



WEC CO-OP CURRENTS

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

October/November 2009

A Trek To The Landfill

Scores of Vermonters Turn Out At WEC's Coventry Open House

The weather was brisk, there was a lot of construction noise, and the setting was a landfill.

That might not sound like a combination that would lure people to faraway Coventry on a chill weekday morning. But in fact 80 people turned out on Wednesday, November 4, when Washington Electric hosted an open house at its methane-fueled electric-generating plant in the Northeast Kingdom, from 10 a.m. to 1 p.m. They ran the gamut, from folks whom General Manager Avram Patt describes as "people who like to be around big, loud machinery" (those would be the five Caterpillar engines that generate 6.2 megawatts of power for Washington Electric Co-op), to public officials – elected and otherwise – to management and staff members from public power companies (municipal utilities and Vermont Electric Co-op).

"We had, I think, 23 WEC members, which was great," said Patt, "and about an equal number of Coventry/Newport-area residents who've heard about this power plant at their local landfill and were curious about it."

Hosting the event were Patt, who guided groups of visitors as

they toured the scrubber room, the engine room, and the switchgear room (in that order), Operations Director Dan Weston, Member Services Supervisor Susan Golden, and WEC Directors Dave Magida and Roger Fox. There were donuts and coffee, and on this nippy morning guests consumed them liberally.

The scrubber room, containing the equipment that ingests methane gases produced by decomposition in the NEWS-VT landfill and separates out impurities, and the engine room, recently enlarged to accommodate five gleaming yellow Caterpillar engines – the expansion and the addition of the fifth engine were approved by a WEC-member vote in October 2008 – were loud. Patt passed around rubber earplugs prior to entering the building. Everyone took the earplugs out when they reached the switchgear room, which features a bank of 10 tall machines (two for each Caterpillar) that control and monitor the engines' performance and provide readouts detailing their consumption, generation, and efficiency. Now that they could talk, people hung around the switchgear room in groups, the machinery buffs studying the gauges

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The view from a summit at the NEWS-VT landfill. That's a well cap in the foreground, which enables landfill employees to monitor the biological processes underground, and the South Bay of Lake Memphramagog in the distance. In the middle is WEC's generating station, fed by landfill methane. It provides most of your electric power.

An October Tradition

Co-op Members Come Out to Talk in Cabot and Chelsea

By Avram Patt
WEC General Manager

October was National Co-op Month, when we recognize the many different types of cooperatives that provide goods and services to consumers and to food producers and small businesses as well. In Vermont alone, there are more than 300,000 separate co-op memberships, in energy co-ops, credit unions, food, agriculture, housing, insurance co-ops and many other areas.

Over the last seven years, October has also been the month when WEC's member-owners, staff, and board members get together to talk, locally, at two community meetings in different areas of our service territory. A dinner prepared by a local organization is followed by an informational meeting and discussion. We prepare presentations, but members come with their own questions and concerns as well.

On October 20th, about 35 people gathered for a dinner prepared by the

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Washington Electric Cooperative

East Montpelier, VT 05651

Inside



September 25 was Employee Appreciation Day. Our hardworking staff, including Mike Patterson (left) and Steve Anderson, knocked off early and enjoyed a picnic on the warehouse lawn. More photos, page 5.

Still haven't tightened/weatherized your home? The good news is that technical and financial-assistance programs are still in place. For a recap of these resources, and encouragement to "git 'er done," see page 6.

With federal awards, the U.S. and Vermont are moving toward a 'smart grid.' What does this mean for the environment, for conservation, and for WEC? Page 8.

'Sustainability' is everyone's responsibility these days. So what have our employees been doing for the cause? Find out on page 4.

Co-op President Barry Bernstein has replenished his emergency kit in preparation for possible winter-storm outages. Not a bad idea. See President's Report, page 2.

President's Report

Preparations For Winter

Let's Get Ready Now For What Lies Ahead

By Barry Bernstein

As we prepare ourselves and our homes for the coming winter many of us are checking off the list of outdoor and indoor projects still left to do. My list includes bringing my wood from the field into the basement to feed my hungry wood furnace and completing my insulation project started last year. I began last season with a home energy audit, including a blower door test, to determine what needed to be done, and had cellulose insulation blown into the walls and attic. Next week I will have my granite stonewall basement foamed on the inside, at least partway down from the top of the sills, to stop air leak infiltration.

Over the past few years when I have gone into the Co-op office to help staff during a major winter storm, answering phone calls from members, I was surprised at how many of our members were 100-percent reliant on electricity

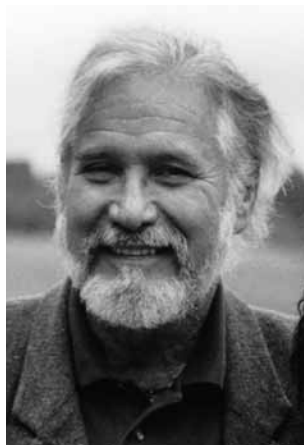
to keep their oil or gas furnaces running, with no wood stove backup. If that's the case for you it is even more important to have a plan on how to deal with an extended outage as a result of Mother Nature.

And that brings me to an item on my inside list.

My inside list includes refreshing my emergency kit in the house in case there is an extended outage. My kit includes a couple of flashlights, candles, a lighter, batteries for a radio, and a phone list of family/friends I can call who live a little ways away in case

I need to find a place that does have electricity, a shower, etc.

