Storms Create Financial Challenges

2014 was an incredible year for VEC. When the year started, VEC employees were back in action after working an extensive and expensive ice storm that started on December 21, 2013 and ended January 1, 2014. That was the largest storm ever and cost VEC $6.3 million. VEC was able to recover about $4.4 million in relief, primarily from the Federal Emergency Management Agency (FEMA), leaving more than $2 million for members to cover. In addition, VEC held a Winter holiday meeting and VEC employees paid $1.1 million more in power costs for natural gas due to strong winter demand. It was the beginning of VEC’s second largest storm. Heavy, wet snow fell across the state, and we spent ten days fighting outages, at an estimated cost of $3.9 million. The good news for VEC employees was that, for the most part, we did get to celebrate Christmas with our families, unlike during the 2013 ice storm when most employees worked around-the-clock through the holidays. Only a few crews this year worked Christmas day fighting residual problems. VEC is working closely with FEMA to get reimbursed for a major part of the 2014 winter storm’s expense.

Despite all of these challenges, VEC has not requested a rate increase for 2015. VEC has worked very hard over the past eight years to improve its financial position, and I am quite impressed with the work of our employees. As a result of their excellent work, we have been able to weather intense financial pressures. That said, with the continued pressure of cost increases due to storms, transmission, and net metering, we anticipate that VEC will need to raise rates for 2016. However, we have been successful at keeping our rates very stable for the past six years, with an average annual rate increase of 1%, well below inflation.

Towards a Sustainable Electric Grid

Looking ahead to the 2015 legislative agenda with these cost pressures in mind, VEC has been working to educate Vermonters about the limitations of net metering.

Continued on page 7

CEO Summary

January, 2015

By David Hallquist, CEO

A journey of 1,000 miles, they say, begins with the first step.

Vermont Electric Cooperative’s journey is more like 2,600 miles – roughly, the combined distance of its distribution rights-of-way (think of a corridor, about 30 to 50 miles wide, surrounding the poles and wires that bring power to your home or business) and transmission rights-of-way (the same idea, but wider, for the larger equipment transmitting bulk power to VEC substations). That’s a lot of ground to cover, but it’s the Co-op’s responsibility to keep those 2,600 miles – almost the span of the continent – from becoming clogged with trees and vegetation. The reason is that trees are, far and away, the leading cause of unplanned power interruptions for rural electric utilities.

Like some modern Marco Polo, VEC took its first step on that journey in 2005. That’s not literally true. Vermont Electric Co-op has understood, since its inception in 1938, the importance of clearing and re-clearing its rights-of-way (ROW). But it’s a hard thing for a utility to get its arms around. There’s a tendency to be reactive – to send line clearance crews quickly to restore order when fallen trees knock out the power, rather than predicting where the next place might be where that will happen, and the place after that. Furthermore, ROW management keeps getting more challenging for rural electric co-ops. They were charted during a time when small farms dotted the landscape in the U.S. The most efficient and economical way to get electric power to those small farms was to march the power lines right across the open fields and hilltops rather than building them along the roadsides, which was less direct and required more material.

But agriculture in Vermont has changed. Where there used to be thousands of small farms, there’s now a much smaller number of large farms, which tend to be concentrated in certain areas, so in much of VEC’s territory the pastures and croplands of yesterday are now thick with trees. Since the lines are still off-road, and now in woods rather than fields, they can be very difficult to get to. VEC Arborist Jeremy Tinker recently commented, “In places where agriculture is still vibrant – like Berkshire, Highgate, Franklin, and some other towns – there is a significant amount of land that is not being farmed, and VEC’s ROW management needs to be more ‘green’ in those areas.”

That brings us again to 2005. It was then that VEC committed to bringing discipline and savings the rest of the year. As we headed into December, we were very optimistic. Unfortunately, December 9, 2014 was the beginning of VEC’s second largest storm. Heavy, wet snow fell across the state, and we spent ten days fighting outages, at an estimated cost of $3.9 million. The good news for VEC employees was that, for the most part, we did get to celebrate Christmas with our families, unlike during the 2013 ice storm when most employees worked around-the-clock through the holidays. Only a few crews this year worked Christmas day fighting residual problems. VEC is working closely with FEMA to get reimbursed for a major part of the 2014 winter storm’s expense.

Despite all of these challenges, VEC has not requested a rate increase for 2015. VEC has worked very hard over the past eight years to improve its financial position, and I am quite impressed with the work of our employees. As a result of their excellent work, we have been able to weather intense financial pressures. That said, with the continued pressure of cost increases due to storms, transmission, and net metering, we anticipate that VEC will need to raise rates for 2016. However, we have been successful at keeping our rates very stable for the past six years, with an average annual rate increase of 1%, well below inflation.

Towards a Sustainable Electric Grid

Looking ahead to the 2015 legislative agenda with these cost pressures in mind, VEC has been working to educate Vermonters about the limitations of net metering.

Continued on page 7

Establishing Order

VEC’s Vegetation Management Program Strives to Improve Reliability

A journey of 1,000 miles, they say, begins with the first step.

