as selectman and town energy coordinator. I'm a longtime member of several other Vermont consumer cooperatives, including Buffalo Mountain Food Co-op, VSECU, North Country Federal Credit Union, and Co-operative Insurance Companies.

I was first elected to the WEC board in 1991, and have served as the Co-op's vice president since 1998. My current assignments include membership on the board's Finance, Administration, & Power Planning; Power & Operations; and Policy Committees. I also confer with and provide support for the board president in the execution of his duties. In the past I've served on the Members & Markets and Editorial Committees, and as treasurer of the Northeast Association of Electric Cooperatives (covering the upstate New York and northern New England area).

Richard Rubin

Residence: I have lived on East Hill in Plainfield for more than 45 years. I am married to Jayne Israel. We have three children and four grandchildren. I enjoy hiking, skiing, gardening, golf, and hanging out with my grandchildren. My email address is richardrubin@gmail.com



Richard Rubin

Background: I was born and raised outside of Boston. I attended Harvard College, and law school at the University of Pennsylvania. I have practiced law in Barre for 40 years. My law firm is Rubin, Kidney, Myer & Vincent. Our firm is also the public defender for Washington County. My practice has involved representing people with all kinds of legal problems. Mainly, I am a trial lawyer.

Community Service: I have served as a WEC director for 20 years. I was first elected after being appointed to complete the term of a board member who had resigned. In the community, I was a member of the Twinfield School Board for five years, helped establish the original food co-op in Plainfield, and served on the board of Vermont Legal Aid. I have also been active in various legal organizations and am now a member of the board of the Vermont Association for Justice. Many years ago I was involved with my brother, Mathew Rubin, in creating the Wrightsville hydroelectric facility and the Winooski 8 hydroelectric plant in East Montpelier.

ENERGY COACH SAYS:

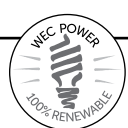
Up to \$5,000 Off a Pre-owned High-mpg Car with MileageSmart

Is your primary vehicle a gas guzzler? Capstone's MileageSmart program offers up to \$5,000 off the cost of a used high-efficiency car to qualified Vermonters.

The goal is to help reduce both your operating costs and Vermont's transportation emissions.

More than 70 used EVs, PHEV, and hybrid car models are eligible. The incentive covers 25 percent of the cost of the high-mpg car, or up to \$5,000.

Visit mileagesmartvt.org to learn about qualification requirements and to apply.



Rate Design

continued from page 1

that we need any. So, our structure will be fully implemented beginning July 2022. At that point, I believe we'll begin to see a portion of our revenue stabilize.

CC: Part of what prompted the restructure was WEC's declining kilowatt hour (kWh) sales. The declining trend was partly because of the rise of net metering installations, partly because members were conserving energy so well—either for environmental reasons, or to save money on WEC's previously high rates, or both. How were WEC's kWh sales last year?

PR: Our kWh sales are up! A very high number of our members are residential: we are 95 percent residential customers, and the rest are commercial. Because so many people are working from home due to the pandemic, we saw an uptick in kWh sales in 2020. Quite frankly, that helped us avoid a rate increase in our finances for 2021.

The fact that we already lowered our rates is helpful for those people who have to work from home. It's good for their bills. When we designed the new rate structure, we knew that, unfortunately, the lowest energy users would see their bills go up. We made a bell curve to represent our members' energy use, and the people in the middle of the bell were right around 500 kWh for their monthly use. But, because so many of us are working from home, even our lowest users are using more energy. I wonder, with how COVID shifted our lives, how many people will remain in the higher use brackets, compared to where they were a year ago. We'll have to take a look at that as time goes on.

Also, because people are home using more electricity, they're taking a closer look at their electric bills. I have heard comments from members saying, "Hey, I noticed my energy rate went down! Thank you for that!" Those members whose use is more than 500 kWh each month, they've seen financial relief. Their bills are lower because of the rate design.

CC: Have you heard anecdotes supporting the other main driver of the restructure—to encourage beneficial electrification, incentivizing members to replace fossil fuel devices with ones that use WEC's 100 percent renewable electricity? In other words, are members going out and buying electric vehicles and cold climate heat pumps now that their electricity costs less?