Have a backup plan in place – and REMEMBER, if you have a family member who requires electricity to run a critical medical device please alert your local emergency organizations, such as your local fire department and fast squad, along with the Co-op staff so they can place you on their medical-needs list. Please have the WEC



If you're 100-percent reliant on electricity to keep your furnace running, with no wood stove backup, it is even more important to have a plan on how to deal with an extended outage caused by Mother Nature.

phone number near your phone, along with other phone numbers (motels, emergency services), and make sure you call your outage in. Your calls enable our staff to better pinpoint the extent of the outages, so we can direct our crews in restoration-of-power efforts and get your electricity back on line. Far too often members think a neighbor has called in and they don't want to overburden us by calling themselves. Remember: calling in helps us help you.

Tagging along on a pole replacement

A few weeks ago I was able to spend part the day out in the field with several of our line crew while they were setting a new pole on the Williamstown–Chelsea Road. The work that day was to replace an old pole (1941) that had been tagged as part of our work plan, and also to bring power to a new home on the line.

Replacing a pole involves more than just digging a new hole, putting in a new pole, and transferring the wires. The crew must make sure the power is off down each end of the line so that they can work safely. In this situation, since the pole was not right by the road and also in a very wet area, it also involved additional preparations to be able to get the digger truck and equipment in that were needed for the job.


As many of our members are aware, when we are rebuilding our lines we are attempting wherever possible to move the lines closer to the road to improve

our access and cut down on repair time during storms. We started this process in the early '90s, when we significantly began to address neglected ROW (right-of-way) maintenance and the reality that power lines that were once located in pastures were becoming more forested. I want to thank Rich Hallstrom, Bob Fair, Larry Gilbert, and apprentice linemen Jason Preston and Mike Baril for their work on all of our behalf, and for letting me tag along with them.

Good food, good meetings

October was Co-op Month nationally, in recognition of co-ops and the members who receive power and services from cooperatives across the country. There are more than 42 million people who receive their electricity from electric co-ops and millions more who receive other services, such as banking (credit unions), insurance, dairy, hardware and other products, as owner-members of various cooperatives.

WEC held two community suppers in October, one in Cabot and one in Chelsea (see General Manager Avram Patt's story, page 1). I want to thank those members and Co-op staffers who took the time to join us, share a meal, and to discuss issues and exchange information on energy-related areas of interest. Thanks also to Products & Services Director Bill Powell for his excellent presentation, to WEC Directors Roger Fox, Roy Folsom, Dave Magida, Don Douglas, and Marion Milne for participating in the meetings near them, and to our *Co-op Currents* art director (and WEC member) Tim Newcomb for attending the Cabot meeting with his camera. Special thanks to Debbie Brown for organizing the dinners, and to the Cabot United Church and the Chelsea Service Guild of the United Church for hosting and providing the meals.

Happy Thanksgiving to all. 

Co-op Currents

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

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The Board of Directors' regularly scheduled meetings are on the last Wednesday of each month, in the evening. Members are welcome to attend. Members who wish to discuss a matter with the Board should contact the president through WEC's office. Meeting dates and times are subject to change. For information about times and/or agenda, or to receive a copy of the minutes of past meetings, contact Administrative Assistant Deborah Brown, 802-223-5245.



Blanche Lamore is one of WEC's senior members, at 98 years of age. Here she spoons ice cream for dessert at the Co-op's community meeting in Cabot, hosted by the Women's Group of the United Church of Cabot.

An October Tradition

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Women's Group at the United Church of Cabot. Two days later a similarly sized group met at the United Church of Chelsea, where we enjoyed a meal prepared by the Chelsea Service Guild. As we have begun doing at our annual meeting in May as well, the meals used Vermont products to the greatest extent possible. We are grateful to these local groups for the excellent dinners they put on, and for supporting local farmers and food producers. Although we don't have room to name everyone, I do want to especially mention one person: WEC member Blanche Lamore of Cabot, who at the age of 98 helped serve an excellent meal (see photo, page 2).

A Chance to Talk

In kicking off the discussion in Cabot, Board President Barry Bernstein took a quick poll. Most of the members attending had been Co-op members for many years, some for less, and two people noted that they had just joined WEC in May. About two-thirds said they often attend WEC's annual meetings. These members are active and interested in the Co-op's affairs, and it's not surprising to see them at these smaller community meetings as well. About a third do not attend the annual meeting and took advantage of the opportunity to attend a meeting closer to home, and to learn more about the electric utility they own.

Although the community meetings are attended by a relatively small number of our more-than 10,000 members, they serve another important function. Over the years, I have had a number of people tell me that because of their work schedules or family obligations, they can't free up the time to attend their Co-op's member meetings, but that they appreciate the opportunity to do so nevertheless.

That's very meaningful, actually. We know that most WEC members read *Co-op Currents* when it arrives in the mail, so whether you make it to one of our member meetings or not, you can read about what happened there. And it's important that you know that your elected board members and staff make

the effort to meet members face-to-face at these meetings, and that you're always welcome to attend.

So, what did we talk about in Chelsea and Cabot?

Operations, Reliability, Outages and "Sustainability"

Operations Director Dan Weston usually makes a lively presentation at these meetings, but he and most of his family were home with the H1N1 flu, so I covered for him. We continue to make gradual, steady improvements out on the poles and wires, based on our four-year Construction Work Plans. We also have made significant improvements over the last several years in our outage-reporting system – our ability to take more calls more quickly (although during significant outages there will still be times when you get a busy signal), and our ability to pinpoint the location of problems and have those problems affect fewer members when they do occur. The objective is to decrease our number of outage incidents, to reduce the number of members affected by each outage, and to restore power more quickly when an outage does occur.

We also briefly discussed our efforts (first reported in the September issue of *Co-op Currents* and continued in this issue) to operate in a more sustainable and greener way, not just in terms of our power supply, but in our office and maintenance practices, use of our vehicles, and other aspects of our day-to-day business.

