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Michigan COUNTRY LINES

October 2011

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Silent Sentinels
Poles remain key to safe, reliable power

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25 **Win With The People Fund**

28 **Another Home Heating Option**

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— Ira Jones

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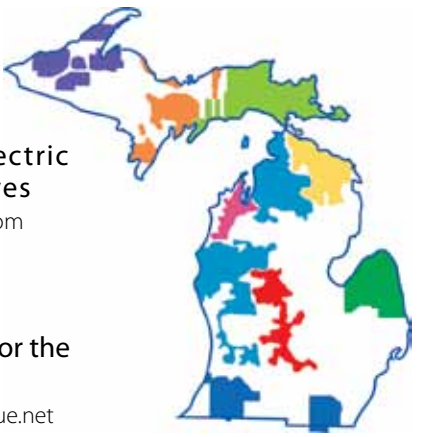

Michigan's Electric Cooperatives
countrylines.com

On the Cover
Lisa Snelling of Flint created a magazine and website for the many women who love hunting as much as she does.
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What do Blue Diamond® almonds, Sunkist® oranges and Sun-Maid® raisins all have in common besides being healthy snacks?

They all come from cooperatively-owned businesses.

You might be surprised by the number of co-ops around you, including Great Lakes Energy. They have been formed to sell produce and electricity, offer financial and banking services, provide housing and health care, and much more.

Steve Boeckman
Great Lakes Energy
President/CEO

Although created for different purposes, we all share a common set of principles and values that put our members first. That's the cooperative difference. Co-op members are more than just customers. They have a voice in the business because they're the owners. Your electric cooperative is led by a board of directors who are members elected by you.

Co-op members are more than just customers. They have a voice in the business because they're the owners.

Nearly 75 years ago, local co-op pioneers shared costs and took risks to start a cooperative business to have electric service extended to their homes and farms. They worked together to accomplish what individually would have been impossible. By sharing the costs, they were able to reap the benefits.

The same is true with our reliability improvements today. Everyone shares in these costs and, at some point, everyone will benefit. Major reliability improvements take time to complete with all the miles of line we maintain and the financial resources required. Only one other electric co-op in the United States has more miles of line than Great Lakes Energy.

Our work will continue until every GLE member receives the same high level of reliable service. Ongoing efforts will be needed after that to maintain the high level of services our members expect and deserve. Some members already at that level may question the need for further investments in reliability. The excellent service they enjoy would not have been possible without the financial contributions from all members. Their help enables us to work towards providing better reliability for all members.

Another cooperative advantage is sharing our margins with members when financial conditions allow. We have been retiring capital credits annually since 2003. In that time, over $21.3 million in capital credit refunds were returned to members.

This is the way cooperatives work and explains why they remain an integral part of our society today. More than 29,200 cooperatives nationally employ 2 million Americans, according to the National Cooperative Business Association, and one in every four Americans is a co-op member.

We all exist to fill a common need by putting members first.

Find us on Facebook.
facebook.com/greatlakesenergy

GLE's First Wildlife Project 'Growing' Strong

Most of the shrub seedlings planted in 2008 along a Great Lakes Energy power line right-of-way are doing well, which is good news for wildlife in eastern Charlevoix County.

"When these fruit-bearing shrubs mature in a few years, they will provide food for turkeys, partridges and other wildlife," explains Steve Ryder, GLE's vegetation management department supervisor.

The seedling planting was the first wildlife habitat improvement project conducted by his department. A similar project in Barry County earlier this summer involved establishing a natural food crop for wildlife along another GLE right-of-way (see the next issue for more on that project).

Since 2008, Great Lakes Energy's vegetation management department has sponsored annual Energy for Wildlife projects throughout the cooperative's service territory. The Energy for Wildlife program run by the National Wild Turkey Federation assists participating utilities in incorporating wildlife management in their right-of-way maintenance practices.

In Charlevoix County, Boyne City High School students planted 200 seedlings along the right-of-way in a remote, wooded area near Chandler Hill. In addition to producing fruit for wildlife, Roselow Sargent crabapple and Washington Hawthorn species were selected because both are low-growing shrubs that won't interfere with overhead power lines. They were planted along the edges of the right-of-way where they won't be in the way of line maintenance crews.

Other annual Energy for Wildlife projects included tree-planting events held at local schools in Shelby and Boyne Falls.

GLE's Steve Ryder inspects one of the fruit-bearing shrubs that will provide food for wildlife in a few years. They were planted by students in 2008 along a power line right-of-way in eastern Charlevoix County.

No Nukes

I'll get right to the point. Nuclear power plants. I sincerely hope that co-ops are not serious about building them (May "Comment"). We are trying to rid the world of nuclear bombs, but consideration is given to these potential time bombs? There aren't enough safeguards that can be put in place to assure that an accident won't happen. Mechanical failure and human error are also elements to consider. It's not just the power plants located in areas of natural disasters, but any and all. They are expensive to build, dangerous, and the radiation residue is expensive and dangerous to dispose of. Even states with miles of desert and mountains that are virtually uninhabitable don't want it. Transporting it all across our country is pretty scary, too. I guess we have forgotten 3-Mile Island, Chernobyl and Japan.

The idea of building small nuclear power plants to serve individual communities is absurd (400 homes, or so, to a plant)? Who wants them scattered all over our pristine Michigan, waiting for an accident to happen? What would people do if such a thing occurred and they had to leave their homes forever because they could no longer be used? Who is this person that says solar and wind or hydroelectric power cannot hold up their end of the power grid? He's wrong; we've made great strides toward using that very kind of green energy. Natural gas is a much more viable power source (coal is not a favorite—it's dirty and there are accidents—just ask the people of Tennessee who can no longer farm their land or live in their homes after the accident there with coal residue. However, I would prefer that to nuclear power.

I'm also curious how tall this 72-year-old (F. Hartway letter, June) is that he has to "duck" under a windmill blade to go fishing. They are graceful to watch, quiet and clean.

We should follow the common sense of Italy, which voted down nuclear power plants, and Germany, who plans to abandon it in the next 11 years. Convincing India, Pakistan and Iran to do the same is one of the greatest challenges the world faces. I hope the U.S. will not be resistant to vacating nuclear power plants.

We have become so selfish with our "wants" to own every toy that technology produces that we are not seeing what it is doing to all of us. We can do without more and more energy, if everyone would be sensible. Talk about having kids and grandkids paying for something in the future! Perhaps since "they" insist on more power, then let the "little darlin's" pay.

Meanwhile, individuals should try to be more self-sufficient. Look for ways to provide water, heat and light without a power grid attached to it. If you don't do it voluntarily, you may be "forced" into it down the road. I say, 'no nuclear power plants!'

Jobs lost? Not. Green energy will provide jobs through building and maintaining the different systems. We've only just begun.

– Bonnie Kenzie, Jackson

Editor's Note: *As Craig Borr, CEO of the Michigan Electric Co-op Assn., noted in the article, electric co-ops support a diversity of power supply sources, including renewables, coal, natural gas, and nuclear power under defined safety measures. He also noted the need to shut down outdated coal plants. But these baseload supply sources will need to be replaced to meet current and ever-growing demand, and as service providers, co-ops know firsthand this will require more than renewables alone. Renewable energy cannot and will not replace coal and nuclear as viable forms of baseload generation (coal and nuclear already make up 80 percent of the U.S. power supply).*

You are right that we all need to embrace energy efficiency. Also, since you and others are their owners, nonprofit electric co-ops work to keep electricity affordable.