PR: Our energy rate was admittedly high before we started the rate design work. At 26 cents per kWh, it really was a disincentive for a lot of people to use WEC's electric energy. Plus, because we have to phase this in, the drop isn't so dramatic that everyone is surprised by it. That said, I'm hearing members saying "I'm looking at buying an EV, I'm looking at a cold climate heat pump, so I'm looking at what it will cost me to operate each month,



In 2018, WEC invited members to learn about and help redesign the Co-op's rate structure. Here, General Manager Patty Richards listens to Ted Chase of West Danville. The new rate structure, which incorporated member feedback, is being phased in.

and I see my rate went down. What's going on here?"

These early adopters would likely have made the decision to invest in those new electric technologies anyway. These are folks that support green technology and who pay attention to the incentives offered by Efficiency Vermont and WEC. But people are indicating to me that our lower rates are making their choice easier.

In my opinion, after the third phase of the rollout in July 2022, we'll begin to see more substantial impacts on both our finances and in beneficial electrification in our service area. I'm getting our rate structure ready for the mainstream population, people making the decision to buy EVs from an economic standpoint rather than a social or environmental one. We need to get our rate structure ready for the future, and that's what we're doing now.

CC: When WEC filed for its rate redesign, the PUC liked the Co-op's innovative thinking about how to incentivize beneficial electrification. The commission has made beneficial electrification a factor in its decisions—for example, they cited it in their recent decision to incrementally roll back incentives on new net metering installations. As the new structure phases in, are you getting any new feedback from regulators?

PR: What we're seeing from regulators is they're interested in specific rates for specific end uses. For example, they'd like us to have an EV-specific rate. I've been hesitant to go there, because what if some emerging technology reaches the market tomorrow: do we need to have a rate just for that device? There's the potential to have more rates than anyone can keep track of.

My thinking now is: instead of rates per device, could we have a time of day rate? Not only would that incentivize electric devices over fossil fuel devices; it would help us lower our peak costs, and pass that savings on to members. If we had a time of day

rate, it doesn't matter what new electric device or battery system you have—you just set it up to charge in the middle of the night in off-peak hours, and you pay less.

And yet, we've found a challenge in designing an hourly time of use rate. We do have smart meters on our system, but the bandwidth on our system is so small: 72 bits per second. It's such a snail's pace that we can't pull hourly data from those smart meters. We can pull one read per day, and it's a long slow draw back to the office.

We're working through that challenge by testing if we can pull data based on a period of time, such as from 3 p.m. to 10 p.m.). We may be able to take a period of time as one data batch, and design a time of day rate that will provide financial price signals based on periods of time. More to come as we explore this option in 2021 and test meter systems.


CC: Will WEC be able to gather meter data with more detail and frequency once high speed internet fiber is connected throughout the system?

PR: Yes. That's part of the 10 year plan. As fiber rolls out, that will open the door for WEC to position itself for new technology. First, we need the fiber. 75 percent of our members don't have high speed internet. We have to catch up.

Then, within the decade, we can plan to do a replacement of our meter system, and do it in a conscientious way so it doesn't have a major impact on rates. We're trying to keep our service affordable, yet high quality and reliable.

So in the future, we'll have a whole new meter infrastructure, and we'll be able to do a lot more with specific rate structures and peak load control. Access to data gives us much more market intelligence and enables us to do innovative things. Once you have the data in front of you you can say, "Huh, if we clip that little peak of 100 customers using a lot of energy in that

one hour, we can save a lot of money." Right now the daily data is helpful, but to get into really managing our load in a real way, that hourly data would be a whole lot more helpful.

And by the 2030s, our electric norms should be completely different from what they are today. Ten years from now, the majority of cars on the road should be electric. We changed our structure to prepare for the norms of the future, and we're heading there fast. 

Emergency Resources

Fuel

Running out of fuel? No matter where in Vermont you live, if you are in danger of running out of fuel this winter, call the toll-free Emergency Fuel Assistance number: 1-800-479-6151

Mental health

Crisis lines:

Washington County:
802-229-0591

Northeast Kingdom
Human Services Crisis Line:
(Derby) 802-334-6744;
(St. Johnsbury) 802-748-3181

If you are in crisis and prefer to text, text VT to 741741 to reach a crisis counselor quickly.

Food

Vermont Foodbank:

1-800-585-2265.

Capstone Community Action:

capstonevt.org

NECKA: nekavt.org

Everyone Eats:

vteveryoneeats.org

211

Call 211 to find any emergency resource you need: food, mental health, fuel, shelter, and anything else.

“We’re Pretty Certain This Was the First Utility Damage From EAB in the State.”

