

# McLeod Cooperative Power NEWS

August 2015

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## Tornado and storm system caused damage and outages across the MCPA service area



Some MCPA members in Hollywood and Watertown Townships experienced significant damage from the tornado. Our thoughts are with those members who lost homes, buildings, livestock, orchards, and personal property due to the storm.



Just before midnight on Friday, July 17, a storm system moved through McLeod Co-op Power's service area. The storm caused outages in more than a dozen townships served by the Co-op in Sibley, McLeod, and Carver Counties. According to the National Weather Service, the storm produced an EF-1 tornado which followed a 4-5 mile long path across Hollywood and Watertown Townships in Carver County.

The storm caused a transmission outage that knocked out power to both the New Germany and Hollywood Substations, putting 1,264 accounts in the dark for four hours. The storm also caused 26 line outages and individual outages due to the tornado and straight-line winds, which left another 349 members without power. These outages were spread over a three-county geographical area. The largest number of members without power due to the storm reside in the areas around Green Isle, New Auburn, and Glencoe, however, many other areas also had damage and outages. Hollywood and Watertown Townships in Carver County were the hardest hit with respect to property destruction and tree damage.

McLeod Co-op Power line crews worked non-stop from midnight through late Saturday afternoon. By then all of our members had power restored with the exception of two residences that sustained structural damage and could not be re-energized until repairs were made to their own services.



MCPA linemen repair a line outage along Weeks Avenue, north of New Germany, near where the tornado first touched down. Repairing this line on Saturday morning restored power to many homes.

Official publication of



## High bills this month could be attributed to PCA

If you open your bill and are surprised that it is higher than last month, it could be attributed to the increased Power Cost Adjustment (PCA). It is fairly common for our power supply costs to increase in summer due to higher demand charges. However, this PCA was a bit more than we expected. As a result of increases in the cost of power from Great River Energy, McLeod Cooperative Power's PCA will increase from \$.00047 to \$.02598

per kilowatt hour on the August bills. The PCA for load management energy, such as water heaters and cooling, increased from \$.00024 to \$.01299. The PCA does not cover any expenses other than increases in the cost of power.

How do I know if my bill is up due to using more energy or the cost of power? Take a look at the graph on your electric bill. Compare what you used

in July 2014 to July 2015. If your usage on the bar graph appears to be similar to last year, then you can assume that the increase is due to the greater PCA cost.

MCPA General Manager Carrie Buckley offers a more detailed explanation of the PCA and what contributes to our monthly power costs in her column on page 2.



## YEAR TO DATE FINANCIALS

Through June

	2015	2014
<b>Operating Revenue</b>	<b>\$ 9,440,428</b>	<b>\$ 10,027,080</b>
Cost of Purchased Power	\$ 6,140,753	\$ 6,437,598
Other Operating Expenses	\$ 3,264,846	\$ 3,140,643
<b>Total Cost of Electric Service</b>	<b>\$ 9,405,599</b>	<b>\$ 9,578,241</b>
<b>Operating Margins</b>	<b>\$ 34,829</b>	<b>\$ 448,839</b>
Non Operating Margins	\$ 170,644	\$ 101,775
<b>Total Margins</b>	<b>\$ 205,473</b>	<b>\$ 550,614</b>
<b>kWh's Sold</b>	<b>89,410,589</b>	<b>90,628,084</b>
<b>Members Billed</b>	<b>6,610</b>	<b>6,592</b>
<b>Avg kWh Used, Residential/Month</b>	<b>1,449</b>	<b>1,629</b>

## Manager's Message — by Carrie L. Buckley, General Manager



### Rate Study and Power Cost Adjustment (PCA)

McLeod Cooperative Power has engaged Power Systems Engineering to conduct a rate study. Rate studies are used to understand the alignment of rate structure with cost structure. The study is especially important in the short term, because in the electric utility industry, costs of providing electric service are increasing at a faster pace than sales.

There are three phases to a rate study. We begin with the revenue requirement. Simply put, we examine our past and projected costs to determine the revenue required to pay for the costs plus a margin to maintain a financially healthy utility. The next phase is the cost of service study which analyzes if costs are fixed or variable. Fixed costs don't vary with the amount of kilowatt hour sales whereas variable costs generally fluctuate with the amount of sales. Lastly, we look at a rate design to align the rates not only with costs, but also the type of cost, be it variable or fixed. This study should be complete in September. We will continue to communicate with you as this study progresses.

