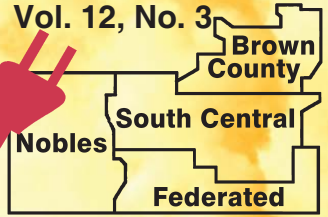
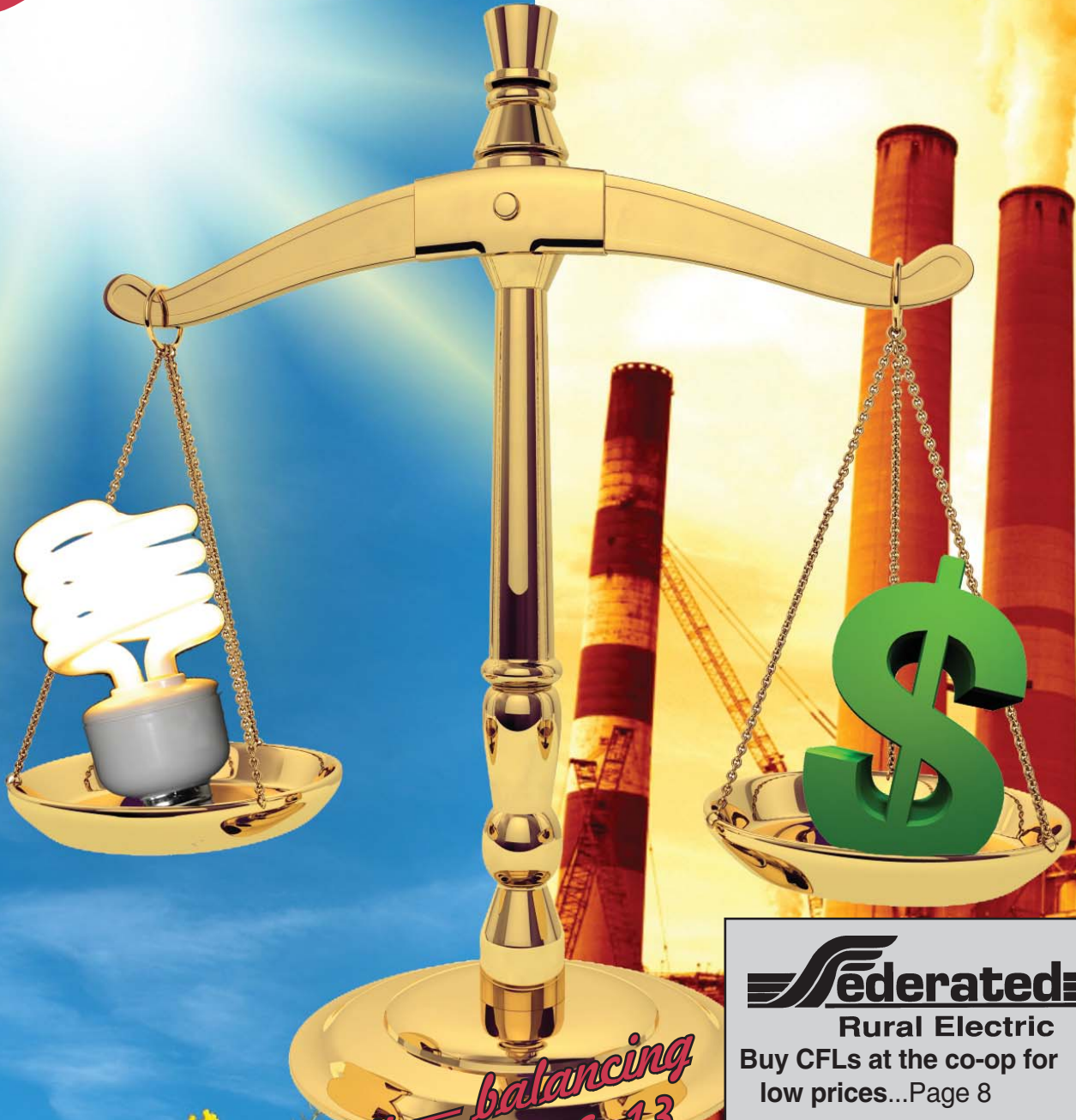


March 2008
Vol. 12, No. 3



Cooperative Alliance Partners *Connections* Connecting our co-ops & members to a progressive future



Looking out for you — balancing costs & CO₂... Pages 2, 12 & 13



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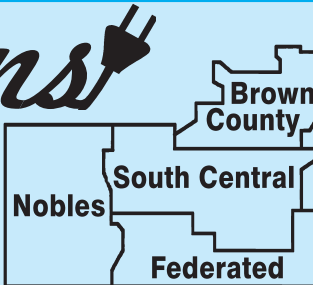
Your Touchstone Energy® Partner



Cooperative Alliance Partners *Connections*

This publication focuses on CAP's members, programs and events. As this is the official member publication, member's story ideas, letters-to-the-editor and comments are welcomed.

Andrea Christoffer, CCC, Editor
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Climate change legislation:

How much are you willing to pay on your electric bill?



**Glenn English, CEO,
National Rural Electric
Cooperative Association**

How much becomes too much? Will electric co-op members support a 50 percent increase in their power bills to help mitigate global climate change? How about 100 percent?

Across the nation, electric co-op directors take decisions on raising rates — increasing the bottom line of electric bills paid by their friends, neighbors and themselves — very seriously. As democratically

elected utility regulators, co-op board members serve as the tether that directly links consumers with their electricity provider, helping define the electric co-op difference.

Now, that bond could be in danger. State, federal and local policy initiatives on climate change promise to dramatically impact electric rates, doubling or even tripling them under most scenarios. Even worse, these increases will not be subject to review or debate at the co-op board level; instead, they will be mandated by the government and passed directly to co-op member-owners. As a result, the success of electric co-op directors and general managers in addressing the climate change issue will, to great measure, determine if co-op self-regulation remains a viable concept

“Consumers served by electric co-ops across America must understand that poorly conceived climate change legislation or regulation could enormously impact their monthly electric bills and have a disastrous effect on the economy.” — Glenn English

in coming years.

To preserve basic institutions that have guided electric cooperative governance for the past 70 years, co-op leaders have a responsibility to inform members what to expect, cost-wise, from efforts to curb greenhouse gas emissions blamed for causing global warming. Straight talk on this topic becomes imperative. Our 40 million-plus electric co-op consumers nationwide need to participate in this debate now before it's too late.

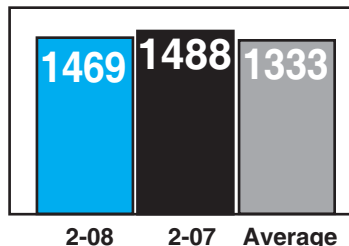
Members served by electric co-ops across America must understand that poorly conceived climate change legislation or regulation could enormously impact their monthly electric bills and have a disastrous effect on the economy. Unfortunately, many governmental officials, policy pundits

— *Continued on Page 12*

Cover Connections

Reducing carbon dioxide (CO₂) emissions and maintaining affordable electric rates is a balancing act. If coal-fired power plants are curtailed, more expensive ways of generating electricity makes up the difference. For this reason your electric cooperative supports a balanced plan for reducing CO₂. ⚡

Weather affects your electric bill



This chart compares the heating degree days for February '08, February '07 and the 63-year average for your monthly electric bill. ⚡

Federated Rural Electric member of the month

It's music to his ears

Dunnell man operates his own recording studio

Bruce Volk's interest in music began February 9, 1964.