Vermont Electric Cooperative’s journey is more like 2,600 miles – roughly, the combined distance of its distribution rights-of-way (think of a corridor, about 30 to 50 miles wide, surrounding the poles and wires that bring power to your home or business) and transmission rights-of-way (the same idea, but wider, for the larger equipment transmitting bulk power to VEC substations). That’s a lot of ground to cover, but it’s the Co-op’s responsibility to keep those 2,600 miles – almost the span of the continent – from becoming clogged with trees and vegetation. The reason is that trees are, far and away, the leading cause of unplanned power interruptions for rural electric utilities.

Like some modern Marco Polo, VEC took its first step on that journey in 2005. That’s not literally true. Vermont Electric Co-op has understood, since its inception in 1938, the importance of clearing and re-clearing its rights-of-way (ROW). But it’s a hard thing for a utility to get its arms around. There’s a tendency to be reactive – to send line clearance crews quickly to restore order when fallen trees knock out the power, rather than predicting where the next place might be where that will happen, and the place after that. Furthermore, ROW management keeps getting more challenging for rural electric co-ops. They were charted during a time when small farms dotted the landscape in the U.S. The most efficient and economical way to get electric power to those small farms was to march the power lines right across the open fields and hilltops rather than building them along the roadsides, which was less direct and required more material.

But agriculture in Vermont has changed. Where there used to be thousands of small farms, there’s now a much smaller number of large farms, which tend to be concentrated in certain areas, so in much of VEC’s territory the pastures and croplands of yesterday are now thick with trees. Since the lines are still off-road, and now in woods rather than fields, they can be very difficult to get to. VEC Arborist Jeremy Tinker recently commented, “In places where agriculture is still vibrant – like Berkshire, Highgate, Franklin, and some other towns – there tends to be a significantly lower cost per mile for managing the rights-of-way. In other towns, like Hinesburg and Huntington, where agriculture is less active now, the challenges and costs tend to be greater.”

For VEC, there is yet another factor that complicates its vegetation management effort: its territory has grown, particularly the purchase of Citizens Utilities (CU) in 2004. Add to this, the financial problems that beleaguered the Cooperative, which culminated in the bankruptcy of 1996, and the recovery since then, and VEC’s vegetation management undeniably suffered.

That brings us again to 2005. It was then that VEC committed to bringing the same kind of planning, modernity, and professionalism to its vegetation management that it applies to its electrical system (for example, pioneering AMI, also known as “smart metering,” and other technological innovations). The impetus was much the same: improving the system’s reliability for members and doing it more cost-effectively.

Continued on page 6
President's Message

VEC's Community Fund: Small Change for a Big Difference

By Tom Bailey, President
VEC Board of Directors

In 2014, VEC introduced a program that the Board of Directors is very excited about. With the Board’s direction and support, the VEC Community Fund came to fruition. Modeled after other cooperatives’ programs, the Community Fund is designed to strengthen our local community by supporting organizations that promote economic security and community development right here in the VEC service territory.

VEC, like all cooperatives, is guided by seven cooperative principles. One of these principles is supporting community by focusing on member needs and sustainable development of our communities. Our newly adopted Community Fund underscores this cooperative principle of member helping member.

VEC works to be a good member of the community—providing jobs, keeping the lights on, offering educational presentations to schools, and making sure that we’re involving local stakeholders in decisions that affect them. We’ve received requests from community organizations in the past to donate money to worthy causes, and up until last year, we were forced to say no. Since VEC’s only source of income is rates, we must be responsible to members and use that money only for necessary operating and capital expenses.

The Community Fund provides a separate stream of funding specifically from members who would like to help other members and support local organizations that strengthen our communities.

Donating to the Community Fund is simple and easy. The main way members can donate is to round up their bills. Simply check the box on your bill stub indicating that you’d like to sign up (or call us at 1-800-832-2667). Then we’ll round up your bill to the nearest dollar until you tell us to stop. The most any individual could end up donating each year is $11.88 ($0.99 for 12 months), but the average will be closer to $6, literally pennies per month. With enough of VEC’s 32,000 members participating, this small amount can add up to a big difference for our communities.

The money from the Community Fund will be distributed on a quarterly basis. Local organizations fill out a simple application detailing their funding needs and their organization’s information, and a committee comprised of VEC directors and employees will review this information and use good judgment to make funding decisions. The committee welcomes applications from all qualified local non-profit organizations. That application can be found on the VEC website at http://www.vermontelectric.coop/community-fund.html or by requesting a paper application. Updates to funding dispersals can be found on that page as well. The first dispersal will take place in the first quarter of 2015.

Members can feel good about taking this simple step to make a difference for their neighbors. The Community Fund has no overhead cost to VEC, so 100% of the money donated will end up with local organizations. I encourage you to round up today to create change tomorrow and into the future for our communities.