Of all the costs we have, power cost is the largest and most variable. The total cost depends not only on the amount of kilowatt hours we purchase but also varies by the cost per kilowatt hour our power supplier, Great River Energy, charges us. The cost per kilowatt hour is dependent on many factors but fuel supply cost and energy market forces are the most volatile drivers of the cost. Because of the volatility and unpredictability of power cost, we have a rate to reflect the cost changes of power each month which you see on your bill as Power Cost Adjustment, or abbreviated as PCA.

As a result of increases in the cost of power from Great River Energy, McLeod Cooperative Power's PCA will increase from \$.00047 to \$.02598 per kilowatt hour on the August bills. Looking back to July 2014 when the average residential usage was 1,308 kilowatt hours, we project the impact to residential

customers is estimated to be \$33 on the bills received in August which reflect July 2015 usage. Load Management customers will see a PCA of \$.01299 per kWh for the month.

Although none of us like to see our bill increase, to maintain equity in our rates, we must pass the increases or decreases in power cost through to our customers on a monthly basis as a PCA charge or credit. Historically, increases in PCA are not uncommon in the summer months.

#### Financial Statements

You may have noticed in the June newsletter we added a summarized Statement of Operations for the first quarter of 2015. We want to keep you informed about all aspects of your Co-op which includes the ever important financial health of the organization. We will include the financials on a quarterly basis.

#### Featured Departments

In the July newsletter, we featured our Engineering department. Much of their time is spent "behind the scenes" in a planning capacity or supporting the line crews by staging materials for maintenance and construction. You may also see them in the field, interfacing with members who are building new services or rebuilding existing services. All their efforts are critical to maintaining a robust and reliable utility. Thank you Engineering!

This month we are featuring the Member Services department. You may recognize a number of these friendly and courteous employees when you pay your bill at the counter or call in with a question. I know I always feel my day starts anew when I walk in our door and am greeted with a smile and a friendly hello!

### Office closed Labor Day



**McLeod Cooperative Power's office will be closed Monday, September 7, in observance of Labor Day.**

Emergency and outage dispatchers are on duty 24 hours a day and can be reached by calling 1-800-927-5685.

### Avoid late fees

The Co-op would like to remind members that for a payment to be on time, it must be received in our office by the due date. The envelope postmark does not determine if a payment is late or on time. The new postal policies that allow several days for first class mail delivery mean you can no longer depend upon overnight delivery. Please mail a few days before the due date to make sure it arrives on time.

A great way to avoid late fees is to sign up for automatic bankdraft payments. It is called Auto-Pay. It assures your payments are always made on the due date, or on the first business day following a holiday or weekend. You still have two weeks to review your bill before the payment is deducted from your bank account. This payment method is the most economical for members and the cheapest for the Co-op to process. It saves everyone money and time. Sign up today. The Auto-Pay sign-up form is on the Co-op's web site ([www.mcleodcoop.com](http://www.mcleodcoop.com)) or forms are available by calling the office.

### Board of Directors

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### McLeod Cooperative Power News

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1231 Ford Ave. North, Glencoe, MN 55336-0070

Editor: Sue Pawelk

General Manager: Carrie L. Buckley

The McLeod Cooperative Power News is the official member publication of McLeod Coop Power Association and focuses on our members, programs and events.

All member story ideas and comments are welcome.  
Send to Sue Pawelk at the address shown.

#### Office Hours:

Monday - Friday  
7:45 a.m. - 4:30 p.m.

**Phone: 320-864-3148**  
**1-800-494-6272**

**24-hour outage: 1-800-927-5685**

**Fax: 320-864-4850**

**Web site: [www.mcleodcoop.com](http://www.mcleodcoop.com)**

Gopher State One Call 811 or 1-800-252-1166

McLeod Cooperative Power Association is an equal opportunity provider and employer.