"I was four-years-old and wanted to watch Flipper, but my sister turned on the Ed Sullivan Show," Volk remembers. "Seeing and hearing the Beatles sparked something in me even at that young age. As I got older, I was into music constantly. I played records over and over. I listened to the underground radio program, Beaker Street, every night from 11 p.m. to 2 a.m. I'm sure my schoolwork suffered a bit from all those late nights, but I managed to get through it okay."

During his senior year at Fairmont, Volk showed a record to his career counselor and pointed to the line that read: recorded, produced and engineered by... "I told him that's what I wanted to do," Volk said. "I then bounced between St. Cloud University and South Central College, Mankato, but wasn't satisfied. I knew I wanted to get into the music industry, but nobody knew how to get me there."

While no helpful fingers pointed the way, a shoulder did. "I had a bad shoulder that required surgery," Volk explained. "While recuperating I saw a sound engineer course advertised in *Rolling Stone Magazine*. I signed up and spent three months in Ohio learning the basics. After graduating I headed for Los Angeles and went door to door to find a job. That was a tough run. You just have to be patient and persevere until you find that crack to wiggle through. Eventually my persistence paid off...or maybe I just got lucky."

Volk worked at Cherokee Studios, which produces up to four gold and platinum albums each year. Some of the big names who recorded at Cherokee Studios include Aretha Franklin, Barbra Streisand, Rod Stewart, Tom Petty, Madonna, Michael Jackson and more. "At Cherokee I was fortunate enough to be taken under the wing by a lot of brilliant people," Volk said. "They taught me how to listen to music and how to record it. I started out low on the totem pole though, first learning how to troubleshoot recording equipment and then working my way up to chief engineer."

During his time in the industry, Volk learned analog and digital recording techniques. "Believe it or not, a lot of producers still prefer tape," Volk said. "Digital is great, but it has limitations. The human ear can hear within a certain range. Digital doesn't always make use of that full range. If you listen to a digital and analog recording of the same



Bruce Volk, Dunnell, sits in the visual portion of his audio/visual recording studio. Volk worked in the Los Angeles music scene and now brings his experience to Minnesota.

song, you will realize something is missing from the digital recording. Digital recordings can lack a certain warmth; some people call it soul."

While surgery on his shoulder led Volk to Los Angeles, surgeries on his knees, leg and wrists led him back to Minnesota. "I was in a motorcycle accident in 1994," Volk explained. "An earthquake struck Los Angeles while I recovered. The hospital sustained structural damage and I was evacuated to Minneapolis."

During his eight months of rehabilitation, Volk reconnected with old friends. "A buddy of mine wanted to record an album," Volk said. "His band practiced in a barn outside of Dunnell so we converted it into a recording studio. Things grew from there as more and more people showed up to record music. I finally built a custom studio in Dunnell in 2001."

Everything inside Volk's studio is built with sound in mind. The window between Volk's control room and the cutting room is actually two windows. One is at a 13-degree angle; the other is at a 7.5-degree angle. Likewise, the ceiling in the control room is built with a 26-degree slope. Features like these prevent echoes and keep sound pure. Even the floor between the control room and the cutting room is separated. Otherwise, vibrations could cross over and interfere with the recording equipment.

"My recording equipment enables me to manipulate every aspect of a song," Volk said. "I build songs in layers.

— *Continued on Page 10*

Hunting down vampire electronics

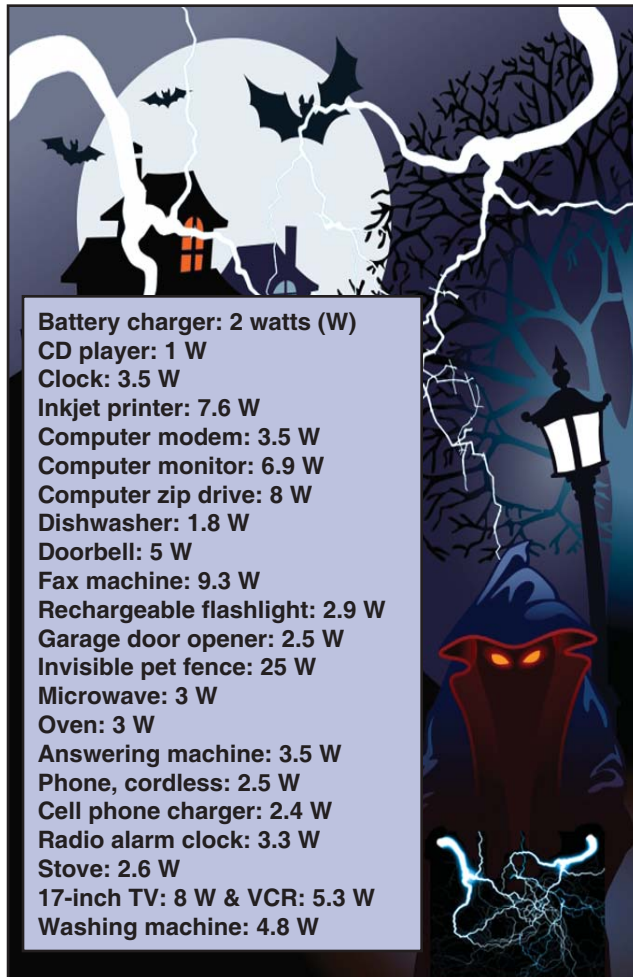
Most homes these days never quite shut down for the night. Although lamps may be off, dark rooms are typically spotted with tiny red and green lights of appliances and the glow of digital clocks.

All of those little lights, clocks and seemingly “sleeping” appliances are using more electricity than you think. Sometimes called vampire electronics or phantom load, these devices suck up 5 percent of all energy used in the United States and cost consumers more than \$3 billion every year.

For the average homeowner vampire electronics can add 20 percent to monthly electric bills, according to the U.S. Department of Energy. To trim this excess energy use you need to know where these vampires reside and keep them in check.

Take a closer look at appliances around your home. Those that use remote controls such as TVs, DVD players, ceiling fans and stereos are suspect. Any digital displays, such as microwave and coffee machine clocks, are working against your electric bill. Many of those chargers around the house — those that recharge cell phones, power tools and MP3 players — constantly draw power when plugged in.

Unplugging these vampires effectively drives a stake into their energy-consuming hearts. In addition, power strips provide another way to thwart them. Simply plug appliances into a power strip and switch it off



- Battery charger: 2 watts (W)
- CD player: 1 W
- Clock: 3.5 W
- Inkjet printer: 7.6 W
- Computer modem: 3.5 W
- Computer monitor: 6.9 W
- Computer zip drive: 8 W
- Dishwasher: 1.8 W
- Doorbell: 5 W
- Fax machine: 9.3 W
- Rechargeable flashlight: 2.9 W
- Garage door opener: 2.5 W
- Invisible pet fence: 25 W
- Microwave: 3 W
- Oven: 3 W
- Answering machine: 3.5 W
- Phone, cordless: 2.5 W
- Cell phone charger: 2.4 W
- Radio alarm clock: 3.3 W
- Stove: 2.6 W
- 17-inch TV: 8 W & VCR: 5.3 W
- Washing machine: 4.8 W

How many of these phantom loads are lurking in your home guzzling energy right under your nose? Unplugging these devices, if not in use, can translate into savings on your electric bill.

when those appliances aren't being used.