On December 25, 2020, an ash tree broke 30 feet above the ground and fell on a three-phase line in Plainfield. As a result, about 600 WEC members lost power on Christmas morning.

The ash was discovered to have an emerald ash borer (EAB) infestation. Larvae in the trunk of the tree destroyed its vascular system. The brittle tree “did what they said it would do: snap off. Like a twig,” recalled WEC Safety & Environmental Compliance Specialist Rick Stergas. “We’re pretty

certain this was the first utility damage from EAB in the state,” he conceded. Stergas said he’d hoped for another few years before the infestation became an active threat to WEC’s infrastructure, but no such luck.


In early January, Stergas and Jon Cherico, a Protection Forester with the Department of Forests, Parks, and Recreation, went to examine the fallen ash, and found live larvae in the tree. They toured the area and identified ash with proven or likely infestations near where Gore, Maxfield, and Brook

roads intersect, near Plainfield’s border with Orange, not far from where EAB was first documented in the state in February, 2018.

Some ash were already dead. Others showed heavy woodpecker flecking—a telltale sign of an EAB infestation, as the birds go after the larvae under the bark.

In response, Stergas said, WEC will take down ash trees in about a mile long corridor around the infestation. This aligns with the Co-op’s work plan to remove several thousand ash

in WEC’s rights of way every year, he said. Right of Way Management Coordinator Larry Gilbert confirmed crews are currently working to remove trees in the Gore Road area.

Stergas acknowledged it’s painful to see a species die, and it’s often difficult for landowners to see ostensibly healthy trees cut as a preventative measure. WEC is only taking trees that pose a threat to the wires. “It’s going to be a long process, and we’re hoping we get cooperation from all our members,” he said. 



Below: Not for the squeamish. Rick Stergas discovered live EAB larvae inside the ash that fell on WEC’s lines. The shiny green beetle is quite tiny, in contrast to its well-fed larvae.

All photos by Rick Stergas

Left: A large ash tree, brittle as a result of emerald ash borer (EAB) infestation, snapped 30 feet off the ground and hit a three phase line in Plainfield, knocking out power to about 600 WEC members on Christmas morning. The chipped bark is woodpecker flecking, where birds pecked the tree to locate the larvae within. Center: A closeup of woodpecker flecking and the S-shaped galleries created by EAB larvae. These tunnels destroy the ash tree’s vascular system, preventing nutrients from moving through the tree. The tree becomes brittle and dies.

Internet

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higher, and equivalent upload speed.”

When they found their house, it had a DSL connection with a download speed of just three mbs. They had a satellite service installed, but that didn’t solve the problem. “Sarah can’t work [using satellite service] because it doesn’t have the VPN [secure connection] her work requires, and I can’t work on it because we would eat through our data cap in two days,” Sam

explained.

The problem affects all forms of communication. To improve their cell service, the Rosenbergs bought a cell phone booster. But, said Sam, “when we plug it in, because it goes through the satellite, it doesn’t work right. You end up with a two second delay between when you say something and when the other person hears it,” leading to awkward and confusing conversations. The booster also goes down when they reach their data cap. So, they’re considering installing a land line. Certainly, they agree, they’re not in

Brooklyn anymore.

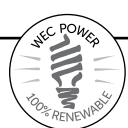
“A little bit of a bet”

Without adequate service at home, the Rosenbergs decided to rent an office space equipped with high speed internet.

“It’s all a little bit of a bet on how quickly the house will get wired for faster internet,” Sam observed. The additional cost and inconvenience of commuting to a rented office is fine, as long as broadband at home is in sight. That’s because they really want to stay here. But if they’re unlikely to get

wired for several years, the argument for staying gets harder to make. Renting an office means they have a COVID-safe place to accomplish work and make phone calls. They’re grateful for a commute far shorter than either ever had in New York. But, they agree, working remotely in a private space has none of the upsides of working in an office—chiefly, the support and relationships that develop in minor daily interactions among teammates. It also has none of the upsides of working from home—the ability to get things

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2020 Service Reliability Index



Dan Weston, WEC's recently retired Operations & Engineering Director, talked about "hardening the system" in the 2019 installment of this index. That means constructing a more resilient grid to help WEC's equipment withstand weather events in an unstable climate. WEC's Construction Work Plan (CWP) stipulates that two-thirds of reconstruction funding go to circuits that provide the least reliable service to members. Other improvements include replacing lines and deteriorated poles, installing new poles to shorten the distance between poles, and reconstructing about 40 miles of deteriorated line.