# Meet the Customer Service employees

Each month we will feature one or two departments within the Cooperative so members can have a better understanding of the functions handled behind the scenes. This month we are focusing on those employees who provide various Customer Service duties. This includes employees in Billing & Collections, Energy Management, Human Resources, exede high speed internet and other diversified services.

Employees in Billing and Collections process meter readings, prepare electric bills, process payments, assist members with inquiries about their electric bills and usage, work with capital credits, answer all incoming phone calls and all types of questions. They also oversee bill collection and assist with a variety of other duties. Currently, they are working on the smooth integration of the new AMI meters into the billing system.

Energy Management assists members with off-peak programs, energy grants and rebates, energy conservation, renewable energy and distributed generation, community solar, energy usage auditing, stray voltage testing, electrician services, and technical projects of all types. Employees in this area also assist with metering, infrared testing, trade shows, and answer a wide variety of questions from members.



Customer Service employees (left to right): Becky Schiroo, Sue Pawelk, Bob Thomes, Patty Robb, Justin Kohls, Deb Goettl, Shannon Jerabek, Katie Ide, and Debbie Ebert.

McLeod Co-op Power also has an economic development revolving loan fund to help startup and expanding businesses add jobs in the area. Administration of the loan program is handled by the Customer Service Department. Communications, the Co-op member newsletter, marketing, and advertising are also the responsibility of this department.

Human Resources provides administrative support services for the general manager, board of directors,

and employees. HR is a department of one that handles the Co-op's insurance and benefits, hiring, new employee orientation, director election voting, and a variety of communication functions.

Customer Service employees also operate the diversified service programs such as exede high speed internet and Wildblue internet, emergency medical pendants, Operation RoundUp, and Heartland Security Services. The Customer Service employees wear many hats and are always available to assist member's with inquiries.

## Is solar power right for you?

The use of solar panels to generate electricity for residential homes continues to develop. Nearly everyone is aware of solar. Yet, even as costs have come down, photovoltaic (PV) solar panels have remained one of the most expensive forms of electricity.

People typically ask why this is the case when the fuel is "free." It's because the equipment is expensive, and the sun doesn't always shine.

While equipment prices have dropped, the out-put of commercially available panels ranges from five to 19 percent (15 percent is common) of the theoretical limit, assuming there were never clouds and the sun was at high noon.

So, is solar electricity right for you? The short answer is, "it depends."

The first thing you should consider is why you want to go solar. If it's for backup power in an emergency, stop here. PV systems are tied to the grid. For safety reasons, the solar array inverter is required to sense the loss of power and then stop solar generation within a set amount of time. When the power goes out, the PV array shuts down. If the PV didn't shut down, it could subject line workers to electrocution by back-feeding electricity through the lines.

If it's for environmental reasons, then your next step is to contact McLeod Co-op Power to discuss your plan. If you decide to talk to a contractor, be sure to check references. MCPA can help you research what makes the most sense for your home. A south-facing array is typically the preferred direction for the placement of solar panels. Do trees shade the array any of the time? Next to darkness, shade is the natural enemy of solar panels. If locating panels on the roof, is your roof structure capable of accepting the weight of the panels and any other loads, like snow? Are there any neighborhood or local regulations prohibiting solar panels?

Next, grab your electric bills from the past year and see how many kilowatt-hour (kWh) your home used. MCPA can assist with this task. Then determine how much of your home's annual use can be covered by solar. The majority of MCPA residential PV systems are less than 10 kW, and are not large enough to offset all of their owner's electricity use.



Then comes the cost. The typical home PV system average cost varies before any incentives. The most common incentive is a 30% tax credit from the federal government. Paybacks will vary greatly depending on location, size, cost, and capacity factor.

Net-metering accounts utilize a bi-directional meter, which is not compatible with sub-metering for load management. In most cases, members installing solar will need to go off of the load management rate or pay their electrical contractor to convert their load management metering to a parallel service. These are all important financial considerations that the Co-op energy experts can help members sort through.

If you are seriously considering solar at your home or business that is served by MCPA, we can help you estimate what kind of payback you can expect to see. The Co-op will provide access to the interconnection materials and help members navigate the interconnection process, if that is what they decide to do. Call for a net-metering information package BEFORE you purchase or start to install a system.

