

## 2 Introduction and Member Programs

### 2.1 About Vermont Electric Cooperative

#### 2.1.1 General Overview

Vermont Electric Cooperative (VEC) is a member-owned rural electric cooperative established in 1938 serving approximately 32,000 members (~39,500 meters) spread over 75 towns and 8 counties in northern Vermont.

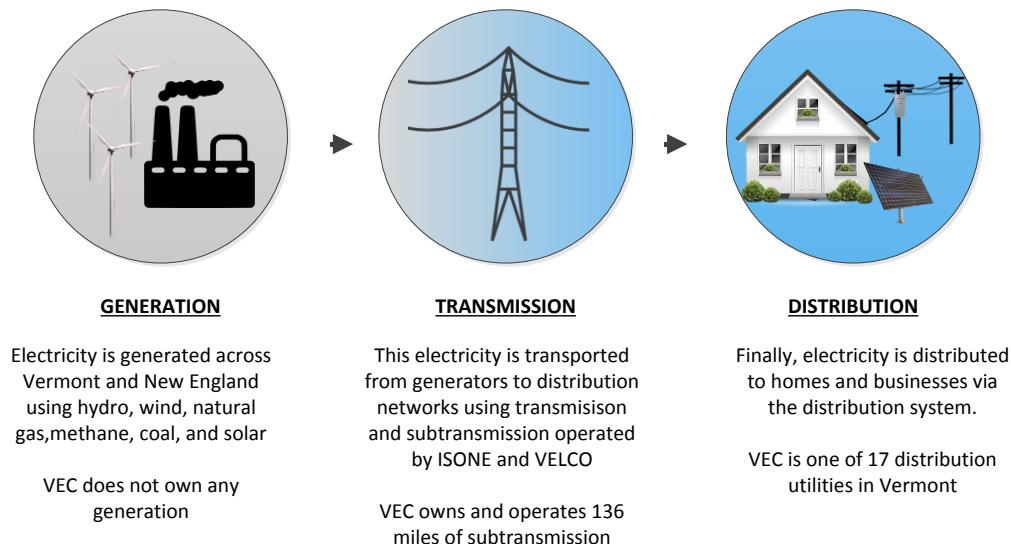
Key statistical metrics for 2018 (the most recently completed fiscal year) include:

- Annual sales were approximately 460,000,000 kWh;
- Residential and seasonal accounts made up approximately 88.2% of all customer accounts and 49.15% of kWh sales;
- Large commercial accounts made up approximately 0.04% of all customer accounts and 22.8% of kWh sales;
- Small commercial and public accounts made up approximately 11.6% of all customer accounts and 27.8% of kWh sales
- Lighting accounts made up approximately 0.15% of all customer accounts on 0.15% of kWh sales

Power supply and transmission consists of approximately 63% of VEC's cost to serve, distribution operations and maintenance consists of approximately 18%, and the remaining 19% consists of administration, member services, depreciation, interest expense and other income.

#### 2.1.2 Our Place in the Electricity Sector

Outside of VEC's system, the regional electric grid has many layers. All transmission resources in the State of Vermont are managed by its one transmission utility Vermont Electric Power Company, Inc. (VELCO). The Federal Energy Regulatory Commission (FERC) governs electrical and gas bulk transmission and generation assets in North America. ISO-New England is the regional enforcement entity that governs Vermont's bulk electrical transmission and generation assets. ISO-NE is ultimately responsible for grid operation, market administration, and power system planning. ISO-NE has eight wholesale load zones in New England, and the entire state of Vermont is one of these load zones for the purchase and sale of bulk power.



## History of VEC

In 1938, VEC was established by farmers in the town of Eden with the goal of bringing electricity to rural Vermonters who had been bypassed by investor-owned utilities. Early on, VEC extended service into Chittenden and Franklin counties and from 1940 through 1960, VEC's service territory continued to expand in northern Vermont through the construction of new lines and the acquisition of small private companies. In 1969, VEC expanded its territory into southern Vermont through a merger with Halifax Electric Cooperative, and in 1970, VEC acquired the International Electric Company serving the Derby Line area along the Canadian border. VEC more than doubled its membership in 2004 with the acquisition of Citizens Communications Company's Vermont Electric Division.