Seeking Director Candidates in 2015

Three VEC Director Positions Open

Vermont Electric Cooperative will host its 77th Annual Meeting of the Membership on May 9, 2015, at Jay Peak Resort. An important component of the annual meeting is to give members an opportunity to exercise their voices as member-owners, which is demonstrated in the election of new directors for our board. Since VEC is a cooperative, members democratically elect local representatives to serve on the board. These directors participate in setting policies and making decisions and are expected to represent the interests of the members.

VEC is seeking petitions from qualifying candidates for three positions on the Board of Directors that will open in May of 2015. Each position will be for a four-year term.

Below is a list of the seats that are up for election and the towns they represent:

**District #1**


**District #6**

Berkshire, Enosburg, Franklin, Georgia, Highgate, Montgomery, Richford, Sheldon, St. Albans Town, Swanton

**West Zone-at-large**


Persons seeking these board positions must be VEC members, may not be employed by the Cooperative, and may not in any way be employed by or have financial interests in a business selling electric energy or supplies to the Cooperative. Candidates must have a principal residence within VEC territory and in the district or zone in which they are running for election.

VEC is seeking candidates who have the ability and time to fulfill the responsibilities of the board, which include participating in all monthly board meetings and committee activities. The Board of Directors meets in the afternoon on the last Tuesday of each month at VEC’s main office in Johnson. Directors receive a stipend and mileage reimbursement for attending meetings and have training opportunities to learn more about today’s energy issues and the cooperative model.

Please contact the administrative office at 802-730-1172 to request application materials.

Completed applications, including a petition signed by VEC members, are due by 4:30 p.m. on March 24, 2014. The election will take place from April 14 through May 9 by mail and online, and in person at VEC’s annual meeting on Saturday, May 9, 2014.

Manage Your VEC Account with Smarthub
Operations Update
Serving Members and Strengthening the Community by Building Tomorrow’s Electric Grid

Since 2007 VEC has worked hard to reduce the amount of outages that our members experience. We know that our membership has differing views on what drives satisfaction with the Coop, but the common theme is that everyone expects that the lights stay on. To meet this expectation, VEC is charged with creating and maintaining a system that delivers that value, both in terms of service and financially. Deferred investment in the later part of the 20th century left today’s Coop managers with a long list of upgrades necessary to keep the lights on, keep our employees safe, and provide the level of service that today’s consumers have come to depend on.

It also left members with a hefty rate increase back in 2009 to pay for the upgrades. At that time, we promised value in return for the investment, and today we can say with confidence that we delivered on our promise and that we can sustain the improvements. This year VEC members, on average, experienced 1.47 outages. Back in 2007 that number was well over 3.5 outages. Although there are many factors that contribute to the rates that members pay, fewer outages result in lower costs, which translate into rate control.

What is the Coop doing this year to live up to its promise of delivering value?

Let’s start with technology. We could talk forever about the efficiencies we realize from technology that our employees use every day, like mobile devices and mapping systems. But, from an infrastructure point of view alone, our technology investments have delivered exceptional value to our members. Undoubtedly, one of our greatest investments was in SmartGrid technology. Since 2009, we have converted nearly all meters to smart meters and have installed remote control equipment to all of our substations and connection points to our power suppliers. Not only can this technology be credited with improving the safety of our system, it saves real money by reducing travel and outage times. When our Control Room in Johnson can open and close switches in Canaan remotely, we can quickly restore the lights in Norton and save crews costly drive time. This type of efficiency can be found in the way we communicate with our members during outages. If you consider the massive amount of phone calls we receive, what used to take hours to sort through is now done automatically. Our goal today is more than simply getting the lights back on; we want to make sure that affected members can get up-to-date estimates on when the lights will be back on. We communicate this using our website, mobile devices, e-mails, phone recordings, and press releases, and feel that data back to our field workers so that they can verify that we are providing accurate information. Now, we don’t always get it right, but we try our best with the information we have at any given moment and refine our communications as more information comes in from the field. Today our field crews can view members’ comments from the seats of their trucks. Everyone at VEC is excited to invest in technology because it enables us to serve you better.

From an infrastructure point of view we have a busy year ahead of us. We are rebuilding 40-year-old substations in Alburgh and Berkshire, moving distribution lines to the road in Alburgh and Derby, connecting Derby Line to the Vermont grid for the first time ever, and, in the midst of all this work, we are building connections to new homes and businesses in all areas of our system. These projects are being funded through our capital plan with no additional rate increases.

Good news is in store for members in the Northeast Kingdom. Back in 2010, we announced that we had received an Economic Development Administration (EDA) grant for $14.5M to fund what we call the NEK Connector. The concept behind this project is to connect Canaan and Norton to the Vermont grid by means of rebuilding the old line along Route 102 between Bloomfield and Canaan and making a connection between the two systems in Lenoxfield. The project will deliver better reliability to that area, rebuild a line that was originally built in the early to mid-20th century, and enable expanded telecommunication services made possible by fiber funded by the EDA. This project will span nearly 23 miles and will greatly improve reliability in an area that has been underserved for many years due to the low consumer density. Construction on all of these projects will begin as soon as winter eases up on the crews.

