



Wood Heat for the 21st Century

Automatic pellet system gives WEC members convenient clean energy

Back in 1986, when WEC members Paul Dettman and Mary Kasamatsu built their house on a hillside in Middlesex, they knew they wanted to heat efficiently, and with local wood instead of fossil fuels. They poured a massive slab with radiant heat. They cleared trees from their own lot, and then bought from a logger down the road. Chopping wood and loading the boiler “had been a fun family thing,” said Kasamatsu.

But in February 2018, after 32 years, their boiler died. The couple made it through the winter with backup electric heat while they figured out what to do next. They liked wood, but were ready to stop the heavy lifting and wanted the flexibility of an automatic system. Next to propane or fuel oil, advanced wood heating systems seemed expensive. “I was waffling. I didn’t want to go fossil,” said Dettman.

“I said, if we didn’t [install a fossil fuel system] 30 years ago, why would we do it today?” pointed out Kasamatsu. The family had committed to sustainability, she said, and it seemed more important than ever to reduce their carbon use.

Ultimately, they settled on an advanced wood heating system.

[Choosing an automatic system] is an investment in how long we stay in our house.

– Mary Kasamatsu

Working with Dave Frank, co-owner of SunWood Biomass, they installed a fully automatic system. And with the help of incentives, they saved \$7,000.

Economics of a new system

“Any home with a hot water heating system can convert or add on a wood pellet heating system. Or a home with hot air furnaces as well. Literally, almost any home can take on a wood pellet heating system,” said Frank, whose Fayston-based company has installed more than 300 advanced wood heating systems throughout New England. WEC is currently the only electric utility in Vermont to offer its members cash incentives for pellet systems. WEC contributes \$1,000, in addition to \$3,000 each from Efficiency Vermont and the Clean Energy Development Fund.

Those dollars help, because switching systems can get expensive. Incentives “bring the price somewhat closer, essentially making it an easier decision for the homeowner to go to a cost-saving, renewable energy heating system,” said Frank.

Dettman estimated the boiler itself cost about \$10,000, and then in order to qualify for the Efficiency

continued on page 6



On a cold day earlier this year, Paul Dettman stood beside his outdoor pellet storage bin. Just like a propane tank, when the pellet level starts getting low, it triggers a delivery of new pellets. “For someone who’s done wood heat all these years, I’m amazed. You don’t have to do anything,” said Dettman.

Cooperatives are In My Heart

By Don Douglas

My introduction to cooperatives happened in St. Louis while I was an undergraduate university student. I can’t remember exactly why I decided to get involved, but it was a diverse group, including students, doctors, antiwar organizers, and community organizers.

It became clear from our first meeting that we were far too diverse to be a single cooperative. So, the doctors formed their own group, with the intention of becoming a free clinic to serve the inner-city poor. The antiwar group united with the community organizers to offer free draft counseling, and continue with

other projects such as addressing housing issues and social justice.

I gravitated to the food co-op. The food co-op was nothing like what you see in Vermont today. Each participant made a food order, and those orders were consolidated, and by rotation each member went to a giant produce market and bought the fresh produce from the farmers who brought their produce to sell. We were a very small group and a supply of organic produce was difficult to find. It was possible to find organic wheat, oats, honey, eggs, and some fruit. However, trust was the only way we could be sure that what we were buying was in fact organic.

continued on page 8

Washington Electric Cooperative
East Montpelier, VT 05651

Inside

- Co-op Month matters:** how electric cooperatives are industry leaders, p. 3.
- The Energy Coach says it's time to weatherize!** p. 3.
- Preparing for outages 1:** A travel story from former Board Member Roy Folsom drives home why preparation is important: p. 4.
- Preparing for outages 2:** When the season changes, outage-causing weather increases. P. 5

A four-year-old reporter tours Coventry Landfill during WEC and Casella's joint Open House. Doughnuts, Recycle Man, and turning waste to energy during a time of change. P. 7.

President's and General Manager's Message

In Cooperatives, Members Come First

Also, updates from the EAN Network Summit, Coventry's property tax increase, and WEC's rate design filing

October is Co-op Month

Barry: One number that always amazes me is that electric co-ops serve 42 million people in the United States. And they cover more than half the landmass of the United States. Recently, on NPR, they talked about the expansion of broadband in rural areas and referred to the history of cooperatives bringing electricity to rural areas back when the investor owned utilities wouldn't go more than half a mile off the road to bring something so basic as electric power to the people. I love living in a state that has so many co-ops – food co-ops, milk co-ops, banking co-ops, skiing co-ops...

Patty: I think the thing about co-ops people really like is the local feel and the ability to have a voice. Most of the co-ops we're affiliated with here in

the Northeast are small. That's WEC. People can reach out and get the General Manager, the Board President, anyone on staff or on the board. That's the spirit of what Vermonters are looking for. They don't want the big corporate feel, but small, neighborly, and involved.

Barry: And the cooperative principle is Members First. That has a big impact on how we lead – over the past 30 years we've stood up on issues based on what our members care about.

Patty: A co-op is about community, and the Community Fund, since I've been here, has grown from about \$20,000 to almost \$47,000. We're making a big difference through little contributions. It's fantastic and powerful.

Barry: Those funds all support causes in our service area. And for organizations requesting grants, we don't make the request more difficult than telling us, in one page, what you're about.

Patty: It's another way for WEC to connect with the members we serve and the community around us. It's just a great program.

What's up in Coventry

Patty: We had a great Open House! We've started hosting our annual generation plant Open House jointly with the Open House Casella hosts at

the landfill. We had 400 people attend. About 100 came through and did a tour of the plant. We always encourage people to tour the plant – that's two thirds of our power mix! When people take the tour they absolutely love it.

Barry: Our Co-op invested in Coventry before most people were even thinking about landfills as sources of renewable energy. We applied for permission to make Coventry a reality in 2003. It went online in 2005. It's providing electricity for us and it's also capturing methane, which is 40 times more damaging to our ozone layer than carbon dioxide. So we're getting two

Co-op Currents

Co-op Currents (Publication No. USPS 711 -210 and ISSN No. 0746-8784) is published monthly except February, May, August and November by Washington Electric Cooperative, Inc., 40 Church Street, P.O. Box 8, East Montpelier, Vermont 05651. The cost of this publication is \$.48, which is included in the basic monthly charge to each member. Periodical postage rates paid at East Montpelier and at additional offices. Postmaster: Send address changes to *Co-op Currents*, P.O. Box 8, East Montpelier, Vermont 05651.



