Volume 77 Number 1 Winter 2020

VERMONT ELECTRIC CO-OP LIFE

CEO Update: Vermont's Renewable Energy Standard Bringing Innovation, Flexibility, and Solid Climate Gains

By Rebecca Towne

In recent months there have been ongoing discussions about how Vermont can make meaningful progress on reducing greenhouse gas emissions in the face of the growing climate emergency. Fortunately, Vermont has an excellent policy in place today that is a critical part of the solution.

Vermont's Renewable Energy Standard (RES) – a state law that requires Vermont electric utilities to procure a defined amount of their total retail electric sales from renewable energy – provides an important framework for reducing emissions and fossil fuel consumption. The RES impacts the traditional electric utility space and is also beginning to have meaningful impacts in the challenging areas of heating and transportation, which are the source of more Vermont carbon emissions and need our focused effort.

Overall, Vermont's RES is the best policy currently in place to help Vermont cut carbon pollution and reduce dependence on fossil fuels. According to a report from Vermont's Department of Public Service (DPS), during the first year of RES implementation in 2017, utilities exceeded requirements, and provided 63 percent renewable electricity, while also working to reduce fossil fuel use in the heating and transportation sectors by promoting electrification of those arenas.

Those accomplishments helped Vermont cut 579,000 tons of carbon dioxide emissions for program year 2017, compared with 2016 numbers, according to Department of Public Service (DPS). The emissions reductions driven by the RES starting in 2017 currently are not accounted for in the state's greenhouse gas emissions inventory (which only runs through 2015), and represent approximately one-fifth of the annual reductions needed for Vermont to achieve its target of meeting the Paris Agreement climate goals.

While this means more effort is still needed, it is important to recognize that the RES is working as intended and is reducing greenhouse gas emissions in Vermont through the efforts of VEC and other electric utilities. Importantly, the requirements of the RES continue to escalate over time providing for even more renewables and fossil fuel transitions each year.

The DPS projects that the RES could drive reductions of up to seven million tons of carbon dioxide emissions over the next 10 years, which is equivalent to removing more than 1.3 million cars from the road for one year.

Since 2017, every utility in Vermont has been required to supply its customers with at least 55 percent renewable electricity, with the number rising to 75 percent by 2032. When this requirement passed in 2015, it was the largest total renewable electric requirement in New England, and today remains one of the most ambitious renewable electricity requirements in the nation.

Vermont's policy was flexibly designed to ensure maximum benefit and lowest cost for Vermont electric utility customers and members. To meet this re-

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State Incentive for Electric Vehicles Is Now Available

In December, the State of Vermont launched an incentive program for the purchase or lease of new all-electric and plug in hybrid electric vehicles, with a total of $1.1 million in funding to help Vermonters go electric.

The incentives are available to individuals with an annual household income of $96,122 or less to purchase a new vehicle with a base price of $40,000 or less. More than 20 models are eligible, with $1,500 incentives for plug-in hybrid electric vehicles and $2,500 incentives for all-electric vehicles. Larger incentives of $4,000 for plug-in hybrid electric vehicles and $5,000 for all-electric vehicles are available for individuals whose households qualify for Vermont's Weatherization Program. The statewide incentive may be used in combination with additional incentives offered by the state's electric utilities and federal tax credits for greater savings. VEC currently offers a bill credit of $500 for all-electric and $250 for plug-in hybrid electric vehicles.

This incentive program was proposed by Gov. Phil Scott and authorized by 2019 legislation intended to move Vermont toward its goal of at least 50,000 electric vehicles on its roads by 2025.

"We know the transportation sector accounts for about 45 percent of the state's greenhouse gas emissions," said Scott. "These incentives will help get more Vermonters in electric vehicles and help us move forward on our clean transportation and energy goals."

Vermont's Comprehensive Energy Plan established a goal to increase the share of renewable energy in the state's transportation sector to 10 percent by 2025 and 80 percent by 2050. This translates to 50,000-60,000 electric vehicles registered in Vermont in five years. Currently, there are about 3,300 electric vehicles registered in Vermont.

"It's clear we have more work to do to move the needle in this transition, and this will be a continued area of focus for my administration, with an approach that ensures we're not leaving our most vulnerable Vermonters behind," added Governor Scott.

The Agency of Transportation (AOT), through Drive Electric Vermont, is working with electric utilities, car dealers and Vermont Energy Investment Corporation to administer the program.

"This is truly a statewide collaborative effort, with public, private and nonprofit entities working together toward the common goal of transforming our transportation sector," said Transportation Secretary Joe Flynn. "These incentives will put more Vermonters behind the wheel of an electric vehicle, thereby reducing the state's greenhouse gas emissions."

Members look under the hood at electric vehicles that were on display at VEC's annual meeting at Jay Peak last May. Credit: VEC/Kevin Goddard

The new program allows eligible customers to receive the incentive directly from a participating car dealer in the form of a reduced purchase or lease price or receive a direct cash reimbursement from the electric utility that serves their household.

For more information, including eligible models, application forms and a current list of participating auto dealerships, please visit the Drive Electric website at https://www.driveelectricvt.com/why-go-electric/purchase-incentives.

VEC Continues Wide Variety of Incentives for 2020

VEC's continuing to offer a wide range of bill credits this year for members who purchase certain electricity-powered devices for their homes or businesses to transition away from fossil fuels.

