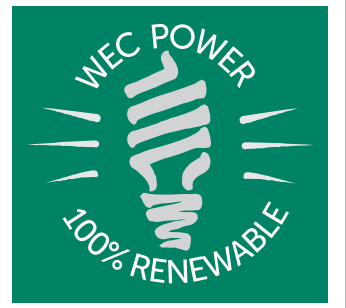




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# CO-OP CURRENTS



Vol. 77, No. 4

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

June 2016

## Something New Under The Sun

### Solaflect Trackers a 'Match' for WEC Net Metering

Ed Vilandrie and Marty Cavanaugh have a lovely, rustic home in Peacham, with a creative and elaborate stonework patio and an elevated deck with views that capture Vermont's undulant countryside in all its summer beauty. Their property also includes a modest-sized field, somewhat elevated from the house and obscured by trees and bushes.

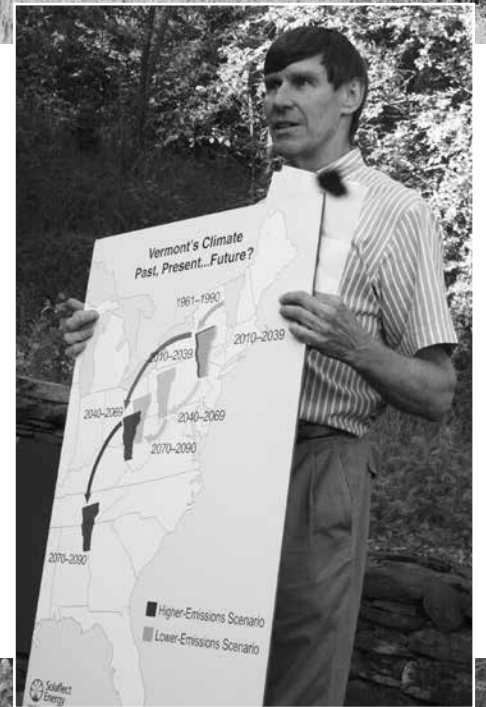
Ed and Marty, who are members of Washington Electric Cooperative,

wanted to go solar, and the field turned out to be their ticket. After exploring other avenues for purchasing solar equipment with which they could take part in Vermont's net metering program, they connected with Solaflect Energy, a company based in Norwich, Vermont, that specializes in its own, patented, design of solar trackers. They formed a plan, and Solaflect went about installing nine of

*continued on page 7*



Nine of these patented Solaflect trackers (above) churn out energy at the Vilandrie-Cavanaugh home on Co-op lines in Peacham. Homeowners Ed and Marty hosted a celebration of their new net metering project on June 17. At right, Solaflect President Bill Bender discusses the need for renewable energy as he holds a board revealing how Vermont's climate is already undergoing change. Below, guests at the Peacham celebration listen to Bender and other speakers.



### For The Record: WEC Supports Net Metering

Net metering, as an institutionalized response to the imperative that Vermonters and people the world over generate more and more of their energy from renewable resources, is not a static concept. It is, instead, a fluid concept, and has been since it was conceived in Vermont in the 1990s. Its components have evolved continuously as the Legislature repeatedly increased incentives – tax benefits and financial rewards – to attract more people to the program; as production costs decreased for equipment manufacturers; as companies developed new

arrangements, like leasing, to attract customers; and as utilities incorporated a growing percentage of net metering homes and businesses, following state requirements.

In six months Vermont's statewide net metering program will change again, in ways that are not yet known. Anticipating the end of federal tax credits for renewable energy systems at the end of 2016, the Legislature instructed the Vermont Public Service Board (PSB) to debut a revamped statewide net metering law on January 1, 2017.

*continued on page 8*

#### Washington Electric Cooperative

East Montpelier, VT 05651

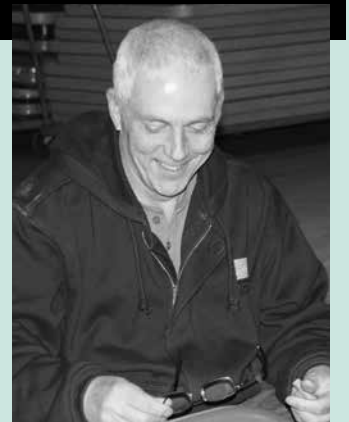
#### Inside

**A pleasure to work with.** General Manager Patty Richards pays a quiet tribute to Co-op retiree Debby Brown. Manager's Report, page 3.

**The place was packed.** Nearly 250 people participated in WEC's 77th Annual Membership Meeting on May 3, revealing again that one of the Co-op's strengths is its role as a community institution. Story and photos on page 4.

**A teachable moment.** Guest speaker David Morrison, of FireProTec, made a deadly serious subject – how to respond when a fire breaks out – lots of fun. Page 5.

**Catamount Solar gets it.** Like Solaflect (page 1), Catamount is one of several solar companies that work successfully to install net metering systems for Co-op members. Page 8.



System Technician Mike Gray, above, was honored at the Annual Meeting for five years as a WEC employee.

## President's Message

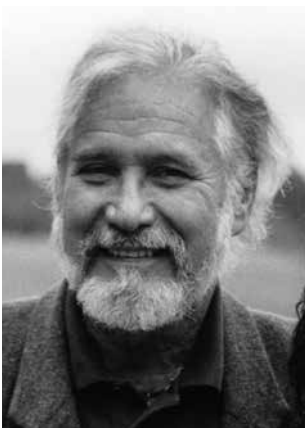
# Arguing For Fairness In Net Metering For Vermont

*It's An Argument, Too, for Sustainability*

By Barry Bernstein

Summer has finally arrived. The grass is green and growing, the trees have long-since budded and blossomed, and they're now showing their summer finery. Plus, we've had lots of very long June days and sunny weather, perfect conditions for the solar electric-generating systems that our net meterers have installed.

And that brings me to the subject I want to address in my President's Message this month – a subject you will also find covered in various ways elsewhere in this issue.



### Net metering regulations for 2017

While we await the Public Service Board's final rules for net metering programs, which are to be instituted on January 1, 2017, I wanted to share with you, our members, my reflections from attending and testifying

at a PSB public hearing held in May, at Montpelier High School, on the proposed new rules.

It was clear, after listening to everyone who spoke, that we all supported the Vermont State Comprehensive Energy Plan and its goal of obtaining 90 percent of Vermont's energy from renewable

sources by 2050.