VEC sold its Southern District in 2006 to Central Vermont Public Service (CVPS) as it could be more efficiently served by another distribution utility already serving much of this territory. This district served approximately 2,770 members in Windham and Windsor counties, and included twelve members in three towns in Massachusetts on the Vermont border. VEC sold service to those members to Western Massachusetts Electric Company (WMECO).



*Figure 2.1.2.A VEC lineman in the 1950s*

### 2.1.3 Cooperative Structure and Principles

As a consumer-owned cooperative, VEC is a democratic organization controlled by its members. Members elect local representatives to serve on VEC's twelve-member board of directors to represent geographically based districts and zones. These directors actively participate in setting policies, making strategic decisions, and are accountable to the membership.

As with any cooperative, VEC members are member-owners of the cooperative who have a direct influence on cooperative policy and financial decisions. They not only have a vote on certain cooperative policy decisions, but they also have a direct, financial stake in the cooperative. The cooperative belongs to the communities it serves, and collectively our staff and board each have a deep commitment and obligation to our members and the communities they live in.

## Cooperative Principles

The International Cooperative Alliance defines a cooperative as "an autonomous association of people united voluntarily to meet their economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled business." Electric cooperatives were formed in the early part of the twentieth century to serve rural areas that were not profitable to supply with electricity. The federal government provided support through the Rural Electrification Act of 1936, and volunteers formed cooperatives to bring electricity to previous unserved areas. Cooperatives around the world operate based on a core set of principles that trace their roots back to Rochdale, England in 1844. The seven cooperative principles are as follows:



Figure 2.1.3.A National Rural Electric Cooperative (NRECA) Cooperative Principles



## Annual Meeting - Fundamental to Member Experience

One of VEC's key elements of our member experience is our Annual Meeting held each May. At this half-day event, we finalize the board election, offer an update on co-op activities, highlight exciting trends and opportunities in the energy sector, and hear from members. We offer a complimentary breakfast and door prizes as well. In recent years, Annual Meeting has drawn approximately 200 members. In 2018, VEC celebrated 80 years serving our members.



Figures 2.1.3.B Top left – CEO, Rebecca Towne at VEC annual meeting, Others – VEC members at annual meeting

## 2.2 Service Quality and Reliability Performance (SQRP)

VEC, like other Vermont utilities, operates under the guidelines of a Service Quality and Reliability Plan (SQRP), which defines standards by which VEC's member service, safety, and reliability performance are measured. This plan requires the utility to monitor and report the results of its performance in these areas annually to the Public Utility Commission. VEC's SQRP includes a number of "service guarantees" -- specific credits or financial benefits that go to the affected individual retail customers if the utility fails to meet one of its service commitments.

VEC believes the service guarantees are excellent tools for helping us prioritize our work to be as responsive to members as possible.

Below is how VEC describes our service quality guarantees to our members:

**"Committed to our members"** means that we back our service to you with the following service guarantees:

Our Service Quality Guarantees	
<b>Guarantee #1:</b>	We guarantee that your bill will be rendered within seven days of your scheduled billing cycle or you will receive a \$5 credit toward your account.
<b>Guarantee #2:</b>	We guarantee that the bill presented to you will be accurate. If you receive a bill with a mistake in it, VEC will correct the mistake and you will receive a \$5 credit toward your account.
<b>Guarantee #3:</b>	We guarantee that line crews will be on time for scheduled appointments. If our crew has an appointment with you and does not show up within a two hour window of the appointment, you will receive a \$5 credit toward your account.
<b>Guarantee #4:</b>	We guarantee that your meter work will be completed within four business days of the promised delivery date on the service order. If we do not meet this date, you will receive a \$5 credit toward your account.
<b>Guarantee #5:</b>	We guarantee that any line work will be completed within five business days of the promised delivery date, providing you have met your requirements. If we do not complete the work within this time frame, you will receive a \$5 credit toward your account.

## 2.3 Communicating with our Members

Various forces will continue to exert pressure in the coming years on VEC's member services department and other staff to think ahead, innovate and implement new ways of keeping members well informed. Regulatory requirements that translate into programs for our members will be one factor. Weather will continue to challenge the reliability of the grid as well, which will also drive us to be forward thinking and fast acting in our member communications. Demographic change will likely bring an increasing proportion of our members who are more deeply engaged in how they use energy, demanding a more performance-based, real-time, and digitally driven member experience. And, yet-unknown trends in the utility sector will push us to continue to be creative in seeking value for our members.