"These incentives are designed to help members choose technologies for heating and cooling their homes, for transportation, even cutting the lawn, that are more modern, cleaner and less expensive over the long term," said Jake Brown, energy services planner at VEC.

For example, VEC offers one-time bill credits to members who buy cold-climate heat pumps, electric vehicles, and lawn mowers, among other products.

About 1,000 VEC members have taken advantage of bill credits since VEC began offering them in 2017.

Bill credit opportunities for 2020 include:

- Heating/Cooling: For cold-climate heat pumps, a bill credit of $300 (with an additional $150 for members who have taken steps to weatherize their homes); and for heat pump water heaters and pellet stoves, a bill credit of $150 per unit.
- Vehicles: For plug-in electric vehicles, a bill credit of $250 for purchases (new or used) and $50/year for leases; for all-electric vehicles, a bill credit of $500 for purchases (new or used) and $100/year for leases.
- Electric vehicle charging: For home Level II chargers, $250 (with additional $50 incentive if members allow VEC to communicate with the charger); and for publicly-available charging stations, $500 per connection.
- Other machinery: For residential lawn mowers, $50; and for commercial-scale mowers and electric forklifts, $1,000.
- Modular Homes: For a Zero Energy Modular Home, $500
- Custom opportunities: VEC's Clean Air Program (CAP) can help replace fossil fuel usage, and reduce carbon emissions, through electric service upgrades or line-extensions. Each project is customized to meet the needs of the member and the co-op. Contact VEC if you think you might have a suitable project for the CAP program.

Jason McNeal at the Pick & Shovel in Newport demonstrates how to use their heat pump. Credit: VEC/Kevin Goddard

Over the past three years, VEC has exceeded its goals for the incentive initiative, known as the Energy Transformation Program, and helped eliminate the consumption of about four million gallons of fossil fuel. That's the equivalent of taking approximately 6,000 vehicles off the road for one year.

Some of the VEC incentives are in addition to other qualified incentives or rebates, including Efficiency Vermont incentives and new statewide electric vehicle incentives (see story on page 1) as well as potential tax incentives.

Learn more about these opportunities at www.vermontelecric.coop/energy-transformation or by calling 1-800-832-2667.

We Want You!

Three Seats Up for Election on VEC's Board of Directors

Vermont Electric Cooperative will host its 82nd Annual Meeting of the Membership on May 9 at Smugglers' Notch Resort. VEC's annual meeting and election are great opportunities for members to exercise their voice. Since VEC is a cooperative, members elect local representatives to serve on the board of directors, which sets VEC policy.

VEC is seeking petitions from eligible candidates for three seats on the board of directors that are up for election in May of 2020. Directors are elected to serve four-year terms. In order to run for the board, a candidate must be a VEC member and may not be employed by the cooperative. Candidates must have a principal residence within VEC service territory and in the district they are running to represent.

VEC is seeking candidates who have the ability and time to fulfill the responsibilities of the board, which include participating in monthly board meetings and committee activities. The board generally 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 energy issues and the cooperative model.

Completed applications, including a petition signed by VEC members, are due by 4:30 p.m. on Thursday, March 19. The election will take place from April 14 through May 8 by mail and online as well as in person at VEC's annual meeting on Saturday, May 9. Please call 802-730-1172 to request application materials.

Below is a list of the seats that are open in 2020 and the towns they represent:

District 7

Alburgh, Grand Isle, Isle LaMotte, North Hero, South Hero

East Zone At-large

Albany, Averill, Averys Gore, Barton, Bloomfield, Brighton, Brownington, Brunswick, Canaan, Charleston, Conventry, Craftsbury, Derby, Ferdinand, Glover, Greensboro, Guildhall, Holland, Irasburg, Jay, Lemington, Lewis, Lowell, Lyndon, Maidstone, Morgan, Newark, Newport City, Newport Town, Norton, Sheffield, Sutton, Troy, Warners Grant, Warren Gore, Westfield, Westmore, Wheelock

West Zone At-large

Alburgh, Bakersfield, Belvidere, Berkshire, Bolton, Cambridge, Eden, Enosburg, Essex, Fairfax, Fairfield, Fletcher, Franklin, Georgia, Grand Isle, Highgate, Hinesburg, Huntington, HydePark, Isle LaMotte, Jericho, Johnson, Milton, Montgomery, Morristown, North Hero, Richford, Richmond, Sheldon, Shelburne, South Hero, Starksboro, Stowe, St. Albans Town, St. George, Swanton, Underhill, Waterville, Westford, Williston

SAVE THE DATE

VEC to hold 82nd Annual Meeting of the Membership

When: Saturday, May 9, 2020 at 9:30 am

Where: Smugglers' Notch Resort

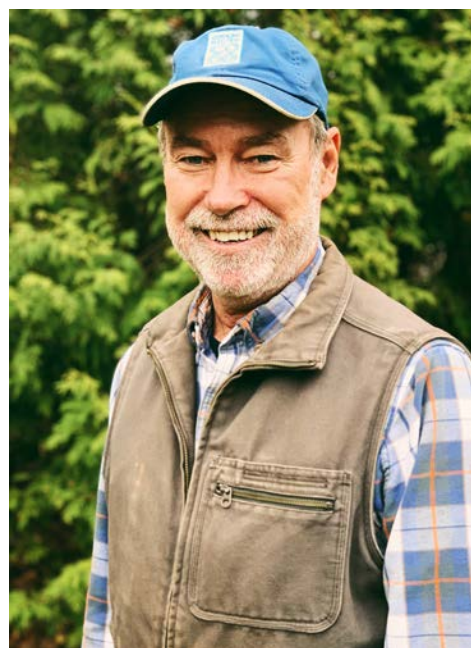
SMUGGLERS' NOTCH VERMONT® America's Family Resort™

Why: It's an opportunity for you to exercise your voice as a member-owner of the cooperative! Join us to hear about energy issues and share your thoughts with VEC's directors and staff. Keep an eye out for your official notice of annual meeting, which will be mailed in April. We hope to see you there!

