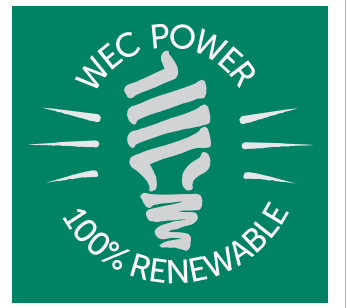




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CO-OP CURRENTS



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January 2018

Listening for Consensus

In listening groups, WEC members consider changes to rate design

On Saturday, November 4, two dozen WEC members gathered at the Capitol Plaza in Montpelier to discuss how, or even whether, the Co-op should change how it charges for energy use. Billed as “listening groups”—unlike the more familiar industry term “focus groups,” WEC General Manager Patty Richards prefers to emphasize listening to members’ values and wishes—members split into teams. Each group had members from different counties, incomes, and energy use levels. Groups looked at the current rate structure and two proposed options for change, and each was asked to come to consensus on a preferred rate structure.

It’s an issue WEC has been considering for some time. Past *Currents* articles examined in depth the context of the current rate design (“WEC Eyes Changes to Its Rate Structure,” June, 2017) and the issue was on the table at 2017’s Annual Meeting in May and Community Meeting in November. In both cases, Richards and the Co-op’s directors promised members an opportunity to participate in the process—leading to November’s workshop.

Before the groups got to work, Richards explained that a rate design change is different from a rate increase, even though both must be approved by the Public Utilities Commission (PUC). WEC collects the same amount of money from the membership, she said, but individual members may be impacted differently. “If we make a change to the rates, some members may pay less and others may pay more. Changing our rates creates a redistribution from individual members, but the total WEC collects remains

the same,” she said. In the end, only one of the three groups came to consensus—and that was only after making a change to one of the proposed models. Richards observed, “There’s no clear answer—this is about members’ perceptions.” But lacking a clear solution isn’t the same as lacking clarity about what WEC members value. What she heard loud and clear, Richards said, was “People really like the two-tier structure. People really embrace energy efficiency. I also heard we should increase the monthly fixed portion

“For someone to tell me I need to use more electricity, there’s only one thing that can make me do that: that’s if the cost of electricity is cheaper than buying oil.”

—Yvan LeBlanc, Williamstown

continued on page 4



Yvan LeBlanc of Williamstown shares his thoughts as his group discusses changes to WEC’s rate design.

Public Power to the Rescue

WEC lineworker joins neighboring utilities in St. Thomas hurricane recovery

The Monday after an intense week cleaning up the worst windstorm in WEC history, First Class Lineman Kyle Sands got on a 5:30 a.m. flight to volunteer a month of his time repairing damage from another historic storm.

2017’s hurricane season devastated US territories in the Caribbean. After Hurricane Irma hit in September, the US Virgin Islands Water and Power Authority (WAPA) put out a widespread call for help. That call reached WEC through the Northeast Public Power Association (NEPPA). WEC and its fellow public utilities Stowe Electric Department (Stowe), Burlington Electric Department (BED), and others offered to send lineworkers and equipment to help out.

Sands joined the Vermont team that included Stowe and Burlington lineworkers. Each volunteer helping with recovery works a month long shift, or a “wave.” Sands was on the second wave, which happened to begin the week after the October windstorm ripped through Vermont. Oddly enough, the wind hit especially hard in Stowe, where the compact municipal utility rarely sees extensive damage, at a time when several of their lineworkers were volunteering in St. Thomas on the first wave. While two of Stowe’s finest were volunteering in the Caribbean, the utility was forced to put out a mutual aid request of its own to repair damage from the storm.

It’s important to note as well that

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Washington Electric Cooperative

East Montpelier, VT 05651

Inside

Reset and refresh: A trip to the end of the earth helped Patty Richards focus on WEC’s busy year to come. General Manager’s Report, p. 3.

Meter-reading memories: A former member writes in a gem of a letter. P. 7.

Coventry’s cooking: Frozen pipes took the plant offline in early 2018 (President’s Report, p. 3), but overall, landfill electricity is a gas. P. 6.

Listening group results: How might rate redesign affect your bill? Follow this issue’s Page 1 story to the jump for charts. P. 4-5.



General Manager Patty Richards hiked to the base of Fitz Roy Peak in Patagonia. Now back in the office, she plans to tackle WEC’s peak.

Patty Richards

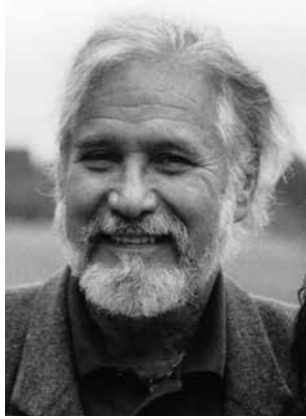
President's Message

Deep Freeze Behind (Hopefully) And Big Issues Ahead

By Barry Bernstein

Cold, Cold, Cold

I hope all of our WEC members and employees had a good holiday season, enjoying a nice snowfall on Christmas day. The end of 2017 and early 2018 brought extreme weather throughout our service territory, with wicked cold temperatures ranging from -15F to -30F in some areas and up to -30 to -45F with the wind chill. WEC experienced a few hundred outages during the first few weeks of January, primarily due to ice loading on our single phase lines followed by intense winds. WEC had



crews working through the nights, with most members out for less than a few hours at a time. A BIG THANKS to our line crews who worked hard in that bitter cold.

Frozen gas lines in Coventry

As we turn the calendar, 2018 started on a challenging note.