Power Supply

We recapped the Co-op's current sources of power. In the last 12 months our Coventry landfill-methane plant generated about 70 percent of all the kilowatt-hours used by Co-op members. Our other sources include Hydro Quebec (20 percent), and the balance from our own Wrightsville hydro plant, Vermont's independent hydro and biomass generators, and large hydro from the New York Power Authority. We look forward to starting to take power from First Wind's wind project in Sheffield, hopefully by the end of next year.

Rate Design

A brief overview was given of the rate design proposal WEC recently filed. As reported in the September *Co-op Currents*, the proposal maintains the inclining rate structure that has been used to calculate residential bills for many years, but makes changes to more fairly allocate our total costs among the different rate classes. The result is that for the same amount of kilowatt-hours, some members will find they are paying somewhat less than under our present rate structure and some will pay somewhat more, but the changes are relatively modest in any event. The proposal is not a rate increase, as we will not collect more dollars in total from members than we do now. There will be more information provided and the opportunity for members to comment once the Public Service Board opens a proceeding to consider our proposal.

Costs and Rates

The final part of my presentation summarized WEC's finances, some recent changes in costs and revenue that have affected our financial forecast, and what that all means in terms of our rates. As members know, Washington Electric Co-op has not had a rate increase since the beginning of 2000. During that time, other electric utilities in Vermont and throughout the country have had to raise their rates dramatically. The main reason for WEC's period of rate stability has been the Coventry plant, both because it has provided us a major source of low-cost power, and because we have had a significant source of additional revenue for the past few years from the Renewable Energy Certificates

(RECs) we have been selling. During this time, our operating costs have been increasing, and as we have been reporting to members for some time, we knew that a rate increase would be inevitable at some point.

A few major changes have occurred which will cause us to need an increase a bit sooner than we had forecast a couple of years ago. These include:

- A leveling-off of electric sales to members. Due to a number of factors, including increased energy efficiency, economic conditions and the weather, the amount of kilowatt hours we sell to members has leveled off.
- The market value of RECs has started to decline. (We've known it would; it was just a matter of when, and by how much.)
- Certain wholesale power costs have increased, particularly in the area of transmission.
- Property taxes have increased, particularly for our Coventry plant in the last year.
- Employee benefit costs continue to rise. Looking ahead to next year, we face some big increases in retirement program costs, caused by the financial crisis which began in 2008 and affected most investments.

As Treasurer Don Douglas and I have both reported over the past year or so, we will eventually need a rate increase. WEC's management and your board members are working hard to control costs without affecting the quality of our service. We are now forecasting that we will need to submit a rate-increase request to the Public Service Board in 2010, to take effect in 2011. When implemented, we'll have gone 11 years without an increase, while most other ratepayers saw multiple and hefty increases. At both member meetings I answered specific questions about some of these cost "drivers," and we expect that members will have more questions in the coming months.

Home Energy Efficiency

Products and Services Director Bill Powell finished up both meetings with a presentation about what members can do to save energy at home. In

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WEC enjoyed a good turnout at its community meeting in Cabot. Above, from left, are WEC Director Dave Magida and employees Cathie Vandenburg (Plant Accountant) and Scott Martino (Stockkeeper). Top photo features WEC members Ed Hutchinson (Plainfield) and Wilmer Brandt (Marshfield). At right, Tony Mason-Sherwood's camera caught WEC Manager Avram Patt at a mirthful moment in Chelsea.



A Daily Habit: 'Sustainability' In The WEC Workplace

(Psst... Could You Use Some Old Poles?)

Back when Washington Electric Cooperative got started, the world must have seemed boundless. Universally, people apparently believed they could generate electric power without depleting natural resources or damaging the environment, and extend poles and wires across the landscape with no negative impact. For co-ops like WEC, the sole focus was getting electricity to rural Americans, and the world was still young.

It seems much older 70 years later. We now know that fossil fuels are not limitless, and that there's a previously unimaginable environmental price to pay for extracting them, transporting them, and igniting them to produce energy. Today we must learn to live in a different way – a "sustainable" way.

In September, *Co-op Currents* reported on Washington Electric's contract with Spring Hill Solutions, L.L.C., of Burlington, which consults with businesses and institutions to help them improve their sustainability-related practices. While most of Spring Hill's clients seek advice about their electricity sources and consumption, WEC's focus was on its daily operations as a business with two busy buildings to operate, a large fleet of vehicles, and a staff of 41 employees. WEC wanted fresh eyes to look for waste, inefficiencies, and missed opportunities.

Spring Hill delivered its report to the Board of Directors in August. As related in our September issue ("How 'Green' Is WEC, Really?"), Spring Hill found the Co-op to be superior among Vermont businesses for its sustainability practices. It did recommend that WEC do more to institutionalize some of the habits and practices that many employees had adopted on their own, and make a conscious effort to build a company-wide culture of sustainability.

Yet Spring Hill's president, Greg Strong, discovered that staff members were already conserving resources, recycling materials, and in general conducting WEC's business with care for the environment. Strong also encouraged WEC to take advantage of its daily presence in the community, to raise the profile of conservation throughout central Vermont – and in some interesting ways, WEC was already doing this. The Co-op has been making its used wooden poles available for free to people who want them – and lots of people do.

"We've pulled more than 100 poles in the last month," said Operations Director Dan Weston, "and I don't believe we've brought a single one back to the warehouse. They've been given to landowners or someone else looking for used poles."

What in the world can people do with a 40-foot utility pole?