SAVE THE DATE

The VEC Board of Directors: A Closer Look

Many of our members may know that Vermont Electric Co-op is governed by a board of directors. But just what its responsibilities are, how it operates, and how directors are compensated may not be as widely understood. The current president of the board, Rich Goggin of South Hero, discusses some of these details below. Our newest board member Jody Dunklee and a seasoned member of the board John Ward also share their perceptions and observations of board operations. If you have feedback or questions for Rich he can be reached at district7@vermontelectric.coop or 508-439-9166.



Rich Goggin, President of the VEC Board of Directors

Q: What is the role of the VEC board of directors?

A: The board has fiduciary responsibility setting broad policy in accordance with statute and the co-op bylaws in determining the overall operation and direction of the co-op. VEC's twelve directors are elected by co-op members to represent districts and zones. Once elected, directors serve four-year terms. The board elects the following officers: President, First and Second Vice President, Secretary, and Treasurer. The board is also responsible for the hiring and oversight of VEC's chief executive officer and for reporting the past year's progress at VEC's Annual Meeting of the Membership.

Q: What are some of the board's specific responsibilities and tasks?

A: Among other things, the board reviews and approves the co-op's financial management, and related retirement of patronage capital, when it's financially feasible. The board reviews and approves the annual strategic plan as well as longer term, high-level, multi-year planning. Some of the discrete issues the board has tackled recently have included power supply and renewable energy, utility scale battery storage, system upgrades, and vegetation maintenance investment. Importantly, board members represent the co-op in communities across the service territory. Board members bring questions and concerns from VEC members to the full board and staff when necessary.

Q: How much time does it take Board members to do their work and do they get compensated for that time?

A: The board generally meets for a half day every month. Board committees - Finance, Power Supply & Operations, Member Communications, Governance & Ad-hoc – meet as required in addition to the monthly board meetings. There is considerable time spent in preparation for meetings and board decision-making. Board members also attend training sessions on topics such as co-op financial management, cybersecurity, and emerging technologies so they can make informed and thoughtful decisions on behalf of member owners. Board members are paid a stipend of $375 for a board meeting and $200 for committee meetings, which includes not only the time spent in the meetings but also the time to prepare for the meetings via information packets sent to each board member. This stipend is benchmarked with other electric co-ops nationwide to be sure we are fairly and reasonably compensating board members. Compensation for the individual board members are included in VEC's tax documents which are made available on the VEC website once they are filed.

Q: Why do you serve on the board?

A: I am interested in helping to ensure an engaged co-op membership by providing good information exchange and transparent processes. I also feel strongly that we can ensure a clean energy future while also ensuring cost effective and reliable service. I believe in the co-op model and want to do my part to support VEC in delivering outstanding energy services to our members while providing a rewarding work environment to our employees.

Q: Are there specific elements of VEC's work that you'd personally like to highlight?

A: I think the co-op is doing a good job moving towards a cleaner energy future while at the same time keeping costs contained and ensuring reliable service. VEC is a leader in the use of innovative load management and energy storage technologies, which will be a big part of the future of the grid. I'm very proud of our forward-looking approach.

Jody Dunklee of Fairfax, representing West Zone 1

If you have feedback or questions for Jody she can be reached at 802-356-6052 or westzone1@vermontelectric.coop.

Q: You were recently elected to the VEC board. What led you to become a candidate?

A: I have always valued community service and have volunteered with many non-profits over the years. When I moved to Fairfax from central Vermont, I was looking for a new opportunity - one with broad impact where I could utilize my experience and technical skills. When I read the call for directors in a 2018 issue of Co-op Life, I knew I had found a match (I actually ran twice, first in 2018 and lost, and then again in 2019 and won). Electric utilities are currently at the nexus of energy and the environment. From clean energy mandates to the promise of emerging technologies, it is a very important and interesting time to be involved in the conversation! But the pragmatic side of me knows, if services and solutions are not accessible to everyone, they are not good nor feasible solutions. And that is the challenge of the day.

Q: What has been the most surprising part of VEC's board for you?

A: First, I was surprised by the complexity of the electrical grid and the business around it. It's not just moving electrons around. There is much to consider – regulatory obligations, finance and business, operations, infrastructure, power sources, safety, staffing, member services, and more. As a new board member, I had to invest more time than

anticipated coming up to speed on these issues and I'm still learning. It is easy to take electric service for granted when it is working well, but there is actually quite a lot to it. As directors, we don't have to know all the inner workings (there is a full-time, highly competent staff on that), but we do have to understand enough to make high-level decisions. On top of that, it is our duty is to understand and represent the views of VEC members, and weigh that into our decisions.