Q & A About CFLs

I have been switching to CFL bulbs to supposedly save money, but the life span of these are terrible and I am only using them where recommended. The two fixtures I have problems with also have ceiling fans. I have used bulbs from the EO program, store brand (Meijer), and GE bulbs, but they do not last in these fixtures. They are not totally enclosed (open bottom), they hang upside down, and the switch is off when I replace them. Several have burned out, and the last one lasted only MINUTES! Is there an issue with the fan? The light and fan are on separate switches.

CFLs are costing me more $ instead of saving since the CFLs cost more. Any ideas what may be going on? I never had issues with old-style bulbs.

– Jeff Cherwinski

Editor's Note: *There are several possible answers, as described by Sandra Hall, an engineer at Cherryland Electric Co-op:*

- *Some CFLs are not designed for inverted use because heat can rise to the electronic ballast and cause an early burnout.*
- *CFLs are susceptible to vibrations–if the fan offers this, a CFL will not last its anticipated life.*
- *If the fixture has solid-state dimming components (even bulbs that specify dimming capability), the ballast and fixture may not always jive, and burnout occurs.*
- *The type of voltage fluctuation, (either high or low) that can result from a storm or overloaded circuits can also deter the possibility of a long-lived bulb.*

Recycling Refrigerators

I just bought a new fridge and need to get rid of the old. Please let me know what you may offer in this case. Thanks.

– Don Hollis, Grayling

Editor's Note: *Call 877-296-4319 or see michigan-energy.org to check if your electric co-op currently offers this service. Also, recycling services vary by area and season, but many retailers (Best Buy, etc.) will pick up and recycle an old appliance when you buy a new one. See energystar.gov and click on "Recycling with Energystar" for details. Local utilities, scrap metal recyclers, waste management facilities and energy efficiency groups now offer appliance recycling, as well.*

Mabel's "Ageless Art"

In 2008 [June], I read in *Country Lines* about 96-year-old Mabel [Pechta] and her art and life. Her story was fascinating, and I loved her lighthouse art.

I wrote to ask if she could do one of the lighthouses for me that I admired in the picture of her outside her home in Moran—a lighthouse on a stony cliff with waves crashing the rocks. She said yes, but had 10 works to do for other people first. True to her word, she completed my art in early 2009. It was very beautiful, and hangs in my front hall.

Recently, my husband and I went to the U.P. and were sad to find that she passed away in 2010. I wish I could have met her, but the best thing is that I have one of her artworks and the note she wrote about it.

We express our belated condolences to her family and hope memories of her great life are helpful to them.

– Joyce Healy

The Proof is in the Pudding

Refrigerator standards have saved consumers billions.

Photo – iStockphoto.com

What's your favorite late night snack—that go-to treat that melts away the day's troubles as you curl up in front of the TV? Maybe it's a creamy bowl of Rocky Road or delicious, spicy Szechuan chicken left from a take-out feast. Refrigerator finds like these may make you feel guilty, but at least you don't have to feel bad about how high your energy bill will be to cure your cravings. That's because of new technologies and meaningful energy conservation standards put in place by the Building Technologies Program of the U.S. Department of Energy (DOE).

In recent decades, the DOE has led technological innovation that vastly improved the energy efficiency of refrigerators, freezers and thousands of other household appliances. As a result, it's a lot easier on your pocket and the environment to keep ice cream at frosty perfection. In fact, today's refrigerators use only about 25 percent of the energy required to power models built in 1975. Even while continually improving to meet efficiency standards, refrigerator size has increased by about 20 percent, added energy-using features such as through-the-door ice, and provide more benefits than ever.

The dramatic rise in efficiency began in response to the 1970s oil and energy crises, when refrigerators cost about $1,300—a hefty price for an energy waster. Refrigeration labels and standards have improved efficiency by 2 percent every year since 1975. Due to research, useful tools, partnerships with utilities and other organizations, and market initiatives that helped enable appliance standards, the DOE helped avoid construction of up to 31 power plants (1 gigawatt size) with the energy saved since the first federal standards in 1987. That's the same amount of electricity used annually in Spain.

Manufacturers have responded with new innovations and products to meet, and often exceed, the new requirements. Refrigerators performing above and beyond the minimum standards qualified for the Energy Star® label, motivated consumers to save energy, and primed the market for continued efficiency improvements.

These progressive energy-efficiency standards translate into big savings for consumers. Today's refrigerators save the nation about $20 billion per year in energy costs, or $150 per year for the average American family.

The next proposed increase in refrigerator and freezer efficiency (2014) will save almost 4.5 quadrillion Btus over 30 years. That's three times more than the total energy currently used by all refrigeration products in U.S. homes annually. It also equals energy savings that could be used to power one-third of Africa for an entire year.

The DOE continues to invest in future innovations for energy efficient products. So, go ahead and indulge with those late night treats. Your fridge has you covered.

Roland Risser directs the DOE Building Technologies Program. For more on appliance standards and how they save you money, see eere.energy.gov/buildings.

Leave the Pole Alone

Placing a sign on a utility pole could endanger a life.

Photo – iStockphoto.com

What do yard sale signs, basketball hoops, deer stands, satellite dishes and birdhouses have in common? They're often found illegally attached to utility poles. But this isn't only a crime of inconvenience. Safety issues caused by unapproved pole attachments place the lives of lineworkers and the public in peril.

It may seem innocent, but a small nail partially driven into a pole can have deadly results around high-voltage electricity.

Your local electric co-op line crews climb utility poles at all hours of the day and night, in the worst of conditions. Anything attached to utility poles can create serious hazards for our line personnel. Sharp objects like nails, tacks, staples or barbed wire can puncture rubber gloves and other safety equipment, making lineworkers vulnerable to electrocution.

Lineworkers with electric co-ops have reported poles used as community bulletin boards, satellite mounts, and even support legs for deer stands, lights and carports. Not only do these attachments put line crews at risk, anyone illegally placing these items on poles comes dangerously close to energized power lines with thousands of volts of energy pulsing overhead. It's always wise to keep any structure at least 10 feet away from utility poles.

Unauthorized pole attachments violate the *National Electrical Safety Code*, the accepted manual containing guidelines for safe electrical engineering standards. Utilities strictly follow this code, which includes a section that reads, "Signs, posters, notices, and other attachments shall not be placed on supporting structures without concurrence of the owner (the utility is the owner of the pole). Supporting structures should be kept free from other climbing hazards such as tacks, nails, vines, and through bolts not properly trimmed."

Please help us keep our lineworkers—and our community—safe. Don't attach any of these unauthorized and dangerous items to utility poles. Fixtures not belonging to the co-op or another utility will be removed by co-op line personnel, and the co-op is not responsible for any losses if an item is damaged or destroyed during removal.

Share Your Story

In 2012, Great Lakes Energy will celebrate 75 years of service. In 1937, electricity was first brought to many parts of our rural service area. Over the years, electric service was expanded to cover parts of 26 counties in what we now call Great Lakes Energy.