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

Board of Directors

President	BARRY BERNSTEIN (May 2022)	1237 Bliss Road, Marshfield, VT 05658 Bbearvt@myfairpoint.net	456-8843
Vice President	ROGER FOX (May 2021)	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 2022)	3941 Hollister Hill Rd., Marshfield, VT 05658 annereed48@gmail.com	454-1324
	STEVEN FARNHAM (May 2022)	125 Farnham Road, Plainfield, VT 05667-9660 steven4wec@gmail.com	917-2581
	JEAN HAMILTON (May 2020)	3499 East Hill Road, Plainfield, VT 05667 Jean.myung.hamilton@gmail.com	777-6546
	STEPHEN KNOWLTON (May 2021)	160 White Rock Drive, #2, Montpelier, VT 05602 knowlsf@auburn.edu	223-2230
	RICHARD RUBIN (May 2021)	3496 East Hill Rd., Plainfield, VT 05667 richardirubin@gmail.com	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

TIM NEWCOMB
Layout

Editorial Committee

Patty Richards Donald Douglas Jean Hamilton Anne Reed Katie Titterton

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

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

Co-op Principles



1. Voluntary and Open Membership

— Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2. Democratic Member Control

— Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives, members have equal voting rights (one member, one vote) and cooperatives at other levels are organized in a democratic manner.

3. Member Economic Participation

— Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. They usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing the cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

4. Autonomy and Independence

— Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

5. Education, Training and Information

— Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of their cooperatives. They inform the general public — particularly young people and opinion leaders — about the nature and benefits of cooperation.

6. Cooperation among Cooperatives

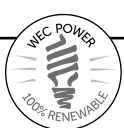
— Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.

7. Concern for Community

— While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.

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.



benefits with that.

Not everyone thinks selling Renewable Energy Credits [RECs] on the energy market makes for the purest renewable portfolio. But our REC sales from Coventry allow us to keep our rates lower, while still having a renewable plant that's right next to our service territory. The power that leaves there doesn't have far to go on the transmission lines to reach us. So we're very proud of that.

Patty: It's a fantastic base load power plant working for all of us in our little state. We employ local people to provide local electricity.

As we talked about in September, we had a fairly large increase in our tax bill from the town of Coventry. We're looking at a \$117,000 increase over what we budgeted.

Barry: The Board's concern is that, particularly on transmission lines, the town wants to set its own standards, going outside of what the state's guidelines are for poles and wires.

We're looking at avoiding any pressure on rate increases. The tax increase would be equivalent to a one percent rate increase, and we don't feel it's based on a rational appraisal of our power plant.

Patty: The update we want to share with members is that we're filing to appeal through the court process. We've moved out of the town process for appealing the decision, and now we're appealing to the courts.

We want to be good corporate citizens. We want to pay our fair share, but we don't want to pay too much, and we feel the town of Coventry has asked for too much. It's our responsibility to the Co-op membership to take it



We want to pay our fair share, but we don't want to pay too much, and we feel the town of Coventry has asked for too much. It's our responsibility to the Co-op membership to take it through the process and have this duly vetted.

– Patty Richards

through the process and have this duly vetted.

Climate action

Barry: Autumn colors are coming full and fast. I got a little panicky when I saw four feet of snow or more falling in a number of Western states. That's the largest snow numbers they've had since 1924 – almost 100 years ago. So now I really need to get my wood into my basement.

I attended the Energy Action Network's [EAN] Network Summit in September – a conference that addressed the effects of climate change. We need to be talking about this. More, we need to find ways each of us individually and collectively can make a difference.

In my mind we can do that individually by driving a little bit more sanely and through individual choices.

But collectively, we need to be more aggressive than we have been.

Patty: The public demonstrations just this past month...

Barry: Right, the Climate Strike!

Patty: The bold statements, especially from the next generation. As a society, we're leaving the next generation with a disaster. We, as a society at large, are not reacting well. It's going to take a groundswell, like last week, of people stepping up and saying we have to make a difference.

Barry: One thing that hits home to me is when I hear women and men speaking of being parents of young children. At the conference, Jared Duval of EAN told us his five-year-old says his heart hurts when he hears things about climate change.

Patty: Oof. That's hard.

Barry: I heard several people speak about their young children. That's what this is about. It's not about us old-timers, who won't feel the full impact on our food supply, our water supply, the migration of hundreds of millions of people leaving coastal areas.

Patty: We're already seeing it here in Vermont. Super storms, super bugs, super expensive. It's happening today. We're seeing it and paying for it already today. Higher costs for storm restoration, higher costs to remove ash trees that are going to die from the ash borer. And there's going to be more stuff popping up that we just don't know about yet.

Barry: Our members know that they're getting 100 percent renewable energy. In fact, our energy power supply is more than 100 percent with net metering, and there are two other utilities, BED and Swanton, that have reached 100 percent renewable. The whole electricity sector is over two-thirds renewable now.

What was highlighted at the conference is we have to be more aggressive cutting emissions from transportation and thermal heating. We have to focus on that. How do we achieve that the most effective way?

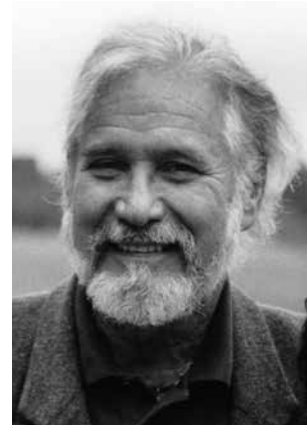
One idea Patty proposed to the legislature a couple years ago is that Efficiency Vermont expand their mandate to include all fuels. We do support that because if we're going to reach Vermont's goal of 90 percent renewable by 2050 statewide, we need to make the best choices as homeowners with every fuel we use.

Patty: Agreed! Well said.