However, it was also clear that most of the speakers, who were either solar developers, employees of solar developers, or lawyers or contractors for solar developers, have a very different sense of reality than WEC, our sister co-op Vermont Electric Cooperative, and the other publicly owned municipal electric utilities.

Representatives from a leading and influential Vermont solar company made clear that they consider any structured payments required by WEC in its monthly billing

of Co-op members with net metering systems, to be "penalties" – charges that will deter potential future customers from buying solar generating systems. That view is not universal in Vermont's solar industry, but nor is it unique to the company in question. By expressing it in a forum about the PSB's 2017 rules on net metering, their goal very clearly is to prevent such so-called "penalties" from being written into the revised program.

The primary target of these attacks is WEC's grid service fee. This fee, which appears in the electric bills sent to our net metering members, helps support our poles-and-wires infrastructure and corresponding operational costs. The state's net metering program in recent years has provided the opportunity for people with productive systems to "zero out" their power bills, paying nothing in months when they're able to produce a surplus of power beyond their needs, and building up credit toward their future bills by channeling the surplus power into the grid.

To an extent, that's fine. It's the purpose of the net metering program to provide Vermonters an opportunity to generate their own electricity and to add more renewable power into the statewide and regional grid. (It's worth noting here that WEC is already 100-percent renewable.)

But, given an opportunity in 2014 by the PSB to create our own net metering system (as explained in "For The Record," page 1), WEC devised the grid service fee as a way for net metering members to participate in the financial support of our 1,250-mile electric distribution system. After all, WEC member/owners who are *not* net metering share in those costs when they pay their electric bills. It helps keep our Co-op running smoothly during good and bad weather alike.

The so-called "penalties" that

*The so-called "penalties" that opponents of our program are referring to merely ask net metering members to share in the financial support of our 1,250-mile electric distribution system. It's questionable how long WEC or any other utility can manage this maintenance without their participation, especially as their numbers grow.*

opponents of our program are referring to merely ask net metering members to do the same. It's questionable, both in terms of fairness and sustainability, how long WEC or any other utility can manage this maintenance without their participation, especially as net metering attracts more and more participants.

Most of our 11,000 member households, schools, and businesses, understand that our electric rates are set at a level that provides the resources WEC needs to keep your electricity

flowing to you, 24/7, 12 months of the year. Unfortunately, some in the solar industry ignore the basic reality that the operational costs of maintaining our poles and wires must be paid for. That's in the interest of net metering members as much as anyone else, as WEC essentially serves as a backup battery for their systems on cloudy days, at night, and when their production is reduced by less-advantageous sunlight in the winter. Our net metering members/owners also rely on our system to send their excess power onto the grid, for which they are well rewarded.

The companies opposing our charges also ignore these facts:

- WEC has invested more than \$20 million to provide our members with 100-percent renewable power; therefore, when people provide solar power they are also displacing renewable power;
  - WEC is a winter-peaking utility – so, as welcome as solar power is, those net metering systems are less productive during the time of year when they could make the greatest contribution to WEC's power supply.
- It is important, as I provide these facts, to be clear that net metering is beneficial to a statewide and regional grid that still relies on fossil fuel and nuclear generation to supply a majority of its power needs. This is the case with Gaz Metro/GMP, which serves 75 percent of Vermont ratepayers and, like most of New England's major utilities, is summer peaking.

We feel strongly that everyone should share equally in the Energy Efficiency and Low Income charges that are assessed upon all Vermont ratepayers, but which can also be erased under the state's net metering system. That's why we reinstated those charges when we had the opportunity.

*continued on page 7*

## Co-op Currents

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

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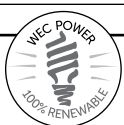
TIM NEWCOMB  
Layout

### Editorial Committee

Patty Richards Donald Douglas David Magida Anne Reed Will Lindner

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

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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

# Warm Wishes to Debbie Brown in Her Retirement

*Plus: Progress on Energy Siting and Other Issues*

By Patty Richards

**W**EC has many quiet heroes in its ranks, and during her years of service to the Co-op Debbie Brown certainly fit that label. Debbie retired in March and insisted that we keep a low profile about it. She didn't want a big write-up and insisted on no pictures or stories in *Co-op Currents*. While we kept to our word and didn't do a large tribute, I do want to take the time to recognize Debbie for all her hard work and loyalty to our Cooperative. Debbie was WEC's Administrative Assistant, which means she was a jack of all trades. She served the Co-op and its members with dedication and commitment for 15 years.

Debbie exemplified what it means to work at a cooperative and she always kept the members' needs front and center. I thought I would share a few words from a resolution honoring her work for Washington Electric with all our members and say a heartfelt thank you to Debbie:

"She performed her duties throughout her years of service in a dedicated, conscientious and responsible manner.

"She consistently responded with an enthusiastic smile and positive energy, fulfilling her duties with outstanding accuracy and competency.

"She set an example of dedication to principle which has been an inspiration to her fellow employees.

"She, in all her endeavors, reflected exemplary service not only by going above and beyond the call of duty but also by anticipating and fulfilling the needs of others, including members, fellow employees, the Board of Directors, vendors, and anyone conducting business with WEC."

Thank you, Debbie, and we hope you are busier than ever in all things retirement!

### It was a hit! The 2016 Annual Meeting

Thank you to everyone who turned out to WEC's 77th Annual Meeting. We are working hard to energize the membership and create fun and entertaining events. This year was a success and the feedback was terrific and inspiring. Our fire safety presentation was a big plus and we will work to keep our speakers both informative and entertaining as we plan for the 78th. Thank you to everyone



*"Debbie exemplified what it means to work at cooperative and she always kept the members' needs front and center."*

— Patty Richards

who called and e-mailed thanking us for putting on a great meeting and an entertaining evening.

We thank everyone for staying late to listen to our fired-up safety speaker, David Morrison. Most importantly, we hope you'll take advantage of lessons learned by checking your fire extinguishers (date and gauge). And why not pull the pin and practice using one? There is nothing like hands-on experience, and I hope you'll consider trying yours out so you know what to do in the event of flames. You can get them recharged after use, and you should have more

than one at your home. Please read more on the fire story article on page 5.

If you have suggestions for topics and speakers I'd like to hear from you. You can reach me by e-mail at patty.richards@wec.coop or by phone at 802-224-2324. I'd love to hear from you!