Lastly, VEC prides itself on supporting Vermont’s maple industry. Today’s maple producers rely on electrical energy as a means to reduce other fuels costs such as oil, propane, and wood. As the industry evolves, VEC is doing its best to ensure reliable power and adequate capacity to serve everyone’s needs, which can be quite an effort. A recent project that has tested many local companies is a new maple production facility for Sweet Tree Holdings, LLC in Island Pond. The company is busy readying their new facilities for the 2015 season, and VEC is busy finishing our portions of the project needed to serve their vacuum stations in their sugar bush and their production facilities. Construction has been a massive undertaking that has kept many people busy. However, the full-time jobs created by the company’s year-round production and the revitalization of the long-vacant Ethan Allen building are what VEC is most excited to support. A core cooperative principal is to support economic development in our communities, and we are proud to be a part of this exciting development.

I am very proud of our recent successes. Everyone at VEC works hard to keep the lights on and to engineer and build systems that will serve our members’ needs well into the future. Through our day-to-day work as well as our capital projects, we strive to be a constant trusted partner to the members we serve.

VEC employees Scott Rockwood and Travis Smith in VEC’s Control Centers.

By Jeffrey Wright, Chief Operations Officer

Reach Jeffery Wright, Chief Operations Officer and Chief Field Officer, to discuss the impact of technology.

Control Center.

Crosses constructing new lines for the Sweet Tree project in Island Pond.

VEC to hold 77th Annual Meeting of the Membership

When: Saturday, May 9, 2014 @ 10:00 a.m.
Where: Jay Peak Resort, Jay, VT
Why: It’s an opportunity for you to exercise your voice as a member-owner of this cooperative!

Join us and hear about today’s energy issues and share your thoughts with one of VEC’s directors and staff. Keep an eye out for your official Notice of Annual Meeting, which will be mailed in April. Hope to see you there!

SAVE THE DATE
Electricity 101: The Consumption Side  
“Smart Devices” Take It from Here

FOURTH IN A FOUR-PART SERIES

Anyone wishing to study the modern history of the human race would find no better path than through the lens of electricity. It changed nearly everything. And even though we've had a bit of a love/hate relationship with electricity in recent times – trying to use less of it, objecting to its generation sources, whether fossil fuel, nuclear, solar, or wind – electricity isn’t going anywhere. Instead, with each new year we're finding more, seemingly irresistible, ways to use it.

Vermont Electric Cooperative’s Chief Executive Officer, Dave Hallquist, cites an example as an example. Not long ago he built a studio in his home and installed two outlets in every wall for the herd of gadgets he knew would arrive.

“Last night I looked around, and I was running out of outlets again! We're all trying to be more efficient, but we're surrounding ourselves with more and more appliances. Look around and see how many things you've got plugged in today versus years ago.

“That's an indication,” he says, “of what's happening in power.”

Phones didn't use to plug in, but they do now. There are more independently powered modules to our entertainment systems, and a whole new phylum has evolved called “devices,” which constantly need to be juiced.

But on the bright side, the technologies that are dangling these shiny objects in front of us, Hallquist explains, are also gradually assuming responsibility for helping us to use them conscientiously. We can use less energy with our electronic goods even while they multiply like rabbits, just as we're using less gasoline in our automobiles and less electricity in our light fixtures.

And interestingly, Hallquist adds, the electric utility industry is changing its relationship with the consumer. AMI – the advanced metering infrastructure (aka. “smart metering”) that Vermont Electric Cooperative pioneered in this state – is an efficiency-oriented technology, and programs like VEC's SmartHub are great at helping conscientious members reduce their energy usage (and thereby their energy bills). But emerging trends, he says, have less to do with innovation on the utility's side of the equation than with what's begun to happen inside your house.

So this subject is a fitting way to conclude our four-part series in Co-op Life called Electricity 101. We began by looking at VEC's power portfolio – its mix of electric generation from hydro, fossil fuels, wind, solar, and methane, and (beginning in 2015) a portion from the Seabrook, N.H., nuclear plant – and how VEC employs different mechanisms for channeling environmental energy into electricity.

Following “generation,” we reviewed how engineers in the 19th and 20th centuries learned to convey electricity over long distances without losing its potency through resistance, and the creation of VELCO's transmission network in Vermont.

Next came distribution: how utilities like VEC pick up that power at substations, reduce its voltage, and send it over infrastructure that looks simple from your car window but is in fact complex and extensive, ending at your house, barn, or workplace. So it's logical to conclude with how people use their electricity – the whole point, really – of all that generation, transmission, and distribution. And while the prism of electricity is a good way to view the story, this is also a story about the future.

“The next generation,” says Dave Hallquist, “is at the plug, the manufacture and proliferation of plug-level smart devices. We're already in the first wave of that revolution.”

From Flat Irons to iPhones

By the time electric co-ops began providing power to rural Americans in the late 1930s, people in population centers had had electricity for decades. There was a lot of catching up to do. Besides electric lights, some of the most important purchases rural folks made were milk coolers and water pumps, labor-saving devices that also helped make their farms more viable.