Remember to unplug any battery-operated electronic device once charged. You wouldn't walk away from a flowing water hose so you certainly don't want to keep feeding those vampires.

Multiply the wattages in the graphic by the number of units you have in your home and add up all of the wattages (for our example we'll assume one item each from every item on the list for 117.4 watts). Take 117.4 watts times 24 hours a day times 365 days a year. Divide that number by 1,000 to get the total kilowatt hours per year (1,028). Multiply this number by your electric rate to see how much money you spend without knowing it (for our example a rate of 7 cents would give us a total of \$71.96). This number will likely be higher since most households have more than one phone, TV and home computer. 🖱

Monthly ENERGY[®] wise tip

TVs receiving energy makeover — Effective November 1, TVs that carry the Energy Star label will be up to 30 percent more efficient than conventional models and will save energy while they are on and when they are off. After it goes into effect, if all TVs sold in the United States meet the Energy Star requirements, the savings in energy costs will grow to about \$1 billion annually and greenhouse gas emissions will be reduced by the equivalent of about 1 million cars. TVs first earned the Energy Star label in 1998 and ever since, TV manufacturers and EPA have worked together on efficiency improvements. The United States now has more than 275 million TVs in use; they consume over 50 billion kWh per year. 🖱 — Courtesy of www.energystar.gov

Watts new

Stake those electronic vampires using a new remote control surge protector



The Belkin Conserve Surge Protector is a vampire electronics slayer. Its handy remote control makes it easy to turn off vampire electronics without having to reach behind entertainment centers or under desks. Two “always-on” outlets give you the option of keeping some devices on at all times.

Garlic and crosses might stop real vampires, but they won't keep electronic vampires from sucking up wasted power. Read the story on Page 4 to find out all you need to know about vampire electronics.

The California Energy Commission estimates power losses to vampire electronics to be as much as 15 percent of an average household's electricity use.

So how do you defend yourself from vampire electronics? The easiest way is to unplug them when not in use. That isn't always as easy as it sounds. Many outlets are buried behind entertainment centers or under desks and can be difficult to reach. Some people may plug everything into a surge protector and simply turn the surge protector's switch off. This is a great idea, but what do you do if you want to keep some devices plugged in? What if you have a DVR set to record your favorite programs? If that is plugged into the surge protector, you will miss all of your favorite shows.

The Belkin Conserve Surge Protector solves both problems. The Conserve is an eight-outlet surge protector that makes it simple to stake vampire electronics, helping you reduce energy consumption, save money and protect the environment. Conserve's wireless remote control keeps you from having to reach below desks, behind home theater equipment or around furniture to easily access inconvenient places where surge protectors typically sit. With this handy remote control you can completely shut off the power to vampire electronics that consume standby power, such as TVs or computer monitors, when you are done using them. Meanwhile, two “always-on” outlets allow you to leave devices that typically need to stay on, such as DVRs.

The Conserve will be available this summer and cost approximately \$50. That might be a high price for a surge protector, but remember that the Conserve stakes those electronic vampires and saves you money in the long run. As an added bonus, the device comes with a \$100,000 connected equipment warranty. ➔

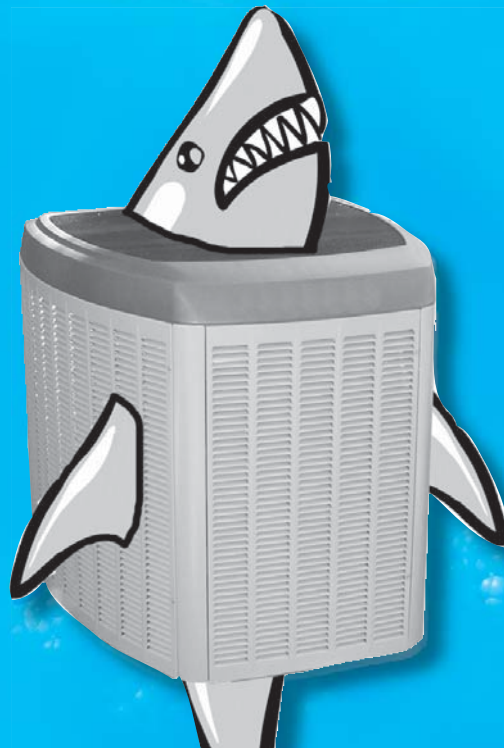


Knowledge is power

Another way to combat vampire electronics is to identify and monitor them. The Acoustic Research LCD Surge Protector gives you that power. An LCD screen displays real-time information on power draw, even when products aren't in use. The device will be available later this year for \$85. Check out www.araccessories.com for more information in the next few months. ➔



DON'T DROWN WITH HIGH HEATING BILLS



**TAKE A BITE OUT OF HIGH HEATING BILLS WITH
A HEAT PUMP. THEY CAN HEAT YOUR HOME FOR A
PRICE CLOSE TO 50-CENT PROPANE.
CALL FOR MORE INFORMATION.**



**Brown County
Rural Electrical
Association
507-794-3331**



**Nobles Cooperative
Electric
507-372-7331 or 836-6107**



**Rural Electric
507-847-3520 or 728-8366**



**South Central Electric
Association
507-375-3164 or 628-5571**

Safety sense

New code addresses electrical outlet safety for new homes; consider it for your home too

Inquisitive youngsters with little fingers are constantly exploring the world around them. Sometimes their curiosity can connect them with danger.

Each year 2,400 children — an average of seven children per day — are treated in emergency rooms for injuries caused by inserting objects into electrical outlets, according to the U.S. Consumer Product Safety Commission. Eighty-nine percent are under the age of six with the highest risk group being boys ages two to three. Most often these accidents happen at home with everyday household items such as hairpins, keys and paperclips. Injuries vary from minor to serious burns and some contacts prove fatal.

As part of the new “Teach Learn Care” (TLC) campaign, Safe Electricity urges parents and other caregivers to protect young children by using tamper-resistant electrical outlets. A new change in the National Electrical Code (NEC) for 2008 also addresses the issue of outlet safety. Tamper-resistant receptacles have been used in hospital pediatric wards for more than 20 years and the new NEC Code requires their installation in all new construction of single- and multi-family homes. In addition, if you have young children in the home, you may want to have these tamper-resistant outlets installed.

“While plastic outlet caps offer an inexpensive form of protection, some toddlers and pre-school age children can



The outlet receives a safety upgrade. Simultaneous pressure of both prongs opens these shutters for the plug, while keeping children’s fingers safe. These outlets cost approximately \$5.

manage to remove them,” said Molly Hall, executive director of Safe Electricity. “Meanwhile, adults often forget to replace the caps after using an outlet, leaving it open for young fingers to explore. The new tamper-resistant outlets offer constant protection.”