The other option MCPA members have is community solar. The Co-op's Community Solar Project provides the same financial monthly benefits as having an array at your home or business, without having to personally deal with the hassles of interconnection or the unplanned future maintenance costs. Call the Co-op for more assistance with any renewable energy project.



# Art meets technology in the “lost wax” bronze sculpting process

**N**ick Christiansen has been creating lost wax bronze sculptures for the past 15 years. The Kimball native originally received a degree in mechanical design from the Central Lakes Technical School in Staples, Minnesota. In his early years, Christiansen had a knack for sculpting, but he chose to occupy his time with other activities.

“I didn’t do art in High School,” he said, “I was more focused on sports.” After working in St. Paul for several years Christiansen learned about Neil Brodin and his work with bronze sculpting, and decided to take a chance. Around 2002 Christiansen left St. Paul to work with Brodin, and fortunately the necessary skills came easy to him.

Over the next ten years Christiansen worked on perfecting his skillset, and in 2010 he was able to start his own company, NKC Sculptures. Now he is able to do work of his own, while also contracting some of the sculptures brought to Brodin Studios. Though bronze sculpting is not what Christiansen originally went to school for, he says that his degree has proven useful in his career.

“As technology has progressed it’s come more into play”, says Christiansen. His studies allowed him to be familiar with the casting process, as well as helping him with relevant terminology.

The process of bronze sculpting is a complex one. First, the sculpture must be created out of sculpting clay or casting wax. Then, a plastic or rubber “mother mold” is created from the wax or clay sculpture.

When the mold has set it must be removed from the sculpture and cleaned. Once the mold is ready, it is filled with casting wax. This is done by heating



**A tiny rubber mold used to create a unique uniform patch. Extreme attention to detail is paid when creating miniature sculptures, and many such molds are often used to create unique patches indicating rank or other identifiers.**

the wax to liquid form, pouring it into the mold, and “sloshing” it around until it coats the inside. This process is repeated until the wax has built up thick enough on the inside of the mold. Once the wax has cooled, it is removed from the mold and Christiansen fine tunes the details on the sculpture and fixes any imperfections.



**Nick Christiansen demonstrates creating a wax cast from a mother mold**

The finished wax model is then sent to Casting Creations, a foundry in Howard Lake. Small individual works, or pieces of large works, are placed on a “tree” and dipped into a slurry, which coats the wax in a ceramic shell. This shell is then sent to a “burnout oven”, which melts the wax out. This is where the name “lost wax” is derived from. Once the shell is devoid of wax it is fired in a kiln to set it. Immediately after the shell is finished, it is

removed from the kiln and filled with hot bronze. The bronze fills the void where the wax was. Once the bronze has cooled it is removed from the mold and returned to Christiansen, who then cleans up any imperfections and welds large pieces together if necessary. Finally, once the piece is detailed to his liking, it is sandblasted and colored to the standard brown-gold tint characteristic of most bronze statues we’re familiar with.

From start to finish, the current bronze sculpting process is clearly a difficult one. Many are now turning to 3D printing for help, because “it takes out the first six to seven steps and speeds the process up”, says Christiansen. No stranger to working with technology, Christiansen expects that 3D printing may someday make much of the current bronze sculpting process obsolete.

“Someday 3D printing will probably replace the guy who can sculpt something by hand”, he said. “With 3D printing you can make one-of-a-kind pieces.” Currently, manufacturing an individual unique piece is expensive, and 3D printing could make it more affordable.

For now, Christiansen will continue creating the majority of his masterpieces the way it has always been done. Despite being done by hand his pieces are equal in craft, if not superior, to anything created by a machine. As a bronze sculptor, Christiansen is unique, especially considering the large facility he utilizes. Many who do bronze sculpting Christiansen considers “hobbyists,” working on a small scale from their home or shop.

Since bronze sculptors are few and far between, Christiansen sees business from all over the country. He currently has a set of larger-than-life sculptures



**Completed miniature bronze sculptures**



awaiting shipment to a medical facility in Texas.

Over the years, Christiansen estimates that he has created 50,000 statues or more, and he shows no sign of slowing down. In fact, he has plans for future expansion.

“I’m able to do this work,” he states, “and it’s something I like to do.”