It was a monumental time for rural farms and families. We want to hear your stories and memories about that time. Photos and other historical artifacts are also welcome. The information may be used in a future issue of *Michigan Country Lines* or other co-op publication.

Please share your story by writing to: Great Lakes Energy, Communications Dept, P.O. Box 70, Boyne City, MI 49712 or email glenergy@glenergy.com. Deadline: Nov. 10, 2011.

Looking Out for You 75 YEARS 1937 - 2012 Great Lakes ENERGY Your Touchstone Energy® Cooperative

GLE Offers Convenient Payment Options

Great Lakes Energy members have several options for paying their energy bills:

▶ The **Automatic Payment Program** allows you to have your electric bill automatically deducted from your checking or savings account on the due date.

▶ The online **Access My Account** option on gtlakes.com allows you to make electronic payments using a credit card or electronic check. You enter the payment amount along with the credit card number and expiration date or the routing and account numbers that appear at the bottom of the check. Remember to deduct the amount from your checkbook as you would normally do.

▶ Call Center representatives allow you to **make payments by phone** using a credit card or electronic check.

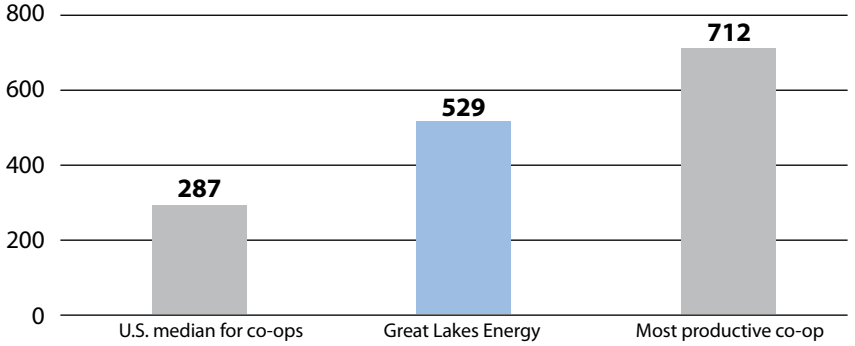
▶ Eight GLE **service centers and** 18 **pay stations** in local businesses allow you to make payments in person. Past-due bills must be paid at a Great Lakes Energy office. In addition, all GLE service centers have drop boxes where you can leave your payment after normal business hours. However, do not leave cash in the drop boxes. Service centers are located in Boyne City, Hart, Kalkaska, Newaygo, Reed City, Scottville, Waters and Wayland.

▶ A **budget billing plan** is available that allows your electric bill to stay roughly the same every month, year-round, despite changes in the weather.

For more information, visit the "Your Home" section on gtlakes.com and click on any of the options listed under "Billing."

Measuring Electric Cooperative Productivity

Great Lakes Energy ranks near the top!



Based on 2009 data obtained from the National Rural Electric Cooperative Association and Great Lakes Energy

At Great Lakes Energy, we do more with less. Members-per-employee is a measure of productivity. GLE recently ranked 15th among 771 electric co-ops nationwide.

Building A Better World

In today's uncertain economic times, the goal of building a better world can be a much larger task. We want our children and neighbors to succeed. We need strong, sustainable communities. But how *do* we build a better world?

History tells us when we band together we can do anything. Together, we can build a better world. That's where cooperatives come into play.

October is when we traditionally celebrate National Cooperative Month, but this time we kick-off a year-long celebration marking the International Year of Cooperatives 2012. Our theme, "Cooperative Enterprises Build a Better World," resonates loud and clear in our turbulent national—and global—economy. The year offers a chance for us to showcase our legacy of innovation and achievement, and reminds us of what's important in business—putting people first.

As a member of an electric co-op, you know we're focused on providing safe, reliable and affordable power. But this community-driven business model doesn't stop at your light switch. There are 29,200 co-ops across America that take many forms, from farmers banding together to get a fair price on supplies to credit unions delivering low fees and reasonable interest rates on loans. Our business model works for dairy farmers and small business owners, financial institutions, grocery stores, insurance, housing and child care.

One of every four Americans is a co-op member, and there are over 1 billion members around the world. Co-ops fill a community need, giving a voice to folks that profit-driven businesses often overlook. Co-ops share a common set of principles and values, including self-help and—one of my favorites—democracy.

"Co-ops fill a community need, giving a voice to folks that profit-driven businesses often overlook."

Electric cooperatives may only serve 12 percent of Americans, but our lines cover 75 percent of this great nation. By banding together, we deliver power to 42 million rural Americans in 47 states—and we're not finished.

Through international programs sponsored by the National Rural Electric Cooperative Association (NRECAFoundation.coop) co-op lineworkers are volunteering overseas to deliver electricity to 2 billion people living without power (see "Global Connections," p. 12). Over the last 50 years, these efforts have provided light and hope to 100 million people in over 40 countries. That's how electric cooperatives build a better world.

It's important to remember that co-ops put people first. We brought electricity to our communities to improve our quality of life and keep young people from leaving to seek opportunities in "electrified" cities. Nearly three-quarters of a century later we still want our children to succeed. That's why we support programs such as the Rural Electric Youth Tour and Michigan Electric Cooperative Teen Days. Last summer we sent 16 high school students to our nation's capital to learn about leadership, teamwork and our nation's ideals. Thirty five students were sponsored by Michigan electric co-ops to Teen Days, and many also offer scholarships that help send local students to college. These budding leaders will help us build a better world.

We also want to celebrate our legacy of innovation. Co-ops adapt quickly to change, and we work together—cooperatively—to find solutions to improve service for our members. Can you imagine profit-driven utilities working together to keep bills affordable?

At your electric co-op, innovation takes many forms—from energy efficiency (visit Michigan-energy.org and TogetherWeSave.com) and renewable energy efforts to transforming the electric grid. Each innovative step forward builds a better community for all of us.

Whenever a community faces a need—a challenge to make life better—the cooperative business model comes into play. By putting people first, employing local people, helping businesses with economic development, and innovating to meet our members' needs, cooperative enterprises build a better world. To learn more, visit go.coop.

***Craig Borr** is the president and CEO of the Michigan Electric Cooperative Association. His email is cborr@countrylines.com*

Silent Sentinels

Electric co-op poles remain the key to safe, reliable, affordable power.

The path of power to your home is guarded by silent sentinels—utility poles—that are under constant attack by Mother Nature and, sometimes, by people.

"About 38,832 miles of line, supported by utility poles, keeps power flowing across Michigan," explains Joe McElroy, loss control specialist and safety consultant for the Michigan Electric Cooperative Association.

Nationwide, electric co-ops own and maintain 2.5 million miles of line stretching across three-quarters of the U.S. landmass. Some lines are buried, but over 2 million miles of line are above ground. Since there are generally 18 wood poles for every mile of distribution line, electric co-ops rely on more than 37 million poles to safely and reliably deliver affordable power to your home.

Pole Patterns

Utility poles take several forms: concrete, steel, ductile iron, composite fiberglass, and—overwhelmingly—wood. Why do utilities prefer treated timber?