Actually, they're rarely that long when

"We've pulled more than 100 poles in the last month and I don't believe we've brought a single one back to the warehouse. They've been given to people to use for clotheslines, wood sheds, fence posts, bridge spans"

— Dan Weston

WEC finishes with them. Poles are set six feet into the ground, and there's a decay zone extending about 12 inches up the pole from ground level and 18 inches down, where poles tend to rot and weaken over time. But that leaves a good four feet of salvageable pole in the ground and some 30 feet from the decay zone up. (Note: this is a generalization, because utility poles come in different lengths.) Even that 30 feet is shortened, for when WEC replaces its poles the linemen lop off the top several feet – after removing the wires – and leave the shortened pole in the ground until the phone and cable companies have removed their equipment. In the end, what's typically available for people is sections from two to 17 feet long.

"People use them for mailbox posts, clothesline posts, farmers use them for fence posts or bridge spans over small brooks," said Weston. "Woodsheds to protect their firewood. You can pull a 1940-vintage utility pole that's not adequate anymore for supporting our lines, and you can use the majority of it for years to come."

Interested in some old poles? You're welcome to call the Co-op to ask about them.

And that's just one way WEC employees are working to conserve, reuse, and recycle. There are examples in nearly every department.

Information Technology

IT Manager Kevin Stevens oversees Washington Electric's network of 40 computers and the centralized system that coordinates them. Stevens has replaced all the old CRT (cathode ray tube) computer monitors with LCD (liquefied crystal display) screens, which use a fraction of the electricity.

"There's not a CRT tube in the building," Stevens says.

The CRT monitors contain lead, so disposing of them properly presented a problem (eventually solved). As for other disposal: used toner cartridges and UPS batteries go to an electronics recycling facility, and used computer equipment is offered to schools and nonprofits; unusable equipment is always recycled.

But the really exciting thing on the horizon for the IT Department is building a "virtual environment."

"This is a big deal," says Stevens. "A virtual environment allows you to run multiple servers on one piece of hardware." ("A server is the software," he explains. "The actual box – the computer – is the hardware that the server runs on.")

Stevens continues: "By eliminating the power usage of multiple hardware instruments, you're effectively getting another computer resource without the additional power overhead. From an administrative and an energy-efficiency point of view it simplifies things, and from a capital-expenditure perspective it saves money on buying extra hardware."

The Co-op is scheduled to replace its e-mail hardware early in 2010, so Stevens intends to introduce the virtual environment at that time, adding additional functions to the new system. Its usages will gradually expand, producing cost and energy savings and keeping the Co-op's IT functions up to date.

Products & Services

Washington Electric has long been known for reaching out to its members to help them reduce their electricity consumption. Products & Service Director Bill Powell is the Co-op's point man for this effort; Powell spends much of his time conferring with members, on the phone and in person, helping them identify causes of high energy usage and providing guidance when they want to renovate their homes or businesses to achieve reductions.

"He's intent on helping members use less electricity even though it's electricity that the Co-op sells," says Spring Hill's Greg Strong. "Bill sees himself primarily as an energy educator, and that includes coaching people through decisions about generating their own power."

Strong gives WEC's membership credit, too.

"WEC has the highest percentage of people in its customer base [among Vermont utilities] doing self-generation," he says. (Forty-four Co-op members now produce a portion of their own power, and can feed excess power into WEC's system via net metering.) "It's not like WEC is pushing its message uphill. It's being welcomed by the membership."

Engineering & Operations

The biggest opportunities to practice and invest in sustainability probably come from WEC's field operations. Spring Hill's report includes three pages describing practices already in place, including recovery of some 9,700 gallons of waste oil per year, much of which is burned for heat in the warehouse, and "a verbal, common-sense policy that encourages WEC



drivers to idle fleet vehicles no longer than needed.”

Operations Director Weston says getting the staff to buy into it isn't hard, as the Co-op seems to attract employees with a natural inclination to conserve. (Another word for that might be “Yankees.”)

“Greg talks in his report about how other businesses have to struggle to create a culture in which people care about the environment,” says Weston. “Nobody has to struggle to do that here. The culture has been here for quite some time.”

An example of the attention paid to environmental concerns is the line-rebuilding project WEC will soon begin near the Thurman W. Dix Reservoir in Orange, a beautiful body of water that attracts loons, migrating snow and Canada geese, and other wildlife. It also happens to be Barre's drinking-water supply.

The poles are being carefully sited away from the reservoir where possible. In addition, Weston says, “any that need to go closer will be placed in a heavy-duty bag made of a woven fabric that will contain the treatment materials that help utility poles resist rot.

“When you set a newly treated pole you're going to get a small zone of residue that extends out four to five inches. Obviously we'll be much farther than that from the reservoir – but this is a drinking water supply so we're taking this extra precautionary measure, which we intend to do anywhere we know we're in the realm of groundwater. The bags cost \$65 each. Nobody on the Co-op board told us to do this; nobody at the state told us to do this. We're doing it because it's the right thing.”

Similarly, WEC invests in spill-containment systems when it rebuilds its substations, and inspects the

“WEC has the highest percentage of people in its customer base doing self-generation. It's not like WEC is pushing its message uphill. It's being welcomed by the membership.”

— Greg Strong,
Spring Hill Solutions

facilities regularly. If leaks should occur, the liquid would percolate down through crushed stone into perforated pipes that would empty it into a containment tank. Such systems are in place at Moretown, South Walden, Danville, and Maple Corner; spill containment will

also be built into the East Montpelier substation, the next facility scheduled for reconstruction.

Because the Maple Corner substation is adjacent to a wetlands, WEC takes the extra precaution of using soy-based oil in the power transformers.

Office systems

Back in the office, recycling bins and containers are scattered all over the building, as they are at many Vermont businesses. Administrative Assistant Debbie Brown has added more containers and placed them near people's desks to make it easy to recycle. Most people turn off their computers at the end of the day, and there are timers in the bathrooms that kill the lights automatically if someone happens to leave them on. Recently, WEC has begun using 100-percent recycled paper in its copiers.