Second, I was both surprised and impressed by the diversity of viewpoints on the board, yet how respectfully the discussions are held. We have board members from many different backgrounds – business, politics, health care, industry, renewable energy, and a variety of technical fields. Some are longtime Vermonters, and others are more recent arrivals. But despite our different ways of seeing things, everyone has an equal voice and are united by the same goals – to provide safe, affordable, and reliable electricity to our members and communities. We all count on it and are in it together. VEC customers are not simply customers, we are all members of an energy co-operative, and should feel encouraged to reach out and join the conversation.

John Ward of Newport, representing District 2

If you have feedback or questions for John he can be reached at 802-334-6022 or district2@vermontelectric.coop.

Q: As a relatively longtime member of the VEC board, what are the most memorable decisions you have been proud to participate in over the years?

A: With the strong encouragement of the Public Utility Commission we developed a ten year capital improvement plan to make significant improvements in the reliability and safety of our electric distribution system. We have completed that plan and the VEC board is continuing to improve our infrastructure to maintain the safety and reliability of the electric grid.

Our mission is to provide safe, affordable, reliable energy services to our members. In support of affordability, one of our important financial decisions was to continue to purchase a share of stock in Transco, a limited liability corporation which invests in Vermont's high voltage transmission infrastructure. We have about $35 million of Transco stock that pays a yearly dividend of over 12 percent. The Transco dividend, as well as the low cost of borrowing, have greatly contributed to VEC's ability to keep rate increases to a minimum over the past 10 years.

Q. What do you perceive as the most challenging issues facing the co-op in the near future?

A: We are trying to do our part to address climate change by looking closely at our power supply sources while also working hard to keep our electric rates as

low as possible for our residential, commercial and industrial users. Keeping rates low helps to encourage economic development and also helps to incentivize people to transition to electricity from fossil fuels. We must ensure any changes do not leave our lower income members behind. Another challenging issue we are discussing is whether and potentially how the co-op gets involved in broadband. There could be benefits, but there also could be significant financial risks to our members. We are approaching this topic with a desire to learn more and with appropriate caution.

VEC Seeks Candidates for the Board of Directors

See details on page 2.

Notice of Proposed Rate Change

On November 15, 2019, Vermont Electric Cooperative, Inc. (VEC) filed with the Vermont Public Utility Commission (PUC) a request for a revenue increase of $2,450,548 effective on January 1, 2020. This represents a 3.29 percent increase over existing rates. VEC proposes that the increase be equally applied to all members through a flat increase across all rate classes.

This rate request is VEC's first change in rates since January 1, 2014, making the average increase over a ten-year period less than one percent per year. The key drivers of this request are power supply costs, costs of system maintenance, including vegetation management and tree trimming, increased costs of doing business, and lower revenues from distributed generation.

A chart is attached showing the present and proposed rates for each rate schedule.

Any interested person may examine the rate increase filing via ePUC at: https://epuc.vermont.gov. The Case No. is 19-4585-TF. The filing is also available at the Vermont Public Utility Commission and the Vermont Electric Cooperative office during normal business hours. Comments regarding the rate filing may be submitted to the Public Utility Commission by via mail at 112 State Street, Montpelier, VT 05620-2701, via email at puc.clerk@vermont.gov, or via ePUC at https://epuc.vermont.gov filed into Case No. 19-4585-TF.

In addition, the PUC will hold a public hearing on Monday, February 10, 2019, at 7:00 p.m., at Green Mountain Support Services, located at 93 James Road, Morrisville, Vermont. (Directions are available on VEC's website, www.vermontelectric.coop.) Prior to the public hearing, the Vermont Department of Public Service will host an information session at 6:30 p.m. at which VEC will describe the tariff and be available to answer questions.

VEC welcomes your input as well. Please send your questions or comments on the proposed rates to Rebecca Towne, Chief Executive Officer, or Michael Bursell, Chief Financial Officer, Vermont Electric Cooperative, Inc., 42 Wescom Road, Johnson, Vermont 05656 or at rtowne@vermontelectric.coop or mbursell@vermontelectric.coop. You may examine the rate filing at the PUC or at VEC's office during normal business hours.