Tried-and-true wood poles are more affordable—steel and composite fiberglass poles often cost at least twice as much, although these alternatives claim a longer lifespan (most have not been in service long enough to verify the claims). Combined with a proven service life that can span several decades, treated wood poles provide the most affordable choice for most electric co-ops.

"Generally, utilities turn to alternative poles when nothing else will work," explains McElroy. "If you've got a woodpecker problem, wood simply won't cut it. Utilities in storm-saturated parts of the country may turn to underground lines, but more often than not these utilities opt to 'harden' their lines by installing larger wood poles and shortening the span between poles to help the system weather storms more successfully."

For utilities battling copper crime, ductile iron poles offer an interesting option—they eliminate the need for copper grounding wires running up the side of a pole. But these poles aren't as easy to climb in a pinch, and could pose a problem if not easily accessible by bucket truck.

"Co-ops expect poles are going to last at least 40 years in the field, barring unpreventable storm damage and other accidents," stresses Jim Carter, executive vice president of Wood Quality Control, Inc. (WQC), a subsidiary of the National Rural Electric Cooperative Association. Carter estimates that co-ops are responsible for between one-quarter and one-third of the nation's annual wood pole production.

Each year, electric co-ops spend roughly $300 million to purchase close to 1 million wood poles and 2 million crossarms—amounting to a whopping 20 percent to 33 percent of a co-op's annual materials budget. Created in 1982, WQC works closely with manufacturers and co-ops to monitor pole construction conditions and make sure co-ops invest in high-quality poles that meet strict federal Rural Utilities Service (RUS) standards.

Double Duty

Not only do poles support the nation's power system; telecommunication companies often rent space on poles to attach

Photo Courtesy – National Archives

Photo – Wendy Malaska

Left: Raising utility poles before 1935 was a primitive task, but soon the Rural Electrification Administration developed assembly line methods and standardized electrical hardware that lowered costs and made rural electrification more feasible. **Right:** A Cloverland Electric Cooperative (Dafter, MI) crew shows how power equipment is used today to help raise utility poles.

telephone and cable wires.

Each pole, averaging a height of 40 feet, breaks down into three zones. The supply space, which shuttles electricity from generation plants and substations to homes and businesses, can be found at the top of every pole. In most cases, a crossarm—a beam fixed horizontally across the top—divides the supply space from the middle 'neutral' space, called a safe zone. The safe zone forms a barrier between lines carrying high-voltage electricity and the area rented to other utilities, known as the communications space.

Hazardous Mission

Affordable wood poles stand the test of time—each pole's lifespan ranges from 30 to 50 years, and in the right conditions can last much longer. To lengthen a pole's life, wood is pressure-treated with preservatives. But no matter how strong a pole may be, both nature and people threaten a pole's ability to serve.

Wood poles battle a wide array of adversaries: acidic soil in the Midwest, heavy moisture in the South, and woodpeckers in the Mid-Atlantic. Utilities generally inspect poles on a 10- to 12-year cycle to identify potential problems.

Poles age differently depending on region, so RUS divided the nation into five decay zones. Poles in Zone 1—Idaho, Montana, Wyoming, Utah, Nevada, Colorado, Arizona, New Mexico, and portions of Alaska, Nebraska, South Dakota, Kansas, Oklahoma, and Texas—face the lowest risk of decay, while Zone 5 poles in Louisiana, Florida, Hawaii, and the coastal regions of Alabama, Mississippi, Georgia, South Carolina and Virginia sustain the highest risk. Utilities generally replace 2 to 3 percent of aging and decaying poles every year.

Natural decay, storm damage, and bird and bug attacks aren't the only concerns. People shorten a pole's lifespan, too.

The National American Wood Council estimates 5 percent of poles replaced annually were broken by car accidents. Attaching signs, basketball hoops, clothes lines, birdhouses, satellite dishes, or other items to wood poles with staples or nails can also shorten a pole's lifespan. Not only do these items create safety hazards when lineworkers need to climb a pole; even small holes speed a pole's decay.

Strong poles deliver reliable power.

Sources: NRECA, Wood Quality Control, Inc., American Wood Protection Association, Western Wood Preservers Institute

Why Keep Power Lines In Harm's Way?

High winds and ice can cause tree limbs to fall on power lines and trigger outages. And while your electric co-op's lineworkers are on-call 24/7 and respond quickly to problems, some folks ask the question: "Why keep power lines in harm's way?"

There are two ways electricity can be delivered to a home: through overhead or underground power lines. Underground lines may seem preferable since the lines are not exposed to extreme weather, but the technology doesn't always make sense for electric co-ops focused on affordability.

In Michigan, the cost of installing power lines underground is 50 to 60 percent higher than overhead lines, says Terry Rubenthaler, vice-president of engineering for Midwest Energy Cooperative in Cassopolis. Overhead installation costs can range from $40,000-$90,000 per mile of line, and from $70,000 to $150,000 per mile for underground lines, he says.

By comparison, in Iowa, underground lines average $85,000 to $100,000 per mile, while overhead line construction runs about $60,000 per mile. In Georgia, in mountainous or rocky areas, where lineworkers sometimes use dynamite to install utility poles, the price tag may be even higher.

Photos – iStockphoto.com

Most underground lines nationally are found in subdivisions where developers pay for the option for aesthetic reasons or to comply with local statutes. A high concentration of homes in these areas helps spread out the expense. According to Hi-Line Engineering, a Georgia-based utility consulting firm, nine out of 10 new subdivisions are served by underground cable.

But the bulk of co-op energy (including that provided to subdivisions) continues to be delivered through overhead lines—only 16 percent of the 2.5 million miles of distribution lines owned by electric co-ops nationwide are found underground (although the amount grows by about 1 percent annually). Co-ops are nonprofit, selecting methods that keep electricity affordable and reliable for consumers.

There are pros and cons to both forms of power distribution. Underground facilities are more reliable during storms and generally require less right-of-way maintenance because there are no trees, brush and other vegetation to clear away.

However, faults in underground power lines are not easy to track and fix. A North Carolina study found that outage restoration times averaged 92 minutes for overhead versus 145 minutes for underground lines. In 2005, Hi-Line Engineering compared the larger cost of underground lines against their benefits in Virginia, and found that underground savings did not outweigh the heavy installation cost. In Michigan, Rubenthaler says underground outage restoration can take significantly longer—four to five times, but there are not as many outages, either.

"If a tree falls on a line, you can normally drive down the line, see the problem, and get to work restoring power," adds Rubenthaler. The same holds for fixing broken insulators and crossarms—if you see it, you can fix it, but experts agree that underground lines are tough to troubleshoot. If you can't find the problem with your eyes, you have to search harder—tracking it down based on where the power flow stops. Then, a line crew has to dig a hole to reach the spot before repairs can be made.

For most co-op consumers, affordable overhead lines will remain the norm, at least for now.

Photo – NRECA International

Volunteer lineman Phil Hogan from Habersham EMC in Georgia takes a break from wiring new utility poles to spend time with local children in Yei, Sudan.

Global Connections

Electric co-ops and their employees make an impact at home and abroad.

Building a better world can happen by changing one life at a time.