Tamper-resistant receptacles have built-in shutter systems that prevent single-pronged objects — like a hairpin, coin or a key — from being inserted by a child. The simultaneous pressure of both prongs opens these shutters for the plug, making them easy and convenient for adults to use. Unlike plastic outlet caps, the new receptacles are permanent, automatic and reliable. They

install just like standard outlets and are only slightly more expensive to purchase.

The new receptacles do not replace ground fault circuit interrupters (GFCIs) and should be used in conjunction with them. GFCIs sense the leakage of current to ground and immediately shut off power, preventing electrocution. Devices with both components are available and should be used in any areas where moisture is an issue, such as bathrooms, kitchens and basements.

Consult your local qualified electrician if you have any questions about the new regulation.

For more information on electrical safety visit www.SafeElectricity.org. ➤

Don't dig up trouble! Contact GSOC first this winter!



1-800-252-1166
www.gopherstateonecall.org


Contact Gopher State One Call (GSOC) before doing any digging more than 12-inches deep. Make this call 48 hours before digging for foundations, trees, tiling and more. You can also register on the website at www.gopherstateonecall.org. This gives utilities time to mark their underground lines up to your meter so you are safe! Then contact a licensed electrician to locate the underground lines on your side of the meter. ➤

Federated focus:

Save \$100 on a security system

This month Heartland Security (HSS), a Federated subsidiary, is offering a Home Show special. Buy a monitored security system for your home or business and save \$100 on the cost. Visit with HSS at Federated's home show booths or call 1-888-264-6380.

Recycle rechargeable batteries

 Federated accepts rechargeable batteries when they no longer take charges. The recycling container is in the lobby of the Jackson office. It is illegal to throw them away. Recycle laptop batteries, cell phone batteries, camcorder batteries and cordless tool batteries. We accept Nickel-Cadmium (Ni-Cad), Nickel Metal Hydride (Ni-MH), Lithium Ion (Li-ion) and small Sealed Lead (PB). Sorry, we cannot accept alkaline, lithium, bag phone or cordless phone batteries.



March goes in like a turtle & out like a rabbit!

Take your slow dial-up, turtle-speed Internet and go for fast, like a rabbit, with WildBlue. The system costs \$254.54, includes free installation and features a two-year contract. The monthly service starts at \$49.95 for download speeds of 512K (dial-up is 24K) and upload speeds of 128K. Two faster packages are also available. Call or e-mail (info@federatedrea.coop) to request the application packet.

Energy Star appliance rebates

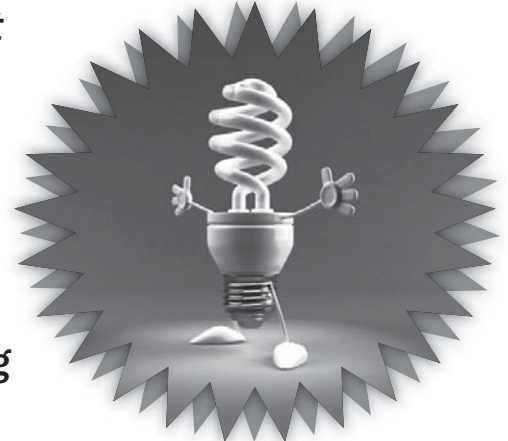


- \$20 for Energy Star light fixture, torchiere or lamp (not ceiling fans).
- \$25 for Energy Star dehumidifier and clothes washer.
- \$50 for Energy Star refrigerator or freezer. Otherwise, \$75 for Energy Star refrigerator and freezer with a recycling receipt on the old one. ➔

Energy-efficient CFLs available at Federated!

CFLs also available at Federated's Home Show Booth (while supplies last daily). Fairmont Mall — March 7-9

Jackson AgCo Training Center — March 15



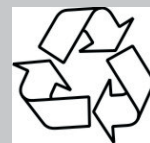
Buy CFLs from Federated at prices you can't get in stores!

Jot down the number of bulbs you want of each type, multiply by the price and bring your check or cash, plus this list to Federated's Home Show Booths or Federated's Jackson office. The tax is included in these prices.

- **CFL 20-watt (75-watt equivalent): \$1.18** _____
- **CFL 26-watt (100-watt equivalent): \$1.18** _____
- **Bathroom globe 11-watt (40-watt equivalent): \$2.28** _____
- **Candelabra 9-watt (40-watt equivalent): \$3.04** _____
- **Flood indoor 15-watt (65-watt equivalent): \$4.18** _____
- **Flood outdoor 26-watt (120-watt equivalent): \$4.18** _____
- **CFL 40-watt (200-watt equivalent): \$5.60** _____
- **3-way (50, 100 & 150-watt equivalent) \$5.79** _____
- **Commercial 85-watt (special order) (400-watt equivalent): \$18.69** _____
- **Commercial 105-watt (special order) (500-watt equivalent): \$25.18** _____

Long-term energy savings		
	26-watt CFL	100-watt regular bulb
Members' cost to buy	\$1.18	\$0.50
Lifetime hours of bulb	10,000	750
Lifetime cost*	\$19.38	\$76.50

*Includes energy and maintenance costs in addition to the initial bulb purchase price (1 CFL vs. 13 incandescents). Based on an electricity rate of \$0.07 per kilowatt-hour. Sources: Environmental Protection Agency; Department of Energy



Lamps contain mercury. Manage

according to disposal laws. Bulbs can be recycled FREE at Federated's Annual Meeting November 22. Watch the April *Connections* for local recycling opportunities.

July 22-24 *From hard hat to cowboy hat... Join us on the Coal Creek Tour*

Hard hat or cowboy hat? We'll have you wearing both on the Coal Creek Tour July 22-24.

Learn more about your electricity. See the huge equipment used. Pick up your free sample of coal from the lignite mine! Plus, you can brag about eating a steak cooked on a pitchfork!

Day One: Head west on the joint bus tour with Federated and Nobles Cooperative Electric members. Leave the driving and rest stop snacks to us! Enjoy a visit to the mall that evening.

Day Two starts with a buffet breakfast. Tour the lignite mine, Coal Creek power plant and eat a super-sized sack lunch. Learn about the innovations, including recycling the fly ash for concrete and the adjacent ethanol plant.

Then the group heads west again to Medora, North Dakota, for the Pitchfork Fondue and Medora Musical. After a tasty steak buffet supper enjoy the toe-tapping music and dancers with a patriotic flair during the Medora Musical.

July 24 we head back for home!

The trip price includes two nights hotel, all of Wednesday's meals and tickets, plus transportation. If you have gone on the trip before, please allow others the opportunity. The cost is \$190 for a single Federated member or \$242 for a Federated couple.

Enclose a check with this coupon to reserve your seats or call Federated with your credit card number (847-3520, 728-8366 or 1-800-321-3520). Ask for Andrea. ✎



Hard hats are required on the tour! Enjoy the view from the roof of the power plant on the Coal Creek Tour July 22-24. See how the coal is mined, delivered to the power plant (above) and used to generate your electricity. You'll also enjoy the Pitchfork Fondue and Medora Musical (below) — cowboy hat optional!



Details available soon in *Connections* on the Second Annual Renewable Energy Tour

Yes, I want to go on the July 22-24 Coal Creek Tour

Name(s) _____

Phone _____ Address _____

Location # _____ City/state/zip _____

Payment enclosed: \$190 (one person) \$242 (two people)

Room preference: Smoking Nonsmoking

I have been on the tour before. (Preference is given to those who have not been on the tour before. This may put you on standby.)