Barry: That's why I thought the focus on transportation and heating was important. The state has been trying to do so much of this through the electric utilities. But it's got to come from multiple angles. The goal is 90,000 electric vehicles on Vermont roads by 2025?

Patty: We have to set those reach goals so we can make a difference. As a state we have to be assertive. Policy really matters.

Barry: Sue Minter of Capstone, who talked at our Annual Meeting, was one of the conference speakers. She said they're forming a cooperative to help get used EVs and high-mile-per-gallon vehicles into the hands of low-income people. They're just starting it, and they've formed it as a cooperative, which I think is great.



The cooperative principle is Members First. That has a big impact on how we lead – over the past 30 years we've stood up on issues based on what our members care about.

– Barry Bernstein

Rate design filing update

Barry: Patty, tell us the progress on rate design?

Patty: We've filed for the change to our rate structure. Like our current structure, we maintained two cost tiers: a lower block rate to incentivize conservation, and a higher rate tail block for energy use above that low block. We lowered the rate and increased the customer service charge. All of this was done thoughtfully, with member input.

So, the Department of Public Service [DPS] wrote in and applauded WEC's filing, but doesn't feel we went far enough. The DPS supports a higher customer service charge and would like to see one energy rate, rather than

two rate tiers.

We wrote back and said we'd like to keep the two tiers. We considered one energy rate, but in focus groups, members said no.

Barry: Members told us they want to keep the two tiers out of fairness to people who are trying to use less energy. So the board stands by that. We totally respect DPS's input. We just don't agree with it.

Patty: Changing to one tier with a higher monthly charge is too much too quickly. Long term, it may be someplace we go.

Basically the DPS is looking to see very low energy rates – the flip side is high customer service charges. The reason is to incentivize people to get off of fossil fuels. State policy and WEC's rate design are in sync – we have the same goals of beneficial electrification. But we want to do it at a little bit of a slower pace. So we'll have technical hearings in October with the PUC overseeing and making

continued on page 6

ASK THE ENERGY COACH

Energy Coach Says: Time to Weatherize

No matter your income, you can do something this year to weatherize your home and save money on heating costs.

- WEC offers members incentives to weatherize
- Efficiency Vermont just increased weatherization incentives for everyone
- Income eligible WEC households have Capstone weatherization services available without cost
- Installing spray foam in drafty spots yourself?

There's an incentive for that, too!

Now is the time. Contact the Energy Coach at energycoach@wec.coop or 802-223-5245 to learn more.



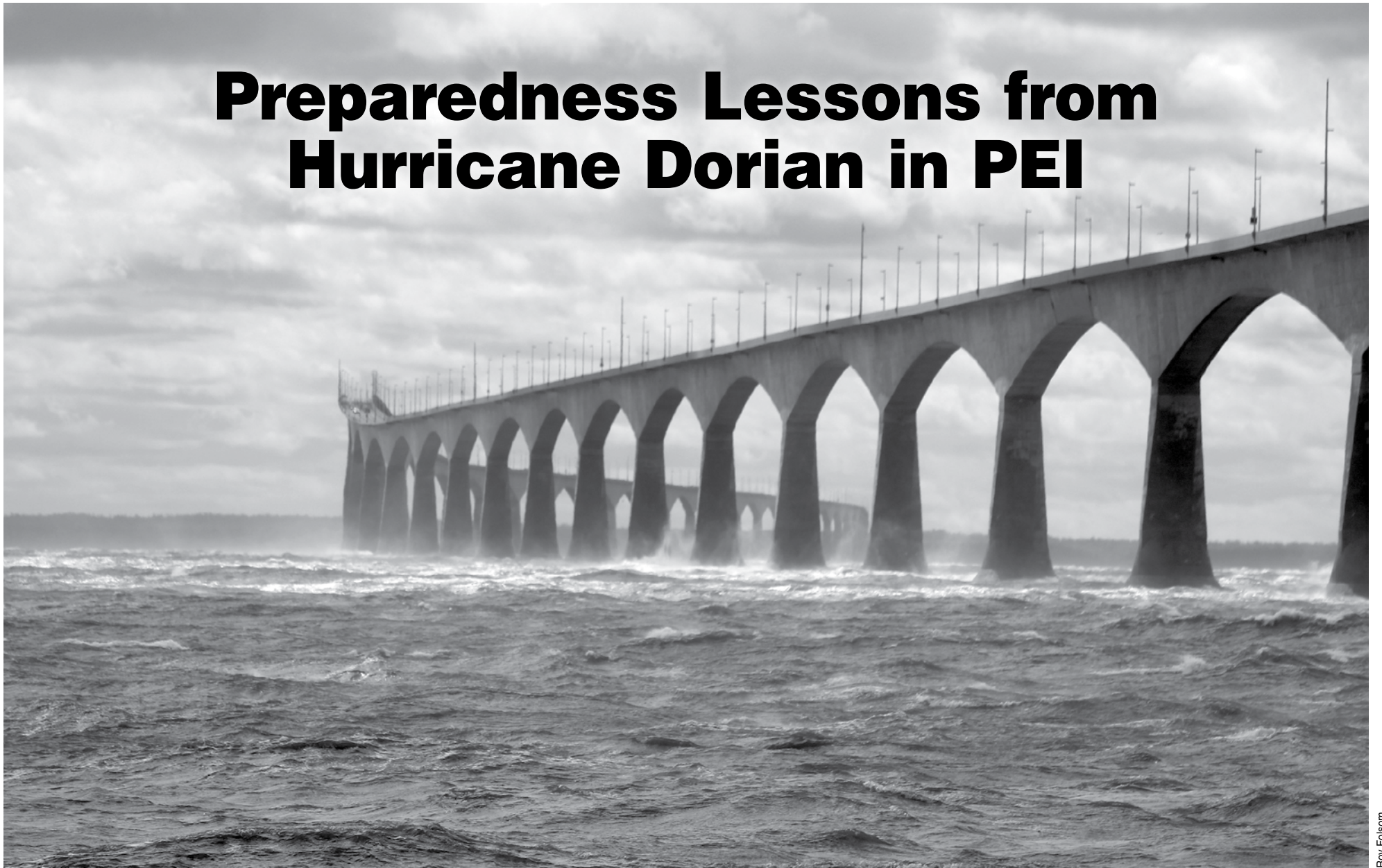
It's Co-op Month!