Driven by this premise, electric cooperatives brought power and light to millions of consumers across the United States, forever altering the economic fortunes of rural America. Now, with the designation of 2012 as the International Year of Cooperatives (see page 9), 900-plus electric cooperatives around the country are celebrating the impact they have made in Michigan and overseas.

Farming Revolution

As late as 1935, nearly 90 percent of rural residents were living in the dark—forced to rely on iceboxes or spring houses to cool food, kerosene lamps for lighting, wood stoves for cooking, and fetching water from wells. The reason: the big investor-owned utilities had decided that there was no profit to be made extending power lines into the countryside to hook up farms and small towns.

That's where the co-op business model came into play.

Farmers and other leaders realized central station electric service would end the drudgery of rural life. After clamoring for relief for decades, they received a big shot in the arm in May 1935 when President Franklin D. Roosevelt signed an executive order creating the federal Rural Electrification Administration (REA)—now called the Rural Utilities Service (RUS). The agency's mission: provide low-cost loans as well as engineering and administrative support to help electrify rural regions.

"Electricity is a modern necessity of life and ought to be in every village, every home, and every farm in every part of the United States," Roosevelt announced.

REA financing initially was meant to entice big power companies to begin rural line construction. When they balked, it soon became clear rural electrification would only be accomplished by farmers and their rural neighbors doing it themselves by joining forces to form electric cooperatives (see Silent Sentinels, p. 10).

Work progressed quickly. By October 1940, electric co-ops nationwide were serving 1 million members. Innovations in line building pioneered by REA engineers and the competitive pressure co-ops placed on investor-owned utilities to serve rural areas slashed the cost of providing rural electric service by 50 percent or more.

Three-quarters of a century later, electric co-ops are still building a better future by delivering affordable service to 42 million members spread across 75 percent of the nation. But electric co-ops didn't stop there.

Lighting the World

The year 2012 will also mark the 50th anniversary of NRECA International Programs, a division of the National Rural Electric Cooperative Association (NRECA). And, the "building a better world" theme shines in the work NRECA International Programs performs every day.

Working together, over 300 U.S. electric cooperatives have delivered the benefits of safe and reliable electric service to more than 100 million people in 40-plus countries since November 1962.

After the massive earthquake in Haiti in 2010, a lineworker from Cherryland Electric Cooperative (Grawn, MI), Lane Wildfong, traveled to the ravaged country with his church group and spent time helping build a 16x24-foot clinic. Before the clinic was built, patients were seen under tarps to cover them from the harsh temperatures. "It was in the 90s during the day and in the 80s at night," he explains.

Photo – NRECA/TNGT

Fifty years ago President John F. Kennedy asked NRECA to join forces with the U.S. Agency for International Development (USAID) to share electric co-op expertise and export the democratic, self-help cooperative model to undeveloped countries.

Wildfong also spent time helping the Haitian people in any other way he could. "With my electrical background at Cherryland, I did the wiring for the clinic," he says. "But they didn't have electricity yet. I just got it ready to be hooked up when electricity becomes available."

"In just the week we were there, you could see how hard the Haitian people were trying to keep going, trying to forge

Lane Wildfong, a Michigan lineworker, helped build a clinic in Haiti and helped this mother deliver her baby.

Photo courtesy Lane Wildfong

ahead," he said. "Markets were going back up and people appreciated the little things that we brought over with us, like flashlights, toys and candy.

"I think what we did—and what the relief effort is doing—is offering a glimmer of hope to these people again. And they are responding with kindness and smiles. That's what kept us going."

"Building a better world takes experience, and no group has more experience in bringing low-cost power to remote communities than electric co-ops," explains Glenn English, CEO of NRECA.

At the invitation of President John F. Kennedy, NRECA joined forces with the U.S. Agency for International Development (USAID) to share electric co-op expertise and export the democratic, self-help cooperative model to undeveloped countries. In many cases, teams of volunteer American electric co-op linemen head to foreign lands for a few weeks to teach local lineworkers safe work practices. Then NRECA staff instructs locals how to maintain simple power grids and run their own utilities.

"We're not only providing a service, we share knowledge and best construction practice skills on a lineman-to-lineman basis," explains Ixcan, Guatemala volunteer Chris Stephens, manager of engineering for Palmetto, GA-based Coweta-Fayette Electric Membership Corporation. "Those we help may speak a different language, but they speak the same work."

Funding for this goodwill effort comes in part from the NRECA International Foundation, a registered charitable organization. NRECA International Programs projects are currently under way in Afghanistan, Bangladesh, Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti, the Philippines, South Sudan, Tanzania, Uganda and Yemen.

Much More to Be Done

In America, electricity has evolved from a luxury to an essential part of daily life, yet more than 2 billion people around the globe still live without power—64 million in Latin America, 500 million in Africa, and more than 1 billion in Asia.

According to NRECA International Programs, reliable electricity strengthens communities by providing better educational opportunities and increasing safety. Access to power also paves the way for progress, giving small business a much-needed boost.

"It made me realize how blessed we are here and how we take the great lives we have for granted," Wildfong recalls. "When I got home, I hugged my wife and kids so hard. My wife and I cried together for a half-hour when I got home."

"It made me feel good to know that we helped in a small way," Widlfong adds. "And little by little, their conditions are improving [in Haiti]. That's what keeps them going. That's what gives them hope."

"It was a humbling experience, to see the way people lived compared to what we have," agrees Craig Carlan, a lineman for a Georgia electric cooperative, who worked in Guatemala. "In the village we electrified, kids will have the opportunity to get a better education. They have dreams, too, just like we have dreams. Maybe they can set higher goals now."

To assist NRECA International Programs efforts, visit NRECAFoundation.coop.

Source: NRECA International Programs, U.S. Department of Energy

Women Hunters Unite

Northern Michigan is chock full of hunters, and there is no problem finding all the hunting gear, accessories, tools or publications to learn about the sport…unless you're a woman," says Mary Dugas, a member of Presque Isle Electric & Gas Co-op.

Herself a woman who likes to hunt, Dugas sent in *Woman Hunter* magazine, "the first and only hunting magazine for and by women," as her favorite Michigan-made product.

"It was started by my friend, Lisa [Snelling], who had never hunted before and just couldn't kill anything," Mary explains. "Well, she wanted her husband, an avid hunter, to take ballroom dancing lessons with her so they could have an activity they could share." What really happened, she adds, is that he convinced Lisa to go hunting with him, and she fell in love with the sport.

"Like most good women, she felt the need to accessorize for her hunting trips," Dugas adds, "but alas, there was not much available for women."

While admitting that *Field and Stream* and *American Hunter* are very good magazines, there was no publication about women and

Lisa Snelling

their hunting experiences. That's why Snelling, of Flint, decided to start one herself, with the first issue going online in September 2007, and into print two years later.

Today, Snelling says it's both a hunting magazine and a networking website that offers women a number of ways to participate and communicate with each other. Included is a free forum for veteran and novice hunters to submit written articles and chat about hunting experiences ("good, bad, ugly and glorious"), exchange wild game recipes, contribute to product reviews, and find information about outdoor events.