As his business continues to grow, Christiansen hopes to branch out from his current practice of sculpting almost entirely military, police, or fire and rescue statues. He’d like to produce more custom orders and serve a diverse group of customers. For instance, he has been asked to do various individual statues for gravesites for monument companies and for companies like Gold ‘N Plump in St. Cloud. He is also able to do less expensive faux-bronze medallions for city festivals.

Expanding will be challenging, he knows, but Nick is ready for the challenge, and expects that technology will play even a greater roll in the years ahead.

If you have a project to talk with Nick about, you can contact him at 320-398-4304 or at [www.brodinstudios.com](http://www.brodinstudios.com).



Finished bronze sculpture ready to be shipped.

## Industry News

### Power Grid Saboteur Gets 15 Years

An Arkansas man who pleaded guilty to sabotaging electric grid equipment has been sentenced to 15 years in a federal prison.

Jason Woodring also has to pay more than \$4.8 million in restitution, including nearly \$50,000 to Jacksonville-based First Electric Cooperative .

Authorities said Woodring repeatedly attempted to bring down a 500-kilowatt transmission line with freight trains and was also behind an arson attack on a high-voltage switching station and the pulling down of electric co-op lines with a tractor.

“The power grid attacks had the potential to put many lives at risk,” said U.S. Attorney Christopher R. Thyer, whose Eastern District of Arkansas office negotiated the plea deal earlier this year. A federal judge accepted the agreement June 18.

Woodring, 39, originally faced an eight-count indictment stemming from a series of vandalism incidents in the service territory of First Electric Cooperative in 2013. During the investigation, he admitted targeting equipment owned by the co-op and investor-owned Entergy’s transmission components in central Arkansas.

Woodring “damaged or attempted to damage the property,” wrote FBI Special Agent Dixon A. Land in a criminal complaint sworn out Oct. 12, 2013.

The first incidents involved two attempts in August 2013 to bring down a transmission line with trains running through Cabot, Ark., on Union Pacific tracks. Woodring also admitted burning up an Entergy Switching station, in Scott, Ark., causing \$4 million dollars in damage, Sept. 29, 2013.

An attack the following week involved pulling a 115-kilovolt line down from two First Electric Cooperative poles.

Woodring admitted using a borrowed chain saw to cut the poles and stealing a tractor with a winch to pull the line down, knocking out power to about 9,000 co-op meters for about two hours and causing more than \$48,700 in damage.

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## June Outage Summary

**D**uring June there were 32 outages reported on the Cooperative's system. Trees hanging over or into power lines and lightning caused the most outages in June.

Storms with lightning and winds moved through the entire service area on Saturday, June 20, causing 55 members to be without power. Outages stretched across several counties and outage times varied from just over an hour to over three hours. On June 22, storms that moved through Sibley and McLeod Counties interrupted power to 41 consumers. Main causes were lightning and trees blown into lines. Various outage sites

were off from just over an hour to over seven hours. The third largest outage was south of Hutchinson on Thursday, June 11. Power was out to 18 customers for just over one hour. Cause of the outage is not known.

Most outages affect only one or two members. They are frequently caused by small animals, trees in the line, equipment failure, or motor vehicle/machinery accidents. Larger outages affecting hundreds of members at a time are usually caused by transmission outages, storms, equipment failure to substation equipment, or accidents.

Restoration time on weekend and evening outages, when line crews are called out from home, usually take a little longer to get back on than outages when crews are already out working on the project.

## MCPA News Ads — Free want ad service for members.

Please limit your ad to nine words. Use the coupon printed below or available at McLeod Cooperative's front desk to submit your ad. Ads will be printed for one month only. Please submit a new ad if you want it published more than one month. Include your name and address, which will be used for identification purposes only. Ads must be received by August 28 to be included in the September issue. Thank you!

### Please run this ad in the next MCPA News

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone number: \_\_\_\_\_

#### Remember to limit your ad to nine words!

1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_

4 \_\_\_\_\_ 5 \_\_\_\_\_ 6 \_\_\_\_\_

7 \_\_\_\_\_ 8 \_\_\_\_\_ 9 \_\_\_\_\_

Clip and Send to: McLeod Cooperative Power, ATTN: Classified Ads  
P.O. Box 70, Glencoe, MN 55336

Please check  
ad category

- Giveaway
- For Rent
- For Sale
- Wanted



## When your power goes out, so do we

When storms hit and the lines are down, we roll up our sleeves and go to work. No matter what Mother Nature throws our way, we won't quit until the lights are back on in every home and business we serve.