We are already looking at expenses and it appears likely we will need to file for a mid-year rate increase. January's cold temperatures have added to our financial pressure. Our Coventry landfill gas generating plant was down for a number of days in the first two weeks of

the year. Frozen lines at the landfill shut off gas supply to the plant. The temperature in Coventry hit -30F, not including the wind chill factor. This was the first time since the plant began operation in June, 2005 that we experienced an outage due to freezing of lines buried several feet deep. Unfortunately, the cost to buy replacement power in the spot market was extremely high due to the severe weather conditions in the Northeast.

Your 100% renewable utility's role in Vermont's transition away from fossil fuels

2018 gives your Co-op, a consumer member-owned electric utility, opportunities to improve on our mission. WEC provides you with reliable and 100% renewable energy, one of only a few electric utilities in the nation to do so. Now more than ever, we're actively supporting our members to reduce your carbon footprint as you work to reduce your reliance on fossil fuel use for heating your homes and driving your cars. That support means financial incentives for weatherization, heat pumps, and more through our Button Up program. It also may well mean redesigning our rates as trends put more of our energy use into the electric column instead of the fossil fuel column.

This is driven in part by a relatively new state mandate for Vermont's electric utilities to encourage fossil fuel reduction. The truth is, the Co-op has led Vermont in clean energy and energy conservation for years. Since the early 1990s WEC has committed to being an environmentally responsible electric utility, working with our members in using electricity and energy efficiently, weatherizing your homes, and keeping our power generation sources renewable and as close to our service territory as possible (Coventry, Wrightsville Hydro, Sheffield Wind, etc), so as to reduce our carbon footprint both home by home and collectively.

Reflection and issues on the table in 2018 and beyond

As I begin 2018, recently released from health restrictions (no bending, twisting, or lifting) placed on me after my back surgery last June, I have begun to refocus my energy as the President of your Board of Directors. That includes reflecting with our Board and management on how we work with our member-owners to meet new challenges and opportunities together. As the landscape in the electric utility


As the landscape in the electric utility industry so rapidly changes, how does WEC continue to lead as it has over the past 78 years?

industry so rapidly changes, how does WEC continue to lead as it has over the past 78 years, speaking out on energy issues that affect our Co-op, and acting as a yardstick by which various stakeholders and policy makers can both measure and reflect as they attempt to influence and impact the direction of the Co-op and the state?

As we move toward our state's goal to use 90% renewables for all energy, including heating and transportation, and to use energy more efficiently in our buildings and in our communities, we need to remember to do it wisely so as to not waste valuable and limited resources. WEC will continue exploring new ways to supply and deliver energy to our member-owners. We are looking for ways to improve reliability and harden our system so we can withstand ever growing extreme weather events. We welcome net metering and innovative equipment like battery storage. We also want to explore home generators that keep power on during outages. All of these technologies come with promise and opportunity, but we must be vigilant making sure costs are fairly determined and not transferred inappropriately to others. As an example: the state's new net metering program created a wave of installations in 2017 that far exceeded anyone's projections. We hope the state regulators will take a look at the pace and economics of their plan, and we hope they will revisit the incentives WEC and other utilities are required to pay.

Let me be clear: WEC has and will continue to support net metering at our members' homes and businesses. But as we aim for 90% renewable energy in all sectors, we want to reach that goal in a fair, equitable, and sustainable way.

Your WEC Board and management will work on this and many other timely issues over the next few years. Others include evaluating our rate design to meet changing times, limiting the size of rate increases while needing to meet increased regional power costs, exploring newer battery technologies on our system and at our individual homes and businesses, helping educate our members about incorporating new technologies in order to reduce environmental impacts, and more.

Please engage me, our Manager and staff, and our directors as we move forward in discussing our options. And a very happy New Year to each and every one of you. 

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 (May 2019)	1237 Bliss Road, Marshfield, VT 05658 Bbearvt@myfairpoint.net	456-8843
Vice President	ROGER FOX (May 2018)	2067 Bayley-Hazen Rd., East Hardwick, VT 05836-9873 rfox@pivot.net	563-2321
Treasurer	DONALD DOUGLAS (May 2020)	21 Douglas Rd., East Orange, VT 05086 dondougla@gmail.com	439-5364
Secretary	ANNE REED (May 2019)	3941 Hollister Hill Rd., Marshfield, VT 05658 annereed48@gmail.com	454-1324
	ROY FOLSOM (May 2019)	2603 US Rt. 2, Cabot, VT 05647 RoyGrmsy@aol.com	426-3579
	JEAN HAMILTON (May 2020)	3499 East Hill Road, Plainfield 05667 Jean.myung.hamilton@gmail.com	777-6546
	STEPHEN KNOWLTON (May 2018)	160 White Rock Drive, #2, Montpelier, VT 05602 knowlsf@auburn.edu	223-2230
	RICHARD RUBIN (May 2018)	3496 East Hill Rd., Plainfield, VT 05667 rrubin@sover.net	454-8542
	MARY JUST SKINNER (May 2020)	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

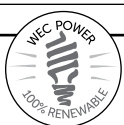
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Editorial Committee

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.

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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.

Manager's Report

Looking Back and Looking Ahead

By Patty Richards

As we put away the holiday lights and prepare for a new year, it is a good time to reflect on the past, present, and future. The end of 2017 is a time of special reflection for me as I spent time with my 20-year-old daughter in Argentina after she finished a semester studying in Cordoba. With Kaitlin fluent in Spanish and both of us primed for adventure, we traveled throughout the Patagonia region on the Argentina side of the Andes Mountains. We also made it to the farthest south city on the South America continent (Ushuaia), which is affectionately known as the end of the world.

From majestic blue glaciers, green lakes, and absolutely breathtaking mountain hikes, to walking with penguins and meeting fellow travelers from all around the world, we were reminded every day that our planet and Mother Nature are amazing, and the human spirit is alive and well. This was a reset for both of us, and a reminder to look within—to make sure we are acting to make our lives, communities, and planet better. I'm dedicating 2018 to living life with intention, gratitude, and a grounded sense of meaningful direction. With this trip I bring a new energy and passion to all things at WEC, and I'll share a few pictures with you too in hopes of sharing a bit of our trip.