There has been talk of increasing ride-sharing among Co-op employees, but that's a hard one for a company whose employees live in scattered rural areas, and at times have to work odd hours. Brown believes one of the keys for the Co-op is to encourage staff members to incorporate things like recycling, turning off lights, and being mindful of conservation in their lives at home.

“If it becomes a habit at work it will become a habit at home,” she says, “and that's when we can really make a difference.”

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It was still summer weather on September 25 when the Co-op suspended its demands on the staff for a few hours for Employee Appreciation Day. Above right, Lineman Doug desGroseilliers grills chicken and steaks at the warehouse parking lot while Foreman Rich Hallstrom (left) and Mechanic Brad Nutbrown share a laugh behind him. Above left, Denise Jacques, Administrative Services Director, was in a buoyant mood, having heard just moments before that she'd become a grandmother with the birth, to her daughter, of a brand new person named Ava Soltis.



Let's Get 'Er Done

Resources And Help Still Available For Home Energy Improvements

It's autumn, and the final days of 2009 are approaching. So does that mean you've missed your chance to weatherize your home and take advantage of the various sources of technical and financial assistance you've been hearing about these past many months?

No, it does not. Efficiency Vermont (EVT), Central Vermont Community Action Council (CVCAC), the Vermont Energy and Climate Action Network (VECAN), the Sustainable Energy Resource Group (SERG), and other statewide or community-based organizations dedicated to helping Vermonters improve the energy efficiency of their homes, are active and still offering opportunities for home improvement as the winter approaches. Some of the local credit unions – including the Vermont State Employees Credit Union, which is affiliated with WEC – continue to provide low-interest loans for weatherization projects; and tax credits and other incentives remain available through the federal “stimulus bill” (ARRA, the American Recovery and Reinvestment Act) for projects like adding insulation, purchasing qualified storm doors and windows, and installing ENERGYSTAR® heating units and water-heating systems.

“It's one of the most frequently asked questions we get at the Co-op,” says Products & Services Director Bill Powell. “People want to have insulation added, for example, and they call to ask us about the federal stimulus money. The answer is that the program is still there, and you can still take advantage of it.”

Co-op Currents published an article (“The Stimulus Bill”) in our March 2009 issue with a broad range of information about the ARRA and the tax credits it provides for specific renovations. The article can be accessed at the Washington Electric website (www.washingtonelectric.coop), and copies of the issue are available at the Co-op. Perhaps a handier source of information is www.energystar.gov/index.cfm?c=tax_credits.tx_index.

Furthermore, if you're a Co-op member you can add Washington Electric Cooperative to those sources of assistance. WEC is able to provide a \$150 discount from EVT that encourages homeowners to hire a qualified contractor to perform a comprehensive thermal test and analysis of their buildings. The program is Home Performance with

ENERGYSTAR, and these services are undoubtedly the place to start. But to access this money you need to act fast: the Co-op offer expires on December 31.

“Generally, it costs about \$400

to \$500 for a Home Performance contractor for these services,” says Powell. “WEC members who act within our time frame can receive a \$150 reimbursement — so anyone who's been waiting to make their home energy projects more affordable, here's their chance.”

The money is payable only after you've received your home energy audit and paid the bill. But it's meant to provide an encouragement. And once you've had your audit, received the contractor's analysis, and made decisions about how to proceed, the other forms of financial and technical assistance mentioned above will make your project more affordable.

However, some people might want to do all or part of the work themselves. For those members, WEC has another inducement: an informative instructional DVD for the lay person, led by WEC member Paul Zabriskie; the video is a project of CVCAC, SERG, and the Vermont Agency of Human Services, with funding from the Vermont Community Foundation

“We have these on a first-come, first-served basis until we run out,” says Powell. “Paul goes through some of the most likely do-it-yourself home-improvement projects. He helps people understand how to do them, and gives them confidence. We'll send the DVD to people who call and inquire, or

they can come to the office and pick it up. It's a very useful video, but we have only a limited supply.”

Button-Up

Another source of assistance and encouragement is the broad central Vermont community itself. An increasing number of towns now have energy committees, and weatherization, efficiency, and conservation are the focus of many local organizations and activities. You can call your town offices to learn about joining or starting an energy committee in your town, or benefiting from the projects it has undertaken. Or you can go to the EVT website: http://efficiencyvermont.com/pages/Residential/Home_Heating/button_up_vermont/ and click on “town energy committees” for a list of towns and their energy committee activities.

Working (in many cases) with those committees, CVCAC has continued this fall to present its Button-Up Vermont workshops around the state. In these free, two-hour workshops, highly qualified facilitators educate people about the dynamics of air flow through a home – explaining how, why, and where homes lose heat – and about effective solutions for those problems. Understanding these basic facts is important for helping you prioritize and invest your money and efforts where they will be most effective. People who want to do the remedial work themselves can learn how at the Button-Up sessions, and those who conclude they would rather hire

a contractor can get tips on finding a contractor and the financial resources that may be available. Button-Up Vermont workshops also address issues of health and safety in the home.

Button-Up Vermont has an excellent multi-year, statewide track record, having visited more than 100 communities. To find out if a workshop is scheduled near you contact CVCAC at 479-1053 (toll-free 1-800-639-1053), or go to http://efficiencyvermont.com/pages/Residential/Home_Heating/button_up_vermont/.