Snelling operates the small business with only four freelance employees, while working full-time herself as an IT consultant. But she has high hopes for expanding the magazine's current circulation of 1,500, and plans to have a toll-free number in place soon (for now, write to *Woman Hunter* Magazine, 4225 Miller Rd., #255, Bldg. 9, Flint, MI 48507 or visit thewomanhunter.com). She also sells

Woman Hunter logowear and says they haven't been able to find another women's hunting magazine like it in the world. "We'd like to see the magazine right next to People and Time magazine," she says.

Whether you're after small game, big game, waterfowl, dangerous game, or are just a curious onlooker, "Veteran women hunters can provide invaluable tips to newer women hunters," Snelling explains.

"And by the way," Dugas adds playfully, "her husband never took those [dance] lessons."

Hang 'Em High

A couple hunting seasons ago, Ron McGhan had an unfortunate surprise. Four wrist operations had robbed the Muskegon resident of the strength he needed to pull back his recurve bow. Frustrated, but not to be deterred, he bought a crossbow instead.

"I found out while sitting in my treestand the crossbow and rifle were hard to hold onto and that is when I came up with the idea of a crossbow and rifle hanger," explains McGhan, a member of Great Lakes Energy Cooperative. Again taking matters into his own hands, he invented a unit he calls "Hang It High." "It enables a hunter to sit hands-free with either a rifle, crossbow or compound bow," McGhan says.

The hanger is designed to extend up to 32 inches straight out from a tree, can be adjusted to the forward or backward lean of the trunk, and is secured with two ratchet straps. McGhan's product has been on the

Ron McGhan

market since 2009 and he's added options such as an adapter for an umbrella and video camera.

Found in a number of local sporting goods stores in Hesperia, Montague, Muskegon, Cadillac and Allendale, it's also available now at Jay's Sporting Goods and Schupbachs Sporting Goods in Jackson. Visit crossbowhanger.com or call 231-557-7185 for more information.

McGhan is proud that his product is "made entirely in the USA."

Photos courtesy Ron McGhan

Right: The crossbow and compound utility hanger invented by Ron McGhan holds different types of guns or a crossbow, and has interchangeable hangers. See a video demonstration at crossbowhanger.com

Tell us about your favorite, or a unique, Michigan-made product.
Send an email to czuker@meca.coop or mail to: C. Zuker, Country Lines, 2859 W. Jolly Rd., Okemos, MI 48864. *Thanks!*

A strutting male sharp-tailed grouse.

Photo – iStockphoto.com

Grouse Season Is *On* Again

After a 12-year hiatus, the resumption of a sharp-tail grouse season in the U.P. last year proved two things.

First, that habitat and breeding ground management efforts have paid off in stabilizing and increasing the numbers of this "prairie" grouse in the eastern U.P. Secondly, hunters seem happy to add this grouse to their stalks for ruffed grouse and woodcock.

"In fact, the 398 hunters who actually hunted for this true grouse family member spent 1,425 hunter days and collected 217 sharp-tails for their efforts," said Al Stewart, who oversees forest game bird management for the DNR wildlife division. "Of the hunters who pursued this grouse, 62 percent hunted over a bird dog while making this first sharp-tail hunt in a dozen years in Michigan."

Biologists were able to track hunter success thanks to a required sharp-tail stamp (free when you buy a small game license) that allows them to follow up with post-season surveys of those who actually hunted and those who just get the stamp to help support restoration efforts.

Information derived from the survey is interesting beyond just the number of birds collected. For instance, the results showed that the hunters were mostly male, averaged 44 years in age, and most encouraging was that 6 percent were under the age of 17—a sign that younger members are coming into the upland game hunting ranks.

A total of 2,571 sharp-tail stamps were given, even though the actual number of hunters specifically afield for the sharp-tails was 398.

Sharp-tails, common to tall-grass prairies, moved into the U.P. from the west after sweeping fires that followed after logging of the original pine forests created good habitat. Later, they were found in both peninsulas—brought below the Straights by what was then called the Conservation Department—to northern lower areas where conditions were good for release.

But aging and encroachment of the forests, recovery of burnt-over lands, and man-made land changes began a slide into extinction for the bird in the lower state by the mid-60s, and a decline in the U.P. that called for a halt to hunting there.

Sharp-tails were able to hang-on in the lower peninsula for a while, but the last sites went silent in the mid-90s when their cooing, shrieking, foot-stamping dances and the frenetic challenges of males making their courtship rites that were so interesting when viewed from a blind located close to a lek (breeding ground), came to a halt.

The last-known area of sharp-tail grouse in the lower state was on Camp Grayling National Guard lands. Unfortunately, this was also on their bombing grounds, and with unexploded shells in the area the public is prohibited from entering these grounds, Stewart said. "It's a bit like that area near Roswell, NM, where the UFOs were supposed to have landed. If there are any sharp-tails there, they might as well be from Mars as far as the public is concerned," he quipped.

Today, the sharp-tail hunting area is primarily within U.P. land east of I-75, the core of the sharp-tail habitat restoration, and will remain the same for this season, from Oct. 10 through Oct. 31. The daily bag limit will be two birds in possession the first day, four in possession after that, and six birds maximum for the entire season.

Habitat management efforts continue to keep state lands in a favorable high-brush and tall-grass state for the grouse.

"We're working with two universities on lek sites in the U.P. sharp-tail area," Stewart noted. "We monitor all leks we find, and are working to establish a protocol for maintaining these important sites. We're working with the U.S. Forest Service in this study."

For now, those wanting to hunt a sharp-tail grouse in Michigan will wisely head up to the eastern U.P. where the chances to find—or even collect one—is a much more 'down-to-earth' opportunity.

***Don Ingle** is an avid outdoorsman and award-winning outdoors writer that submits regularly for Country Lines.*

Science Matters

Photo – iStockphoto.com

"The experiences we give our children early in their lives affect the development of their brains and greatly influence what they'll be able to do—or not do—when they're older."

– Jill Osborne, Sheldon Woods Elementary School Teacher

Kate Bassett was sitting in her living room when her 6-year-old son Max ran in, asking for two balloons.

"The next thing I knew, he had filled one with water and one with air, and was standing in the kitchen determining which would pop with greater ease when he jumped on them," Bassett said.

And while she appreciates science experiments that don't end up on the kitchen cabinets, the Harbor Springs mother of three said there's nothing like seeing her children have an "a-ha" moment.

"Watching them light up when they really get a concept, even a gross one like how bacteria forms on a half-eaten sandwich wedged under a booster seat, is so very cool," she said.

And while the Bassett family is having fun exploring science, children Noah, Max and Elizabeth are making important connections up-top.

Jill Osborne, fifth grade teacher at Sheldon Woods Elementary School in Holland, MI, explains the science behind these experiments:

"Neurons in our bodies send messages to each other across synapses," Osorne explained. "We're all born with most of our neurons already there, but we don't have many synapses, or connections, yet. As we grow and develop, our brains continue to form new synapses between the neurons. These connections, or paths, are crucial to everything we do. The more experiences we have when we're young, the more synapses develop."

Human brains have a "use it or lose it" approach, she said. "The synapses we use are kept, and the synapses we don't use are eliminated. So the experiences we give our children early in their lives affect the development of their brains and greatly influence what they'll be able to do—or not do—when they're older."