Return this with your electric bill or mail to: Federated Rural Electric, ATTN: Andrea, PO Box 69, Jackson MN 56143-0069.

Volk's music a hit in Australia

— *Continued from Page 3*

First I start with the drums. They are like the foundation of a house. Then I add bass, guitars, keyboards, vocals and everything else. I can increase the volume of certain layers, decrease others, mix and blend. I can even move parts of the song around and synch them up with one another.”

Volk named his studio KrisMa Audio/Visual & Vortex Records. “My sister, Kris, and her husband, Morris, had a dairy farm called KrisMa,” Volk explained. “As for Vortex, one of my friends said the barn studio was in a weather vortex because it always seemed to be raining there when it was sunny everywhere else.”

“Most of the bands I work with are from Iowa, Minnesota and the Dakotas,” Volk said. “Bands from Alabama and Kansas have shown up too. Some want to record original music. Others want to record a demo CD to promote their work. I can accommodate everything from solo artists to quartets, choirs or part of a high school band. I can even take equipment on the road and record live performances.”

However, Volk's expertise goes beyond audio and into visual. “I make music videos, TV commercials and training videos,” he said. “Installing PA systems in churches and auditoriums is another sideline. Everything I do is custom

work beyond the standard. Budget is the main challenge. I find out what clients want and tell them what it's going to cost. I then explain we are dealing with a precise and technical field; any deviation from the plan affects the budget. They have to decide if they want to swim halfway across the river and go back or swim all the way across.”

Volk also enjoys writing his own music. “I've been in bands all of my life,” he said. “I play several instruments, but specialize in rhythm guitar. Presently, a couple of my songs are being shopped around various record companies. One is even number one on an Australian website.”

Volk finds the most rewarding part of writing or recording a song is having it sound like he thought it should. “I listen to music differently than most people,” Volk said. “I'm trained to listen deeper. If I hear four bass notes, I know the fourth one has to drop off slightly to make the song better as a whole. You might spend 50 hours tweaking little things like that in a four-minute recording, but when it all comes together and is enjoyed by other people that makes it worthwhile.”

To hear a sampling of Volk's music visit www.mp3.com.au/drsinn. Contact Volk by e-mailing krisma@charter.net or by calling 507-695-2180. 📧

Teachers: earn extra credit this summer

Local teachers can look to continue their education this summer. Sign up for “Lignite — our Regional Resource: Energy, Economics and Environment” seminar June 17-19 in Bismarck, North Dakota.

Your local electric co-op and its power supplier, Great River Energy (GRE), offer a free, informative summer school teachers' session. It is coordinated by the Lignite Energy Council in Bismarck, North Dakota, and the American Coal Foundation in Washington, D.C.

Teachers receive education materials to teach about lignite mining and its use in energy production. Materials include lecture outlines, lesson plans, classroom exercises, coal and ash samples, audiovisual materials, facility information and resource guides. The seminar also covers lignite's economic impact on the region and environmental issues affecting the industry.

All teachers can apply, but top consideration goes to earth science, social studies and energy teachers. Teachers earn



Teachers can recharge their knowledge base on this energizing tour. Learn about coal, electricity and natural gas made from coal.

one graduate credit by completing the seminar and creating lesson plans.

GRE selects 10 teachers statewide and pays for the transportation and registration. In addition, free dormitory lodging is available at Bismarck State College. Some meals are also included.

Local teachers can apply by e-mailing the following information to awilliams@GREnergy.com by March 31:

- Name, home phone, home address, city, state and zip.
- School, its phone and fax numbers, address, city, state and zip.
- Subjects, grade levels and number of students taught.

The trip winners will be announced in April. Once a teacher is selected for the seminar, a \$60 deposit is required. As long as the teacher attends, the \$60 deposit is refunded.

Call or e-mail your local electric cooperative with any questions. 📧

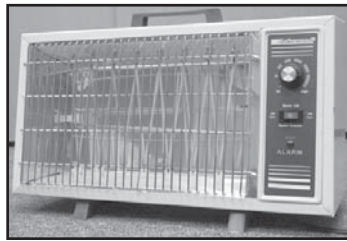
Which electric space heater delivers more heat?

Do you know the answer? We'll tell you later in this article, but nearly everyone is surprised.

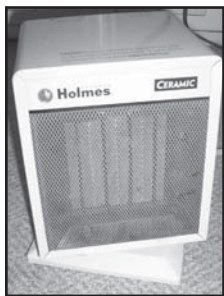
With the vast number of electric heater styles, shapes and sizes on the market, it's no wonder that consumers are confused when shopping for the right one to fit their needs. Adding to the confusion are the exaggerated claims by a few advertisers, who boast their product has an "exclusive design" that will "save you big bucks on your heating bill." A least one manufacturer claims it can cut heating costs up to 50 percent with its "space-age technology."

Describing three main heater designs

1. High-temperature radiant style — They are characterized by the glowing red heating elements with a shiny mirrored reflector behind the coils. Radiant heaters don't attempt to heat the air, but rely on "beaming" their warmth directly to people or objects in the room. Just like the sun's warmth, it can be a very pleasing form of heat.



2. Natural convection style — It transfers the heat differently. Instead of using red-hot coils, it distributes the same amount of heat over a wider surface of the heater. This allows the flow of air over their surface (natural convection) to transfer heat to the air. Often seen in a long slender baseboard design, these heaters are warm to the touch but not hot enough to burn you. Other convective heaters are shaped like old-fashioned cast iron radiators, as found in historic buildings. An oil-like fluid inside spreads the heat around the full surface of these portable heaters. On a watt-for-watt equivalent, natural convection heaters put out just as much warmth, but you don't feel the intense heat as from a radiant design.



3. Fan-forced heaters — It relies on a blower to push air over the heating coils. Designed like a "mini furnace," these heaters must warm the air in the room to increase comfort. Unlike the natural convection style, they don't rely on a large surface area to transfer their heat to the air. That is why fan-forced heaters are often

smaller in size than the other designs.

A quick clarification — small fans are sometimes used in radiant heaters too, as a way to circulate the air. Don't let the presence of this small fan fool you; if most of the heat radiates out from visible glowing coils, it's a radiant heater.



A watt is a watt, no matter how it is delivered

Each of the three designs described above uses a process called "electric resistance heating." This simply means that electricity is sent through a material that is "resistant" to the flow of electric current. These materials glow red as they convert electricity into heat (visualize the elements on a stove). Because all electric heaters use this same process, they all have the same efficiency — 100 percent. Whatever the heater's shape, size or marketing claims, the amount of heat coming out is the same as the amount of electricity going in. Therefore, any two heaters with a rating of 1,500 watts on the nameplate will deliver the same amount of heat, no matter what they look like; however, each one delivers it with a different method.

For example, the radiant style heater can be a good choice, but only if you understand its strong points and limitations. Radiant heaters "shine" their heat energy in a very defined area. Therefore, if the air temperature in a room is cold, only the objects in the path of these radiant waves of energy will feel warm. Much like a fan won't keep you cool unless you stand in its airflow path, a radiant heater won't do you much good if you're not within reach of its warming rays.