Classification	Type of Charge	Units	Current Rates	Proposed Rates	Total
Residential	Customer Charge	34,810	17.22	17.79	$ 7,429,792.65
Service	1st 100 KWH	37,297,318	0.08728	0.09015	$ 3,362,409.61
Classification #1	Over 100 KWH	186,998,562	0.17620	0.18200	$ 33,541,357.30
	2nd meter charge	811	5.62	5.80	$ 56,493.27
	All addt'l meter kWh	2,684,397	0.17620	0.18200	$ 488,552.15
Residential TOU	Customer Charge	-	17.22	17.79	$ -
Service	On Peak KWH	-	0.19789	0.20440	$ -
Classification #1.1	Off Peak KWH	-	0.14272	0.14742	$ -
Residential TOU Pilot	Customer Charge	13	17.22	17.79	$ 2,774.70
Service	On Peak KWH	22,055	0.32015	0.33068	$ 7,293.21
Classification #1.2	Mid Peak KWH	51,107	0.17041	0.17602	$ 8,995.67
	Off Peak KWH	119,742	0.11799	0.12187	$ 14,593.18
Small General	Customer Charge	4,300	18.26	18.86	$ 973,214.91
Service	All KWH	63,970,893	0.15840	0.16361	$ 10,466,364.83
Classification #2	Farm Residence Credit	197	(7.10)	(7.33)	$ (1,444.72)
Small General TOU	Customer Charge	20	23.52	24.29	$ 5,830.51
Service	On Peak KWH	586,920	0.17534	0.18111	$ 106,296.31
Classification #2.1	Off Peak KWH	720,552	0.12016	0.12411	$ 89,430.06
Small General TOU Pilot	Customer Charge	3	18.26	18.86	$ 678.99
Service	On Peak KWH	5,087	0.29632	0.30607	$ 1,556.97
Classification #2.2	Mid Peak KWH	118,651	0.16512	0.17055	$ 20,236.22
	Off Peak KWH	37,728	0.11925	0.12317	$ 4,647.08
Large General	Customer Charge	63	30.44	31.44	$ 23,769.76
Service	All KWH	46,560,621	0.09066	0.09364	$ 4,360,062.95
Classification #2	All KW	147,454	20.88	21.57	$ 3,180,128.94
	Farm Residence Credit	14	(7.10)	(7.33)	$ (102.67)
Large General TOU	Customer Charge	-	47.01	48.56	$ -
Service	All KWH	-	0.09066	0.09364	$ -
Classification #2.1	On Peak KW	-	24.34	25.14	$ -
	Off Peak KW	-	17.56	18.14	$ -
Large General TOU Pilot	Customer Charge	3	30.44	31.44	$ 1,131.89
Non-demand Service	On Peak KWH	17,278	0.29632	0.30607	$ 5,288.26
Classification #2.2	Mid Peak KWH	908,501	0.16512	0.17055	$ 154,947.07
	Off Peak KWH	260,020	0.11925	0.12317	$ 32,027.53
Industrial	Customer Charge	6	232.51	240.16	$ 17,291.49
Service	All KWH	19,054,448	0.08995	0.09291	$ 1,770,336.47
Classification #3	All KW - Firm	52,524	19.89	20.54	$ 1,079,082.89
	All KW - Interrupt	-	16.32	16.86	$ -
	5% Transfmr Discount				$ (73,106.59)
Subtransmission	Cust Charge - Firm	3	232.51	240.16	$ 8,645.74
Firm	All KWH - Firm	14,974,417	0.08975	0.09270	$ 1,388,170.01
Service	KW - Firm	43,451	12.04	12.44	$ 540,359.81
Classification #3	5% Transfmr Discount				$ (92,009.80)
Subtransmission	Cust Chrg- Interrupt	3	232.51	240.16	$ 8,645.74
Interruptible	All KWH - Interrupt	65,732,356	0.08390	0.08666	$ 5,696,386.35
Service	KW - Interrupt	121,781	8.48	8.76	$ 1,066,676.88
Classification #3	5% Transfmr Discount				$ (311,013.17)
Lighting	1,000 Lumens	2	7.75	8.00	$ 192.12
Service	4,000 Lumens	2	17.67	18.25	$ 438.03
Classification #4	8,000 Lumens MV	106	17.76	18.34	$ 23,333.95
	20,000 Lumens MV	5	30.76	31.77	$ 1,906.32
	8,000 Lumens HPS	1,235	14.24	14.71	$ 217,979.91
	24,000 Lumens HPS	512	30.20	31.19	$ 191,653.36
	20 LED	874	12.28	12.68	$ 133,029.92
	40 LED	341	22.24	22.97	$ 94,000.18
	Owned STL				
	8,000 Lumens HPS	7	11.39	11.76	$ 988.24
	24,000 Lumens HPS	5	24.16	24.95	$ 1,497.29
	44,000 Lumens HPS	10	36.93	38.14	$ 4,577.40
	20 LED	-	6.83	7.05	$ -
	40 LED	2	14.74	15.22	$ 365.40
Specific Use	Customer Charge	6	232.51	240.16	$ 17,291.49
Dynamic Pricing	Renewable Energy	5,570,972	0.01424	0.01471	$ 81,940.62
Service	Variable T&D	Rates set each year, effective July 1-June 30			
Classification #5	Fixed T&D	Rates set each year, effective July 1-June 30			
	Energy	Charges are based on actual LMPs per SC#5			$ 791,127.75
	Capacity, Regulation	Changes each month, based on actual charges			
				Total	**$ 76,996,114.43**

TOU = Time of Use rate
Owned STL = member-owned street light
T&D = Transmission and Distribution

Recognizing Employee Milestones

Employees and their managers at a VEC all-employee meeting in December.

Every year, VEC honors employees who have reached years of service milestones with the co-op.

"Appreciating the everyday, recognizing individual achievements, and celebrating group successes are all part of how we support each other here at VEC," says Human Resources Manager Sally Lumbra. "These committed employees – and many others – are what makes the co-op tick, all in support of providing safe, affordable, and reliable energy services to our more than 32,000 members," she said.

This past December, the following employees were honored at a VEC all-employee meeting.

5 YEARS
- Cyril Brunner
- Gordie Ledoux
- Travis Smith
- Jessee Sweet

10 YEARS
- Alan Esposito
- Fred Wiseman
- Amanda Zay

20 YEARS
Denise Durivage

25 YEARS
- Sue Bernier
- Chris Lawson

30 YEARS
- Rich Hughes

Rich Hughes Recognized for 30 Years of Service to VEC

Rich Hughes joined VEC in 1989 as an apprentice line worker. He topped out as a First Class line worker in 1994. He became Crew Leader in 2014. Rich then joined the utility design department in 2019 and later transferred back to work with line crew where he works today. Rich has held a master electrician license since 2002.