### Last Minute Renewable Siting Legislation Passes the 2016 Session (S.230 to S.260)

It was an exciting legislative session this year with a notable bill passing addressing siting of renewable projects — solar and wind. The bill started in the Senate and was referred to as "S.230; An act relating to improving the siting of energy projects." The intent of the bill was to give towns and regional planning commissions a bigger voice in the siting of renewable projects in the communities they represent. Last-minute changes to the bill related to sound requirements for wind projects brought it to a screeching halt after the regular session ended, with the governor vetoing it. Lawmakers scrambled and went into extra hours in early June to fix the issues identified by the governor's office. As a result, S. 260, which came with the same name as S. 230 ("An act relating to improving the siting of energy projects"), was developed. It ultimately passed, and was designated Act 174. A synopsis of its key provisions, as noted in the lawmakers' summary of the bill, is as follows:

"Act 174 is designated as the Energy Development Improvement Act. Among other provisions, the act:

"Seeks to improve the integration of planning for energy and land use, including creating an option under which municipalities and regional planning commissions may engage in enhanced energy planning that results in greater weight to their plans in the

energy siting process before the Public Service Board;

"Makes various amendments to that energy siting process, including establishing additional parties by right, specifying information to be included in the application, and directing the Board to engage in rulemaking on standard conditions related to post-construction inspection and maintenance of aesthetic mitigation and decommissioning;

"Creates a one-year pilot project under which a portion of the existing Standard Offer program is set aside for projects in 'preferred locations' as defined by the act;

"Creates the Access to Public Service Board Working Group to make recommendations to promote increased ease of citizen participation in Board proceedings."

### Renewable Energy Standard (Act 56): "An act relating to establishing a renewable energy standard"

The other major legislative efforts in the works impacting WEC are the requirements to comply with a Renewable Energy Standard. This law was passed by lawmakers in 2015. There are three provisions related to renewable power that WEC must comply with by the end of 2017.


The good news is that WEC has already fulfilled the first requirement (Tier 1) by being 100-percent renewable. Being ahead of the curve in this regard also allowed WEC to satisfy the requirements of the second category (Tier 2, having to do with distributed generation), as long as we continue to accept net metering systems in our service territory, which

we fully intend to do.

The third part, referred to as Tier 3 or the energy transformation program, will result in programs the Co-op will offer to help members reduce their fossil fuel energy consumption (such as oil or propane used to heat homes or gasoline used to drive cars), through such technologies as air source heat pumps, weatherization, solar hot water, electric vehicle charging stations, and more.

There are requirements that WEC achieve specific amounts of savings from programs offered under Tier 3: an equivalent of at least 2 percent of its retail energy sales in 2017, increasing each year to 12 percent by 2032. Yet despite this focus on other realms of energy consumption, distributed generation such as net metering would qualify under Tier 3's requirements. In effect, this tier recreates efficiency-like programs for any fuel source (such as fossil fuels), and is not limited to electricity.

As part of our planning to offer Tier 3 programs we must make sure they are cost effective and pass the state's cost-benefit test. We are working to analyze a number of measures now, potentially addressing incentives and assistance WEC could provide its members regarding: energy efficiency and weatherization, home heating and/or cooling, transportation (electric vehicles and charging stations), battery storage for electricity, e-homes (devices that manage load), and more.


We will roll out program plans by the end of the year and look forward to working with our members to save energy! 

## Gordon Booth Deceased

*Former WEC Trustee and Board President*

**F**ormer Washington Electric Cooperative Trustee Gordon J. Booth passed away on May 14, 2016, at the UVM Medical Center in Burlington, in the care and company of his family. Born to a Barre Town family in 1931, Gordon Booth was well-known in central Vermont as dairy farmer and for his service on numerous community boards and in political offices. Long associated with Booth Brothers Dairy, he was named Vermont Conservation Farmer of the Year in 1969 and Vermont Dairyman of the Year in 1975.

A graduate of Spaulding High School in 1950, Booth served on the Barre Town Board of Selectmen from 1968 to 1977, including three years as its chairman. He also represented his community as a Republican member of the Vermont House of Representatives from 1979 to 1996. From 1981 to 1984 he chaired the House Agricultural Committee. In 1997, the town select board honored Booth by presenting him the Wendell F. Pelkey Citizenship and Public Service Award.

Gordon Booth was elected to the Washington Electric Cooperative Board of Trustees in 1977. He was president of the board from 1978 to 1987, and continued to serve on the board until 1992. The Co-op respectfully extends its condolences to the Booth family for their loss. 

# Beautiful Evening, Great Turnout For WEC Annual Meeting

## Officers' Reports Target Financial Stability, Net Metering

It was probably a record attendance for a Washington Electric Cooperative Annual Membership Meeting – some 247 souls – and it wouldn't be surprising if every one of them went home afterwards and checked their fire extinguishers. That's because the final speaker of the night was David Morrison, who educates and instructs audiences in Vermont, New Hampshire, and northern New York on how to respond to "incipient," or early-stage, fires in the home or workplace. Notably, he didn't scare people into going home and looking at their fire extinguishers (if they could even find them); it was more like he laughed them into doing it. (See "Fire-Safety Session," page 5.)

Morrison's high-energy presentation was effective, memorable, and fun. It was certainly a highlight of WEC's 77th Annual Meeting on Tuesday evening, May 3, at the Canadian Club in Barre Town.

WEC's early-spring annual meetings have been increasingly well attended in recent years, a result of WEC's Board and senior staff working creatively to attract more people. Looking to continue the trend, WEC General Manager Patty Richards announced, "We've put survey cards on your tables. We want to know why you're coming. Whatever we're doing right, we want to keep it up!"

The May 3 meeting had all the customary components of these get-togethers: a good meal, provided by the Canadian Club's skilled staff; an air



The parking lot at the Canadian Club in Barre Town was more than full, as WEC members came together to enjoy a meal and an evening's worth of information sharing at the Co-op's Annual Meeting – not mention the ever-popular door prizes.

of sociability that was enhanced by one of the spring's first beautiful days; and a great mix of ages, from a few toddlers who came with their parents to nonagenarian WEC members **Wilmer Brandt of Marshfield** and **Gertrude Hodge and Merton Wheeler of Topsham**.

There were, too, the presentation of awards for people who had reached employment milestones with WEC. This year they included **System Maintenance Technicians Dan Couture and Mike Gray** (both five years), and **Safety & Environmental Compliance Coordinator Scott Martino and Products & Services Director Bill Powell** (25 years). They were applauded by appreciative Co-op members.