Radiant heaters can be a good choice for farm shops, garages, machine sheds and as heat lamps. Their instant heat is particularly handy because a central furnace is not needed (nor economical) in seldom-occupied large buildings.

Zonal heating saves energy

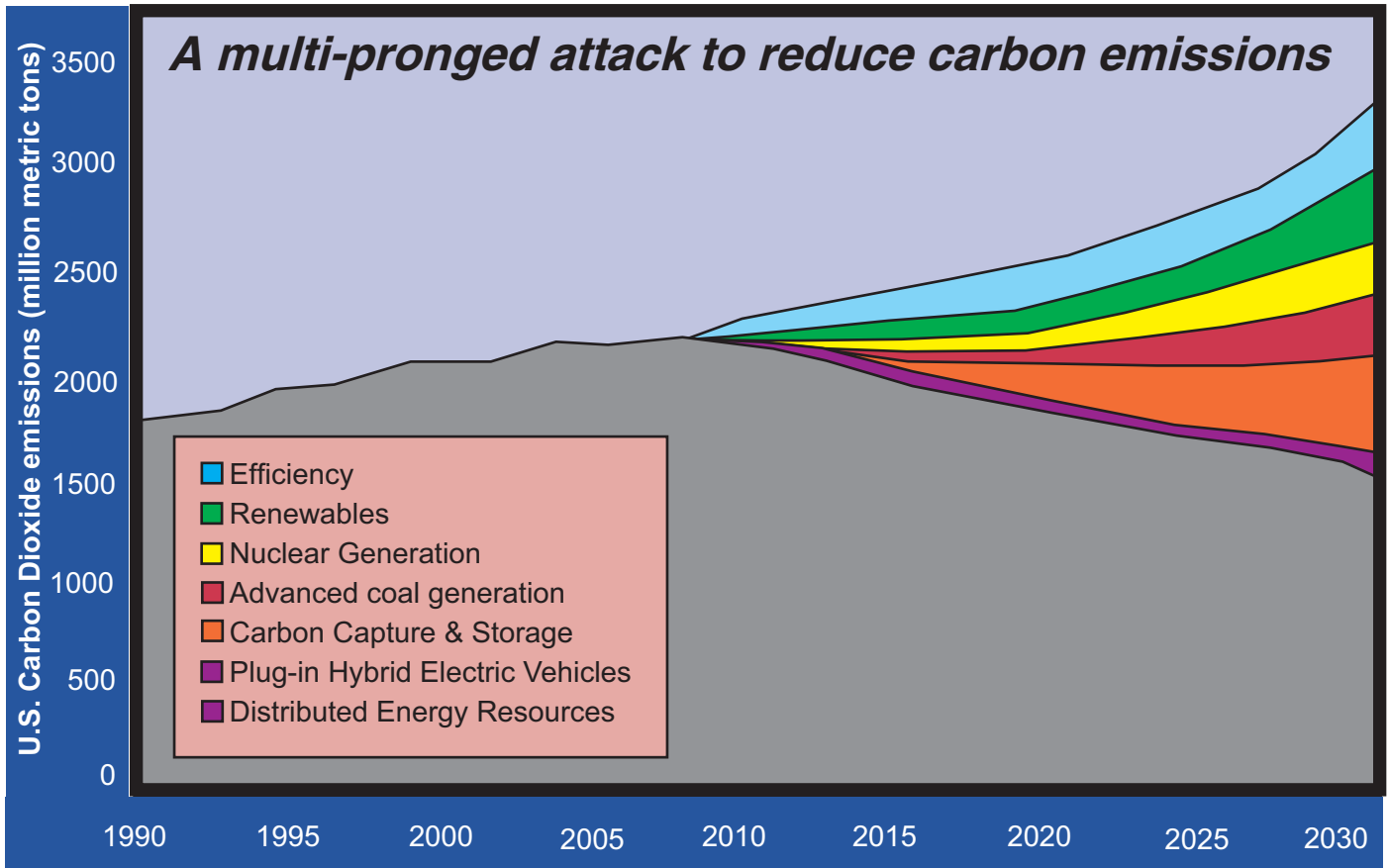
Any of the three portable electric heater types can allow room-by-room variation in temperature. This "zonal heating method" can save energy, but only by lowering the setting on the home's central heating thermostat. Then in the occupied room(s), a space heater boosts the temperature to a comfortable level.

The success of this strategy depends on the home's floor plan. For a home having a very open floor plan (few dividing walls), it's difficult to close-off unoccupied rooms. The key to this zonal heating involves lowering the temperature in a large percentage of the house for most of the day.

Final note: All three heaters are rated at 1,500 watts so they all deliver exactly the same amount of heat energy. They also have exactly the same efficiency — 100 percent. The only difference is how the heat is conveyed to the user, either by a focused radiant heat or by warming the air that travels across the heating surface. ↙

— Courtesy of National Food & Energy Council

A reasonable balance is the answer to combating global climate change



This graph estimates (figures are not exact) the projected path of carbon dioxide emissions to the year 2030. Alternative forms of power production, represented by the color portions of the graph, will cut into and gradually reduce carbon emissions in the future. — Information courtesy of the Electric Power Research Institute (EPRI).

— Continued from Page 2



and opinion leaders believe that ambitious schemes to reduce greenhouse gases — particularly carbon dioxide emissions from coal-fired power plants — can be enacted without inflicting economic pain. In fact, most of these folks believe that doubling electric bills may be an acceptable price to pay for a reduced carbon footprint. As member-owned and controlled electric co-ops, we completely reject that thought.

Successfully addressing climate change and reducing greenhouse gas emissions will require long-term commitments by all American industries, as well as international

partners. The guiding principle on climate change should be: “first, do no harm.”

To that end the National Rural Electric Cooperative Association (NRECA) will ask candidates seeking public office to pledge not to double consumer electric bills, as well as advocate a technology-based approach to meet the nation’s climate change policy goals. We believe a long-term, sustained effort to address global climate change can succeed only if the nation’s existing standard of living does not suffer. Therefore, bottom-line costs to consumers must be a part of the discussion.