But it's not just disasters that bring out the best in us. It's the everyday effort we make in improving reliability and adding technology to better serve you.

We don't just provide electricity. We provide a powerful value in your life every day.

### For Sale - Miscellaneous

- 30 Wood posts. All sizes. \$1.50/each. 320-587-7746
- 12ft X 15ft vintage burgundy wool area rug. B/O. 320-328-4041
- Everett console piano. Good condition, needs tuning. \$375. 320-587-8065
- 2000 Ford Focus wagon. Good grocery getter. \$1,500. 320-587-7292
- 2003 Keystone Mountaineer 35ft travel trailer, 2 slides. 320-583-8610

### For Sale - Farm

- Two wheel farm trailer. \$50. 320-587-7746
- John Deere 21ft tandem disk. 320-583-7360
- 4 wall mounted 54in barn fans. \$500/each. 952-607-1754
- 5 ton running gear. 320-864-4496
- 8in X 55ft Mayrath P.T.O bottom drive auger. \$750. 320-579-0267

### Wanted

- Someone to convert church choir 78 records to DVDs. 320-562-2625
- Dump rake. Good condition. 612-345-2876

**Cleaning out your garage, attic or spare room? Try listing it for free in the MCPA classifieds.**

*These want ads are designed to help members buy items from or sell items to other members, or rent their property to members. They are not designed to advertise services or for-profit business pursuits. That is why we do not offer a services column and do not accept advertisements for commercial businesses.*

**Disclaimer – McLeod Cooperative Power Association (MCPA) assumes no liability for the content of, or reply to, any item posted. The party posting any advertisement assumes complete liability for the content of, and all replies to, any advertisement and for any claims against MCPA as a result thereof, and agrees to indemnify and hold MCPA harmless from all costs, expenses, liabilities and damages resulting from, or caused by, any advertisement or reply thereto.**

## Geothermal tax credit to expire in 2016

**T**he Minnesota Geothermal Heat Pump Association (MNGHPA) is advising consumers that the 30% tax credit for geothermal will be expiring in 2016.

Consumers should be aware that the Energy Improvement and Extension Act of 2008 (HR 1424) which offers a one-time tax credit of 30% for homeowners who install geothermal heat pumps is set to expire on December 31, 2016.

The expiring tax credit is expected to drive up demand for geothermal this year and into next. There are a limited number of qualified installers and loop contractors in the Minnesota, Iowa and Wisconsin geothermal market. Consumers should be advised that if demand were to exceed the market's current installation resources, then some systems may not get placed in service before the December 31, 2016 deadline.

The MNGHPA is cautioning consumers to look out for unqualified installers who may enter the market as demand increases. It also recommends that consumers use installers who are already qualified as members of the International Ground Source Heat Pump Association and/or members of their respective statewide ground source heat pump associations.

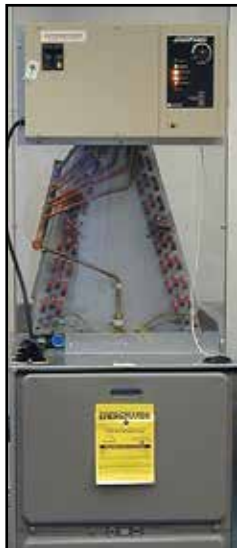


# 5 Heating Options

## TO CONSIDER WHEN PLANNING A NEW OR RETROFIT HEATING SYSTEM

### Electric plenum heat

Plenum heaters are an economical choice that work well as a retrofit option for off-peak in a propane or fuel oil furnace. They fit in the plenum of the existing furnace. This allows the member to use the most cost-effective heating source at any time. A plenum heater, after installation, will heat the home with cheap off-peak electricity and use a fossil fuel backup only during peak control hours.