### 2.3.1 VEC and our Members

VEC staff strives to provide exceptional member experience in all interactions we have with our members. Informed by various sources of data, including annual member surveys, analytics of our digital communications, and direct face-to-face feedback, VEC is always striving to refine our practices to add value to the member experience.

VEC serves a rural, relatively low-income territory. About 40 percent of residential members are on fixed incomes. VEC serves eight of the top ten Vermont towns (and three of the top five counties) with the highest percentage of the population living at or below the poverty line.



*Figure 2.1.3.A Utility Arborist, Jeremy Tinker meeting with members*

### 2.3.2 Points of Contact

VEC's member experience takes many forms. Members have periodic face-to-face and phone contact with field staff including line workers, meter technicians as well as with our member service staff in our business office in Johnson.

Besides direct, in-person exchanges, VEC communicates with members through common communications channels including our quarterly hard-copy and electronic newsletter Co-op Life, bill messages/bill inserts, direct e-mails, Facebook, Twitter and Instagram posts, Front Porch Forum, outgoing IVR calls, and text alerts. VEC offers an on-line portal, SmartHub, which allows members to track their usage and pay bills, among other things. We also communicate to our members via earned media, and occasionally through paid media. We also meet members in-person through visits to schools, service clubs, public safety/first responder organizations, and at our Annual Meeting held every year in May. In all of our communications and relationships with our members, timeliness, clarity, and transparency are key guideposts.

Levels of member engagement vary. The vast majority of our members have regular but simple contacts with VEC. They receive and pay their bills, and receive our quarterly newsletter. Other members are more frequently engaged, following us actively on social media and inquiring more regularly about innovative projects or energy efficiency opportunities. A far smaller group is engaged particularly with VEC's energy transformation projects, enrolling in innovative technological programs. And unfortunately, given our demographics, we have ongoing engagement with members who struggle to pay their bills and may face disconnection. As we focus on our core mission of delivering safe, affordable and reliable electricity and at the same time embrace changes in the electric industry, VEC works hard to provide the best member service possible to all members no matter their level of engagement and interest in energy.



*Figure 2.3.2.A Member Service Representative, Monica Sterns*



### 2.3.3 Digital Communication Channels: Tracking

A critical element of VEC's ongoing enhancements to the member experience is monitoring the level of engagement on our digital platforms, principally on our e-mail outreach and social media platforms. Because we can get a sense of true engagement via our social media channels, we watch the numbers closely. Our social media followers have steadily increased over time and our email outreach efforts generally appear to be successful, often sparking notable upticks in inquiries to the call center or direct enrollments in programs. As of early 2019, we have approximately 16,700 email addresses in total and several "segmented" email lists. Since 2013, the average "open" rate has been 40.7 percent, with some specific emails getting open rates of over 50 percent. "Click through" rates range significantly, but our overall average since 2013 has been 9.68 percent. Both VEC's open rates and click-through rates are generally above industry averages.

#### Co-op Life, Member Emails – Channels for Everyone

VEC publishes and mails its flagship newsletter, Co-op Life, quarterly to all of our members. Co-op Life is a traditional, 8-page newsprint publication. Many of our members read hard-copy publications of this sort and we remain committed to delivering information in that format for the near future even while we explore electronic distribution for those who prefer that option. We also send information by email (both residential and commercial/industrial editions) to members. Below is a copy of a recent cover of Co-op Life as well as an emailed video from CEO Rebecca Towne inviting members to the 2019 Annual Meeting.

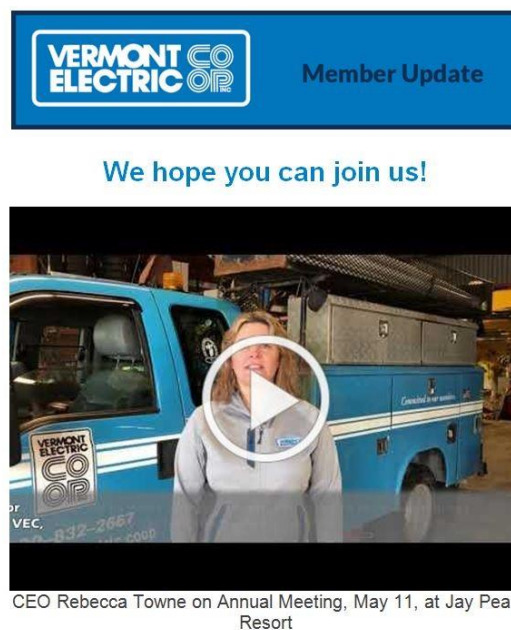


Figure 2.3.3.A VEC Co-op life

### 2.3.4 A New, More Accessible Bill

In early 2019, VEC implemented a new, enhanced electric bill design for our members. The objective of the update was to make the bill easier to understand. We have received overall positive feedback on the new format, including a few suggestions to make it even easier to read and to compare past usage. Below, at left, is our old bill format. On the right is the new format.