Electric cooperatives:

- Serve 42 million people in the United States
- Power more than half of the nation's landmass
- Serve an average of eight consumers per mile of line (other utilities average 32 consumers per mile of line)
- Are renewable energy leaders, with more than 90 percent of electric co-ops using renewably generated power
- Invest \$12 billion per year in local economies

Source: NRECA

Preparedness Lessons from Hurricane Dorian in PEI



Roy Folsom

The Confederation Bridge, 100 feet high and eight miles long, connects New Brunswick to Prince Edward Island. As Hurricane Dorian approached, Roy and Jackie Folsom made it across in their 32-foot camper two hours before the bridge closed to high-profile vehicles.

By Roy Folsom

Jackie and I left Cabot on September 5, heading east to Prince Edward Island, hopeful that Dorian would head out to sea. The Weather Channel had it tracking farther south than it went and downgrading quite a bit. Well, you know how accurate some weather forecasters are.

To get to PEI we had to cross the Confederation Bridge, an eight mile long two-lane bridge 100 feet above the water. It was rather pleasant, sunny, when we left the campground in Oak Bay, New Brunswick on Saturday morning. Things went downhill slowly, a little wind and rain. By the time we got to the bridge, it was dark, raining, and a little more wind.

The bridge has been closed only once in its history and occasionally restricts high profile vehicles. We made it across at 2:00. The bridge was closed to high profile vehicles at 4:00. It reopened 24 hours later.

We arrived at the KOA campground in Cornwall, PEI a little after 5:00. At check-in we were told to fill our water tank (ours holds 42 gallons), empty our waste tanks (3 at 40 gallons each), and be sure we had plenty of propane and our batteries fully charged (I usually bring my generator, but didn't, that won't happen again).

At that time the rain had mostly stopped, but started back up around 6:00, and the wind! By 8:00, our power went out, and did not come back on until Monday night at 10:00 p.m. Throughout the night the rain came down hard. The wind was severe, rocking our 32-foot camper.

The next morning we headed out to see some of the local area. We didn't make it out the half-mile road out of the campground. Halfway we met a power company bucket truck. A large popple tree took out a section of wire and blocked the road. We briefly talked to the line crew. They had spent the last 27 hours driving home from North Carolina helping out with Dorian damage there.

We learned that at about 10:00 p.m. there was a medical emergency and the campground owner had to take a lady in his Jeep across a farmer's potato field to a waiting ambulance on the main road because the campground road was blocked. We learned that 60,000 of the island's 153,000 residents were out of power. Everywhere we drove we found closed

businesses. No gas, no food, no stores open. Bucket trucks and tree crews everywhere. When we found gas or a store open, they were running on generators. We charged our phones and my laptop in the truck.

We left PEI by ferry on Wednesday, from Woods Island to Nova Scotia, heading to Cape Breton Island. We called ahead to see if they had power. They got it back on Monday. When we left PEI, 20,000 were still out. 2,400 of the residents who were still out were in rural locations and would be restored just a few at a time with each repair. This area is extremely sparsely populated. We saw corn fields flattened. One grain farmer with 1,500 acres of corn said 1,000 acres were flattened and would never be harvested. Orchards had 50 to 75

percent of the apples on the ground.

Halifax was a direct hit by Dorian. Nova Scotia's population is about 950,000. Nova Scotia Power has 400,000 customers there with 19,800 miles of lines. They estimated that they had 200,000 out at one time with 3,700 trees down on lines, 300 broken poles. As of Monday, September 16, a few hundred were still in the dark.

We headed north through New Brunswick Monday, the 16th, passing a convoy of Canadian Army Troops heading back to their base. There were about two dozen vehicles in the convoy; 6x8 wheel amphibious vehicles along with cranes, trucks, and buses returning from Halifax.

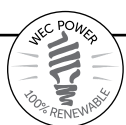
What prompted me to write about this experience was mostly the way the

continued on page 5



Roy Folsom

Dorian's high winds and strong rain ruined crops just before harvest, like this flattened cornfield. Folsom spoke with a grain farmer who said two thirds of their corn was flattened and would never be harvested.




Are You Ready for Stormy Weather?

As seasons change, so do weather patterns. The transition can mean big and damaging storms – which can mean widespread outages. It's always been true, but as climate change affects WEC territory, it means stronger winds and wetter snow breaking poles and more pest-damaged trees falling on wires. As much as Right of Way trimming helps reduce the worst impacts of storms, said Engineering & Operations Director Dan Weston, the grid will never be completely resilient to outages. "If a weather event is predicted to make it difficult to travel, then consider that weather event is also likely to cause outages," he said. So the best thing to do is be prepared – well before winter arrives.

"I equate the mentality to: don't wait until January to put snow tires on your vehicle," said Weston. As the seasons change, the temperature drops and winds strengthen, and the counterclockwise-rotating polar air of the Arctic Oscillation is nudged around by the meandering jet stream. Unpredictable weather is especially dicey before the trees shed their leaves for the winter. "The leaves provide a massive amount of wind resistance," said Weston. Last year, he recalled, at the end of September high winds raced down from the north. Because Vermont valleys run north-south, they lend an amplifying tunnel effect to winds coming from those directions. Still in full leaf, the trees were vulnerable to the high winds, and

caused extensive outages. That wind event was followed by heavy snow, followed by another major wet heavy snow event in November. Fall weather means anything can happen. And it's impossible to know

exactly which trees will fall where. For the safety of your household and to reduce pressure on utility clean-up crews and emergency workers, Weston said, prepare now for outages. If the lights go out, you'll be glad you did. 

WEC's Emergency Preparation Recommendations

Preparedness is taking responsibility for the safety and comfort of yourself and those around you. That means staying informed, having the supplies you need, and making wise choices. Preparedness ensures your well-being during a storm and reduces strain on emergency services.