Science Report

It's a concept that's hard for some parents to act on. A 2010 survey by the National Science Teachers Association and Boehringer Ingelheim Pharmaceuticals, Inc., found that science is among the subjects parents are least comfortable discussing with their kids—even though 98 percent of teachers agree that parental involvement is important for kids to be interested in science.

And like those synapses, if kids don't work on developing a love for science, they may lose it altogether. National Assessment of Educational Progress figures show only 18 percent of American high school seniors perform at or above the proficient level in science, and international test scores show that U.S. students lag significantly behind their peers in the subject. According to teachers, parents are key to upping those scores, by engaging in experiments and "how things work" conversations at home, and by making science part of daily life.

The Science-friendly Home

Kids are naturally curious, so kitchen counter science doesn't have to be difficult. The Bassett family picks up on the science around them—mom and dad simply have to point it out, and the kids, with their innate love for investigating, run with the concepts.

"Anything that can be done in the kitchen, from exploring the combinations of oil and water to graham cracker earthquakes can serve as fun learning for the whole family," Kate said. "Pulley systems or levels and wedges get used all the time when the boys are building forts, and whenever they can, they find reasons to combine baking soda and vinegar.

"One experiment my kids never tire of is the two-liter diet cola and roll of Mentos trick. It creates a chemical reaction that causes the soda to shoot, geyser-style, from the bottle."

These simple, hands-on projects are what young kids need most to foster a passion for science, Osborne said.

"Flash cards and quizzes aren't important at a young age," she said. "Synapses are formed when kids go to the beach and feel the sand and waves, when they jump in puddles after the rain and watch the water flow in downward streams and wonder where the water goes as it dries; when they measure and mix and watch the muffins rise in the oven, when they hike through the woods and differentiate between leaf shapes and listen for bird songs and turn logs over to look for bugs."

The more experiences kids have at a young age, she said, the more background knowledge they have as they get older. "And, the easier it is for them to learn more difficult concepts as they progress through school."

Try This!

- Ask your kids questions like "I wonder why that happened?" or "Can you find another way to...?" and "I wonder what will happen if...?"
- Accept and try out your child's ideas.
- Use all five senses when you can. Touch, poke, prod and explore things you come across in your day, from dust bunnies to icicles.
- Take tours in your area—many are free! Try your local chocolate shop, factory, zoo or college.

***Lisa Doublestein** is a regular Country Lines freelance writer, educator and mom.*

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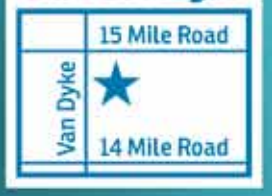

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Most will agree, pudding is a simple comfort food. Delicious served warm, but many require time to set up fully. To prevent a skin from forming on the top, cover the bowl or dish with plastic wrap or waxed paper. Find hundreds of recipes at **countrylines.com**.

Party Meringue Pudding

5 egg whites (2/3 c.)
1 c. sugar
2 t. baking powder
pinch salt
1 t. vanilla
1 lb. dates, finely chopped
1 c. pecans
2 T. flour

Beat egg whites until stiff. Slowly add sugar, baking powder, salt and vanilla. Mix dates, pecans and flour, fold into egg white mixture. Pour into 11x7x2-inch baking pan. Set in larger pan of hot water. Bake 1½ hours at 325°. Cool to room temperature and scoop into dessert cups. Serve with whipped cream or ice cream and sprinkle with cinnamon. Makes 12 servings.

Emma Jean Bowerman, Lake Isabella

Delightful Tomato Pudding

1 10-oz. can tomato puree
1/4 c. boiling water
6 T. light brown sugar
1/4 t. salt
1 c. fresh white bread cut in 1-inch cubes (no crusts)
1/4 c. unsalted sweet butter, melted

Stir water and puree together in small saucepan and add sugar and salt, boil 5 minutes. Place bread cubes in casserole (or fancy 2-inch high round, fluted pie dish) and pour melted butter over them. Add the tomato mixture. Bake covered for 30 minutes at 375°. Great accompanying any meat dish.

Patricia Coyle, Watervliet

Easy-To-Make Custard

6 eggs
1/2 c. sugar
1/2 t. salt
1/2 t. vanilla
4 c. milk
nutmeg

Beat eggs, sugar, salt and vanilla. Heat milk to the boiling point and stir into egg mixture. Pour into a 2-quart Pyrex® baking bowl. Sprinkle with nutmeg. Set the bowl into a pan with about 1 inch of water. Bake at 325° for 60 to 75 minutes. To test for doneness, insert a knife into the center of the custard. If it comes out clean, it's done. Cool and store in refrigerator.

Mary Ellen Wynes, Mt. Pleasant

Fruit Trifle

2 3.5-oz. pkgs. vanilla pudding
1 angel food cake
1 generous T. rum (optional)
1 20-oz. can cherry pie filling
1 15-oz. can peaches, drained
1 small can mandarin orange segments, drained
2 bananas
1 pint whipped cream
fresh kiwi, strawberries, blueberries, raspberries, as desired

Make pudding according to box directions. Cut angel food cake into 1-inch pieces. In a glass bowl, layer cake, pudding, sprinkle with rum, alternate fruits. Repeat cake, pudding, fruit until gone. Top with whipped cream and fresh fruit.

Doreen Lawrence, St. Clair Shores

Grandma's Rice Pudding

1/2 c. uncooked rice
2 c. milk
1/2 c. sugar
2 eggs, beaten
1 t. vanilla
1/2 c. raisins

Cook rice with 1½ cups water in a double boiler until the water is almost absorbed. Add milk and sugar and continue to cook in double boiler for 20 more minutes. Add eggs, vanilla and raisins (if desired). Continue cooking until almost as thick as you want the pudding to be. It will thicken slightly as it cools.

Mary Ellen Wynes, Mt. Pleasant

Tapioca Pudding

3 T. tapioca pearls (not instant)
5 T. sugar, divided
1 egg, divided
½ t. salt
2 c. 2% milk
3/4 t. vanilla

Soak tapioca pearls overnight, or 2-4 hours, in 3 cups water. Drain. In large pot, add

Send in your recipes! If published, you'll receive a kitchen gadget. Send in: **UNDER $10 MEALS recipes by Nov. 10** and **SLOW COOKER recipes by Dec. 10**. Mail to: *Country Lines* Recipes, 2859 W. Jolly Rd., Okemos, MI 48864; or email recipes@countrylines.com.

pearls to 3 tablespoons sugar, egg yolk, salt and milk and heat to full boil, stirring constantly until pearls are clear and soft, about 30 minutes. In mixing bowl, mix egg white and 2 tablespoons sugar until foamy and soft peaks form. Mix this into the tapioca mixture with vanilla. Serve warm or chilled. For an extra-creamy pudding, add 8 ounces Cool Whip®. Serve with strawberries, if desired.

Laura Erickson, Calumet

Grape Nuts Custard

1/4 c. butter, melted
1¼ c. Grape Nuts®
3 eggs
1/2 c. sugar
3 c. milk
1/2 t. nutmeg
1/2 t. salt
1 t. vanilla
1 c. raisins

Mix melted butter and Grape Nuts. Beat eggs and add sugar; add to butter and Grape Nuts mixture. Stir in remaining ingredients and blend well. Pour into a 2-quart baking dish and set in oven in a pan of hot water. Bake for about 1 hour at 375°, or until knife inserted in center comes out clean. Stir custard several times during first 30 minutes of baking. Makes about 6 servings.