But one product caught on too. In April 1940, VEC's publication, Around The Project, a precursor to Co-op Life, published the results of a survey revealing the most popular electric appliances among its (then much smaller) membership. Radios came in first, at 147, followed by flat irons (118), washing machines (99), and toasters (63). More than 30 items were listed.

In November 1939, Around The Project introduced a feature called the Honorable Roll. It listed the names of VEC members and businesses that used more than 100 kilowatt-hours per month, with the following enticement: “Help to make this roll grow by using electricity to solve your farm problems!”

There were 13 in that first edition. Each issue contained announcements like this: “Edmond Comtois owns the first milk cooler on the Albany Road. Who's next???

Electricity sales helped secure the future of the struggling new cooperative, but in the context of the times, electricity also equated to modernization and forward thinking. It's jarring to think that an honor roll nowadays would list members with the lowest usage.

The turnaround started when electricity became expensive during the 1970s and early 1980s (when the U.S. was using 12 times as much as it had in 1940). Contributing factors were price hikes on oil by OPEC and passage of Congress of the Powerplant and Industrial Fuel Use Act in 1978, which – for nine years, until it was repealed – prohibited the use of natural gas for electric generation (contending that this fuel was scarce in the U.S.). The Three Mile Island accident of 1979 spelled the end of the honeymoon for nuclear power, so the options appeared to be narrowing.

These factors, along with newly perceived environmental concerns, kindled the movement to drastically cut electricity usage. Then along came the microwave oven and a slew of similarly alluring electronic innovations. By the 1990s they had attained an unstoppable momentum in terms of electric consumption. Fortunately, this led to a creative tension between our fondness for new-age devices and the realization that we must conserve. Dave Hallquist points to examples of local legislation and federal initiatives, for example forcing manufacturers to sell products that actually shut down when the “OFF” button is pressed instead of consuming phantom power.

As energy consumption occupies an ever-greater role in our lives, questions of how it will be managed, and by whom, seem, in Hallquist's opinion, to be resolving. And he reiterates that it will be on the homeowner's side of the plug. But the homeowner won't need to expend much effort in this area; the devices will work it out amongst themselves.

Hallquist provides an example within legislation expected to surface this year in Montpelier. Energy-conservation advocates have been pushing for years for Vermont to institute a renewable energy portfolio (RPS), as some other states have done, requiring every electric utility to obtain a portion of its power from renewable sources. But Hallquist says the RPS may contain another interesting provision.

“The state, in order to reduce carbon, is going to try to move people to more electric vehicles.” He says, “It's important to create attractive price programs for people to heat their homes and charge their cars off-peak.”

Utilities in states where there's been more interest in EVs (electric vehicles) have learned to accommodate their owners by channeling them to cheaper off-peak electric rates – typically overnight hours – to charge their cars. But grid prices are actually even more dynamic than that, Hallquist says. Changes can occur every five minutes. So a concept on the horizon is putting the grid directly in touch with the car (or other appliance). “Charge my car when the electric rate is low,” the instructions would say.

“This is not about talking to you,” Hallquist emphasizes. “It's about the grid talking to your appliance.”

A variation of this involves the participation of the owner but not of the utility. It's their remote monitoring and controlling of the lights and appliances in your home. With their iPhones, owners can detect which appliances are being used – a way of finding out what their kids are doing while they're gone; it can also program lights and gadgets to switch on and off to simulate activity when the owners are actually on vacation. When electric utilities deployed “smart meters” that reported usage back to the company in small increments, some people objected, feeling they were being spied upon. But putting comparable capabilities in their own hands or the hands of a contracted security firm, may be much more palatable.

“There’s a revolution going on at the outlet,” Hallquist concludes. “All the technology that we invested in in 2010 was on the utility side: the smart grid. The utilities now have done that work, and it's given your plug a level of intelligence it didn't have before.”

So now it's the plug's turn. It's been the beneficiary of a phenomenal system, developed over 130 years to empower it with electrical energy. What happens next?
**Current Offerings from Efficiency Vermont**

When Vermonters use less electricity, it reduces the need for all of us to pay for expensive new power plants and transmission lines. There is a wide variety of incentives and rebates available to Vermonters who want to install efficient equipment and appliances that will reduce their energy costs right away. These programs are managed by Efficiency Vermont, the state’s energy efficiency utility. The Energy Efficiency Charge (EEC) you see on your monthly bill funds these programs that reduce costs for all Vermonters.

There are a number of different ways VEC Members can take advantage of Efficiency Vermont’s services. Some of Efficiency Vermont’s available residential rebates and incentives are listed below. Call 1-888-921-5990 or visit the web pages listed below for specific rebate requirements and qualified product details to ensure that you get as much money back as possible.

**Cold Climate Heat Pumps**
Get a $300 discount through Efficiency Vermont when your contractor purchases a qualifying air source heat pump from a participating distributor. Talk to your contractor for more information or visit www.efficiencyvermont.com/coldclimateheatpumps.