### Electric cable or hydronic floor heat



Floor heat is a popular option for off-peak due to its comfort. The key is to install the proper heat storage base with sand and slab with complete perimeter insulation. The preferred installation is on the storage heating program, which offers a \$40 per kW rebate (\$2,000 max) to MCPA members. Call the energy experts at the Co-op for details and installation instructions prior to purchasing your equipment. Shops, garages and other non-living spaces are not eligible for Dual Fuel, and must be installed on the Storage Heating Program.

### Air-source heat pump with modulating plenum heater



Air-source heat pumps transfer heat instead of creating it. ASHPs are very efficient depending upon the outside temperature. They work just

like a high-efficiency central air conditioning unit during the summer. During the heating months, the process is reversed, and provides heat to the interior of the home. They are a good off-peak choice because you get very efficient heat until the temperature drops to between 0 and 15 degrees Fahrenheit. Then the modulating plenum heater kicks in and works with the heat pump for extra savings.

### Geothermal heat pumps



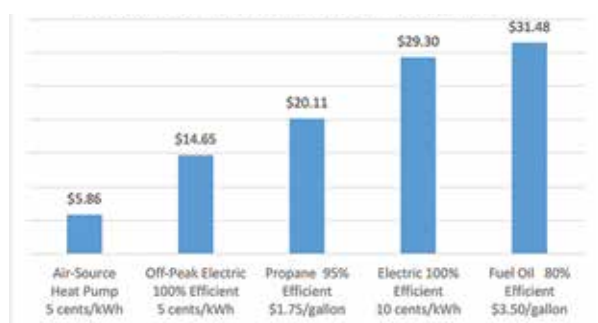
Ground-Source heat pumps provide the highest efficiencies for space heating and cooling available today. Geothermal heat pumps use the constant temperature of the earth to transfer heat. Energy efficiency rebates of up to \$400 per ton (\$2,000 max) are available this year.

### Steffes Thermal Storage with air-source heat pump

A Steffes electric thermal storage system is a stand-alone off-peak heating system that eliminates the need for fossil fuel backup when sized properly. Coupled with an air-source heat pump, a Steffes system will deliver great energy savings and high efficiency. Steffes systems convert electricity into heat and store that heat in specially-designed bricks. Because of its large heat storage capacity, it can provide comfort 24 hours per day. Rebates of \$40 per kW (\$2,000 max). Forced air and hydronic central furnaces are available, as well as room storage units.



### Price difference in heating fuels per million BTUs of heat



## Rebate program for 2015

### Ground Source Heat Pumps (controlled or uncontrolled)

Residential ..... \$400/ton  
Commercial ..... \$400/ton

### Air Source Heat Pump\*\*

14.5 SEER ..... \$480  
15 SEER ..... \$580  
16 SEER or higher ..... \$630

Ductless Air Source Heat Pump ..... \$300

Storage Space Heating ..... \$40/kW

ECM Motor ..... \$100

ENERGY STAR Dehumidifier ..... \$25

Storage Water Heating\* ..... \$300

ENERGY STAR Refrigerator with recycling of old unit ..... \$75

ENERGY STAR Freezer with recycling of old unit ..... \$75

Recycling of old refrigerator or freezer with documented proof of recycling .... \$75

LED Yard Light ..... \$60

### ENERGY STAR Swimming Pool

Variable speed pump ..... \$200  
Air source heat pump ..... \$400

\*\$300 Marathon or equivalent energy rated heater that is being installed on the Storage Program.

There is a \$2,000 maximum rebate per member. Rebates are always on a first come, first serve basis so please turn your paperwork in promptly. Rebate forms are available for download from the Co-op's web site. Air source heat pump rebate form should be completed by the installing contractor.

\*\*Rebates for high-efficiency heat pumps will continue to require installation by a "registered contractor" which has been designated as a quality installer and is listed on the hvaceducation.net web site. A list of all "registered contractors" in Minnesota is on our Cooperative web site at [www.mcleodcoop.com](http://www.mcleodcoop.com). There will be no rebates on central air conditioners in 2015. The Cooperative encourages any member replacing their air conditioner to upgrade to an ENERGY STAR



rated air source heat pump.  
\* Rebate forms must be received by Dec. 21, 2015 to be eligible for 2015 rebates.