The year past

We are in the midst of closing fiscal year 2017 and are actively preparing for FY 2018. In 2017 we were challenged



We were reminded every day that our planet and Mother Nature are amazing, and the human spirit is alive and well.

by what seemed like endless storms that resulted in power outages in every town we serve. We know how hard it is to lose power at home, as electricity is woven into so many aspects of our daily lives. When the power goes out it is disruptive, challenging, and even dangerous.

The biggest storm in 2017 was the October 30 wind event that rocked the state of Vermont and the entire northeast, taking out power for millions and leaving trees scattered like toothpicks. In January the windstorm was declared a disaster by the federal government, which means FEMA will help cover the

Co-op's costs for storm restoration. WEC is working to secure these finances.

As they always do, our staff rose to the occasion during the windstorm and all year long. Line crew and field staff put in endless hours to get the lights back on to our members whenever the power went out and in all outdoor conditions: day, night, wind, rain, cold, snow. Our member services team responded to calls and emails with a smile, determined to help every member who called in. Our entire team, including staff in finance, engineering, IT, administration, and management, worked tireless hours to serve the needs of our members each and every day through the year. Day in and day out, the 37 employees at WEC get the job done. They're upbeat and dedicated to all the members we serve. To every employee at WEC, I want to extend a heartfelt thank you!

Here's a recap of some of important

milestones and events that occurred over the past year:

- WEC was honored to receive the **2017 Governor's Award for Outstanding Workplace Safety**. Our 37 employees not only finished the year with no lost time injuries, but we have also passed 800 days without an injury! This is a credit to all of our staff and their commitment to promoting a culture of safety.
- WEC was also honored with the **2017 Award for Excellence in Worksite Wellness**, sponsored by the Vermont Department of Health. Assuring our employees' health and wellness is a complement to our culture of safety, and we continue to champion healthy living habits.
- We implemented the state's **new net metering program**, and members are busy adding solar to their homes. WEC staff are busy reprogramming the billing system, setting up meter connections, and getting credits to those that join the program.
- This was a big year of activity at **Coventry, as our SRS system** came on line in January. That's the new gas scrubbing system we installed at the landfill gas plant in Coventry. The device, known as a Siloxane Removal System, helps increase energy production by removing impurities from the gas produced by the landfill. It also allows us to lower the emissions coming from the engines. A year after its installation, it is running well! We are making more power with less impact on the environment. This was a successful project that benefits everyone in Vermont.
- We installed our **fifth EV charging station**. WEC received a grant to install five electric vehicle charging stations in our service area, and the last is up and running at the new East Montpelier park and
- ride. We also have charging stations at Harwood Union High School in Fayston, Rumney Memorial School in Middlesex, the commuter parking lot at I-89 Exit 9, and at Cabot Cooperative Creamery's administrative headquarters in Fayston. The stations were made possible by a \$147,000 grant from the Vermont Low-Income Trust for Energy (VLITE, a public benefit corporation formed in 2012).
- We rolled out incentives to help members reduce fossil fuel use through our new **Button Up Program**. The program is set up to achieve our compliance requirements for the state's Renewable Energy Standard laws. If you are looking to weatherize your home or are in the market for an electric vehicle, we have dollars available to lower the cost. We also have incentives for heat pumps that heat water or provide heat for your home, as well as dollars for pellet boiler systems and solar hot water. In 2018 our requirements from the state mandate increase, so please contact us to learn more!
- We filed a new **Integrated Resource Plan (IRP)**. The IRP is WEC's plan for obtaining and providing energy at the lowest cost to Co-op members while meeting Vermont's renewable energy and greenhouse gas emission goals. A copy can be found on our website. The plan summarizes how we plan to buy and distribute power for the next 20 years. It's a great resource and document to explain how WEC plans to serve our members' power needs into the future.
- In January 2017 we **increased rates by 5.95%**. While no one likes prices to go up, it is sometimes necessary in order to maintain the financial health of the Co-op. This

continued on page 8



GM Patty Richards and daughter Kaitlin explore the imposing and beautiful Mount Fitz Roy in Patagonia.



Richards captured this waddle of penguins enjoying the Antarctic chill.

Listening for Concensus

continued from page 1

of the bill. What we ultimately do will reflect feedback and insights from the listening group sessions.”

The current rate structure and three proposed options

WEC’s current rate structure uses five numbers to determine each member’s monthly bill. These are: number of kilowatt hours used per month, a fixed monthly member fee of \$12.97, an Efficiency Vermont charge, and two energy use blocks that are billed at different rates: the first 200 kWh are billed at \$0.10373, and any kWh used over 200 are billed at \$0.23160.

This two-tier energy block design is intended to encourage energy efficiency by incentivizing low energy use and discouraging high use. But in recent years, other factors have complicated this simple goal. As the state moves toward its goal of using 90% renewable energy by 2050, WEC faces penalties if members don’t shift fossil fuel-burning appliances and vehicles to electric alternatives that use its 100% renewable power portfolio.

But encouraging members to use more electricity conflicts with the incentive to use less that WEC has built into its rates—and conservation is something many members value. In another twist, the current structure may put businesses—who by and large use more energy than households—at a financial disadvantage in WEC territory.

Another factor is WEC’s monthly member fee, which is assessed the same to each member regardless of how much energy they use. This charge, Richards says, is intended to cover a portion of the utility’s fixed costs and gives the Co-op stability when energy use fluctuates. But \$12.97 is nominal and doesn’t come close to covering the real fixed cost it takes to serve each member. If WEC were to cover its actual fixed costs through the monthly member fee, the fee would be near \$76. Instead, the current design collects a low monthly charge, and the bulk of fixed costs are picked up through the energy portion of the bill.