**Oil or Propane Boilers or Furnaces**
Get $500 back on the purchase of an ENERGY STAR® qualified boiler or furnace. The equipment must be installed by an Efficiency Excellence Network Contractor. Learn more about this offer and qualifying systems by calling: 1-888-921-5990.

For natural gas service and rebate availability, visit Vermont Gas Systems.

**Home Air Sealing and Insulation**
Efficiency Vermont offers up to $2,100 in incentives per household to help Vermonters pay for energy efficiency home improvements, such as insulation and air sealing, completed by a certified Home Performance with ENERGY STAR contractor. Your contractor will assist you in understanding the incentives that may be available for your project, and will provide you with the paperwork you need to receive the incentive. Call 1-888-921-5990 to learn more and find a contractor.

**Heat Pump Water Heaters**
Water heating is one of the costliest sources of energy consumption for Vermont households. Get a $550 rebate from Efficiency Vermont by purchasing a qualified heat pump water heater and save up to $3,250 over the lifetime of the unit.

**Clothes Dryers**
Clothes dryers are one of the biggest energy-using appliances in the home. Get up to $400 back from Efficiency Vermont by purchasing a qualified super-efficient clothes dryer.

**Clothes Washers**
Get between $40 and $75 back from Efficiency Vermont on your purchase of a select ENERGY STAR qualified clothes washer.

**Refrigerators**
Get $40 to $75 back from Efficiency Vermont on the purchase of a select ENERGY STAR certified refrigerator.

**Lighting**
Efficiency Vermont offers special pricing on select energy efficient light bulbs. Look for qualifying CFLs starting at 99¢ and LEDs starting at $4.99 at your local retailer.

To find all of Efficiency Vermont’s available rebates and incentives for your home or business visit www.efficiencyvermont.com or call 1-888-921-5990.

---

**Solar at VEC**

Solar continues to be a hot topic in Vermont and among VEC members. Last year, the legislature passed a bill increasing the net metering cap from 4% of a utility’s peak demand to 15%. This law enabled VEC to reopen its net metering program, which is what allows members to install solar, wind, and other forms of renewable generation and be compensated for the power they produce.

Since the net metering program reopened last April, VEC has received about 200 applications, which, if approved, will amount to about half of the capacity VEC can accept in 2014, 2015, and 2016. The vast majority of these are small home installations, but several larger-scale projects have also reserved space in the VEC system. The net metering law has also allowed VEC to pursue its own utility-scale solar project, called VEC’s Co-op Community Solar. VEC’s Co-op Community Solar will be a solar array with up to 5 megawatts (MW) of generation capacity, a portion of which will be available to members for net metering. The way it works is that members will be able to purchase portion of the array and will receive credits for the portion of the output to offset their bills. VEC’s Co-op Community Solar will provide another option for members who want to take advantage of the benefits of solar without installing systems on their own properties.

VEC has made significant progress over the past several months to make this concept a reality. Two sites have been located for Phase I of the project, and a total of 2.5 MW of generation capacity is planned for these locations. The environmental assessments are complete, and the permitting process has started. To stay on top of the latest developments, you can sign up for VEC’s Co-op Community Solar email list by emailing communitysolar@vermontelectric.coop.

---

**Bundle Up for Winter Storms**

Winter’s cold grasp is upon us. Snow and ice are inevitable part of life in Vermont, but being prepared can make a world of difference. VEC recommends the following tips to help you prepare for wintry blasts.

**Winterize your home**
Winter storms wreak havoc on your home. By winterizing your living space, you’ll be prepared for extreme cold and hazardous conditions.

- **Remember to maintain and inspect heating equipment and chimneys every year to ensure they’re working safely and properly.**
- **Caulk and weather strip doors and windows to make the most of your heating system.**
- **Freezing temperatures often cause water pipes to burst. Remember to insulate pipes with insulation or newspapers and plastic. Allow faucets to drip during extreme cold to avoid frozen pipes.**
- **Consider installing storm windows for better insulation. You can also cover windows with plastic (from the inside) to keep the cold out.**
- **Make sure everyone in your family knows where the home’s fire extinguisher is located and how to use it properly. House fires occur more frequently during winter months, as people tend to use alternative heating methods that may not be safe.**

**Prepare a winter survival kit**

Severe winter storms often bring heavy accumulation of ice and snow, which can lead to downsed power lines and extended outages. VEC crews will work hard to restore power as quickly as possible, but having a winter survival kit on hand is a smart idea.

- **Food:** Store food that does not require cooking, such as canned goods, crackers, dehydrated meats, and dried fruit. Keep a large supply of water on hand. Ready-to-eat batteries.
- **Water:** Store several water bottles. Bank account information and insurance policies are also good to have on hand.
- **Other items:** First Aid Kit, blankets, flashlight, battery-powered radio, and extra batteries.

**Stay warm and safe**

If an outage occurs, you should plan for an alternate heating source. A fireplace, propane space heater, or wood stove would be sufficient. Fuel and wood-burning heating sources should always be vented. Be sure to check that carbon monoxide and smoke detectors are working properly. Always practice extreme caution when using alternate heating sources.