This was followed by reports from WEC's president and treasurer. (Their formal reports were published in the April 2016 issue of *Co-op Currents* and can be found at [www.washingtonelectric.coop](http://www.washingtonelectric.coop).) President Barry Bernstein, of Calais, remarked how far

Washington Electric had come from its humble beginnings in 1939 as a cooperative effort to get electric power to some 150 farms and households in rural central Vermont, which fostered accusations that they were communists, to a stable utility serving nearly 11,000 members – or, including their families, some 25,000 to 30,000 people.

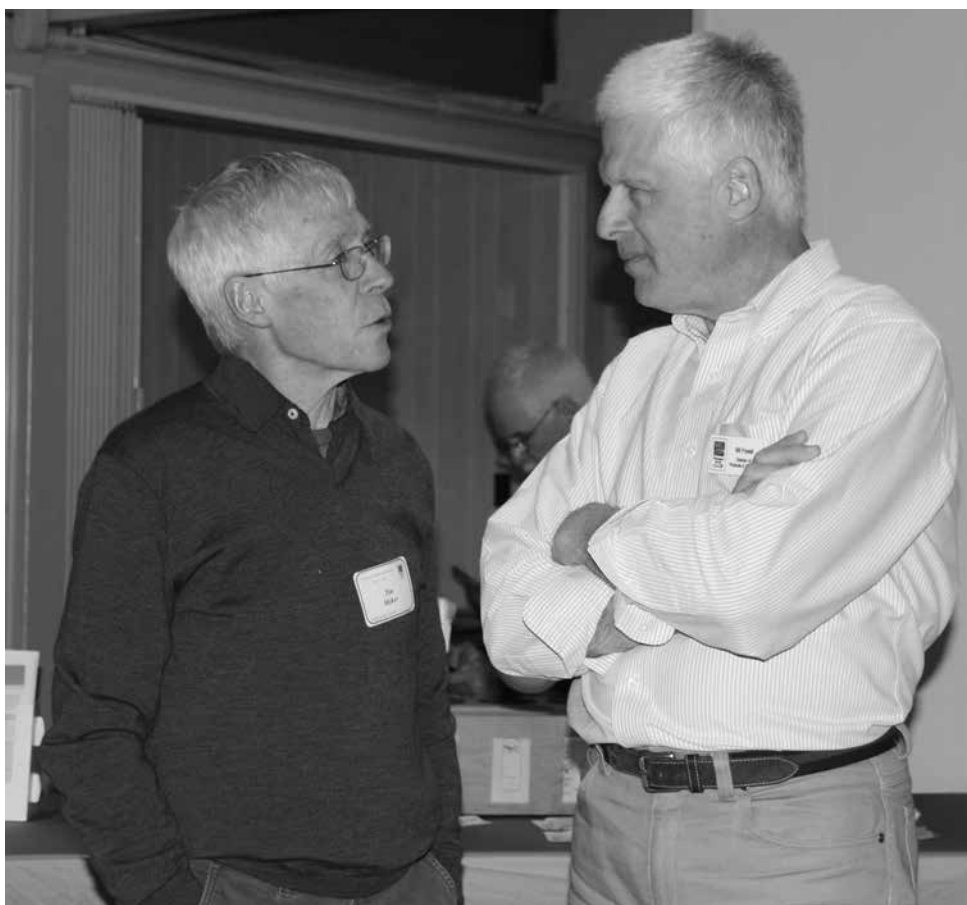
"What's more," said Bernstein, "our members' average usage of electricity is around 503 kilowatt-hours (kWh) a month, one of the lowest rates of power

consumption in the state."

It's a credit, he said, to a conservation ethic that runs from the Board of Directors through much of the membership. And though WEC's top electric rate – in a variable rate structure that begins with a low-cost block of 200 kWh to every member – is admittedly high (\$0.218/kWh), and is structured in part to discourage high usage, WEC's annual return of capital credits to members since 1998 is the equivalent of a 1-percent rate decrease each year.

### 2015 provided a breather on outages

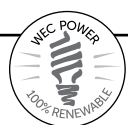
In her Manager's Report, Richards addressed policy and financial issues important to WEC members, who expect their Co-op to provide reliable electric service while containing costs; another factor in the equation are the continuously evolving regulatory requirements enacted by the state to combat climate change.



Co-op member Tim Maker of Calais (on the left in the photo above) talks with WEC Products & Services Director Bill Powell. Tim, who has been an advocate for biomass and other renewable fuels for energy production, raised concerns about WEC's grid fee policy for net metering.



Above, Annegret Pollard asked whether the Co-op would consider using underground power lines in more places. Operations Director Dan Weston said it was something WEC was always willing to consider, but that costs and the presence of ledge often make it impractical. Below, WEC Directors Roger Fox (left) and Richard Rubin share a casual moment at the yearly get-together.



Richards touted WEC's employee-safety record, and its record of more than 1.2 million miles logged onto company vehicles without a reportable accident.

"The value of our employees being safe and healthy cannot be calculated," she said. That has also saved the Co-op more than \$28,000 in workers compensation and other costs.

Richards reported that 2015 had been one of WEC's best years in terms

of reliable performance for its members, averaging 2.85 outages per member and 2.2 hours for average restoration times. These were well below the Co-op's state-sanctioned targets of 3.8 outages per member (a number that reflects the challenges of providing electricity in the state's most rural utility territory), and 2.7 hours for repairs.

While costs continue to rise for WEC, propelled significantly by steadily increasing costs for regional and

statewide transmission delivering the power to our substations, Washington Electric has been able to insulate its members from those increases thanks to a healthy output of affordable renewable power from WEC's generating facility in Coventry, and a good market for the renewable energy certificates (RECs) the Co-op sells to utilities in southern New England.

Richards reported, too, on the status of Washington Electric's net metering

program. WEC has endured criticism from some of the state's larger solar developers, who object to a grid service fee the Co-op now levies on members with net metering systems, such as solar generating equipment at their homes and businesses. (See President's Message, page 2.)

The point of that fee – besides the fairness of asking all members to contribute to the Co-op's system

*continued on page 6*

## Fire-Safety Session Enlivens Annual Meeting

*PLUS: A Special Deal on Extinguishers for Co-op Members*

The tipoff was the title. David Morrison, of FireProTec in Colchester, Vermont, called his address to Washington Electric Cooperative members on issues of fire preparedness and fire response, "You Look Hot! Pass the Fire Extinguisher."