Several important considerations have cropped up within the last decade. These include the recent legislation that encourages Vermonters to use more electricity in lieu of fossil fuels, a state-mandated net metering program, and WEC’s 10-year pattern of flat or declining sales. These changes have spurred debate about the Co-op’s monthly fee and the two-tiered structure WEC uses to charge for electric service. “To encourage participation in programs designed to curb fossil fuel use and increase electric use, the rate we charge for the second block of electricity needs to be lowered,” said Richards, but pointed out that that change would require increasing the universal monthly member fee to make up the difference.



Group 3 moderator Ted Chase and GM Patty Richards discuss three potential rate design options during his group’s breakout session.

Further pressure to adjust the system comes from a rise in net metering participation. “Given the trend of increasing net metering, we are trying to figure out how to charge fairly for service,” said Richards. Net metering members still use the WEC

“Most people don’t get to talk to their utility the way we’re talking today. It’s important to have the spirit of the Co-op in this conversation instead of everyone for themselves.”

— Jane English, Calais

grid, but generate some of their own energy, mostly through solar installations. The low monthly fee doesn’t cover the cost to serve net metered members. However, raising the monthly fee may cause a struggle for lower-income members who already face rising rates. On the other hand, a higher steady fee may soften future rate increases.

These factors and others caused WEC’s Board of Directors to ask if the current rate structure still makes sense. In addition, Richards reflected, it is simply good practice for a utility to examine its rate structure every few years: it’s an opportunity to look at how pricing affects members, by signaling WEC’s priorities and incentivizing behaviors.

So, with the help of a consultant, the board looked at the numbers and came up with two potential changes to WEC’s rate design. These options are not final candidates—the listening group process is a chance to identify the strengths and weaknesses of each option. The first of the three options presented to listening groups was the status quo: no change to the current rate structure.

The other two options introduce these changes, in short: option 2 would increase the monthly member fee to \$25 and do away with the two energy block structure, instead charging just one rate for energy use. The rate would be significantly lower than what WEC currently charges for kWh over 200, but higher than the current low block rate.

Option 3 would also increase the monthly member fee to \$25. It would maintain two separate energy blocks, but reduce the low block to 100 kWh. Prices assessed per kWh would decrease for both the low block and for kWh over 100. See the chart on page 5

to see the options side by side, with numbers.

In general, both proposed changes would raise the bills of members who use less than 500 kWh per month, and lower the bills of members who use more. For context, WEC members fall into roughly four quarters based on monthly kWh use: about 25% use less than 300 kWh, 25% use 300-500, 25% use 500-750, and 25% use more than 750 kWh.

The art and science of listening groups

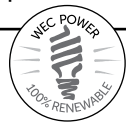
The next step was to introduce these options to WEC members and hear their thoughts. The listening group process was led by Susan Randall, a private investigator from Charlotte. While her job title may seem like an odd

match for an electric co-op studying rate design, Randall is seasoned at exactly this kind of work: she helps attorneys arrange focus groups to find holes in legal arguments. Setting up WEC’s listening groups and selecting a jury are similar, she explained, in that a carefully selected, diverse group of peers makes for more meaty and thorough conversation: people naturally provide perspectives that others in the group haven’t considered.

That’s why, she said, she used three questionnaires to determine WEC’s listening groups. The main factors were county, income, and energy use, with use the driving diversification, she said. “We study the research. The first questionnaire was basic info about work, income, household size, how long a member. The second was about



Group 2 moderator Jane English reports back to all listening group participants.



values: do you care about the mission, do you care about your neighbors. The last was a quick sort—where do you fall on options one, two, and three.”

Randall and her team divided WEC members into groups of seven, because, she explained, “research shows groups of seven give people room to talk” and a group of seven can contain enough diversity to bring value to the conversation. She heard group members introduce themselves and exclaim, “Wow, we’re well represented!”

Randall’s team included her husband, Matt Sargent, a senior energy consultant at VEIC, and several assistants who filmed each group’s conversation. Afterward, Randall said, they commented on the civil and constructive quality of members’ conversation. “The people filming said this is inspiring to see: seven strangers from different walks of life could open up a space to really hear each other,” Randall recounted.

How the listening groups responded

Every participant had a chance to see and respond to the options before breaking into groups: some were passionate about their option of choice, some changed their minds, some started and finished undecided. The goal for each group was to come to consensus and present their reasons to the assembly at lunch. Each group was moderated by one WEC member, who then served as each group’s presenter.

Right away, group 1 showed their willingness to listen to each other and compromise. After the group decided they would modify option 3 to increase the low energy block from 100 kWh to 200 kWh, three members who began with different preferences agreed to join consensus. The group wanted to keep the incentive to conserve—“I didn’t like the idea that energy guzzlers were getting a break,” one said—and wanted to create a rate system that is equitable for low energy users and stabilizes the utility’s revenues.

They also voiced catch-22s created by Vermont’s renewable goals. Yvan LeBlanc of Williamstown said, “I’m considered a high user. I’ve gone to LED lights. I burn wood. For someone to tell me I need to use more electricity, there’s only one thing that can make

me do that: that’s if the cost of electricity is cheaper than buying oil.” He suggested the state’s well-intended policies force Co-op members to subsidize the renewable industry at large, in the form of incentives to install net metering funded by the member-owned utility, and rate increases that apply only to members who must buy energy from the Co-op. The unintended consequence of this, he said, results in keeping oil cheaper than electricity for members who don’t or can’t install solar. “The logic is good, but the practice doesn’t make sense,” he said.

In group 2, half wanted to keep option 1, the status quo, and half were interested in option 3. But, they considered, they could probably reach consensus with some slight changes, like a smaller raise to the monthly member fee, instead of nearly doubling it from \$12.97 to \$25. Mack Gardner-Morse of Calais said, “I think the group recognized it would help to up the fixed cost charge. For low energy users, the fixed charge is a big increase in their cost. Our consensus is a smaller increase—\$15-16.”