Although the effects of climate change legislation on the environment will not be known for decades, the cost will show up right away on consumer’s electric bills. Electric co-ops will work closely with legislators to strike a reasonable balance. Candidates for public office must do the same or give voters fair warning before next year’s election. 🗳️

Striking the right balance

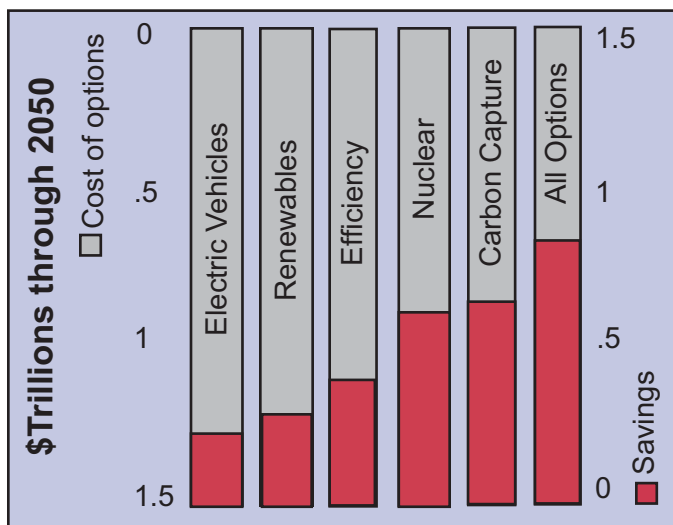
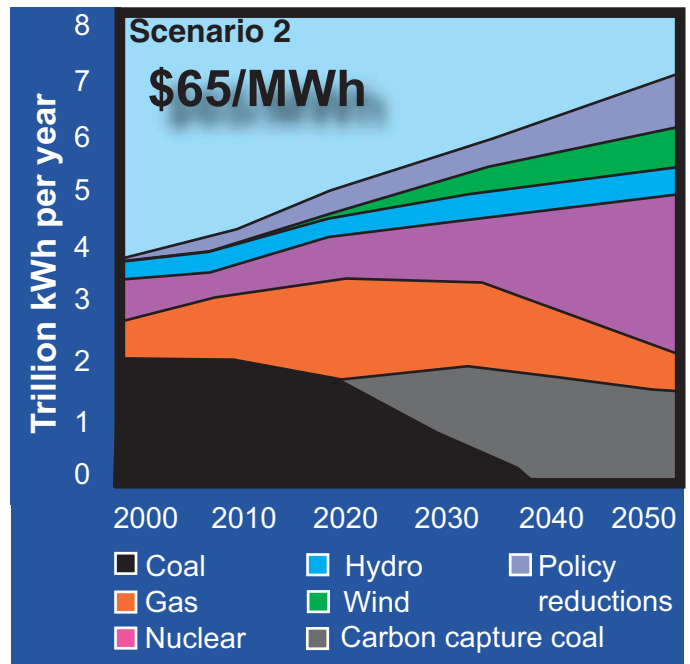
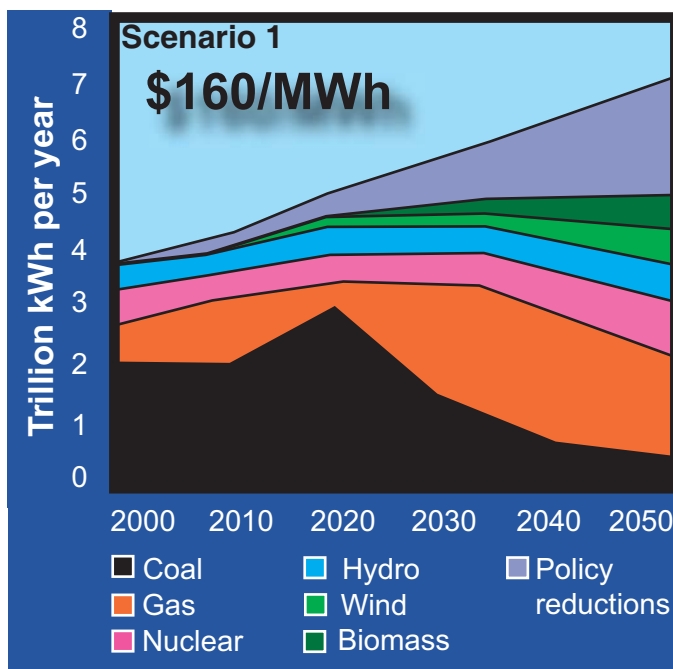
What is the most economical blend for reducing carbon emissions from power generation?

If certain groups have their way, electricity produced from coal would be reduced in coming years.

The Electric Power Research Institute (EPRI) studied the impact of increasing electricity use nationwide from 2000 to 2050. Scenario 1 shows what would happen by using less coal-fired power plants. The demand must be made up by other fuels, such as wind turbines, nuclear, hydropower and conservation. However, natural gas would replace the bulk of coal. That would translate into a wholesale cost of \$160/megawatt, or 16 cents per 1,000 kilowatt-hours (Coal Creek Power Plant was at \$44/megawatt hour in

2007). Including transmission and distribution costs, that could translate to approximately 20 cents per kWh on your electric bill.

EPRI instead encourages the use of a balanced approach (Scenario 2). Clean coal technology (and nuclear generation) can improve emissions at a lower cost than relying on natural gas for power generation. This approach would lead to wholesale costs of \$65/megawatt-hour or 6.5 cents per 1,000 kWh. Adding in transmission and distribution costs, that approximately translates into a more economical 10 cents per kWh on your electric bill. It is important to realize both scenarios raise electric rates substantially over the next decade. ↘



Relying on only one method to reduce emissions is too costly. Several options together save more.

How much are people willing to pay to combat climate change?

The money question — how much are you willing to pay? Most Americans (35 percent) said they would not accept a rate increase to combat climate change, while 31 percent said they would be willing to accept a rate increase of less than 10 percent; 20 percent said they would accept a rate increase of between 10 to 20 percent. The poll was commissioned by the National Rural Electric Cooperative Association on climate change as Congress and state legislators consider new climate change laws. ↘

CTV enables local viewers to see high-definition TV

High definition digital, standard digital, analog...do you need to go TV shopping or not?

Turn to your local UHF antenna TV system experts — Cooperative Television of Southern Minnesota (CTV), a subsidiary of Federated Rural Electric, Jackson; Brown County Rural Electrical Association, Sleepy Eye; BENCO Electric, Mankato; and South Central Electric Association, St. James, can help you translate the TV lingo!

- **Analog** consists of horizontal lines on a picture screen (your typical TV). TV broadcast stations will broadcast in analog until February 17, 2009. However, CTV will continue broadcasting its analog lineup.

- **Digital** consists of pixels, providing clearer resolution and sharper detail on a different frequency. It is similar to cell phones moving from analog to digital.

- **High-definition** is a premium form of digital, offering the greatest detail. Look for 1080 or 720 resolution.

“The type of TV needed depends on which type of signal you have,” stated Dave Sunderman, CTV general manager. “Right now CTV re-broadcasts analog signals on its three towers at Jackson, Frost and Godahl. CTV brings eight Twin Cities stations to rural areas and cable companies. Customers use a UHF antenna. The exciting news from CTV is that we will start broadcasting high defini-



High definition TV offers clear, life-like images for the viewer. Now CTV subscribers can enjoy high-definition quality too.

tion digital TV channels around April 15. CTV will start by offering FOX, ABC and NBC on all three towers. If you have a digital TV, just do a new search to lock in the new high-definition channels.”

CBS is already broadcasted in high definition by KEYC, Mankato, and Mankato FOX in standard digital from its Lewisville tower (in the Truman area).

So is it time to go TV shopping? Not necessarily. “You do not need to rush out to the store to buy a digital TV or high-definition TV,” Sunderman added. “For CTV viewers your existing analog TV will still work. Another option is to buy the digital-to-analog converter box for \$50 to \$70 available from TV/electronic stores or chain stores. However, the government is offering \$40 coupons to offset the price. These coupons are available at www.dtv2009.gov or call 1-888-388-2009. Each household is eligible for two converter box coupons, but the

coupon expires within 90 days from being issued.