Lake Morey 'Climate Action Conference'

People with a broad interest in energy and conservation issues should mark Saturday, December 5, on their calendars, and make their way to the Lake Morey Resort in Fairlee. On that day, VECAN, University of Vermont Extension, Vermont Natural Resources

Council (VNRC), the Vermont Energy Investment Corp., and some 20 other businesses, nonprofits, and electric utilities (including WEC) are jointly sponsoring the 2009 Community Energy and Climate Action Conference, a daylong (8:30 a.m. to 4 p.m.) event focused on how Vermont

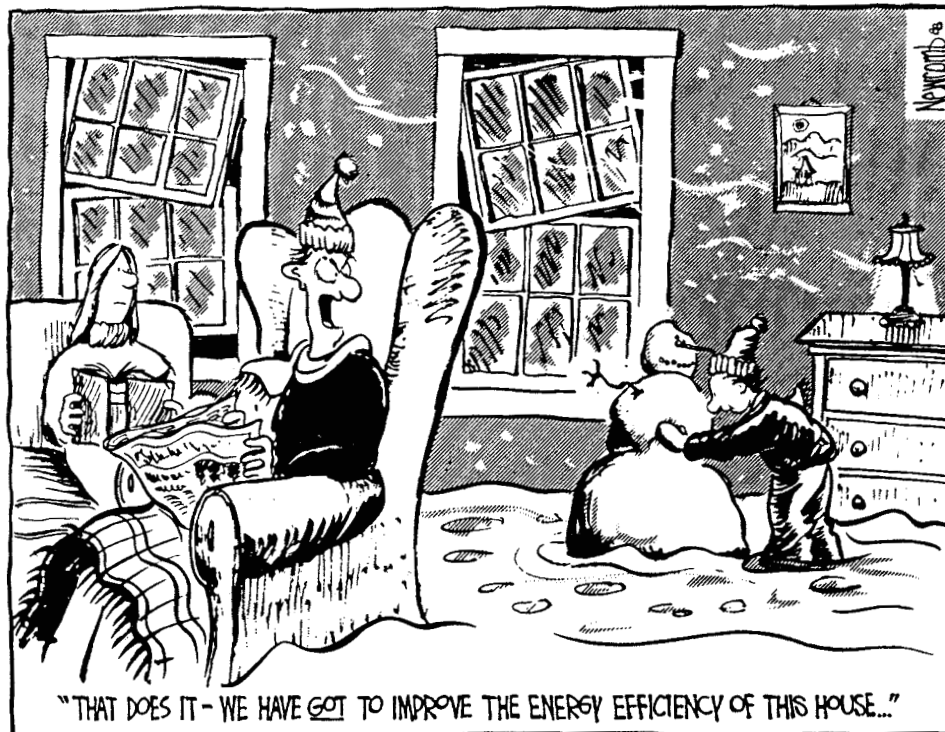
communities can take action to promote energy efficiency and renewable energy at the local level. Along with workshops and information tables, the conference will feature an opening address by Patrick Parenteau of the Environmental & Natural Resources Law Clinic at the Vermont Law School, and a keynote address by U.S. Sen. Bernie Sanders on climate-change legislation in Congress. Go to www.vnrc.org/proddir/archive/118/cal_cate/?View=today for registration information.

Home energy efficiency is not going to go out of style. Vermont has some of the oldest housing stock in the U.S., and homes all over the state are in need of improvements. Fortunately, resources are out there for help, information, and financing. You can help preserve our natural resources and cut your energy bills at the same time (not to mention that a well-functioning, energy-efficient home is more comfortable than a drafty, inefficient one).

But the time to act is now. For further information contact Bill Powell at the Co-op. 

“One of the most frequently asked questions we're asked is about the federal stimulus money. The answer is that the program is still there, and you can still take advantage of it.”

WEC will provide a \$150 discount from EVT to hire a qualified contractor to perform a comprehensive thermal test and analysis of your home – undoubtedly the place to start. But the Co-op offer expires on December 31.



Coventry Open House

continued from page 1

and others talking trash (maybe), politics, and shop (many came together from their job sites, taking a break from their daily routines).

"There are a lot of us who don't get out of the office very much to see what's actually happening in the world of energy," said Dave Mullett, staff attorney with the Vermont Public Power Supply Authority, who made the journey on a bus with nearly a dozen co-workers from VPPSA headquarters in Waterbury Center. "Avram explains things very well, so I think even those of us on the staff who aren't particularly knowledgeable technically learned a lot about it."

Other utility-related companies represented at WEC's Open House were VELCO (the Vermont Electric Power Company, owner of the state's transmission system); the Burlington Electric Department (BED General Manager Barbara Grimes visited, as did John Irving, manager of BED's McNeil woodchip-burning plant); the Stowe, Johnson, and Hardwick municipal electric companies, FairPoint (two employees from this company attended), and Vermont Electric Co-op, the local electricity provider in Coventry and the rest of northern Vermont.

Public officials who journeyed to Coventry to see WEC's plant were State Rep. Peter Peltz (Woodbury), State Sen. Bill Doyle (Washington), Jenny Nelson from the staff of U.S. Sen. Bernie Sanders, Hans Mertens from the Vermont Department of Public Service, and Barre City Council member Michael Smith (also from the Good News Garage).

"It was an excellent turnout," said Patt. "Our plant is something of a phenomenon in Vermont, and we enjoy the support of a lot of our associates in the utility community. It was also good to see nearly two dozen Co-op

members there. Plus there were miscellaneous people who'd heard about it from press or e-mail announcements, including a couple from Minneapolis."

From nukes to methane

Patt began each tour outside the scrubber room, with people drawn in close to hear him over the construction noise from ongoing work to complete the building expansion. He related the Co-op's history with landfill-methane as a fuel for generating power.