Group 3 was the most divided, with more of the group leaning to the status quo, and strong holdouts for options 2 and 3. Equity was a sticking point for this group: Ted Chase, the moderator, wondered if there was a way for the Co-op to adjust rates sensitive to income. Ginny Blaine of Orange, advocating for option 3, pointed to the detrimental effects current high rates for high energy users have on business growth. “Everyone I’m meeting around here has a home business,” she said. “I want to support people who want to run a business, because, man—you need jobs here. I’d rather help someone make a go of it.”

Final reports and next steps

After regrouping—and a few minutes to mingle and fill up at the sandwich and salad bar—each team’s moderators made their report.

David Strong of Plainfield, moderator for group 1, said, “We reached consensus on option 3. It’s less extreme and helps stabilize rates by increasing the base rate. It maintains an incentive for low energy users,” which he added they would keep at 200 kWh.

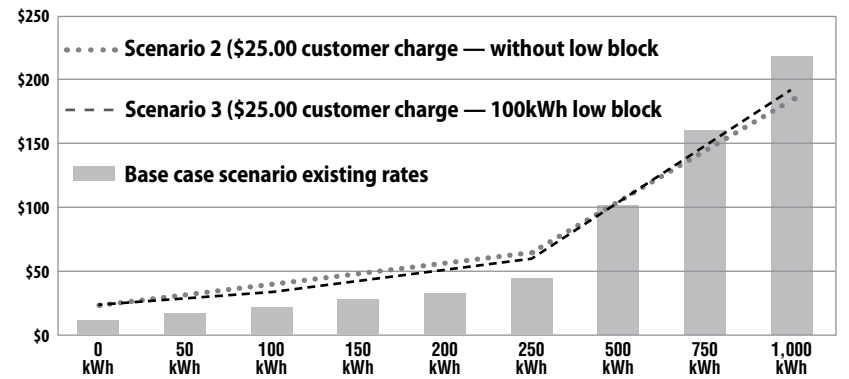
Strong also said as part of group 1’s



Moderated by David Strong (L), group 1 was the only group to reach consensus on one of the rate options. But even that took making a change to the option as presented.

Bills by Scenario

WEC’s current rate structure, or Option 1, is shown here as the bars of the chart. Option 2 is represented as a dotted gray line, and option 3 is represented as a dashed black line. To estimate how your costs may change under each option, check your bill to see how many kWh you use per month. At right around 500 kWh, all the options break even.



WEC Rate Design at a Glance

Option 1 / Current rates

- ➔ All members pay a low fixed monthly fee of \$12.97 (covers less than 20% of WEC’s fixed costs)
- ➔ Rate per kWh:
Under 200 kWh: \$0.10373 per kWh
Above 200 kWh: \$0.23160 per kWh

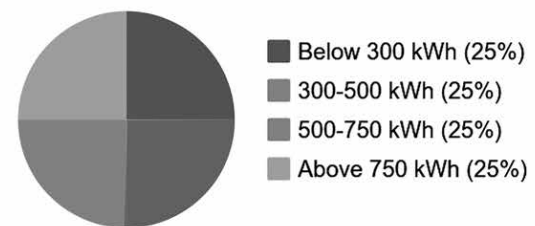
Option 2 / Increased monthly fee, single energy rate

- ➔ Fixed monthly fee: \$25
- ➔ Rate per kWh:
\$0.16140 per kWh

Option 3 / Increased monthly fee, lower two-block energy rate

- ➔ Fixed monthly fee: \$25
- ➔ Under 100 kWh: \$0.09961 per kWh
Above 100 kWh: \$0.17511 per kWh

Members' average monthly energy use



concern about fairness, they wanted to give “landlords incentive to reduce electric load on tenants.” This rang a chord with Peter McKenney, who said, “When I see my electric bill, I’m frustrated,” because he rents a home that needs efficiency upgrades. McKenney would make the upgrades himself, but he wouldn’t get reimbursed, he said, so he pays the price for an inefficient house through his electric bill.

Jane English of Calais, moderator for group 2, announced that her group was divided between the status quo and option 3. But they did acknowledge, she said, the \$12.97 monthly member charge “is an artifact of an earlier time and it needs to be increased.” Before concluding, she extended her group’s appreciation for the process. “Most people don’t get to talk to their utility the way we’re talking today,” she said. “That’s really awesome. It’s important to have the spirit of the Co-op in this conversation instead of everyone for themselves.”

Ted Chase of West Danville, moderator for group 3, outlined his group’s stalemate, and acknowledged the difficulty of acting when faced with so much complexity. “None of the three options fix the long term issues,” he mused. “We don’t understand how to solve the impact of any of these options, other than status quo on low-income and low-energy users. We’ll leave it to the WEC board to make that decision.”

Afterward, Patty Richards reviewed the three different and illuminating responses and nodded with recognition. “The board is having the exact same debate,” she said. She was grateful to these Co-op members for spending half their Saturday participating, she said, and was pleased with the process and the excellent feedback members produced. The board will absorb the results from the listening groups and use them to help guide the next steps of WEC’s possible rate redesign. Look for updates in future issues of *Currents*.



The Gas is Still Cooking in Coventry

On October 17, a glorious, warm day, WEC hosted its annual open house at the methane generation plant at the NEWS-VT landfill in Coventry, the state's only open landfill. The plant supplies about 66% of WEC's power. "It's not typical for a utility to be dependent on one power source," said Roger Fox, WEC's board vice president. He said WEC's membership was courageous in choosing to invest in the plant, which has been online since July, 2005, because the technology was relatively new, and it would provide such a large portion of the Co-op's power. "Our judgment in deciding to build this facility has panned out. It was a good thing to do," he confirmed. Patty Richards, WEC's General Manager, noted that Coventry is one of WEC's least expensive sources of power. "Coventry provides a clean and renewable resource to WEC that also keeps power costs down," she said.