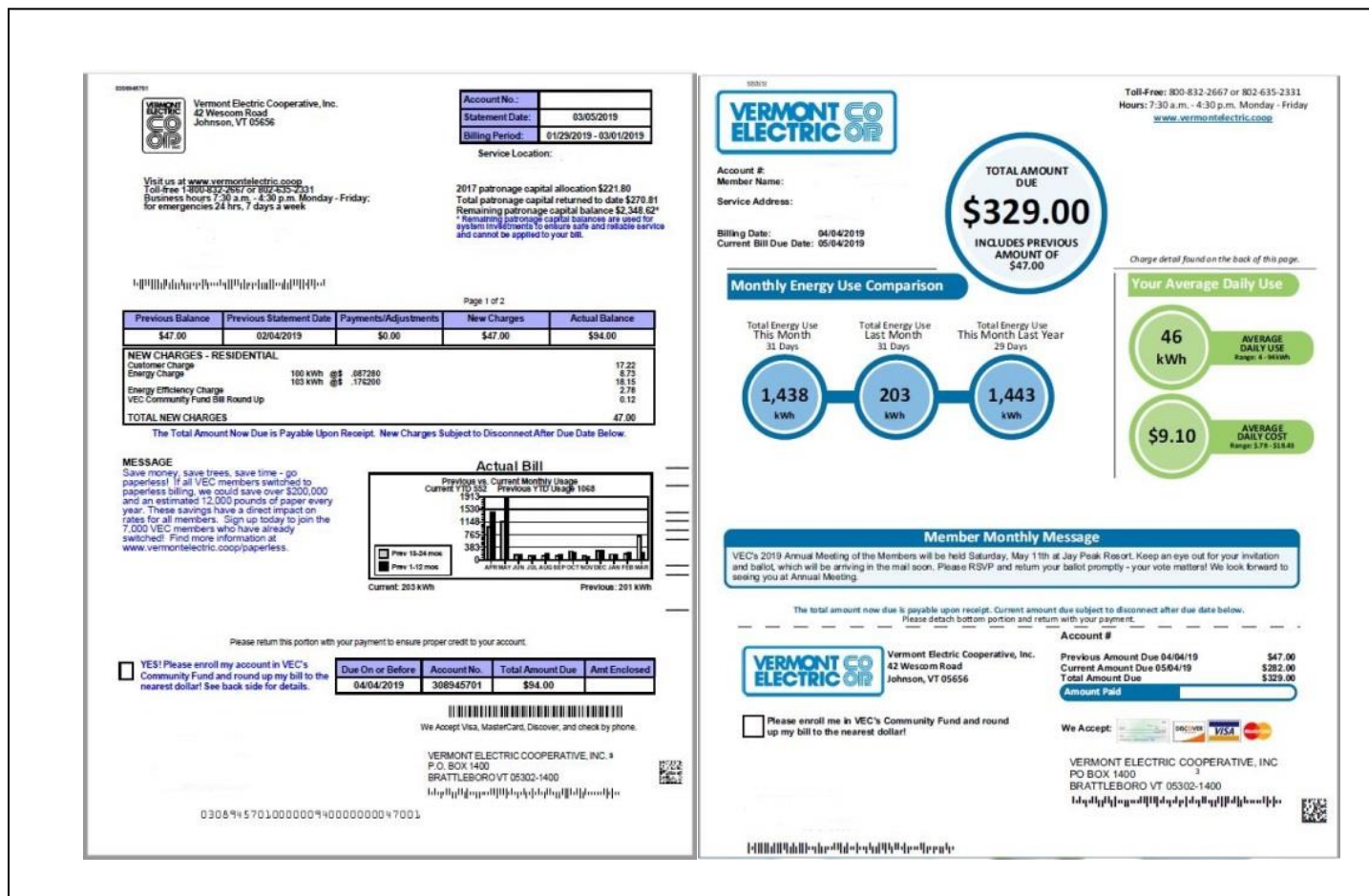


Figure 2.3.4.A Left – Old VEC bill format, Right – New VEC bill format

### 2.3.5 School/Community Visits

For many years, VEC has visited high, middle, and elementary schools to provide an interesting and exciting learning experience focusing on the electric utility industry. Topics include “energy 101”, electrical safety and real life experiences, Vermont’s energy future, or energy legislation and policy. In addition, VEC has also visited several fire and highway departments to discuss electrical safety. This effort aligns with our desire to invest in electrical education for the purposes of general knowledge, safety and attracting the workforce of the future.