“We ask that CTV viewers do NOT go out and buy these converter boxes right now,” Sunderman stated. “Our CTV engineers are determining which brands will be compatible with CTV’s digital signal and **still** pass through CTV’s **analog** signal. We will make a recommendation by spring on which brands work using CTV’s signal.”

CTV is investing \$500,000 to bring these high-definition digital

TV channels to the rural areas. “The monthly price of \$5 for CTV service will not change in 2008,” Sunderman said. “However, if the channels are well received and subscribers want all of the CTV channels high-definition digital, the CTV board will consider it, along with pricing changes. Each channel costs CTV between \$50,000 and \$100,000 for the conversion.”

If you have more questions about digital and high-definition TV, go to www.dtv.gov. Otherwise, visit your cooperative’s website to get the updated channel listing indicating CTV’s analog listing and pending digital channels.

The new high definition networks will broadcast on all three CTV towers (Jackson, Frost and Godahl).

Digital channel numbers are:

ABC 5-1, 5-2

NBC 11-1, 11-2

FOX 9-1

CTV will update viewers when these channels begin broadcasting. ➡

Readers' recipes

Pig out with pork!

Pig out on these pork meals. Try these recipes using pork, whether it's pork chops, pork roast, pork ribs, pork sausage, bacon or ham! ➡

Asparagus aspirations?



Aspire to add asparagus to your next meal! Share with us your asparagus recipes. Whether it's in a hot dish, salad or on the side, asparagus adds green to any meal.

Mail these asparagus recipes by March 25 to: Editor, Federated Rural Electric, PO Box 69, Jackson MN 56143-0069 or e-mail to christoffer@federatedrea.coop. Otherwise, drop it off at your local electric co-op. Add your name and phone number. ➡

Pork Chop Casserole

by Jane Schardin,
Slayton

5 or 6 pork chops
onion, chopped or sliced, suited
to your tastes

1 can of beans or peas
4 or 5 potatoes, sliced
½ can milk

1 can mushroom soup

Brown the pork chops. Slice the potatoes and put in the bottom of a greased dish or roaster. Then put your beans or peas on top of the potatoes. Chop the onion.

The pork chops will go on top of the onions, but first fry and simmer them with the mushroom soup and milk.

Bake at 325° or 350° in a covered dish. Bake 30 minutes to an hour, depending on how thick the chops and potatoes are cut. ➡

One Pot Supper by Norita Thaemlitz, Lakefield

4 pork chops
1 can tomato soup
½ c. water
1 tsp. Worcestershire sauce

1 tsp. salt
3 med. potatoes, quartered
4 small carrots, split lengthwise

In a skillet brown the chops; pour off the fat. Add the remaining ingredients and cover. Simmer 45 minutes or until tender. ➡

Cranberry Pork Chops by Fidelis Freking, Heron Lake

4 boneless chops
1 T. oil
½ can whole cranberries

½ c. French dressing
2 T. dry onion soup mix

Cook chops in oil for 12 to 15 minutes on each side or until the juices run clear. Meanwhile, combine the cranberries, the dressing and soup mix in a saucepan; cook until heated through — about two minutes. Serve over the chops. ➡

Cherry Glazed Pork Roast by Meredith Ulbricht, Lakefield

5 to 6 lb. pork loin roast
1 can cherry pie filling
¼ to ½ c. raisins

2 T. lemon juice
½ tsp. ground cinnamon

Place the roast in a shallow roasting pan. Insert the meat thermometer so the bulb is in the center of the thickest part of the meat. Roast uncovered in a 325° oven for 2½ to 3 hours or until the thermometer registers 170°. Meanwhile, in a bowl combine the pie filling, raisins, lemon juice and cinnamon. Spoon the cherry glaze over the roast several times during the last 20 minutes of cooking time. Remove the meat from the oven. Let stand 10 minutes before carving. Heat the remaining glaze and serve with the carved roast. Serves eight to twelve. ➡

Sausage Hot Dish by Ginger Halverson, Truman

2 c. elbow macaroni, uncooked
½ to 1 lb. pork sausage
1 onion, chopped
½ green pepper, chopped (optional)

2 T. flour
½ tsp. salt
1½ c. milk
½ lb. American cheese, grated

Brown the sausage, onion and pepper; drain. Sprinkle the flour over the meat mixture and stir. Add the salt and milk. Cook until thick. Layer the macaroni, cheese and meat mixture in a greased casserole. Top with cheese. Bake 25 minutes at 300°. Serves six. ➡

Breakfast Eggs by Darla Harries, Alpha

1 lb. pork sausage, browned
9 eggs
¾ c. milk, beaten with eggs

¼ c. melted margarine
24 oz. hash browns
8 oz. shredded Cheddar cheese

Layer the sausage in a 9x13" pan. Pour the eggs, milk and margarine on top. Add the hash browns and then cheese. Bake at 350° for one hour.

For a low cholesterol version use ground turkey instead of sausage and Egg Beaters instead of real eggs. ➡



Richard 'Rick' Burud

Manager's message

Visiting with your legislators on CO₂ legislation
Your board and I visited with our elected state senators and representatives. On our minds were electric mandates by the legislature and carbon dioxide (CO₂) legislation.

We would like to see if we can meet last year's mandates before we increase them. We think carbon dioxide legislation is better handled on the national level so undue hardship isn't placed on you without a national policy on the issue, as it is a national issue.

Make no qualms about it, carbon dioxide legislation and the removal will be costly to you, the member. Estimates are from 50 to 300 percent. Our intention, as we represent you, is to work to take action to remove carbon dioxide from our coal plants in an environmentally and financially viable manner.

Follow this issue as it is the single largest issue we've faced in the energy sector in some time. (See related stories on Pages 2, 12 & 13.)



The wind turbine's 142-foot long blades arrived February 27. The VeraSun Ethanol plant is in the background.

Wind turbine arrives at Welcome

Our wind turbine components arrived at our site. Our contractor will start to erect it immediately, weather permitting. Please check our website for up-to-date pictures of the progress. Once the turbine is operational, we plan on providing you an Internet portal to see its electricity output. Weather permitting, the \$3 million-plus project should be completed within two to three months.

Outage management and remote metering coming our way...

The budget will contain two elements that will help us respond to outages and help reduce the time for us to read large power meters. Rather than driving to 750 accounts over five days, meter reading would be available for automatic downloading, readings and reporting outages. We will take both in a methodical time frame so deployment helps the member. As for the future, smart meters will start showing up with many features to meet the ever-changing energy policies of the nation. ➤



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The Board of Directors meets the last business day of the month at 9 a.m. at the Jackson office. Regular board meetings are open to the membership. Members interested in discussing business items should contact the general manager or president three days before the meeting.

Board meeting highlights

Federated Rural Electric's Board of Directors met for their monthly meeting February 8. They acted on these issues:

- Listened to staff and subsidiary reports.
- Approved quarterly inventory adjustments.
- Reviewed the Engineering Department's budget for 2008.
- Updated on the two ethanol plants' construction and wind turbine construction project.
- Approved directors to serve as delegates for three local entities.
- Approved the cooperative's 2008 membership in the American Coalition for Ethanol.
- Approved purchase of a 2000 Case 580L backhoe/loader with the trade-in of the 1987 model.
- Updated on February state and national meetings on energy issues. ➤