Fox and fellow board members Steve Knowlton and Don Douglas, along with spouses Lindy Biggs and Charo Douglas, were on hand to greet guests and tour the plant. Engineering and Operations Director Dan Weston led informal tours, joined by Member Service Supervisor Susan Golden and Safety and Environmental Compliance Specialist Rick Stergas. Visitors ranged from State Representative Kimberly Jessup of the Washington-5 district to a fleet of youngsters, some in hard hats, who were drawn by the promise of big loud machines. Golden ensured there were cider and doughnuts for all.

While Coventry may generate two-thirds of WEC's power portfolio, its output represents only about 1% of Vermont's total power needs. That's another reason the plant aligns with WEC, whose rural, low-density membership represents only about 1.3% of the state's total energy use, Fox noted.

Hundreds of landfill methane generation plants have opened around the country since WEC contracted with NEWS-VT (a subsidiary of Casella Waste Systems, which owns and manages the landfill)—though,



These five engines burn methane gas to create electricity that's roughly two-thirds of WEC's power portfolio. The engines are so hot that on a cloudless day, visitors to the plant could see heat shadows moving rapidly over the ground.

according to POWER Magazine's 2015 report on landfill gas plants, not as many as the 2015-era EPA would have liked to see.

Here in Vermont, WEC's contract gives it an exclusive on renewable landfill methane supply from the Coventry landfill. Coventry is the only active landfill in the state. An active landfill is best for maintaining or increasing methane gas production, because methane is produced by organic matter decomposing, which happens relatively quickly. And when it enters the atmosphere, it is a powerful greenhouse gas. By tapping into the landfill, WEC is able to harvest an affordable energy source from a gas that would otherwise be a harmful byproduct of Vermont's waste stream.

All landfills produce methane—and methane buildup can cause explosions. Nobody wants to deal with a giant trash explosion. So before landfill generation caught on, landfills collected the gas and disposed of it in flares—simply burned the gas off to eliminate the harmful methane. Many still do.


At the Coventry plant, backup flares are used only when gas production exceeds what the plant can manage.

Under normal production conditions, after collection, gas is scrubbed of impurities and siloxane, a relatively new chemical compound found in thousands of disposable products that rapidly grinds down engines ("Cure for the Siloxane Problem," Sept. 2016). WEC's new Siloxane Removal System, or SRS, came on line in early 2017, also results in cleaner air emissions from the plant. After scrubbing, the gas is burned in the plant's five engines. The engines turn a generator to make electricity, which is then transmitted to the grid. The plant can serve roughly 6,000 Vermont homes.

Those five huge engines need oil for lubrication, and true to the "use it up, wear it out" maxim, WEC makes an effort to recapture that, too. According to Ed Schunk, Transmission and



Erin Patoine of Sutton came to WEC's annual open house with Emmett (7), Milo (5), and Sawyer (2) to enjoy big machines, loud engines, and as Milo shows, cider doughnuts.

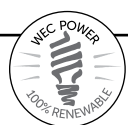
Distribution System Technician, WEC carts Coventry's used engine oil back to East Montpelier to heat the warehouse and garage on Fassett Road. They get about 115-150 gallons of oil per engine with each oil change, he said, and the warehouse uses about 2,500 gallons a year to keep warm, depending on how cold the winter is. Reusing fossil fuel—not to mention capturing a naturally occurring greenhouse gas for good use—is conservation-minded and scrappy, in keeping with the culture of the Co-op. 



Every landfill has pumps like these to remove methane gas from decomposing matter underground. Most flare the gas; at Coventry, WEC harvests it as a sustainable, renewable source of electricity.



L-R: Member Services Supervisor Susan Golden, Board Treasurer Don Douglas, and his wife Charo Douglas outside the Coventry landfill methane plant on a beautiful fall day.



Public Power to the Rescue

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WEC's storm cleanup and bad weather didn't end after power was returned to all members: after Sands left, WEC's crews continued to hustle. WEC Operations Director Dan Weston said he is proud of Sands for volunteering and pleased he was able to, and also recognizes "Kyle's co-workers were stepping up efforts here at home, wrestling with ongoing weather events that continued after the October 29 – November 5 wind event. Their efforts made it possible for Kyle to lend a helping hand to the Virgin Islands."

What does it take for public utilities to help each other out—especially when help is going to a distant island? *Currents* spoke with both Sands and with Ellen Burt and Trish Waugh of Stowe Electric about the experience.

Setting up the volunteer effort

When the Virgin Islands utility requested help from other US utilities, NEPPA managed the response from our region. WEC, Stowe, and many other community-owned utilities in the region are members of the association, based in Littleton, MA. One of the association's most used and valued services is called mutual aid. Mutual aid is a sort of cooperative insurance program: when utilities commit to helping each other, each can scale up their emergency response in the aftermath of storm damage. General Manager Patty Richards said WEC has been successfully using mutual aid in our region for many years. "This agreement means we get help when we call, if crews are available. It works well and is one of the best ways to temporarily increase lineworkers when we need them to help us get power back on as quickly as we can," she explained, saying it's especially effective when storms hit in localized areas. When WEC is hit by a storm, a call to NEPPA generates help from other Vermont, New England, and New York utility crews. It's why lineworkers from nearby utilities were working on WEC lines after Storm Damon in 2014 and the October windstorm this past year.

During region-wide events like October's storm, NEPPA utilities may first need their crews in their own areas. But once their work at home is

finished, they travel to help out other utilities still working to recharge power.