### 2.3.6 Outage Information

Besides receiving and paying bills, many members interact most with VEC during periods of power outages. During unplanned outages, VEC deploys different communications channels – depending on the duration and extent of the outage - to keep members informed. Our outage center on our website offers a map of affected towns and allows members to type in their account number to get more detailed information about their outage. Members can also



get outage-related information through SmartHub. During outages, we use social media and customized phone messages for incoming calls to keep members up to date.

Not surprisingly, outages cause large spikes in engagement with VEC. During extended outages, complaints and expressions of frustration do increase over time. At the same time, a healthy number of members offer support and sympathy for our workers in the field who are often working in challenging conditions.

VEC is engaged in ongoing efforts to revise the Outage Center on our website to improve its function and appearance.

## Restoring Power in All Conditions



VEC received the following comment from a member in Richmond after a storm:

*Thank you, Thank you, Thank you!!! I spoke to one of your linemen earlier today (didn't get his name) to inquire what the timeline was for restoring the power in my area. He calmly told me that they were doing their best and it might be back on today but no guarantee. He said that you had a bunch more crews coming in tonight and that they would get the repairs done as soon as possible. Within 2 hours our power was restored and life is back to normal. The people at Vermont Electric Co-op are the best in the business in my book and I wanted to let you know that we are grateful for all the work, at all hours and in all kinds of weather is appreciated by this household. You folks ROCK !!!!!*

## 2.4 Member Programs

VEC's member experience extends to a range of programs, each of which have more information on VEC's [website](#) and are discussed in the sections below.

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### 2.4.1 Getting or Changing Service

Installation or upgrades of VEC's electric facilities are critical to the growth and maintenance of our business. We look forward to providing electric service to new members and make every effort to make the process as easy and expedient as possible. New service applications and forms are available on our [website](#).

VEC is working to create online fillable forms for its new service applications.



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*Figure 2.4.1.A Lineman Shawn Juaire climbing a pole*

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## 2.4.2 Energy Transformation

A large part of our member engagement beyond the routine contacts involve our Energy Transformation (Tier III) program, under which VEC pursues state carbon emission and fossil fuel policy goals by helping members transition away from fossil fuels. Around half of Vermont's carbon emissions are from transportation and one third are from heating. These are critical areas where beneficial electrification, fuel efficiency and wood products can help advance the state's energy goals. Since 2017, VEC has offered incentives to members for a variety of projects and products. In 2019, VEC is offering credits to members who purchase cold climate heat pumps, heat pump water heaters, pellet stoves, electric vehicles, public EV charging stations, Zero Energy Modular homes, electric forklifts, and electric lawnmowers. VEC also offers a customized Clean Air Program (CAP) that helps off-grid or underserved homes or businesses. Sawmills, maple sugar operations, and gravel manufacturers are among the types of businesses that have taken advantage of CAP. VEC staff strives to ensure that these programs are easy for members to understand and take advantage of. As of early 2019, about 750 members, including the Frasier family of Newport pictured here, had taken advantage of Energy Transformation incentives since VEC began offering them. An additional 10 members had taken advantage of CAP programs.



*Figure 2.4.2.A VEC members taking advantage of energy transformation programs*



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### 2.4.3 Clean Air Program

As noted above, VEC's Clean Air Program (CAP) offers customized opportunities to members with off-grid or underserved homes or businesses to replace fossil fuel usage with electricity. These opportunities may include service upgrades or line extensions, the costs of which VEC shares with the member through customized agreements. For example, M. Piette & Sons, an Irasburg sawmill (yard at right) recently implemented a CAP project. As part of the project, VEC upgraded 7,120 feet of single-phase line to three-phase line and closed a gap of 1,720 feet to allow the mill to move onto electrical power from a diesel generator. The project eliminated 37,691 gallons of diesel per year.