When it comes to service reliability, there are several causes for concern: worsening storms due to climate change, the rapid advance of the invasive ash-killing emerald ash borer, and documented recurring outages for members at the ends of WEC's system. Increasing resilience involves not just adding support, but removing obstacles. WEC leaders understood that adding better equipment to the grid is essential, and also that danger trees—those likely to fall on lines during a weather event—must be removed in order to prevent outages from occurring. Because WEC uses no herbicides on its rights of way, its 1,276 miles of distribution line are maintained entirely by chain saws and mulching equipment.

So in 2019 and 2020, WEC's Board of Directors committed to improving reliability by approving steep increases to WEC's right of way clearing budget. This funding allowed crews to remove 7,456 trees threatening WEC lines, and to hone in on the ends of the lines, where the vast majority of outages occur. In his report, Weston said that this increased clearing has significantly minimized the impact of major weather events: "Events once requiring seven to ten days of restoration efforts now cause much less damage to the system infrastructure and require only 24 to 72 hours to fully restore the system," he wrote.

A new addition to WEC's arsenal

730 separate outages on WEC's system in 2020	75% number of outages that take place at the "end of the line"
589 / 787 number of separate outages on WEC's system in 2019 / 2018	106 miles of distribution line that received maintenance clearing in 2020
8 separate outages on power supplier transmission service to WEC in 2020	43 miles of "end of the line" cleared in 2020
105,636 number of WEC consumer hours out in 2020, not including major storms	100% WEC's poles inspected and treated to prevent decay over past 10 years
85,136 The average annual number of consumer hours out over the last three years, not including major storms	7,456 Number of "danger trees" removed from WEC's rights of way in 2020
55% percentage of WEC consumer hours out due to loss of power supplier transmission service	2,146 number of ash trees, vulnerable to the emerald ash borer, among the danger trees removed
4 2020 weather events that met "major storm" criteria: February 7-8, August 4-5, October 8-9, December 24-25	26 miles of line cleared by a skid-steer forestry mulcher in a 2020 demo
	40 miles of line the forestry mulcher is expected to clear in 2021

is its skid steer forestry head mulcher, which crews tested in 2020, and which the Board approved for purchase in

2021. In the October 2020 issue of *Co-op Currents*, lineworker Eddie Wallace pointed out that the machine



The forestry mulcher WEC's Board approved for purchase in 2020. Line crews observed that on some terrain, the machine clears dense vegetation in rights of way far faster than humans with chainsaws. It may also prevent vegetation regrowth.

Above: WEC crews use a variety of vehicles to reach outage locations. When outages occur on WEC lines far from roads, crews may have to use offroad crawlers, like these, to access the site.

mowed twice as much vegetation in a morning than a crew with chainsaws could cut in a full day.

WEC may be working to improve reliability on its grid, but as a distribution utility, it has no control over the transmission lines that bring power to its substations. Eight times in 2020, WEC members suffered outages from problems on those transmission lines. Out of 105,636 consumer hours without power in 2020, 58,376 of those hours—more than half—were transmission outages. WEC's leadership is working with Green Mountain Power to address the issue. "We don't have control over GMP's transmission lines. However, from a member perspective, an outage is an outage, and is not acceptable," said General Manager Patty Richards. "Identifying causes and collaboration between both utilities will result in fewer outages to WEC members."

For updates about where tree crews are currently working to clear rights of way, look for the "Where's WEC" column in most issues of *Co-op Currents*.

3SquaresVT: A Ripple Effect of Good

by Vermont Foodbank & Hunger Free Vermont

Since the beginning of the COVID-19 pandemic, one in three Vermont residents have struggled with purchasing groceries and putting food on their tables. 3SquaresVT, known nationally as SNAP, provides monthly benefits that help Vermont residents stretch their food budgets, ensuring everyone has enough food to eat.

If you meet income eligibility requirements, you will receive monthly benefits on a Vermont EBT card which looks and functions like a debit card. It can be used at many locations where you shop for groceries, including local retailers, convenience stores and farmers markets.

Not only is 3SquaresVT a resource for yourself and your household, but it is also one of the most powerful forms of economic stimulus — supporting local grocers, retailers and farmers.

“By feeding your household with 3SquaresVT,” says Hunger Free Vermont Executive Director Anore


Horton, “you are guaranteeing that money goes directly back into our communities in Vermont. Plus, everyone who is eligible to receive 3SquaresVT benefits will receive them with an approved application. There’s no limit or ‘first come, first served,’ so there’s no need to worry about taking benefits away from someone else in your community. They’re available for anyone who needs a helping hand to put food on the table.”