# Do you know what your water heater is doing while you sleep?

**H**ot water looms large in the list of household chores. Showers, laundry, dishes — they all require hot water. If you think about it, we use a significant amount of energy to heat water. Now, utilities and manufacturers are teaming up to bring you new water heaters equipped with technology that can make the electric grid smarter and more efficient.

Electric co-ops are on the forefront of research testing new water heater technologies, including ways to improve the use of water heaters to integrate renewable energy onto the electric grid.

Water heaters are unique among electric home appliances. They are omni-present, use significant amounts of electricity and can store thermal energy for hours at a time.

For decades electric co-ops have partnered with their members on “demand response programs,” which allow the co-op to turn home water heaters on and off in order to reduce how much power the co-op uses during peak periods, when power is more expensive. Members get a break on their bill in exchange for participation. New communications and automation technologies make this process more reliable, predictable and efficient.

More than 250 electric co-ops in 35 states use large capacity electric resistance water heaters that can reduce the co-op’s power cost and store electricity produced by wind and hydropower. For example, when the wind blows at night — when most of us are sleeping and wholesale power is cheaper — the electricity produced can be used to heat water in our homes. The water will remain hot even if the water heater is turned off for several hours. In other words, collectively, water heaters can act like a battery, storing energy.

For all of these reasons, electric co-ops were dismayed in 2010 when the Department of Energy issued new efficiency standards for electric water heaters that would have made demand response programs using large capacity, electric resistance water heaters difficult.

For the last five years, electric co-ops have been working with efficiency advocates, manufacturers and others

to ensure that we can take advantage of new technologies that benefit our members. In April, Congress passed legislation that allows co-ops to continue to run these demand response programs.

Electric co-ops across the country hailed this bipartisan legislation as a win for consumers. Collectively, the current water heater programs can reduce demand by an estimated 500 megawatts, saving consumers hundreds of millions of dollars and avoiding the need for new power plants.

Your home is eligible to save money by heating the water it needs, during the off-peak overnight hours. Participation in the Storage Water Heating Program is encouraged by the Co-op. Over 1,270 families served by McLeod Co-op Power currently participate in the Storage Water Heating Program. Participating members use an 85 gallon or larger, high efficiency electric water heater to heat water at night and store it for all the day’s activities. Members pay less than half the regular rate for heating water if they participate in the

program. **Annual savings for a family of four persons averages over \$330.** In addition to the yearly savings, there is a **\$300 rebate** when a member joins the Storage Water Heating Program.

If you need a larger or more efficient water heater, Marathon brand water heaters are available at the Co-op and through area plumbers. Call the energy experts at McLeod Co-op Power for assistance with sizing or purchasing a water heater at 1-800-494-6272.

**WATER HEATER DEMAND RESPONSE**

**HOW IT WORKS...**

- 1** Controllable, high-efficiency electric water heaters are installed in homes.
- 2** During times of high demand, co-op cuts power to water heaters.
- 3** When demand drops, water heaters are turned back on to run during the night and provide warm water for the next day.

**FUN FACTS**

Water-heater-control programs let co-ops take full advantage of wind generation, which is most active at night.

About 250 co-ops in 35 states currently have load management programs that include water-heater control.

**BENEFITS:**

- Co-ops avoid peak pricing.
- Members use power when it's cheaper.
- Helps avert need for new power plants.

**NRECA**  
A National Energy Cooperative Association

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Your accurate emergency outage phone number on file means:

- Faster pinpointing of your location
- Quicker deployment of line personnel
- Faster repair time
- Shorter outage duration for you

## Please update your phone number today

Three easy ways to update your phone number:

- Call us at 1-800-494-6272
- E-mail us at [mcpainfo@mcleodcoop.com](mailto:mcpainfo@mcleodcoop.com)
- Fill out the form below and mail in with your bill payment or mail separately to: **McLeod Co-op Power, P.O. Box 70, Glencoe MN 55336**

Name: \_\_\_\_\_

Account Number: \_\_\_\_\_

Address: \_\_\_\_\_

Phone 1: \_\_\_\_\_ Check one:  Home |  Business |  Mobile

Phone 2: \_\_\_\_\_ Check one:  Home |  Business |  Mobile

Phone 3: \_\_\_\_\_ Check one:  Home |  Business |  Mobile