If you decide to use a portable generator during an outage, make sure it is placed outside the home for proper ventilation. Be careful not to overload the generator and to use appropriate extension cords that can handle the electric load.

Follow these tips, and your family will stay warm in the event of a power outage. For more information on preparing for winter storms, visit http://www.vermontelectric.coop/safety/storm-preparedness.

---

**Lower-Cost Heating with Heat Pumps: Potential Savings**

<table>
<thead>
<tr>
<th>CURRENT FUEL TYPE</th>
<th>Electric Resistance</th>
<th>Propane</th>
<th>Oil</th>
<th>Pellets</th>
<th>Natural Gas</th>
<th>Cord Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST OF FUEL</td>
<td>$0.07/kWh</td>
<td>$2.95/gallon</td>
<td>$3.75/gallon</td>
<td>$3.27/bu</td>
<td>$2.95/therm</td>
<td>$19.33/1000</td>
</tr>
<tr>
<td>ANNUAL SAVINGS</td>
<td>$1,624</td>
<td>$1,268</td>
<td>$865</td>
<td>$68</td>
<td>$303</td>
<td>$1,325</td>
</tr>
<tr>
<td>LIFETIME SAVINGS*</td>
<td>$27,623</td>
<td>$19,027</td>
<td>$12,971</td>
<td>$1,020</td>
<td>$1,454</td>
<td>$4,882</td>
</tr>
</tbody>
</table>

*Over 15-year lifetime. Note: Your actual savings may vary.

Source: Efficiency Vermont.
The strategy undertaken in 2005, and formalized in a defined treatment schedule, 12 years after establishing a defined treatment schedule in 2009. "We're not there, yet," she acknowledges. "We know we have many miles of line that are surrounded by vegetation, and we do our best to prioritize vegetation maintenance needs."

The transmission ROWs are another story. "We have achieved our five-year cycle for the transmission system," she says. To keep the hot spots from interfering with progress toward the eight-year cycle, VEC hires separate contractors for the two operations. They work under three-year contracts, with two companies assigned to the "planned" areas – making their way down the Co-op’s list of priorities in this initial 12-year effort – and one company assigned to the "unplanned" work that arises from storm events and immediate needs.

Each contractor fields between three and eight crews, which usually consist of three or four workers. This means there are some 30-40 Qualified Line Clearance Tree Trimmers at work on VEC’s corridors every working day of the year. Their title is significant. Achieving that certification allows them to work as close as two feet five inches from an energized 7,200-volt conductor (an unqualified person wielding a chain saw, even a logger, should never approach vegetation within 10 feet of the power lines); they’ve learned the characteristics of tree species, which enables them to direct a tree’s fall effectively, and the aerial workers on these crews are adept with ropes, pulleys, and knots. They have bucket trucks, chippers, and other equipment at their disposal. Moreover, they are trained in electrical hazards and safe work practices and procedures necessary to work near energized electric equipment.

Packer and Tinker supervise the vegetation management program with the aid of computerized GIS mapping of the entire VEC service territory, and a software program called Clearion Mobile, which enables them to create, share, track, and audit all aspects of the vegetation management program.

The Co-op has set itself on the path towards an ambitious goal, wrestling 2,600 miles of fertile northern forest into shape for the protection of its staff and the public and to improve its service to members. VEC is using the most professional tools and personnel to achieve that goal.

What Can YOU Do?

Since VEC is a nonprofit, cooperatively-owned utility, every Co-op member has a stake in its effective and efficient operation. But it’s also true that power line corridors pass through many VEC members’ land, and people are very protective of their property and love their trees. Yet these are the same trees that must be pruned and, in some cases, removed to clear the right-of-way. Similarly, VEC’s work frequently involves constructing new sections of line or relocating a ROW so that the lines can be serviced more easily.

What the Co-op asks for is dialogue and cooperation in implementing a vegetation management program that promotes the safety and integrity of the electric facilities serving homes and businesses throughout its territory. VEC members farther down the line are affected by the protection of the line as it passes through your property, just as you are affected by the decisions of other VEC members.

Jeremy Tinker enjoys these interactions. "Sometimes when I knock on people's doors, they're surprised," he says. "But working for a Co-op, I try to take that communication to the next step."