"We were customers of Vermont Yankee, but like the municipal utilities our contract with Vermont Yankee was set to end in 2002," Patt explained. "It was the largest cliff we'd been looking at, for our power supply, in many years.

"At the time, we also had the highest electricity rates in the state. It had to do with our being rural, and our low density [number of members per mile of power line]. So we could explain that, but we weren't proud of it."

The Board of Directors wanted to replace Yankee with a power source that was environmentally friendly and as near home as possible. But the Board was not prepared to sacrifice cost-containment for those goals. Patt joked, "They were progressive from an energy point-of-view, but they were also incredible tightwads."

Yet the pieces fell into place. WEC's longtime consultant La Capra Associates located a landfill-methane electric plant in Connecticut that was nearing the end of its productivity (methane production dwindles as decomposition slows in an older landfill), and WEC contracted for that power over the next four years. The Connecticut methane enabled Washington Electric to terminate its Yankee contract shortly before it was due to expire.

Meanwhile, the Co-op had begun talks with Casella Waste Management, parent company to NEWS-VT landfill in Coventry, the largest landfill facility



Employees of VPPSA – the Vermont Public Power Supply Authority – made the trip from Waterbury Center to Coventry, Vermont, to visit WEC's methane-fueled power plant beside the NEWS-VT landfill. WEC General Manager Avram Patt provided a brochure and spoke to the group about the generating plant before everyone donned earplugs and went inside for a tour.

in the state. NEWS-VT was seeking approval for an expansion of its landfill, and it benefited the company's permit application that WEC was prepared to generate electricity from the methane, which is a greenhouse gas 20 times more harmful than carbon. Normally, landfills must flare the methane to prevent its accumulation.

"Landfill gas is a renewable form of power," Patt explained, "but it's also baseload power – which means it can generate electricity constantly, no matter whether the sun is shining or the wind is blowing. And by arriving at a long-term contract with the landfill, it was also available at a predictable price."

The deal was sealed after 98 percent of the Co-op's membership voted to go into the electric-generating business. (All Coventry's power goes to Washington Electric.) The plant opened with three engines in the 2005, was shut down briefly after a fire, and

has since been expanded twice to add more engines, taking advantage of the tremendous production of methane within the landfill.

"A landfill is a kind of living, breathing beast," Patt said. "It has a life of its own, and what we do is try to be in a position to take advantage of what it's offering."

Currently, the Coventry plant provides 70 percent of Washington Electric's power requirement, at below-market rates. With the expansion, the Co-op now can take an engine offline for repairs or maintenance without shutting the facility down and purchasing costly power from the grid.

When Patt finished his presentation, it was on the with earplugs and into the scrubber room – a tour that typically lasted five to 10 minutes, and ended with warm coffee and donuts before the ride back home through Vermont's sparse and scenic Northeast Kingdom. 🐛

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WEC And The 'Smart Grid'

VT Utilities Capture \$69 Million Federal Grant

On October 27, officials in Washington and Montpelier announced that the federal government had awarded \$3.4 billion for 100 projects to deploy "smart grid" technology to modernize the country's electricity infrastructure. Programs are expected to promote efficiency, conservation and renewable energy, and create jobs in the utility sector.

In a highly competitive selection process among 400 applicants, Vermont was awarded almost \$69 million (\$68,928,650) for projects that will benefit all of the state's 20 electric distribution utilities. Those companies – from investor-owned utilities like Central Vermont Public Service Corp. and Green Mountain Power Corp., to the co-ops (WEC and Vermont Electric Cooperative), to the municipally owned utilities scattered around the state – combined their interests in a single application fronted by VELCO (the Vermont Electric Power Company). VELCO owns the state's electric-transmission system, and is in turn owned by all the state's utilities. The grants were made as part of the American Reinvestment and Recovery Act (ARRA), better known as the Obama Administration's "stimulus package."

The grants require matching funds, so the national \$3.4-billion Smart Grid program actually represents some \$8 billion of investment in system modernization; in Vermont the \$69 million will kick-start about \$138 million of system improvements made over several years. The overall goal of the project – known as eEnergy Vermont – is to move the state toward development of a statewide "smart grid," using fiber optic cable and digital technology to convert the electric infrastructure from a one-way system (conveying electricity to consumers) to a two-way system able to relay information about usage, voltage, existing or potential outages, equipment performance, and other matters back to the utilities. That information will enable utilities to resolve outages more quickly, or potentially to head them off; improve power quality (correcting voltage irregu-

larities); and provide consumers explicit data about their energy-use patterns, which can help them make choices that will lower their electric bills.

"There's another significant benefit envisioned by the ARRA grants for developing a national 'smart grid,'" says WEC General Manager Avram Patt, "which is to move the country toward greater use of renewable energy. Right now there are constraints on moving energy, particularly east and west for the New England region; the high-voltage transmission lines that convey power across the country are basically out of room. It's the western states and those in the upper Midwest that have the greatest potential for large-scale wind and solar energy generation, but that power is bottlenecked because of transmission deficiencies. Developing and upgrading the system eventually means utilities in other parts of the country will have access to that power, which will benefit the renewable-energy industry."

Smartening up

Part of the vision for a smart grid is "smart meters," which will convey information from the consumer's home or business to the utility that serves them. That information would help the utility spot an outage or poor power quality, without depending on the consumer to report it. Advocates of smart meters also contend that, since information about their power usage would instantly be available to the consumers, they could change their household habits to use more power at off-peak hours when it is cheaper.

Patt, however, is skeptical about claims touting the benefits of "time of use" rates, at least for residential consumers (who make up 98 percent of WEC's membership).