Whatever this talk was going to be, it wasn't going to be stuffy. And it certainly wasn't. Morrison is young, energetic, engaging, and knowledgeable in his field. Plus, he's got more moves (verbally speaking) than a standup comic. That was why WEC General Manager Patty Richards

and the Co-op's Board of Directors invited him to be the guest speaker at Washington Electric's Annual Meeting this year. Morrison had done a presentation for WEC's staff, and it was both informative and enjoyable. They felt that the Co-op's membership would benefit as well.

Preparedness for a potential home or workplace fire is important, Morrison said, because as frightening as they are, fires are fairly common. Vermont, he said, experiences about four fires a day. In the U.S., around 3,400 people died in fires each year between 2000 and 2010. It was one of the highest death rates in the industrialized world, and it happened despite the fact that this country spends \$58.5 billion a year on fire prevention, more than all other countries combined.

But prevention, he pointed out, has a lot to do with *stuff*: expensive warning systems, automatically activated sprinklers, and other technologies. It has little to do with *human behavior*, and that's why he was there, speaking to Co-op members.

It's a task he performs often. Morrison instructs workers at such institutions as Dartmouth-Hitchcock Medical Center and the UVM Medical Center, where an employee's competent response to an "incipient-stage fire" could head off a calamity. His objective, he explained, is not to encourage people to take risks, but to empower them to think rationally within the first 20 seconds or so about whether they can control a fire and how to do it. That power, he said, has been undermined by, for example, elementary school education that says "don't think; just line up and get out."

Consequently, said Morrison, we don't know any other way to respond to a fire. And because we're trained to feel helpless we don't even feel capable of using the fire extinguishers we dutifully bought for our homes and then ignored for decades.

One of Morrison's teaching tools was a grainy security video from a fast-food restaurant that showed a young employee alone in the kitchen, in the early hours before the restaurant opened. A small fire – an incipient fire, one that has just begun but has the potential to get out of control – has started near the grille. The employee notices it, is taken aback for a moment, and then throws paper napkins on it.

"Napkins have always been known as an effective way to smother a fire!" Morrison joked, getting a laugh from the roomful of WEC members.

As the video continues, the poor employee tries one thing after another to put it out, none of them even having a chance of working. Morrison explained,



David Morrison (left), of the Colchester-based fire equipment firm FireProTec, spreads the message in Vermont and nearby states that "incipient" (early stage) fires are fairly common occurrences in homes and businesses, but that people can make themselves better prepared to deal with them. Below, Morrison was big on audience participation!

"Fire creates excitement, excitement creates adrenalin, and adrenalin causes confusion."

Morrison's intent was not derision of the employee. Indeed, he identified with her

(one of the stories he told was about himself and a couch fire), and he knew that many in his audience would, too.

Ultimately, his message was that incipient-stage fires often can be controlled and extinguished – if we can think rationally, and if we have, and know how to use, a functioning, up-to-date fire extinguisher. Quizzing the audience on what's inside fire extinguishers (sodium bicarbonate) and where to aim the spray (at the base of the fire), he kept people

laughing and thereby kept their attention. For most early-stage fires, people learned, a functioning fire extinguisher can put them out in five to eight seconds. He recommended keeping a fire extinguisher on each floor of the home, knowing where it is, and maintaining it no less than once a year.

Importantly, he pointed out that fire extinguishers have a limited life. The gauge is only one way to judge the condition of an extinguisher; equally important is the date stamp. Most residential extinguishers have a 10-to-12-year life. Check the date on yours (often on the bottom). If your extinguisher is older than 12 years it should be replaced.

*He recommended keeping a fire extinguisher on each floor of the home, knowing where it is and how to use it, and maintaining it no less than once a year.*



### WEC members: Here's the deal

Many of his listeners left the meeting fired up: intent on finding their home extinguishers, dusting them off, and reading their gauges to know if there's life in them. The failure rate is high, Morrison said, because the equipment is so often ignored.

For WEC members, though, there was a bit of extra good news. After the meeting he informed Patty Richards that FireProTec would extend its corporate discount for a limited time to Washington Electric Cooperative members.

"All they'll have to do is verify that they're a WEC member, said Richards, "And his equipment, which is what we have at the Co-op, is top notch."

WEC will work with FireProTec to extend the discount to the end of 2016. If you have any questions, feel free to contact WEC's office.

"What we really hope people will take away from David Morrison's talk, as fun and entertaining as it was," said Richards, "is that they should go out and get a fire extinguisher, whether that's by contacting the company in Colchester or by purchasing one from a local business here in central Vermont. Get a fire extinguisher; get a modern one; and learn how to use it. It's something nearly all of us can do."



## 2016 Annual Meeting

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maintenance – is to ensure that WEC will be able to continue providing critical services to those members: delivering electricity when their systems aren't producing; transporting their surplus energy into the grid, where they're credited for it; and responding immediately when there's trouble on the lines.

Lawmakers granted WEC the right to design its net metering system in 2014, in recognition of the Co-op's accomplishments in surpassing the state's requirements (at that time) for hosting net metering installations, and providing 100-percent renewable power. That's when WEC introduced its 4.8¢/kWh grid service fee on power those systems produce. WEC's compensation rate for surplus power that net meterers contribute to the grid is high—20 cents/kWh for small systems, provided in the form of a credit on their power bills.

The complaints arise from the fact before the fee was added, net meterers sometimes received so much financial credit they could wipe out their electric bills entirely – a great selling point for the solar industry.

WEC's program is designed to be sustainable for the long term, so its functionality is ever-more important. And Richards conceded that the billing for the new program got off to a faltering start. "It's a pretty complex billing system, and it was a challenge for us getting it off the ground.

"But I will reiterate," Richards reminded people, "that everything about net metering right now is temporary, because the PSB will be introducing a new statewide net metering program in January 2017."

When it does, she said, WEC hopes that its advocacy for a system that's sustainable for utilities and fair for all Vermont ratepayers will be heard and incorporated.

### Members want to know

## ASK THE ENERGY COACH

***I've heard that "heat pumps" can also provide air conditioning. Should I have a heat pump installed and not use a window air conditioner?***

It is correct that heat pumps (which extract "heat" or "cooling" from outside air) deliver either heating or cooling, depending on the season, to the house's interior. However, a heat pump would be a better solution where the member wants to offset the energy used by an existing fossil fuel heating system (furnace or boiler).

In Vermont the need for cooling is relatively low, and limited to a few weeks per year. For a house where the need is cooling, a lower-cost solution would be a properly sized window air conditioner with a high CEER value (Energy Star rated air conditioners are at least 10-percent more energy efficient than the minimum federal government standards; look for CEER minimum of 10).