"Rich has extensive knowledge of VEC's system, and he's been an advocate for new tools and processes throughout the company for the line workers," said Isaac Gillen, Operations Supervisor. "Over the course of the last 30 years, Rich has been a valued employee here at VEC. Rich has always been and still to this day is committed to our members."

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newable energy requirement, utilities use a mix of both in-state and regional renewables.

Vermont's RES also ensured a market for new, in-state renewable generation by requiring utilities to support Vermont-based small-scale projects. This requirement supports adding new renewables every year to the Vermont grid, requiring on average the addition of the equivalent of 27 megawatts of Vermont-based solar – enough to power over 5,000 homes – every year from 2017 to 2032.

Finally and most meaningfully, Vermont's RES created a groundbreaking Energy Transformation Program that requires Vermont utilities to offer programs and incentives to reduce fossil fuel use. The Energy Transformation Program provides a foundation for utilities in Vermont to offer incentives for Vermonters to switch to electric vehicles and install cold climate heat pumps, among other technologies. In 2019 VEC members added 45 electric vehicles and 280 heat pumps, reducing their carbon footprint and leveraging our clean electric infrastructure.

Notably, the Energy Transformation program is flexibly-designed, allowing each utility to tailor programs for its customers, so they can offer technologies best suited to their particular region of Vermont.

For example, while Burlington Electric has incentivized electric bikes and electric buses, Vermont Electric Cooperative has worked with maple sugar operators and other commercial customers to reduce generator diesel fuel use by helping them connect to the electric grid. In addition, all utilities are now working together with the State of Vermont to provide incentives for electric vehicles and form partnerships with participating auto dealers. In 2019 the most popular energy transformation incentives for residential members were heat pumps and electric vehicles.

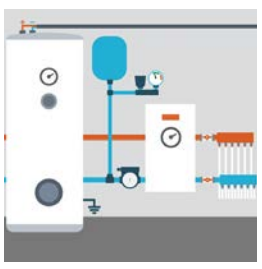
As with all policies, it is good practice to periodically evaluate the effectiveness of the RES. In 2020, the program is set to undergo a review by the Public Utility Commission to examine results and determine if improvements are in order.

Even as we look at opportunities to do more, Vermonters – among them VEC members of course – can be proud that our RES continues to support the use of cleaner technologies and drive emissions reduction and energy innovation year after year.

A guide to home heating systems

In the market for a new heating system? The good news is, there are a lot of options out there. The bad news? It can be overwhelming to find one that is right for your home. With this guide, compare facts on some of the most popular choices for home heating systems.

Air-to-water heat pumps



FUEL OPTIONS
Electricity

Overview
An air-to-water heat pump delivers heat via water piped through the home. When used for space heating, an air-to-water heat pump fills the role usually held by a boiler.

Highlights
- A newer technology that is now available in Vermont and can operate at ambient air temperatures down to -13 degrees
- System design and installation requires trained contractors
- A properly configured air-to-water heat pump can be used to supply a home's hot water as well as provide cooling
- Integrates well with solar energy systems
- 2019 Emerging Technology Award winner

Centrally-ducted heat pumps

FUEL OPTIONS
Electricity

Overview
Utilizing existing duct work, centrally-ducted heat pump systems integrate with forced air heating distribution systems and backup furnaces.

Highlights
- These systems can also provide cooling
- Home with an efficient furnace and existing ductwork are good candidates for a ducted heat pump system
- Installation is complex and should be performed by a licensed contractor who is familiar with HVAC controls
- Back-up heat is required on sub-zero days

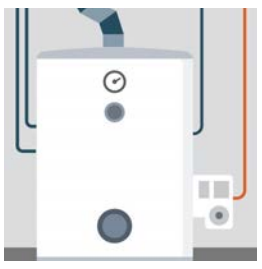
Heat pump wall units

FUEL OPTIONS
Electricity

Overview
Heat pumps pull heat from outdoor air and move it into a home even in frigid temperatures. These units are also referred to as ductless air-source, mini-split or cold-climate heat pumps.

Highlights
- Heat pumps are very energy efficient and are easy to program and integrate well with solar energy systems
- These units also provide air-conditioning
- Heat pumps filter indoor air all year and dehumidify it in the summer, improving air quality in your home
- Back-up heat is required on sub-zero days

Boiler



FUEL OPTIONS
Oil, Natural Gas, Electricity, Propane, Cord Wood, Wood Pellets

Overview
Boilers heat water and send it through pipes - either to baseboards or radiators or through radiant-heat hoses beneath floors. Once heat comes out of the water, the cooler water returns to the boiler and the cycle starts again.

Highlights
- Boilers can be easily piped to put heat wherever it's needed in a house and can also be used to supply a home's hot water through an added water tank, eliminating the need for a separate water heater
- Baseboards and radiators can be slower to heat a room than furnace ductwork
- Boilers also use electricity, mainly to power the circulating pump(s)
- If your boiler is old, worn out, inefficient, or oversized consider replacing it with a modern high-efficiency heating system

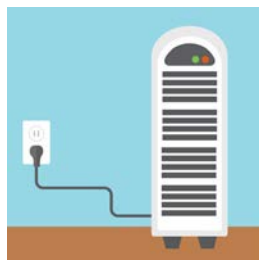
Furnace

FUEL OPTIONS
Oil, Natural Gas, Electricity, Propane, Cord Wood, Wood Pellets

Overview
Furnaces (often called forced hot-air systems) heat air and blow it through ducts and into rooms through registers/grates in walls or floors.