By 2021 – 16 years after its vegetation-management plan was developed – Vermont Electric Co-op fully intends to be on an eight-year maintenance cycle. When that day comes, it will have been a worthwhile journey for everyone.
The pressure to increase the amount of power that can be obtained from in-state new renewable sources also requires careful scrutiny. Vermont needs a strategy that will provide baseline power 24 hours a day. Solar panels produce only during the daylight hours and only one-third of their capacity in the winter, when power prices are three times higher than in the summer. As a result, VEC must buy expensive power to make up for that reduced sunlight. The good news is that the wind blows more often in the winter than the summer. If Vermont wants to be more aggressive with renewables, wind must be part of the solution. It will be difficult to support even a 2% increase in our in-state renewables without building more wind. VEC will work closely with state regulators and legislators to help to continually reduce our carbon footprint. We know that our members are concerned about climate change as well as rates. It is a balancing act that requires those involved to be highly informed. VEC’s position is that we need to have as much cost-effective solar and wind as possible, while backing it up with natural gas to handle variations in the output of those renewable, yet intermittent, sources. It is clear that Vermonters are becoming increasingly less tolerant of intermitent, yet intermittent, sources. It is clear that Vermonters are becoming increasingly less tolerant of wind and solar in working to achieve renewable targets. In April 2014, the legislature raised the net metering cap almost four-fold from 4% to 15% of a utility’s peak demand. Rooftop solar sales continue the push to raise net metering levels above the current 15% cap. VEC maintains that current net metering policy creates a cross-subsidy that increases costs to members who do not participate in the net metering program. For every 1% increase in the net metering cap, non-net metering members pay an additional $120,000 annually to cover operating and capital costs for those members who are not paying to use the grid. While VEC supports the growth of solar in Vermont, it does not serve Vermonters or new members to pay 20 cents per kilowatt-hour for rooftop solar when utility-scale solar can be built for half that cost. Proponents argue that the net metering program creates jobs, but we need to remember that those are subsidized jobs. The future of the Vermont economy must be built on stable and sustainable ground.

The pressure to increase the amount of power that can be obtained from in-state new renewable sources also requires careful scrutiny. Vermont needs a strategy that will provide baseline power 24 hours a day. Solar panels produce only during the daylight hours and only one-third of their capacity in the winter, when power prices are three times higher than in the summer. As a result, VEC must buy expensive power to make up for that reduced sunlight. The good news is that the wind blows more often in the winter than the summer. If Vermont wants to be more aggressive with renewables, wind must be part of the solution. It will be difficult to support even a 2% increase in our in-state renewables without building more wind. VEC will work closely with state regulators and legislators to help to continually reduce our carbon footprint. We know that our members are concerned about climate change as well as rates. It is a balancing act that requires those involved to be highly informed. VEC’s position is that we need to have as much cost-effective solar and wind as possible, while backing it up with natural gas to handle variations in the output of those renewable, yet intermittent, sources. It is clear that Vermonters are becoming increasingly less tolerant of rooftop wind farms, so it will be important to allow out-of-state renewable power to be part of the solution as well.

**PUBLIC NOTICE**

**HERBICIDE USE NOTIFICATION**

Vermont utilities maintain electric line rights-of-way with several methods, including the selective use of herbicides on trees and brush. They also encourage low-growing shrubs and trees which will crowd tall-growing species and, thus, minimize the use of herbicides. The application of herbicides may start as early as April 1. Requests to utilities for notice by mail, however, must be made by February 15.

The Public Service Board requires Vermont utilities to carry out vegetation management techniques which allow maintenance of electrical systems in a cost-efficient manner.

The types of herbicide treatment used to maintain vegetation on utility rights-of-way include the following applications: stump, injection, basal, soil, and foliar. Those are the commonly used methods: your local utility may use other methods. Landowners have the right to request that a utility apply herbicide treatment on cut stumps only or that a utility refrain from applying herbicides. In the latter case, the landowner has to pay the utility an administrative fee. Only electric utility rights-of-way that have tall-growing tree species with the potential of threatening the electric utility system are treated.

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

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

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

**CONTACT YOUR ELECTRIC UTILITY WITH QUESTIONS OR SUBMIT THE COUPON PROVIDED**

If you have further questions or concerns contact:

**Agency of Agriculture**
James Leland
116 State St., Montpelier, VT 05602
1-802-828-2431

**Consumer Affairs & Public Information**
Dept. of Public Service
112 State St., Montpelier, VT 05602
1-800-622-4406 or 1-802-828-2332

**LANDOWNER REQUEST TO BE ADDED TO HERBICIDE TREATMENT NOTIFICATION MAILING LIST**

<table>
<thead>
<tr>
<th>Name</th>
<th>Town/City of Affected Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street Address</td>
<td>Telephone Number (Home)</td>
</tr>
<tr>
<td>Town</td>
<td>(Work)</td>
</tr>
<tr>
<td>State</td>
<td>Zip Code</td>
</tr>
<tr>
<td></td>
<td>O.K. to use Work Number: Yes ☐ No ☐</td>
</tr>
<tr>
<td>Electric Account Number</td>
<td>Best Time to Call</td>
</tr>
<tr>
<td>Property of Concern:</td>
<td>☐ Year Round Residence   ☐ Summer Residence ☐ Commercial Property</td>
</tr>
<tr>
<td></td>
<td>☐ Water Supply ☐ Land ☐ Other</td>
</tr>
</tbody>
</table>

We need all of this information in order to determine if you qualify for personal notification. If information is unobtainable, please state why. Use an extra sheet of paper if you need more space.

**VELCO15**

**RETURN TO YOUR LOCAL UTILITY**

**PUBLIC NOTICE**

**HERBICIDE USE NOTIFICATION**
Winter Storm Damon

The winter storm that began on December 9, 2014, caused about 45,000 outages over eight days throughout VEC’s service territory.