Another cooling option is a central air conditioning system. Look for an EER minimum of 12.5.

Got a question about energy conservation? "Ask the Energy Coach" (email [energycoach@wec.coop](mailto:energycoach@wec.coop), or call 224-2329) so we can use this space to share the information with your fellow WEC members.



*Lots of WEC members enjoy the distribution of door prizes – useful items large and small provided by local businesses, and by WEC itself – at the conclusion of the Co-op's Annual Meeting. Above, Information Systems Manager Kevin Stevens has a nice smile and a gift for a lucky Co-op member.*

The last part of the Annual Meeting provides members an opportunity to state their opinions and ask questions about the issues most important to them.

This year some members continued the discussion about net metering. Alex Thayer, who, with her husband Ed Gillespie, had installed small wind and solar generating systems at their home in Plainfield well before 2014, asked how members like they, who were enrolled in WEC's original net metering program, could make appropriate contributions to the Co-op's system-maintenance costs.

"The older program doesn't include a mechanism for that," Alex point out.

By contrast, Tim Maker, who has long been active in Vermont's alternative-power generation movement, contended that WEC's program has discouraged net metering. He asked how members could influence the Co-op's program design after the state revamps net metering for 2017.

Actually, no one knows if Vermont's next net metering program will permit WEC to create an independent system. The place for advocates to start, Richards advised Maker, is in public hearings held by the PSB.

"People need to show up and participate," she said.

On another subject, WEC member Tony Pearce of East Calais brought up concerns about the vulnerability of the national electric grid to a potential

cyber-attack. It's an alarming issue raised by former news broadcaster Ted Koppel in his recent book, "Lights Out."

"Could WEC continue to provide electricity if there was a major shutdown of the grid?" he asked.


The answer couldn't have been very comforting.

"If such a thing were to happen upstream of us on the electric grid," said Co-op President Bernstein, "the answer is, we couldn't. Our substations would shut down without the delivery of power from the transmission lines, and without our substations our members couldn't receive power."

Finally, it came time to announce the results of elections for three WEC Board members, the small number of votes cast at the Annual Meeting having been added to those received by mail. There were no contested elections; the three incumbent directors with expiring terms had all sought re-election, and were returned to the Board. The tallies were:

- Barry Bernstein, Calais, 714 votes;
- Roy Folsom, Cabot, 705 votes;
- Annie Reed, Marshfield, 699 votes.

This brought the adjournment of the annual business meeting. Chairs were then moved back and space was cleared for David Morrison's presentation on fire preparedness and response. People might have thought that would be boring.

Boy, were they in for a surprise! 

## Right of Way Reclearing schedule for Summer and Fall of 2016

*Affected Members with 'Special Trees' Should Call the Co-op*

The Co-op will continue working to improve service reliability by reclearing power-line rights of way in the areas described below. Right-of-way reclearing normally involves removing trees and pruning vegetation for 15 feet on either side of a single-phase distribution line, and for 25 feet on either side of a three-phase main distribution line. Except where noted, all of these projects involve single-phase lines, those carried by poles without cross-bars. Reclearing projects often involve a tap. That's where a single-phase line takes power from another line.

Throughout the year, post cards are mailed to members notifying them that right-of-way maintenance is to take place. Also, WEC's automated message-delivery system will place a phone call (if a phone number is on file) to all households affected by such maintenance projects, up to two or three weeks before work on the property is to begin. Calls will be placed in the evening, when most members are likely to be home. If no one answers, Co-op staff will attempt to reach that member during the day.

Because the evening calls are automated, they cannot hold the line if, for example, a child answers. If you believe you may have received a call from WEC, please call during office hours to check. If you are notified that a portion of your property is to be recleared and you especially hope to save any particular trees that are within the right-of-way, call the Co-op.

The Co-op's Right-of-way Management Coordinator Mike Myers, also a forester, will be happy to talk with you about any problems.

**Brookfield:** Brookfield Gulf, Line to the Gulf House, Tripp Road

**Brookfield:** Halfway Brook, Ferris, Woods and East Hill Roads, Cemetery Street

**Chelsea:** Hook Road

**Washington/Chelsea:** Hill Farm road

**Orange:** Prechtl, Richardson, Spencer, Emery and Helgesen Roads

**Topsham:** Frost Road line cross lots off Powder Spring Road

**Topsham:** cross country line near Stryker and Topsham Corinth Roads

**Duxbury:** Crossett Hill, Route 100, Devlin, and Richardson Roads

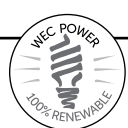
**East Montpelier:** Schoolhouse, Maplewood, Wheeler, and Gallison Hill Roads

**East Montpelier:** Center Road South of Templeton Road

**Williamstown:** Young Road off Baptist Street.

**Montpelier:** Horn of the Moon Road at Wrightsville reservoir

**Danville:** Route 2 side of Joe's Pond



## Solaflect Energy

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its 4-kilowatt (DC) trackers on the field above the house, for a 34-kW (AC) system.

On Friday, June 17, Ed and Marty, together with representatives from Solaflect, co-hosted a ribbon cutting celebration for the project. It attracted 40 or so guests from the greater Peacham-Danville-St. Johnsbury area, including Jack Gil of the Peacham Town Energy Committee, and Washington Electric Cooperative's President, Barry Bernstein, Vice President Roger Fox, Director Steve Knowlton and his wife Lindy Biggs, and General Manager Patty Richards. With tasty hors d'oeuvres placed along the shaded deck, people took turns speaking about the importance of solar energy in a time of global warming, and the efficacy of Solaflect's equipment. Just for fun, Solaflect COO Rob Adams distributed a handout charting the previous day's production at Ed and Marty's site. It showed production climbing shortly after 6 a.m., and maintaining a remarkably consistent level at around 30 kilowatts, then declining sometime around 7 p.m. Over the course of the day, the panels had generated 372.04 kWh of solar electricity.

During introductions, Ed Vilandrie welcomed the guests and then gestured to WEC's contingent. "The sales people I talked to at some of the other solar companies were all wrong about WEC," he said. "You guys have been great to work with."

The Vilandrie-Cavanaugh project was the latest addition to Washington Electric's net metering program. In her brief remarks, Patty Richards commended the new installation, noting that it was one of hundreds on the Co-op's lines and brought net metered generation to 1.7 megawatts, about 11 percent of WEC's peak.