Highlights
- Furnaces tend to work quickly, heating rooms in a house soon after the thermostat is set. Furnace ductwork can be adapted for use with air conditioning
- Unless properly maintained, blown hot air can spread allergens like dust mites and pet dander
- Furnaces also use electricity, mainly to power the fan motor
- If your furnace is old, worn out, inefficient, or oversized consider replacing it with a modern high-efficiency heating system

Space heater



FUEL OPTIONS
Electricity
Electric space heater

Overview
Electric space heaters use resistance energy to create heat, which warms the air and objects near the heater.

Highlights
- Purchase and installation is simple: These heaters can be bought at retail stores, brought home, and plugged in. They pump out heat instantly and they're portable
- Electric space heaters are the most expensive way to heat a space. Any other equipment in this guide will provide the same amount of heat for less
- Consumers need to be aware that any claim of the "100% efficiency" of these heaters is not about using less energy. It's about the fact that these heaters use 100% of their electricity to provide heat

Wood stove

FUEL OPTIONS
Cord Wood

Overview
Wood stoves burn seasoned cord wood. Heat rising off the stove surface then warms the air. Some people use ceiling fans and/or small directional fans to control where the warm air moves.

Highlights
- Woodstoves are considered aesthetically-pleasing and can operate independently of the electric grid
- Wood prices are generally lower than other fuels. If you cut your own wood, the savings can be substantial
- Wood stoves should be cleaned regularly for optimal performance
- Attention must be given to where the stove is placed to prevent dangerous back drafting.

Pellet stove

FUEL OPTIONS
Wood Pellets

Overview
Pellet stoves burn compact pellets make of low-moisture wood pulp.

Highlights
- Pellets are widely available throughout Vermont, and their uniform size provides even, predictable heat
- You won't get the crackling sounds as with a woodstove, and pellets must be purchased rather than harvested for free
- Pellet stoves should be cleaned regularly for optimal performance
- Manual feeding of pellets is required

VEC, Efficiency Vermont, and state rebates are available for many of these heating systems.
Contact VEC at 1-800-832-2667
or Efficiency Vermont at 1-888-921-5990
for more information.

Fireplace

FUEL OPTIONS
Cord Wood

Overview
Fireplaces burn seasoned cord wood. Some of the heat from the fire is felt in the room. Inserts can increase the efficiency of existing fireplaces.

Highlights
- Fireplaces are enjoyed for their aesthetics, including the scent, look, and sound of burning wood
- Only about 15% of their energy is turned into useful heat; the rest goes up the chimney
- Whether in use or not, chimneys pull warm air out of the house and can pull cold air into the house through leaky windows, insulation gaps, around doors etc. So, owners need to be sure dampers are shut after ashes go cold
- Fireplaces should be inspected regularly to make sure the chimney is clean and the fireplace drafts properly
- Manual feeding and frequent attendance required

Important Annual Notice Regarding Herbicide Use in the Maintenance of Electric Utility Rights-of-Way

The Vermont Public Utility Commission has set forth rules under PUC 3.600 pertaining to the use of herbicides in the maintenance of electric utility rights-of-way. Each spring, herbicide applications may begin on or after April 1st. These rules afford you important rights and duties. Vermont electric 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. Methods of herbicide applications may include stump, stem Injection, basal, soil, and foliar. **Only electric utility rights-of-way that have tall-growing tree species with the potential of threatening the electric utility system are treated.**

If you reside on or own property in Vermont within 1000' of an electric utility right-of-way:

1. **Sign up to receive written notification** from your local electric utility of plans to apply herbicide on any ROW within 1000' of your property or the property where you reside. Check nearby poles for tags identifying the utility and/or pole number, complete the form below and submit it to your local electric utility by mail before February 15th, 2020 to be added to the notification list. If determined to be qualified, you will receive notification from the utility at least 30 days prior to scheduled herbicide application.
2. **You are responsible to make your local electric utility aware** of the location of any potentially affected water supply, and of any other environmentally sensitive area where herbicide application ought to be avoided.
3. **Watch and listen for public service announcements** in newspapers and radio ads noting upcoming herbicide applications.
4. **Check with your local electric utility** regarding the vegetation management cycle near your particular line.
5. **You have the right** to request, in writing, that the utility refrain from applying herbicides in the process of clearing the right-of-way, and the utility may offer alternatives such as herbicide stump treatment or herbicide stem injections.
6. **You have the right** to refuse, in writing, the use of herbicides whatsoever at no cost to you if the type of lines in the right-of-way are **distribution lines**, bringing electric service directly to individual customers.
7. **You have the right** to refuse, in writing, the use of herbicides whatsoever by paying a $30 administration fee if the type of lines in the right-of-way are **transmission lines** or **sub-transmission lines**, bringing electricity to or between substations.

For more details, or to ask additional questions, please contact your local electric utility, or one of the following:

Vermont Electric Co-op **42 Wescom Road** **Johnson, VT 05656** **1-800-832-2667**	**Agency of Agriculture** **Public Health & Ag. Resource Mgmt** **116 State St., Montpelier, VT 05602** **1-802-828-2431**	**Department of Public Service** **Consumer Affairs & Public Information** **112 State St., Montpelier, VT 05620** **1-800-622-4496**

Based on the information above, if you believe you qualify to be notified in advance of pending herbicide applications in the rights-of-way, mail the request below to your local electric company before February 15th, 2020.