If your household has children, the benefits have an even greater impact. If you receive 3SquaresVT, your children are eligible to receive free breakfast and lunch at school. If many students at their school receive 3SquaresVT benefits, it can help the school offer free meals for every student, which reduces the burden on families across Vermont.

Households in which everyone is either 60 and over, or receives disability benefits, may be eligible for 3SquaresVT in a SNAP — a simpler application process that can enroll you in both food assistance and fuel assistance. Benefits last for a period of

three years before you need to enroll again, and there is no annual review process. You also have the choice whether to receive benefits on a Vermont EBT card or as cash deposited directly into your bank account.

When more eligible Vermont residents use 3SquaresVT, our community grows stronger and healthier.

To learn more about how you can benefit from 3SquaresVT, visit vermontfoodhelp.com, call 855-855-6181 or text ‘VFBSNAP’ to 85511. 

Internet

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done around the house during lunch breaks, or to fit in work tasks after Sonny’s bedtime.

“It’s challenging,” acknowledged Sam. “I have to manage my time much more carefully. Am I really done for the day, can I check out and go home? There have been several nights recently where in the middle of dinner I’ve had to jump up and go to the office.”

Sarah sums up their attitude: “It’s completely manageable. But not ideal.”


Next steps

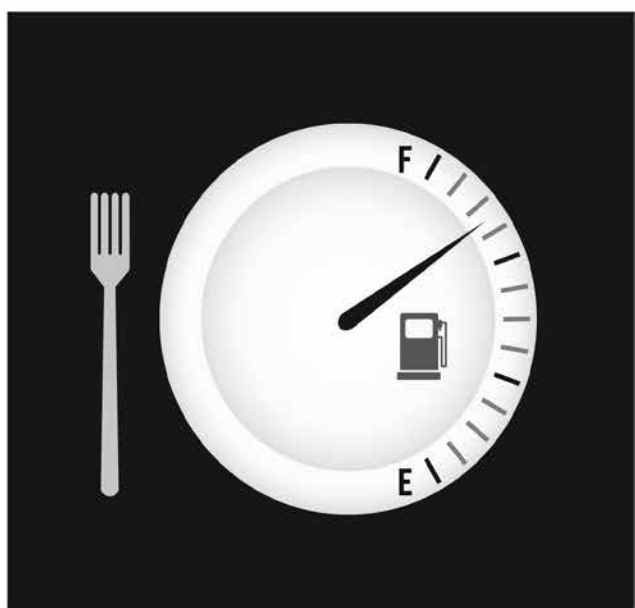
Their entire process of finding ways to live and work here, Sam reflected, was about “setting the goal, and then modifying the plan of how to get there as we went.” Sometimes, modifying a plan means taking action. Last fall, Sam met their neighbors by hiking door to door, greeting them masked and from afar, and asking them about their interest in high speed internet. He got names and contact information for more than 30 households. “There are a lot of people in the community who really want this internet, and people are willing to pay for it, too,” he said. “It’s who’s going to step up and do it first. It’s hard, though, based on how the houses are spaced. Running that route isn’t necessarily profitable for any company to take on.”

That insight recalls how WEC was formed, more than 80 years ago, when no for-profit electric utility saw reason to bring power to central Vermont.

“That’s why we were excited about the CARES Act,” Sam said. “The CARES Act provided that funding, so groups wouldn’t need to take a loss by running that fiber.” But CARES Act funding needed to be spent by the end of 2020. The Rosenbergs are watching closely as new relief packages are developing in Washington.

It didn’t take long for Sam and Sarah to learn about community utility districts (CUDs) organizing to bring broadband to underserved Vermont communities, and to start attending meetings of their CUD, CV Fiber. As WEC members, they’ve learned how their electric cooperative is working in partnership with CUDs and other entities to try to bring broadband to its members. All of this collaboration factors into their bet to stay in Vermont. The way they see it, as long as public funding is present, the community organizations will find a way to make it work.

“There’s a lot to look forward to,” Sarah said. “We know how great this is going to be at the other end—of both COVID and no internet. Once those two things happen, we’re feeling like we’re really well set up here.” 



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Get Started

The first step to accessing 3SquaresVT benefits is to determine if you are eligible. Call **855-855-6181** to learn if you qualify, for more information visit www.vermontfoodhelp.com.