Be aware:

- Pay attention to local weather reports
- Sign up for school closings, road alerts, and weather alerts on electronic devices
- Follow travel precautions
- Address potential storm hazards on your property, like a chimney that needs cleaning or a dead tree limb hanging over the driveway

Check your supplies:

- 3-5 days of nonperishable food for each family member, including pets
- Extra medication, oxygen, or other health essentials
- Water
- Portable radio
- Flashlights
- Spare batteries
- Candles
- Matches or lighter
- Wind up or battery alarm clock
- Safety pins
- Zip-top plastic bags
- Moist towelettes or baby wipes
- Frozen ice packs
- Large cooler or ice chest
- Sleeping bags or blankets

- Warm, dry clothing
- Duct tape
- First Aid kit
- Personal hygiene supplies
- Diapers and other baby supplies
- Manual can opener
- Disposable plates, cups, and eating utensils
- A fire extinguisher
- Charged phone and car charger
- Charged EV or full tank in gas car
- Shovels and/or tuned up snowblower
- Whatever else you may need! Wood supply, camp stove, etc.

Have a plan:

- Do you have backup heat that does not rely on electricity?
- If you have special health needs, do you have ice packs to keep medication cold, backup oxygen, or a generator?
- Do you have someone you can call if you need assistance?
- Do you have neighbors who may need special assistance? If you can assume responsibility to check on them, do their family members have your contact info?
- Does your town have an emergency action plan?
- Do you have a place you can go if you need to leave town for a few days?

More strategies are at washingtonelectric.coop/energy-services-safety/what-to-do-if-the-power-goes-out.


Preparedness Lessons

continued from page 4

people of PEI and Nova Scotia handled this situation. It seemed that everyone was prepared. When we arrived at the campground we were given a NOTICE TO CAMPERS from PEI Emergency Measures Organization. I think we should take note: better preparedness here at home, where we are also rural and where it takes time to repair and restore after a storm, will help us all the next time a big storm rolls through Vermont.

Preparedness is important. From what we experienced, everyone seemed to know what to do. In the capital of PEI, Charlottetown (pop. 36,000), all the traffic lights and most

of the city were out, but traffic moved smoothly through intersections. You stop and let the vehicle to your right go until it is your turn.

You could hear the hum of generators everywhere. The PEI Emergency Measures Organization recommends that everyone be prepared for a minimum of 72 hours in emergency situations. On the website, princeedwardisland.ca, search "emergency." You will find a link to the 40 page "Your Emergency Preparedness Guide." This is worthwhile reading. 

Roy Folsom of Cabot retired from WEC's Board of Directors in May after 15 years of service. He and his wife Jackie enjoy traveling in their camper.

UNITED STATES POSTAL SERVICE® (All Periodicals Publications Except Requester Publications)

Statement of Ownership, Management, and Circulation

1 Publication Title: Co-op Currents
 2 Publication Number: IS SN 07 46 - 8 7 8 4
 3 Filing Date: 10/7/19

4 Issue Frequency: Monthly except February, May, August, and November
 5 Number of Issues Published Annually: 8
 6 Annual Subscription Price: \$3.85

7 Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4®):
 Washington Electric Cooperative, Inc.
 PO Box 8, 40 Church Street
 East Montpelier, VT 05651-0008
 Contact Person: Dawn Johnson
 Telephone (include area code): 802-223-5245

8 Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer):
 Same as 7 above

9 Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank):
 Publisher (Name and complete mailing address): Same as 7 above
 Editor (Name and complete mailing address): Katie Titterton, Washington Electric Cooperative, Inc., Same as 7 above
 Managing Editor (Name and complete mailing address): Patty Richards, Same as 7 above

10 Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.):
 Full Name: Washington Electric Cooperative, Inc.
 Complete Mailing Address: PO Box 8, East Montpelier, VT 05651-0008

11 Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box None
 Full Name: Rural Utilities Services
 Complete Mailing Address: US Department of Agriculture, Northern Regional Division, 1400 Independence Avenue, SW, Washington, DC 20250
 National Rural Utilities Cooperative Finance Corporation, 2201 Cooperative Way, Herndon, VA 22071-32025

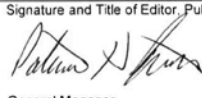
12 Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one)
 The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes: Has Not Changed During Preceding 12 Months
 Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)

13 Publication Title: Co-op Currents
 14 Issue Date for Circulation Data Below: October 2018

15 Extent and Nature of Circulation

	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)	9430	9124
b. Paid Circulation (By Mail and Outside the Mail)	9395	9091
(1) Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)		
(2) Mailed In-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	35	33
c. Total Paid Distribution (Sum of 15b (1), (2), (3), and (4))	9430	9124
d. Free or Nominal Rate Distribution (By Mail and Outside the Mail)	179	178
(1) Free or Nominal Rate Outside-County Copies included on PS Form 3541		
(2) Free or Nominal Rate In-County Copies included on PS Form 3541	35	33
(3) Free or Nominal Rate Copies Mailed at Other Classes Through the USPS (e.g., First-Class Mail)		
(4) Free or Nominal Rate Distribution Outside the Mail (Carriers or other means)		
e. Total Free or Nominal Rate Distribution (Sum of 15d (1), (2), (3) and (4))	179	178
f. Total Distribution (Sum of 15c and 15e)	9609	9299
g. Copies not Distributed (See Instructions to Publishers #4 (page #3))	31	33
h. Total (Sum of 15f and g)	9640	9332
i. Percent Paid (15c divided by 15f times 100)	98%	98%

17 Publication of Statement of Ownership
 If the publication is a general publication, publication of this statement is required. Will be printed in the October 2019 issue of this publication.
 Publication not required.

18 Signature and Title of Editor, Publisher, Business Manager, or Owner: 
 Date: 10/7/19
 Title: General Manager

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).



Wood Heat for the 21st Century

continued from page 1

Vermont rebate, they needed a water tank to store the heat – which Dettman described as like a regular domestic hot water tank, only larger and more robust. “We’ve always had our slab be thermal mass for storage,” pointed out Kasamatsu – it was part of the initial efficient design of the home – but it didn’t qualify.