Resident/Property Owner Request to be Added to Herbicide Treatment Notification Mailing List	
Name	Town/City of Affected Property
Street Address	Home Phone Number
Town	Work Phone Number
State Zip Code	O.K. to use work number? Yes No (circle one)
Electric Utility Account Number	Best time to contact you
Affected Property: Year-Round Residence Summer Residence Commercial Property Water Supply Organic Farm Land Other (Circle all that apply)	
Line/Pole Identification: Utility Initials Pole Numbers	
Please fill out this request completely to help us determine if you qualify for herbicide treatment notification. **MAIL THIS REQUEST TO YOUR LOCAL ELECTRIC UTILITY AT THE ADDRESS LISTED ABOVE BEFORE FEBRUARY 15TH, 2020**	

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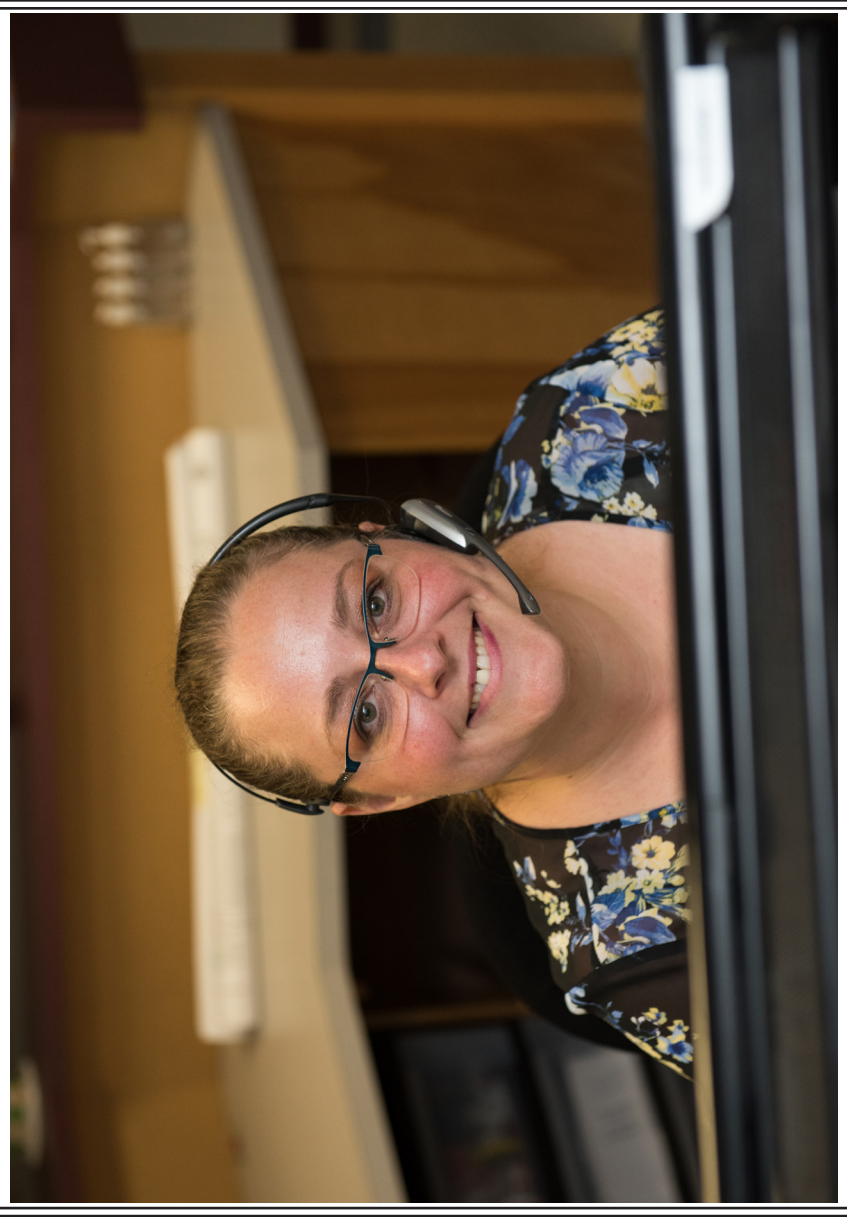

Member Service Representative Monica Stearns is one of VEC's talented, committed and knowledgeable Member Services team members. She and her colleagues field hundreds of calls a month, helping members understand their bills and make payments, providing information about outages, and helping members who want to learn more about programs like VEC's Co-op Community Solar, Energy Transformation, the Community Fund, and more. "I truly enjoy working with our members - who, of course, are all owners of VEC," Monica says. "I'm honored to be a part of this great co-op community." You can contact VEC Member Services weekdays from 7:30-4:30 at 802-635-2331 or 800-832-2667 or via email at support@vermontelectric.coop.

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42 Wescom Rd.
Johnson, VT 05656

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Inside Winter 2020 Co-op Life

CO-OP LIFE is published quarterly by Vermont Electric Cooperative
42 Wescom Road, Johnson, VT 05656 • 802-635-2331 • Toll Free: 1-800-VEC-COOP
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