"Solar is an integral part of serving our members' needs," said Richards. "Reaching the 100-percent renewable mark is a great success story, and one of the things most satisfying about it, related to net metering, is that when it's nighttime or when household usage exceeds the solar production, the backup power that WEC provides instantaneously is from other renewable power sources. This is a win-win for everyone and for the environment, and we're proud to tell the story."

### What works

Cody Berwick, who is a Peacham native, is a solar advisor employed by Solaflect Energy. The critical relationship in determining whether a solar generating system will provide a good return on the customer's investment, Berwick explains, is the system's cost and the amount of electricity it is able to provide to the utility (in excess of the homeowner's usage). In net metering, that power earns a significant credit. WEC's is one of the highest in the state, at 19 or 20 cents/kilowatt-hour (depending on the size of the system). The credit applies as a reduction to the homeowner's power bill.



*Solaflect COO Rob Adams (left) distributed a handout charting the previous day's production at Ed and Marty's site. Over the course of the day, the panels had generated 372.04 kWh of solar electricity. Just for fun, compare that to the monthly usage shown on your power bill. It's an impressive total.*

"Therefore the fundamental question," Berwick says, "is how much electricity does your system make for the cost?"

According to Berwick, Solaflect's equipment provides better return on that investment than other companies, for two reasons. First, the solar panels are mounted on mechanized trackers, rather than stationary frames; they follow the sun across the sky, enabling the panels (16 on each tracker) to generate with the full force of the sun. Their production therefore is 40 percent greater than with stationary systems, he says.

Solaflect isn't the only company marketing solar tracking equipment. However, this technology tends to be expensive, and, as Berwick says, "The cost works against the benefit."

"Our advantage," he explains, "is that we're able to reduce the up-front cost by reducing the amount of steel in the tracking system. Steel is very expensive. By reducing the steel" – Solaflect's web site says it's by two-thirds – "we're able to deliver that 40-percent electricity advantage without all the cost of a conventional tracker. We're making more electricity for less money, and that affects the payback period."

Solaflect was founded in 2007. Its prototype attracted the support of the U.S. Department of Energy (DOE), which provided a \$1 million grant. DOE extended a second \$1 million grant in 2013 through its Sunshot Initiative – a competitive program that rewards innovations aimed at making renewable energy cost-competitive with conventional sources by the end of this decade.

To augment their lightweight design, Solaflect trackers utilize high-tension wire supports that stabilize the individual panels within the tracker frame, and a patented software program for operating the trackers.

"Each tracker we install is connected to the internet," says Berwick. "It enables us to control them and perform diagnostics remotely."

Another feature the company touts is its connection to other local employers.

"All our structural steel comes from St. Johnsbury (Northeast Precision), all of our electronics come from Springfield, and our concrete foundations from Vermont or New Hampshire. We assemble the systems in our own factory in White River Junction."

### WEC-appropriate

Washington Electric Co-op's tariff – the PSB-approved financial structure that applies a grid service fee, helping support the infrastructure that enables WEC to provide backup power – can cause it to take longer for people to recoup their investments in renewable

systems. But Solaflect insists that its patented systems are cost-effective to install, with paybacks on average between 12 and 14 years.

"Good candidates for a tracking system" (people with terrain suitable for one to three trackers, the usual configuration for residential Solaflect customers) "can match well with us," Berwick says. While that's mostly because of the reduced purchase costs, Berwick also cites WEC's

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### President's Report

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But it's the grid service fee that has come under attack, at a time when, we hope, the Public Service Board will weigh the merits of building it into the revised statewide program. WEC contends that the program we have devised accomplishes the renewable energy goals of net metering, but also provides the long-term sustainability that the current Vermont program is lacking because it excuses a large pool of people from sharing in the respon-

sibility to contribute to a costly electric infrastructure in our state.

WEC's program asks them to do that. And it provides a reasonable payback for people who have invested in a generating system. Contrary to the claims voiced by the solar developers referenced above, Co-op members have still found it advantageous to install net metering; the proof is that the people who have signed up under the new system, which is only about 18 months old, represent 20 percent of WEC's net metering load. 🐌

### Some Basic Facts

- Washington Electric Co-op, formed in 1939 by central Vermont farmers, rural residents, and small local businesses, set up their own poles and wires to serve the first 150 members, who had been denied electric service by the investor-owned utility serving their area, Green Mountain Power. Seventy-seven years later the Co-op serves 11, 000 member/owner households, schools, farms, and businesses on the back roads in 41 towns.
- WEC has invested more than \$20 million in our two generation facilities – the Coventry landfill-gas-to electric plant, and our Wrightsville hydro plant – which supply close to 65 percent of our members' energy.
- WEC has invested \$76 million in our infrastructure/plant. The Co-op spends \$10 million annually on operations.
- 100 percent of our power is now renewable. Besides our Coventry and Wrightsville generating plants, we purchase power from Sheffield Wind, from the Vermont Small Hydro Producers, from the Ryegate woodchip plant, and from our members' net metering installations. WEC sells RECs for Coventry and Sheffield Wind, but then we "green back up" by buying RECs from hydro sources.
- Our renewable power sources are contractually committed from the present into the 2030s.
- Our newest net metering installation, at 34 KW, is in Peacham, and was recently installed by Solaflect Energy, of Norwich, Vermont. (See article on page one.)
- Our Co-op's "stockholders" are our member/owners, and over time our margins/profits are returned to them.
- In the early 1990s, WEC was one of the early adopters, nationally, in offering energy efficiency and conservation programs for our members.
- Price trends for solar equipment are themselves persuasive for many renewable energy enthusiasts, without requiring other members to cover their share of the operational costs. Today's costs for solar electric panels and related equipment are just one-fifth the costs in 2008.
- Federal subsidies that were anticipated to end after 2016 have been continued. Vermont's subsidy will be decreasing over time to reflect the significant decrease in the price of solar equipment.

## Solaflect Energy

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variable rate structure.

“WEC has a base block of 200 kilowatt-hours of inexpensive power,” he says. “There’s not a lot of value in offsetting cheap electricity, but for a household with 700-kWh average usage, for example, there’s lots of value in offsetting that additional 500 kWh at around 22 cents per.”

Sizing the project appropriately results in a balance between investment and reward (potentially eliminating, higher-cost usage above 200 kWh) that makes economic sense and rewards homeowners eager to act on their environmental sensibilities.