*Figure 2.4.2.A M. Piette & Sons, an Irasburg sawmill*

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### 2.4.4 VEC Community Fund

The Community Fund is a program voluntarily funded by VEC members who round up their electric bills, make one-time donations, or donate their patronage capital dollars. The fund makes grants to local organizations that support economic security, energy education, emergency and disaster relief, and community development.

Here are some projects that the Community Fund recently supported:

**The Rebuilding of the Albany General Store.** Nearly six years after a devastating fire put the Albany General Store out of commission, the community has rallied to get it up and running before the end of the year. The loss of the store left a big gap in the small community and it is hoped that the renovations will not only re-establish a place for residents to buy food and other items, but also be a place to gather.

**Communications Improvements for the Alburgh Volunteer Fire Department.** The Community Fund supported the purchase of cellular boosters for the department's two ambulances, a move designed to compensate for patchy cell service in the area. With the boosters, first responders will be able to transmit important patient information to hospitals faster.

**Boosting Energy Education.** A new science curriculum involving hydropower, designed by the Vermont Energy Education Program (VEEP), will be offered this fall to Vermont students. The new science curriculum will help students understand how hydropower generators function while also exposing them to renewable energy career opportunities.

**Community and Economic Development in the Northeast Kingdom.** The NEK Annual Summit, organized by the Northeast Kingdom Collaborative, will be held for the first time in the fall of 2019 with a focus on leadership and a



specific goal of encouraging individuals from underrepresented groups to step into leadership roles in their communities.

Applications for the Community Fund are on a rolling basis, and grants are issued quarterly. As of early 2019, about 600 members either round up their bill or donate their patronage capital funds to support this program. You can learn more here: <https://www.vermontelectric.coop/community-resources/community-fund>.



#### 2.4.5 VEC Member Discount

VEC provides a platform – a webpage managed by VEC – on which businesses in the region can offer discounts to VEC members. Periodically, VEC promotes the page and the discounts to our members. Recreation, clothing, and specialty foods are among the types of products promoted on VEC’s Member Discount Program.

The banner for the VEC Member Discount Program features a vibrant, cartoon-style illustration of a village scene. In the background, there are rolling green hills, a red barn, and several houses. In the foreground, there are various shops: a hardware store, a bakery, a bookstore, and a cafe. A large blue banner with white text reads 'BIG NEWS!'. To the right, text states 'VEC members can now find great deals at businesses across our region through our new MEMBER DISCOUNT PROGRAM!'. Below the illustration, text describes the program: 'VEC's new Member Discount Program offers bargains exclusively for VEC members on outdoor fun and entertainment, clothing and shoes, hardware, motorsports gear, and more.' To the right of this text is a logo for 'VEC MEMBER DISCOUNT' with a scissors icon. At the bottom left, it says 'To see the savings, visit: vermontelectric.coop/member-discounts'.

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### 2.4.6 Beat the Peak

VEC maintains a list of members who want to do their part to curb use during peak-demand periods. VEC members who want to be notified directly when VEC anticipates a peak period can sign up to receive alerts by e-mail, text, or phone. As of early 2019, about 200 members had signed up to get Beat the Peak alerts.



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### 2.4.7 SmartHub

VEC has recently focused on making more members aware of the benefits of using our on-line portal, SmartHub, which allows members to check usage, pay bills, and get alerts. Not only does SmartHub offer members convenient access to important data and an easy way to pay bills, it reduces demand on the call center. SmartHub also generally encourages paperless billing. From time to time, we offer incentives for people to sign up for our programs like Beat the Peak and SmartHub. For example, we enter members into a raffle to win gift cards or to donate funds to their local food shelf. In early 2019, approximately 15,000 VEC members signed up for SmartHub. About 7,600 members signed up for paperless billing.



#### **“Convenience! 100 Percent.”**

That is how one member recently described SmartHub in a social media post. Another member, Patty Titus of Hinesburg, had this to say:

“We love SmartHub. It lets us see our usage so we can make changes in how we use electricity so we can lower our bills. It’s also easy to pay your bill through the portal, and we love the outage feature too.”