The tank was another expense, and at about six and a half feet high, it takes up a lot of space. Dettman and Kasamatsu closed off a small porch and poured a new slab in that area to house the tank. The couple also decided they’d use the tank for their domestic hot water. A stainless steel coil draws cold water up through the hot tank – by the time it’s piped out, it’s hot.

Without a basement, they also needed outdoor pellet storage. A three and a half ton bin outside is refilled by delivery truck when the pellets drop below a certain level – just like propane.

Dettman estimates the total cost of the project was about \$10,950, after incentives but before associated costs, like the new slab and construction in the tank room. Others — for example, in houses with suitable basement space — might not need to spend as much.

After the initial price tag, advanced wood heat users enjoy stable annual heating costs. “Wood stays pretty stable; fossil fuels fluctuate,” noted Dettman. Frank agreed – wood has been stable for more than 30 years, with increases only mirroring the rate of inflation, he said – and added, “We still are in and around 20 percent below fossil fuel prices.”

Big picture considerations

Frank said there are bigger picture cost considerations. Pellet heat offers “lower and stabilized fuel prices, clean, a renewable energy source, and it is the equivalent of local food,” he explained. “When you use fossil fuel, 78 cents of every dollar leaves the state. But just like local food helps the economy, when you use biomass, the money stays in the local economy because the resource supply is local. And it helps create a healthier forest, by managing the low-grade wood that can’t be used



Mary Kasamatsu displays her indoor pellet bin and boiler. Tubing runs from the outdoor bin through the wall to the indoor bin; when the indoor bin needs a refill, the boiler automatically shuts off and the vacuum system sucks pellets through the tube. “We used to run out and see it when we heard it turn on,” said Kasamatsu.

kicks in. Pellets are sucked from the outdoor bin to the indoor bin through a clear tube with an input behind some storage containers in the household’s new boiler room. The tube runs overhead and then down to the boiler. “We used to run out and see it when we heard it turn on,” laughed Kasamatsu. The novelty has since worn off, but they’re still excited about how well the system works. An auger brings pellets into the heating cup (a little larger than a quart yogurt container, said Kasamatsu), where they’re ignited. A screen on top of the boiler shows how long until the next cleaning, output levels, and the boiler temperature. Max is 170 degrees – in modulation mode, it’s at about 138 degrees.

“You have to have it serviced professionally once a year like any other system. It tells you when you need to clean it,” said Dettman. “You end up with a very small amount of ash after four months of run time,” or about 1,500 hours. The burn cup, he said, is about the size of a cupped hand.

And in the name of efficiency, the couple discovered unexpected side benefits to their new pellet boiler. A rack on top of it makes an excellent dryer for wet mittens and hats, and its warmth is just right for rising loaves of bread. 🍞

for durable wood products, essentially increasing the forest’s capacity to sequester carbon.”

Another consideration is convenience. For homeowners like Dettman and Kasamatsu, stuck between reluctance to continue with the physical demands of wood – but with a strong distaste for fossil fuel – an automatic pellet system offered middle ground: fuel harvested locally and responsibly, requiring zero effort on the part of the homeowner. “For someone who’s done wood heat all these years, I’m amazed. You don’t have to do anything,” marveled Dettman.

How it works

Vacuums do the work. From the point of delivery, pellets are vacuum forced into the couple’s outdoor bin.

A small indoor bin, about the size of a mini-fridge, is attached to the boiler. When pellets in that bin drop below a certain level, the boiler is triggered to shut off briefly while the vacuum system

Manager’s and President’s Report

continued from page 3

the decision.

Barry: The board strongly stands behind the design we filed because we talked to members for two years about this, and overwhelmingly, members wanted us to have a low block. So that’s what we filed for. We reduced the upper block to just under 20 cents and we feel this is a good necessary first step, but we also want to encourage people who have prioritized reducing their energy. The less electric you use, the less energy you use, which means your bill is lower regardless of your rates.

Patty: Being energy efficient makes sense. You’re going to lower your bill. And a kWh not used is the most environmentally friendly.

Barry: And plan on getting an energy audit of your house, if you haven’t. It will give you

recommendations for how to save on your total energy bill. That’s what we all need to do. We do give incentives for that. EVT and Capstone have weatherization incentives as well. It’s a step we can all take regardless of our income level.

Now – I hope everybody enjoys the fall as it comes in, and pay some attention to preparing for winter! I just checked and all of my flashlights needed new batteries.

Patty: Barry, get one of those rechargeable LED ones. No batteries required. And by the way – do you have a box of dead batteries at home? Bring them to our office in East Montpelier – we will take them! 🍞

For more information:

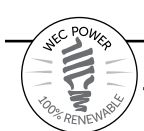
- EANvt.org
- “Inside the movement to improve access to high speed internet in rural areas.” — npr.org, Sept. 30 2019



The outdoor bin’s pipes connect to the delivery truck; pellets are vacuum forced into the bin. A window shows the pellet level.

Did You Know?

WEC takes dead batteries! Drop off dead batteries anytime at WEC’s office in East Montpelier. WEC will gladly take them and dispose of them properly.



Doughnuts at the Landfill with a Four-Year-Old

Co-op Currents rookie reporter Russ Titterton joined his editor mom on assignment to WEC and Casella Waste Systems' joint Open House at Coventry Landfill on an overcast September 14. Turns out it's not that difficult to motivate a four-year-old to spend his Saturday at the landfill.

"There will be big trucks, a room full of loud machines, and you'll get to ride a school bus," pitched his editor. "Also, you can have cider and doughnuts." Sold.

The Open House is a very family-friendly event, with children's activities, a mock train, and free ice cream.

But primarily, it's an opportunity for WEC and Casella to educate visitors about how a landfill functions, from excavation all the way to creating renewable electricity from the gas produced by decomposing waste.

It's also a chance for Casella to demonstrate its environmental strategy. The business of solid waste – not just garbage – and the limitations of where to put it in the high-density Northeast have kept the company creative. Casella opened its first recycling center in Rutland in 1977, and today offers single-stream recycling. Its organics program captures and reuses compost, treated wastewater biosolids, paper pulp, and other processing residuals. And of course, it partners with WEC to capture and use landfill gas.