"There might be more potential for businesses to make adjustments," he says, "but the idea that the average residential consumer will radically alter what time of day or night they use power in response to price signals is not convincing to me. In normal home use, where one of the largest power

draws is the refrigerator, there's only so much electricity usage you can defer to the late-night hours or mid-day when no one is home. For most WEC members, how many kilowatt-hours you use will have a greater impact on bills than when you use them.

"But I do think that a smart-meter system would be likely to lead to new technologies that would encourage efficiency. And there would be other benefits for the utility system as a whole – greater usage of renewables being one of them."

Smart meters are not in Washington Electric's plans for its portion of the ARRA funds. In Vermont, only some utilities like CVPS and VEC have immediate plans for converting to smart metering for all their customers.

"The grant money we receive will go to projects that are already in our work plan," says Patt. "These are projects to upgrade our system through improved fuse coordination and continued modernization of our substations. The ARRA grant money will accelerate these projects and cover half the cost, which is good news for us."

VELCO's contribution

Also good news is that VELCO has committed to extending fiber optics to every substation in the state, including the eight owned by the Co-op. Washington Electric's electric-generation station in Coventry, Vermont, where the Co-op uses landfill methane as a fuel for producing electricity, has given WEC a glimpse of the advantages that fiber optics and a smart grid will provide.

"We can read what's going on at Coventry from our office," Patt explains. "There's a high-speed internet connection at the plant, and a secure website that we can access. It shows us what's happening in real time with each engine, and we can monitor the power it's producing."

When VELCO's fiber optic project is complete Vermont utilities will have a similar connection to their substations.

In time, the smart grid could lead to smart metering throughout Vermont. WEC would then be able to monitor power flow, power quality, and potential interruptions throughout its system. WEC's outage response would become more efficient, and Co-op members would be less inconvenienced.


"As it is, if we have a major outage our dispatchers are sometimes calling people at two in the morning to ask if their power's back on. We don't like doing that, but we need to make sure there are no problems further up the line before we send our line crews home. With the smart grid we'll be able to 'ping' each meter to see if the power is on and the voltage is at the right level."

Products & Services Director Bill Powell, who spends much of his time conferring with members concerned about their energy usage and costs,

would be more able to help them identify precisely where their electricity dollars were going. Instead of having a month's worth of data to decipher (the kilowatt-hours used in the 30 days covered by each electricity bill), there would be an ongoing electronic record, which would help pinpoint the causes of power increases.

This isn't futuristic technology. It exists now, and with the ARRA grant that capability will, in time, come to WEC and its service territory.

"What's ahead of us is that our Board of Directors needs to make decisions about financing smart-grid and smart-metering projects and fitting them in with other priorities," says Patt. "As we refine our plans and move in this direction it will be part of the discussions we'll have with our members."

"For the moment, I would say that people won't directly notice changes from the improvements we'll be making. But the future, for WEC and for the country, promises to be very interesting." 

An October Tradition


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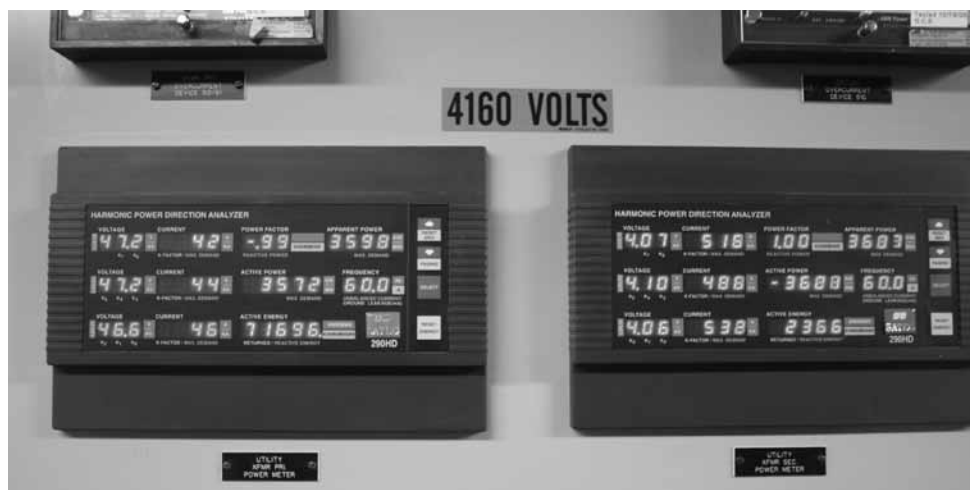
additional to using electricity wisely, people across the state are paying more attention to thermal energy (heat) and to weatherizing homes. A few members told us they had attended local Button-Up Vermont workshops, where they had learned from professionals about whole-house energy audits and certified contractors trained to dramatically improve the energy "performance" of a home. Because such improvements can be costly people sometimes balk at undertaking them, even those who understand the financial benefit. So the latest round of Button-Up workshops, and Bill's presentation to our members, also emphasize simple low-cost measures anyone can do to use less energy, especially for heat.

Bill also answered questions about another subject: home generation of electricity through solar or other means.

As each meeting ended, a number of Co-op members stayed around to continue conversations with staff and board members. As is usually the case at these meetings, Bill was surrounded by a small cluster of folks with specific questions about their homes, or to get one of the Button-Up DVDs he had brought with him.

I enjoy these meetings

Making presentations and talking to Washington Electric Co-op's members helps us stay focused on what's important. Sharing a mostly locally grown and locally prepared meal with WEC members from different parts of our territory is one of the most enjoyable parts of my job. It's a clear reminder of why we're here: to serve our members. 



Gauges in the switchgear room at WEC's power plant in Coventry provide information about the status and operation of each generating engine. WEC can access much of the information from East Montpelier, tapping into a secure website – technology that's similar to the information capabilities that will come to Vermont through a "smart grid."