The Co-op benefits from this arrangement, and reciprocates as often as possible. "WAPA in the Virgin Islands put out a call to the Northeast because they were so shorthanded after the hurricanes devastated the island. Both BED and Stowe responded for Vermont," explained Ellen Burt, General Manager of Stowe Electric Department. As much as WEC wanted to help, the Co-op couldn't respond directly to the request. WAPA asked for trucks as well as workers—but WEC didn't have a truck to spare. The solution was partnership. Stowe arranged to send a bucket truck and other equipment, along with two lineworkers to work the first wave, and one to work the second. "Dan [Weston], whom I've known for years and is super great, called me and asked if I could take any of his linemen," Burt went on. "I had an opening on the second wave, and I said sure, so that was Kyle Sands."

Weston said he was grateful both that Stowe's bid was selected and that the utility welcomed Sands on their team. "If not for them and their willingness to work with us, WEC could not have participated," he noted. NEPPA had more responses than it needed, but Vermont's crews were selected to go. Burt said that's a very good thing—she knew how much her crews and WEC wanted to help people in the Virgin Islands, and felt lucky they were able to contribute.

Before departing, Sands worked a few shifts with Evan Bilodeau, the Stowe lineworker he was paired with for the trip. "They got along famously, and Evan was very happy to have met Kyle," said Burt. Richards pointed out that a side benefit of mutual aid programs is the opportunity to build cooperation by having different crews working together. An experience like working in the Caribbean also is a form of professional development, she added—crews learn new skills working under different challenging circumstances, and bring those skills home to share.

Normally, sending crews and equipment on a mutual aid support effort requires hard work and a lot of logistics. Burt says Stowe often pitches in to help WEC after storms, and she sent crews to help recover from Superstorm Sandy. But this was a whole other animal: crews needed to drive their trucks to Florida, put the

Members Write

Former Member Writes: On Hugging a Pole

By Edith Matthes

Have you ever hugged a pole? I have! My dear husband Bill and I had moved from Quincy, MA to Corinth, VT to enjoy our retirements. Our lovely home was set next to a meadow and our pride was a big, red barn with a loft for our visiting grandchildren to enjoy.

Having been "cityfolk," we knew we were in a "little-bit-of-country" when our homeowner requirement was to monthly do an electric meter reading and send it to the Washington Electric Co-op, Inc. However, the meter was on a pole down the road! With great excitement and anticipation we had located the pole ahead of time, which was standing in a four foot deep gully next to the road, but not too far from our driveway.

All went well as long as the weather was good! Because one morning, when our reading was due, we discovered that a big snowstorm surprised us overnight! Now, my husband had a health problem and was unable to do the task, but like Superwoman, I soon was ready and bundled up for our great mission! My dear husband was to be my backup man. He with snow shovel in hand, I with pen and paper in pocket, we finally reached the spot, no problem, we thought!

Our pole was snowed in, surrounded with fluffy snow, level with the road and seemed like a mile away. How do I get there from here?

A little path was cut through the pile which the snowplow left us, and by now frozen. After I carefully made it to the edge of the road, I took one step and sank to my waist into the gully, not even close to the pole. I thought, as I scrambled back out, I looked like Superwoman-Snowlady. My husband and I looked at each other and burst out laughing. How did we get into this mess? So, now what? The pole seemed unreachable!

But I was not a carpenter's daughter for nothing. My mind was working... maybe a board?! Bill got a six foot long board from the barn and after placing it on top of the snow I edged myself closer to the pole like a tightrope walker, inch by inch. We could not believe that I made it!

While hugging my pole tightly with one arm, pulling pen and paper out with the other and taking notes, I noticed that I was slowly sinking down into the white stuff, like a slow elevator! Now, I better put a rush on it, but did not want to let go of my pole.

My backup man was alert though, to reach me one end of the snow shovel to guide me back to safety, and it felt good to have solid ground under me!

We were probably the laugh of the town for days, as people driving by would honk or stop to offer help, to see that new woman hanging on a pole, what a sight! It still makes me laugh out loud when I think of it.

Special thanks to Edith Matthes for sending in her story. She lived in Corinth from 1984-1995, and now lives in Hingham, MA. WEC would like to assure future members considering moving to WEC territory that members are no longer asked to read meters on poles in snowdrifts.

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.



trucks on barges, and ship them to the St. Thomas. Office staff needed to sort out insurance and paperwork. Because FEMA was involved and WAPA was a utility they'd never worked with before, Burt said, there was a lot of paperwork.

Trish Waugh, Stowe's Business and Customer Care Manager, said, "They left on Columbus Day. We made the final arrangements on Wednesday. We had our staff out shopping for them on Thursday. They were ordering spare parts for the truck Friday. Hotels were booked at the last minute." They planned flights, hotels, and a driving route to Florida with the BED crew so they could spot each other—which was smart, since each utility's truck had a flat on the drive south.

There were supposed to be four waves of volunteers, Waugh

mentioned, with another BED crew on the final wave, but that last one was canceled. Since Stowe's tall bucket truck was so valuable for restoration work, they left it and other gear on the island for the BED team to ship and drive home. But since there is no fourth wave, at the time of the interview, Stowe was still working out how to retrieve their equipment.

Sands' experience in St. Thomas

Sands flew into St. Thomas on a plane full of lineworkers from around the country volunteering on the second wave, he said, and at the airport, all the first wave lineworkers were waiting for their flights home. He and his fellow

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Courtesy Stowe Electric Department



Stowe's bucket truck arrives on St. Thomas after its long trip from Vermont to Florida to the Caribbean island. As of *Currents'* interview with Stowe, they are still working out how to get their truck back home.



Public Power to the Rescue

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volunteers got on vans and drove to a cruise ship FEMA commandeered as lodging for recovery workers. “Everybody was on it. Red Cross, doctors and nurses, military. Quite a bunch of different people,” he recalled. On the drive over, he noticed the state of the island’s grid: broken poles and lines down everywhere.