### Plenty of choices, but also a time crunch

Solaflect Energy is an interesting company, whose design has attracted support from the DOE. Yet it’s not the only solar company doing net metering installations in WEC territory. WEC works well with other reputable and

smart installers, including **Catamount Solar** (see “On Board,” this page), **RGS, Solartech**, and smaller installers including **Daedalus, O’Meara**, and others. Co-op members are encouraged to contact WEC for more information about the many installers who are familiar and comfortable with WEC’s program

It’s advisable to act soon, however, because Vermont’s net metering program will undergo changes taking effect at the start of 2017.

“It’s hard to foresee what those are going to be,” says General Manager Richards, “so there’s uncertainty ahead of us.”

Rest assured that it won’t be necessary to have your system constructed and in operation by the end of the year. The first steps involve coming to an agreement with a solar provider and obtaining a CPG (Certificate of Public Good) from the Public Service Board. Customers then have 12 months to get the work done, and they’ll most likely be grandfathered into the present program. 

## Catamount Solar: On Board With A Grid Fee And The Cooperative Model

**C**atamount Solar has been selling and installing solar photovoltaic and solar hot water systems in Vermont for five years. Many of its staff members, however, have significantly longer track records in the solar industry. Managing partner Dan Kinney has been in the field more than twice that long and has installed hundreds of solar electric and hot water systems in the Northeast. Much of his work has been in Washington Electric Co-op’s service territory, and that has given him a perspective on net metering that’s lacking among the executives at some other solar companies who are critical of WEC’s grid service fee.

“I’m of the mind that everyone should have access to net metering,” says Kinney, who also teaches solar design and safe installation techniques at Vermont Technical College. “But every utility has different circumstances, different territories, different philosophies. That’s going to mean that WEC’s business model is different from Green Mountain Power’s or Hardwick Electric’s.”

WEC’s territory, he says with a touch of humor, is particularly challenging.

“I feel sorry for the linemen. You look at the map of their territory and it’s some of the bumpiest pieces of land in the state, with Class 4 roads... You can’t always get there from here.


“Net metering,” he adds, “only works if the lines are up to carry the power.”

Catamount has grown since its inception, and now performs installations in New Hampshire and New York, as well as Vermont. But the company is based in Randolph, “so,” says Kinney, “we like to work in central Vermont. And WEC’s territory is part of central Vermont. We have 300-plus kilowatts (of generation capacity) in WEC territory.

“We do have a little harder time selling in WEC territory,” he concedes, “but I think part of that is that the grid service fee is not easy to explain to people. There are different steps based on how many kilowatts your system is. I would love it if it was just a flat dollar amount per month that you paid.

“But the fact that there’s some type of fee to use the lines? That makes perfect sense to me.”

Kinney also identifies with Washington Electric because Catamount Solar, too, is a cooperative.

“We’re employee-owned,” he says, “and we value the Cooperative Principles. Being a co-op, we’re savvy to the world of co-ops. And one of the big things I like is that, with employees on the roof doing a customer’s installation, there’s always a company owner on site.” 



## Coventry Open House

**W**ashington Electric Cooperative

will host its annual open house at the Coventry electric-generating station on Friday, August 26, 2016. Come see how power is produced by burning landfill

methane, a powerful greenhouse gas, for fuel. The adjoining landfill, owned by Casella Waste Management, will hold its open house at the same time. Hours 10 a.m. to 2 p.m. Call the Co-op to inquire about ride sharing.



## Net Metering

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Through all these changes and challenges, Washington Electric Cooperative has been like the prow of a ship, venturing into the waters ahead. From the outset, the Co-op encouraged and advised members who were interested in installing net metered home generating systems (“net metering” being the term for renewable energy systems – usually solar – that provide a home or business much of its own power supply, but remain connected to the grid and can channel their excess power into their utility’s power lines in return for credits on their electric bills). In 2012, Washington Electric became the first utility to reach the state’s requirement that companies accept net metering systems until their combined capacity reached 4 percent of the utility’s “peak” power demand.

Soon a few other utilities also reached the 4-percent mark. Yet, whereas those companies then stopped accepting net metering, WEC continued a while longer. In 2014, when the Legislature raised the 4-percent requirement for utilities to 15 percent

of peak, WEC was permitted to design its own net metering program. One of the reasons for this was that WEC had incorporated a greater percentage of net metered solar generation (10 percent of peak) than any other Vermont utility. Between its original (pre-2014) and its revamped programs, Washington Electric now hosts some 250 solar net metering installations, which provide an output of 1.7 megawatts, or 11 percent of WEC’s peak.

Yet this factual history of active support by Washington Electric Co-op for net metering contrasts starkly with the message coming from a few large, aggressive solar developers in the region. In published comments these sources have accused WEC – a not-for-profit, customer-owned utility – of being hostile to net metering and of unfairly targeting net meterers as a source of extra revenues. A letter writer, recently published in *The Times Argus*, took the PSB to task for allegedly exempting

WEC from the net metering program, a wholly inaccurate interpretation of WEC’s reward by the PSB *for its success in promoting* net metering and renewable energy.

The principle reason for these charges is that the Co-op, in 2014, introduced fees for people coming into the net metering program that, in effect, represent their contributions to the Cooperative’s costs for maintaining its electric distribution system. All non-net metering members pay for such maintenance in their electric bills, including renters and WEC

members who are struggling financially to get by. But for the past few years the Legislature has permitted people with productive net metering systems to “zero out” their bills, paying nothing for such maintenance, even though they, too, depend upon the poles and wires, the transformers and fuses, the rights-of-way and substations.

WEC was not the only Vermont

utility to recognize this inequity and its inherent unsustainability – the substantial risk it poses of a rate hike that, again, would affect only non-net metering members. But WEC was the only utility, at least so far, that had an opportunity to do something about it.

Without question, the fees extend the length of time it takes for people to fully recoup their investments in solar (or wind) equipment. That doesn’t mean it can’t be done, and provide financial return along with the satisfaction for people of knowing they’re producing their own power without harm to the environment. Solaflect Energy and Catamount Solar, both profiled in this issue, are two of the companies seeking to do business with WEC members.

In the real world, if net metering is going to work and endure, all parties to it, including solar developers eager to find customers for their systems, are going to have to adjust to new realities as net metering gropes toward an equilibrium that will work for all its stakeholders.

And then it will change again. 

*WEC was not the only Vermont utility to recognize this inequity and the substantial risk it poses of a rate hike that, again, would affect only non-net metering members. But WEC was the only utility with an opportunity to do something about it.*