But still, people produce trash. The lined landfill in Coventry, currently the only open landfill in the state, recently received permitting to expand by 52 acres. Some Vermonters and neighboring Quebecois are concerned about this, mainly fearing that leachate – water contaminated by filtering through the landfill – could pollute the nearby Black River and Lake Memphremagog, which is a drinking water source. So it's in Casella's interest to talk about its landfill engineering and safety systems, and perhaps most importantly, strategies for reducing landfill waste in the first place.

Recycle Man

Reducing waste is the superpower of Recycle Man. Recycle Man, not a man at all, is Tracy Flagg, a Casella employee from Maine, who was dressed in superhero garb. "I love doing these events," she said, after trying to recruit Russ for a picture. Russ was holding on for dear life to a doughnut he'd accepted earlier from Dan Weston, WEC's Director of Engineering & Operations. Russ was not interested in posing with Recycle Man, but she hung out with a dinosaur made of recyclables, and he was very interested in that.

Gesturing across the road to protestors with signs opposing the



Reporter Russ wears protective headphones inside WEC's landfill gas-to-energy generation plant. "It's a good thing Patty gave me those to wear," he said afterward. "Those machines were loud!"

expansion, Recycle Man said she'd reached out to them earlier to say she also wanted to see less garbage. "We need their help. We're all one team. It's all about helping the world become one more liveable, breatheable place," she said.

At this point, a mock train on wheels rolled in, which brought young riders up to the maintenance shed and back. Riding behind Russ, a Derby elementary schooler in sunglasses was pleased to inform Recycle Man that his school composted.

The shape of a landfill

It was time to get on the bus. Brian Beaudoin, the tour guide, represented Sanborn Head and Associates, a company that designs and manages landfills. He has worked at Coventry Landfill for 17 years.

Addressing a full bus, he began by explaining the systems that contain waste within the landfill and keep it from migrating. A lined landfill, he explained, is built with "a thick plastic liner that collects the leachate, and a second layer that, if there were a leak, would collect that. There are redundant systems for everything."

Driving past Phase 3 of the landfill, Beaudoin explained the difference between a permanent cap and a temporary cap. A permanent cap over a section of landfill, he explained, has a plastic cap with three feet of soil above it sealing off the contents of the landfill. A temporary cap, on the other hand, is a membrane that looks a lot like a black plastic tarp. Its main purpose, he explained, is stormwater control: water that hits the membrane and rolls off stays cleaner – and doesn't become leachate. It also helps trap gas in the landfill. A geosynthetic drainage material conveys water off the slope into a swale, he said. "As long as you have someplace for the water to go, it'll

keep the slope from sliding."

The landfill settles over time, primarily because of the weight of its matter, and secondarily as the waste within decomposes. "Over time, as the landfill settles, we'll peel back the membrane" to keep filling it in and maximizing the air space, he said.

As the waste decomposes, it creates landfill gas: about half methane, about half carbon dioxide. That gas must be captured and released. When Russ asked for further elaboration, his editor, grasping for terms both scientifically accurate and child-friendly, finally said that the landfill needed to burp.

There are about 150 vertical wells all over the landfill, each with a monitoring port. Most landfills flare off the gas. At Coventry, the gas is captured and used to generate electricity in WEC's power plant.

A vacuum system gently sucks the gas down through a thick black pipe to WEC's power generating plant. Like everything else in the landfill, Beaudoin said, the gas pipe is a dual-containment system. It's moved in 500 foot sections and gets trenched into the landfill and welded to the gas heads. If a leak is ever detected in the pipe, it automatically shuts down all the pumps in the landfill.

On the other side of the dirt road, a massive excavation site came into view. The expansion will require excavating three million cubic yards of material. Of that, Beaudoin said, about 200,000 has been excavated. The company that won the excavation bid is Casella Construction. Brothers Doug and John Casella started Casella Waste Systems years ago: the waste company is a public company helmed by John Casella; the construction company is owned by Doug Casella. On the far end of the excavation site waved fields of Maxwell Farm corn.

And then, what Russ was waiting for:

the place where the trucks go to dump their garbage. A truck, fully tipped, demonstrated how the trash is emptied. The landfill receives about 3,000 tons of garbage every day, said Beaudoin. All residential garbage in Vermont comes to Coventry. Compactors mash it down, and six inches of soil are added on top.

Russ, who had been clutching his doughnut for approximately 45 minutes, watched the tipper truck out the window and ate his snack.

Landfill questions

As the bus rolled around to WEC's generation plant, Beaudoin took questions. Would Act 148, which mandates keeping organic material out of the landfill, affect gas production? Beaudoin said theoretically, probably. "It's predicted the amount of methane would go down," he said. However, Patty

Richards, WEC's General Manager, has said that in spite of Act 148, the organic material already in the landfill continues to decompose, and gas projections remain strong for the remainder of WEC's 30-year contract with the landfill. That's partly because the landfill accepts sludge: a residual product from sewer treatment facilities. Added in with other sources of waste, sludge helps to stimulate the decomposition process – which creates gas.

In addition to organics, there are other items that should stay out of the trash. Transfer stations and random load tests keep hazardous material out of the landfill, Beaudoin said. "It's about education. Most towns have a hazardous waste collection day where people can dispose of that stuff for free," stuff like batteries, paint, pesticides, and e-waste.

Someone wanted to know how long it would take the expansion to fill. "They'll probably get 25-30 years out of this site," said Beaudoin. Russ's editor silently wondered what the waste landscape of Vermont – and beyond – will look like when Russ is 34.

The issue of leachate came up. The landfill currently generates 40,000 gallons a day of leachate, said Beaudoin, the "result of stormwater hitting the landfill, migrating through there, picking up stuff that's in there, and collecting on the bottom," where it's pumped out. Condensation that forms on the gas wells is pumped into the leachate collection system as well. The landfill has a 438,000 gallon leachate tank onsite, and will install a second as part of the expansion permitting.

As to whether Casella plans to take on the role of treating leachate itself, there's a study in the works to see if it's feasible, said Beaudoin. For now, the leachate is trucked to offsite wastewater

continued on page 8

New Incentives

continued from page 1

After moving to Texas I continued with the food co-ops. These co-ops were already established, so we didn't need to go through the hard process of getting everyone on the same page with a single goal.