### 2.4.8 Co-op Community Solar

VEC offers members the option of sponsoring panels in our three solar arrays located in Hinesburg, Grand Isle, and Alburgh. Members pay a lump sum up-front and then are guaranteed fixed monthly bill credits on their electric bill. By the end of the term (either 10 or 20 years), the total of the credits exceeds the amount of the original up-front payment. One of the benefits of the program is that renters or homeowners who do not have a suitable site on their property can participate. If participants move out of VEC territory, they can get a refund based on the amount of time they have been in the program. As of early 2019, about 180 members, including VEC Board member John Ward of Newport at right, were participating in Co-op Community Solar. VEC believes Co-op Community Solar is an excellent option for members who want to support local, cost-effective solar in their community.



*Figure 2.4.8.A VEC Board member John Ward of Newport*

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## 2.4.9 Water Heater Load Control Pilot

VEC has an active water-heater-control program with a Vermont start-up company, Packetized Energy, utilizing their Mello smart controller hardware (retrofit installation) and their Nimble management platform. The Packetized Energy program provides participating members with a \$25 gift card at signup and again after 1 year of participation. Members have volunteered to allow Packetized Energy to install smart devices (see photo at right) on their water heaters in order to optimize when the heaters pull electricity from the grid. As of early 2019, 110 VEC members had Packetized Mello devices installed on their water heaters. This allows VEC to slightly reduce load during anticipated peaks by using the enrolled water heaters as a collective load management system.



*Figure 2.4.9.A Packetized Energy Mello smart controller*

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## 2.4.10 Behind the Meter Load Management Pilot

VEC recently entered 12-month agreement with Virtual Peaker (VP) to utilize VP's Software as a Service (SaaS) to manage a wide variety of behind the meter devices, including residential batteries, EV chargers, heat pumps and water heaters, as a Bring-Your-Own-Device (BYOD) offering for its members.

The concept is for members to receive an incentive (such as a fixed monthly bill credit or an upfront payment) in return for allowing VEC to manage the devices for peak shaving an estimated 4-6 times per month.

The pilot is expected to launch in early fall, 2019. The program will likely be rolled out in phases, with an initial focus on batteries, EV charging equipment, and water heating. Cold climate heat pumps may be included as well at a later date. Potential eligible battery systems include Sonnen, SolarEdge, Sunverge, Pika, Fortress Power, Eguana Tech. Potential eligible EV charging manufacturers (Level II) include ChargePoint, Flo, JuiceNet/eMotorwerks. Potential eligible water heaters include Rheem and GE for Virtual Peaker.

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## 2.4.11 Residential Battery Storage

For the past 18 months, VEC has worked with Tesla in an attempt to offer a residential battery program through which VEC purchases Tesla Powerwalls and leases them to the members at a fixed monthly fee. The member receives back-up power through the battery and also agrees to allow VEC to control the battery for peak shaving purposes.

VEC and Tesla have not yet been able to reach favorable terms mainly due to VEC's relatively small size. VEC has recently reached out to other cooperatives to see if there is a way to offer a joint program and gain economies of scale. We will continue to pursue options to incorporate Tesla Powerwall battery systems into our BYOD program or to launch a unique program for VEC members in another way.



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### 2.4.12 Energy Saving Trees

In 2018, VEC provided over 300 young trees at no cost to Vermont Electric Co-op members for planting. By planting trees in appropriate locations, members could save up to 20% on their summer energy bills and clean the air and water in their community. VEC teamed up with the Arbor Day Foundation to offer the program, known as Energy Saving Trees, to help members save energy at their property.

VEC Manager of Forestry Sara Packer notes that if VEC members plant a tree on their property in the right location, they can save money on energy bills. Trees provide shade in hot weather, which reduces the use of air conditioning, and can provide a wind barrier in cold weather – that reduces the need for heating. Trees also improve air and water quality as well, among other benefits. At right, VEC staff helps a member pick up a tree at 2018 Annual Meeting.

## 2.5 Member Survey 2018

One of the key sources of information VEC uses to maintain and improve the member experience is our annual Member Survey, conducted for VEC by the National Rural Electric Co-operative Association. The survey measures members' views on various subjects, including employees' courtesy, understanding, and helpfulness; the speed and efficiency of responding to and resolving customers' problems or issues; employees' professionalism; and overall customer service. VEC's ratings were very strong in the most recent survey (2018) and all of the attributes have seen steady increases since 2014. All member survey results are available for review on our website at

<https://www.vermontelectric.coop/about-us/membership-surveys>

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*Figure 2.4.11.A Utility Arborist Jeremy Tinker and Manager of Forestry Sara Packer assisting a VEC member.*