“They lost everything,” he explained. “The crews prior to us were starting over from the beginning, rebuilding the main transmission lines and distribution feeders.” Sands worked as a high-performing team with Stowe and BED’s crews under the supervision of a group leader of about 20 lineworkers from the Northeast, and the island’s WAPA utility. It helped that the team also happened to have one of the tallest bucket trucks on the island, Burt said. She added that Scott Edwards, the mutual aid director from NEPPA, “said they’re getting wonderful feedback from FEMA about what a great job the Northeast’s public power did. I got feedback from a couple of the managers that our crews did us proud. It’s wonderful to hear things like that.”

Every day, the crews drove their trucks through hilly terrain and terrible traffic to work across the island from the cruise ship where they stayed. Between the narrow passes and drivers zipping along on the left side of the road, trucks needed an escort from the police to get through safely and together. Sands said, “There’d be 30 or 40 line trucks in a row going up over the hill escorted back to the stockyard. It was like going over Smuggler’s Notch

Courtesy Stowe Electric Department



This destroyed solar field is evidence of the damage hurricanes Irma and Maria wreaked on the Virgin Islands’ energy infrastructure.

with bumper to bumper traffic on both sides and a police escort.”

The work was slow for a few reasons, he said—the island is steep and formed entirely of ledge, it was hot and sunny, and there weren’t enough materials to go around to rebuild the island’s infrastructure nearly from scratch. “We were just going through and stringing the primary neutral wires, getting the main lines put back together, then trying to get transformers and service wires up,” he said, piece by piece, trying to get the power on a little bit at a time. Not having enough materials made the work especially hard, because crews had to adapt to stopping and starting different projects based on what was available. “You had to do whatever you could with whatever you could to get it back together. A load of transformers would come in, but you’d have only three for your crew, and you might not have any for the next few days, so you’d work on something else, like running primary

wire,” he explained.

Sands got a chance to talk to several St. Thomas residents. “The people were incredible down there. They were extremely appreciative, very thankful, went out of their way for us,” he said. Their accounts of the storm were chilling, he said: “One of the guys told me it came through in one direction and defoliated everything he could see from his window. After it passed it turned around and the wind came right back the opposite direction at 200 miles per hour.” The man

described it as though a grown man were snapping utility poles between his hands, Sands said. “It was pretty crazy. You could see that in the restoration work: if it didn’t break the poles, it ripped the transformers right off the poles.”

During the restoration work, he said, people came out of their homes to shake the lineworkers’ hands and offer them cold water and sodas. “These are people running generators for the last two and a half months. To me, it meant a lot, for someone who’s paying a few hundred dollars a week to keep their fridge cold and they’re coming out giving you their stuff out of it,” Sands said. He said the recovery would clearly take a long time—years, even—but that he’d love to return to St. Thomas in the future with his family. It’s a beautiful, but vulnerable, island: “I can’t imagine being out of power for two months. Some people said storms like this hit and they can be out of power for over a year. It’s definitely a different place.”

Manager’s Report

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increase was kept to a bare minimum. Generally, WEC has been able to keep the level of increases very close to the rate of annual inflation: our rates have risen at roughly 2% per year since 1999. Rate increases are thoroughly checked and vetted by staff, the Board, and state regulators to make sure they are as low as possible.

The year ahead

As we look to 2018 we know we must continue to evolve and innovate.

These are just a few big and important issues we will explore this year:

- In 2018 we will focus on ways we can reduce the impact of power outages (fewer of them, and shorter amounts of time when we do have an outage). The resilience of our power grid is critically important, and we must work to harden the system as we see the rate and pace of storms increasing in frequency and severity.
- We must also look for ways to stabilize rates and minimize cost pressures on our members. Transmission costs and expenses from the bulk power system are on the rise, and we are looking for ways to reduce the Co-op’s peak during the state’s and

region’s peak power needs. One way to manage the increased costs driven by peak is to install battery systems. We will investigate this technology in the upcoming year.

- We will also continue looking at redesigning our rate structure. Our current rate design is intended to encourage energy efficiency, but as Vermont policy calls for increased use of the electric grid to lower the amount of fossil fuel that is used statewide, our rates must be structured so the Co-op can deliver on state mandates in a way that is fair and equitable to our membership. Please read more about the rate design process in this issue and in several past issues of *Currents*. We will continue to explore this important issue and share our progress.
- We have begun an important milestone for the Wrightsville Hydro dam relative to its federal hydro license. This is a long and complex process. We have the next five years to assess the plant’s impacts on Vermont waterways and to determine the future of the plant’s operation. In short, 2018 promises to be another busy year filled with important issues to tackle. Everyone at WEC is committed to our mission and will work hard in all cases to bring the best outcomes we can achieve for our members.



Kyle Sands repairing WEC lines during the October windstorm. He left to volunteer for hurricane recovery a few days after this picture was taken.

Have Your Say: Run for a Seat on the Board of Directors!

Are you looking for a meaningful way to serve your community? Are you interested in Vermont’s energy landscape? What do you envision for the future of your Co-op?

There is still time to run for a seat on WEC’s Board of Directors. All Co-op members in good standing are eligible to run. Contact WEC Administrative Assistant Dawn Johnson at 802-224-2332 to request a candidate’s packet. The deadline to submit all candidacy materials is **Friday, February 9**.

Every year elections are held for three of WEC’s nine board seats. In 2018 incumbent directors Roger Fox, Stephen Knowlton, and Richard Rubin are seeking re-election. At this writing, there are no challengers. WEC benefits tremendously from its directors’ service, commitment, and vision. The Co-op also knows democracy works best when we all participate. If you’ve been thinking about getting involved, now is the time to call for your packet and start collecting signatures. We all want to hear what you have to say.