Garbage (composting) co-op

I did join a garbage co-op. This was in 1973, and we were making compost. I had a truck, and twice a week I drove the back alleys behind the restaurants in downtown Austin and picked up the garbage. We found that the garbage included tableware and broken glass. I had never worked in food service but I tried to explain to an ever-changing army of busboys that the broken glass could not be composted and that the spoons needed to stay in the restaurant.

Nursery school co-op

After moving to Vermont in 1979, I found that my electricity came from a cooperative. We bought a house in great need of a rebuild, and after the children were born, we began to look for a playgroup for them. There were many out-of-state families around and together we decided to start a parent cooperative nursery school.

The first organizational meeting was amusing. We were all sure that we



Don Douglas, left, WEC Board Treasurer and former garbage co-op member/composting pioneer, with Vice President Roger Fox and General Manager Patty Richards at the Open House at Coventry Landfill.

wanted to form a cooperative school, but we were all very different people. After we decided that we needed to raise money so that we could hire a teacher it was proposed that we have a raffle. I said that because I came into contact with so many people every day while delivering the mail, I could certainly go around selling tickets.

The next person suggested that because it was nearly deer season that

we should raffle off a deer rifle, and that the tickets would sell very easily.

The next person said that they were very much opposed to killing deer and would not be selling tickets for a rifle.

The next person said that their religion was against any kind of gambling and they could not sell tickets.


We did get it all sorted out, and the Sugar Maple Nursery School was born.

Washington Electric Co-op – and why co-ops matter

Many years later I got involved in Washington Electric Co-op. I have served on the Board of Directors since 1999 and have served as the Treasurer of the Board for 20 years now.

The co-op world is unique because cooperatives serve members without the profit motive. Money collected in excess of the needs of the co-op is returned to its members. Control of the co-op is in the hands of the members. Each cooperative has a mission, but the organizing principles are the same for food co-ops, electric co-ops, and even garbage co-ops.

I believe cooperatives and not for profits should provide all essential services. For example, having hedge fund managers own the patents for life saving medicine is a horrible idea. In the same way, taking the profits from selling electricity and transferring them outside of Vermont and outside of the United States does not make Vermont stronger. Owning the company that sells most of the electricity in Vermont is certainly a great investment, but it is more like giving control of insulin sales to a hedge fund manager. It's far better for all of us to have a responsibly run electric cooperative or municipality in charge of selling electricity here in Vermont.

Don Douglas of Orange serves as WEC's Treasurer. 

Doughnuts at the Landfill

continued from page 7

treatment plants in Burlington, Essex Junction, Barre, and Montpelier, and out of state to Plattsburgh, NY, and Concord, NH.

Much of the concern about leachate stems from the fear that it may contain PFAS (perfluoroalkyls) chemicals. The chemicals, which can be found in household products including water repellent products, clothing, polishes, waxes, paints, and cleaning products), have contaminated wells elsewhere in the state. VTDigger.org reported that as part of the expansion permitting, "Casella has to test PFAS levels in landfill leachate and in incoming waste likely to have higher levels of contaminants, like biosolids. They also have to research options for pre-treating leachate to lower PFAS levels." (Oct. 16, 2018)

WEC's generation plant

The tour ended at WEC's power plant, where landfill gas is pumped in, scrubbed of siloxanes and other harmful compounds, and transformed into electricity via five huge gas burning engines. Dan Weston, Director of Engineering & Operations, and Bill Powell, Director of Products & Services, showed WEC members and visitors on the tour the generators and the giant Siloxane Removal System (SRS), which looks somewhat like a ridged drum. There was no talking inside the plant because the machines were so loud.

Outside, Plant Operator Tom Martin



Tracy Flagg, a Casella employee from Maine, adopts the persona of Recycle Man for public events like the Open House.

stood chatting with his daughter Mackenzie, who'd brought her dad a coffee. Martin and a colleague trade on-call shifts, he said, and since WEC made improvements to the SRS system about two years ago, he said he's been called in far less often. His job is to be vigilant about the plant's needs: earlier in the week, he said, his team noticed the chiller had gone down, and they quickly fixed it to bring the gas temperature back down to a cool 36 degrees. "You could actually hear these generators ramp right up. They were loving it," he said.

A second doughnut in hand, Russ led his editor up the hill to WEC's info tent, where Vice President Roger Fox,

Treasurer Don Douglas, newly elected Board member Steve Farnham, and General Manager Patty Richards enthusiastically greeted visitors.

"This Open House is how WEC shows something we're really proud of, that we are capturing and using landfill gas as a form of renewable energy. And Casella is able to talk about all of the safety engineering and environmental considerations that underpin this whole operation," said Richards.

WEC has a long, strong environmental mission: encouraging conservation, incentivizing electric vehicles and appliances, and prohibiting herbicide use on Rights of Way. We also have to be realistic about waste,

Richards said. "We have to put it somewhere, and we have to be clean, safe, and mindful."

Douglas, who was once part of a garbage co-op in Texas that pulled compost out of the waste stream, said, "We compost our organics and we're not supposed to put them in the landfill. You know what? That's okay. We've projected enough methane production to keep our plant running for the next 30 years. Yes, in time, methane production will decrease. On the whole, that is not a bad trend, is it?"

The EPA has said that landfills are responsible for nearly 18 percent of the country's methane emissions. If every landfill partnered with a utility, Richards said, it would prevent a massive amount of greenhouse gases from entering the atmosphere, and simultaneously back down other fossil fuel sources of electricity. "And that's the direction we need to go," she said, pointing to Russ. "Conserve, compost, recycle, and make landfills work for good as sources of energy. We need to save this earth for our kids, so we have to start cleaning up this mess."

Russ headed to an inflatable bouncy slide, where he and other kids burned off their doughnuts climbing, sliding, and shrieking. As the inheritors of the mess played, across the road a few expansion protestors lingered. In less than a week, global climate strikers would demand action. The problems may look a little different to each of us, but as Recycle Man said, we're all one team, and each of us can take steps to make the world a more liveable, breathable place. 