Paula Brousseau, Bellaire

Rhubarb Custard Pie

4 c. rhubarb, cut in ½-inch slices
1½ c. sugar
3 T. flour
1/2 t. nutmeg
1 T. butter at room temperature
2 eggs, well beaten
1 9-inch pie crust, unbaked

Mix butter and sugar until creamy; blend in flour and nutmeg, then eggs. Set aside. Place rhubarb into pie crust. Pour mixture evenly over rhubarb. Bake for 10 minutes at 450° then drop temperature to 350° and continue baking for 30 minutes or until lightly browned. Serve cold or at room temperature. Enjoy plain or with whipped topping or ice cream.

Karen Richards, Wayland

Lemon Pudding Dessert

1 c. cold butter or margarine
3 c. cold milk
2 c. all-purpose flour
2 3.4-oz. pkgs. instant lemon pudding mix
1 8-oz. pkg. cream cheese, softened
1 c. confectioner's sugar
1 8-oz, carton frozen whipped topping, thawed, divided

In a bowl, cut butter into flour until crumbly; press into an ungreased 13x9x2-inch baking pan. Bake at 350° for 18–22 minutes, or until set; cool on a wire rack. Beat cream cheese and sugar in a mixing bowl until smooth; fold in 1 cup whipped topping and spread over crust. Beat milk and pudding mix in a mixing bowl on low speed for 2 minutes; carefully spread over the cream cheese layer. Top with remaining whipped topping. Refrigerate for at least 1 hour. Makes 12-16 servings.

Kathryn Snell, Montague

Just Like Orange Push-Up Salad

1 3-oz. pkg. vanilla pudding, (not instant)
1 3-oz. pkg. tapioca pudding, (not instant)
1 3-oz. pkg. orange Jell-O®
1 11-oz. can mandarin oranges, drained
10 oz. Cool Whip®

Mix the dry pudding and Jell-O mixes with 3 cups water and cook until thick. Remove from heat; stir in oranges and Cool Whip. Refrigerate.

Barbara Palzewicz, Daggett

Photos – iStockphoto.com

Eating Healthy *on the cheap*

So many of us in Michigan are tightening our belts, trying to save money. Sticker shock is a common feeling, as most of our favorite foods have risen as much as 12 percent in the last year. But the good news is you don't have to live on just beans and rice. With a little planning and effort, you can save on your grocery bill and not sacrifice taste or nutrition.

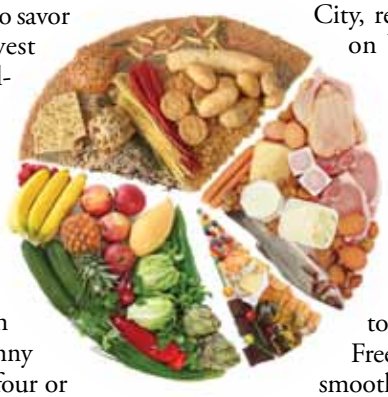
A Feast for the Eyes

October is the perfect time to savor Michigan's bountiful harvest without emptying your wallet. "Buy fruit that is in season, like apples, right now. You can buy in bulk since they don't go bad," says Silvia Veri, RD, nutrition supervisor at Beaumont Weight Control Center in Royal Oak. Northern spy, winesap, Rome and Granny Smith can be stored up to four or five months." Seasonal vegetables are less expensive, like squash for the fall and winter months," adds Veri.

Try roasting veggies such as potatoes, beets, sweet potatoes and squash for a hearty side dish. Cook cauliflower to make "mashed potatoes" or try sweet potato baked fries for an alternative to standard potato dishes. Visit localharvest.org to find a farmer's market or CSA (Community Shared Agriculture) farm near you.

Supermarket Sweep

Shopping the perimeter of your grocery store is your best bet, provided you can close your eyes while cruising by the bakery. In the fruit section, Connie Metcalf, RD CDE, at Munson Diabetes Education in Traverse City, recommends stocking up on bananas. "Add bananas to any whole grain cereal. Freeze in chunks and add to smoothies." Buy grapes on sale and freeze them for a refreshing treat. Pre-packaged, cut-up fruits and veggies are almost always more expensive. Buy whole fruits and veggies, spend a little time cutting and slicing, and you'll have fast and accessible snacks at the ready.



Whole grain pasta and brown rice are inexpensive too, with significant sources of fiber.

The dairy case is filled with high protein, low-budget options. "Buy low-fat varieties of cottage cheese, yogurt and cheese in large tubs versus individual packs. Also, a block of cheese versus individually wrapped," suggests Veri. Place yogurt and cottage cheese in individual containers for brown bag lunches and enjoy even more savings. Don't forget the always-budget-friendly egg. Veri recommends enjoying them in omelets, hard-boiled, scrambled or poached.

The cost of meat adds up fast on your grocery tab, so embrace a "Meatless Monday"! Metcalf suggests beans, which have protein and are rich in fiber. Cozy up with a hearty bowl of bean soup with in-season veggies.

Whole grain pasta and brown rice are inexpensive too, with significant sources of fiber. Fiber is a bonus because it fills you up and takes longer for your body to process, and is excellent for colon health. Whole-grain varieties have more fiber and the pasta is another nice source of protein. Add some veggies and/or chicken to create a one-dish meal.

It's Hip To Clip

To save even more, try couponing. The sluggish economy has made it "hip to clip" again. Coupons can be found in the Sunday paper and online at mycoupons.com or KrazyKouponlady.com. Simply print-and-clip to save! While healthier food options aren't as plentiful from the newspaper coupons, there are still ways to save on healthy food. Visit your favorite brand or health food store website—most have printable coupons available when you sign up for their newsletter (set up a separate email account so your regular email doesn't get flooded with junk mail). And, if you have a texting package on your cell phone, consider signing up for text alerts for special savings from your favorite store.

"Read the food ads for sales. Choose local, in-season foods, and look for generics. Use coupons and shop from a list and stick to it," adds Metcalf.

Lisa Marie Metzler is a freelance writer and certified personal trainer. She is a monthly contributor for Healthy and Fit Magazine and her other credits include Women's Health and Fitness, Positive Thinking, and MetroParent.

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3-1/2" SUPER BRIGHT NINE LED ALUMINUM FLASHLIGHT

ITEM 65020

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50735029

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36883954

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7 FT. 4" x 9 FT. 6" ALL PURPOSE WEATHER RESISTANT TARP

LOT NO. 877

SAVE 50% $3.49

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12 VOLT MAGNETIC TOWING LIGHT KIT

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$9.99

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51243822

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4-1/2" ANGLE GRINDER

Grinding wheel sold separately.

drill master

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CHICAGO ELECTRIC POWER TOOLS

SAVE 66%

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Item 68303 shown

LOT NO. 68303/67256/68861

8 Functions: Sanding, Cut Flooring, Cut Metal, Scrape Concrete, Remove Grout, Cut Plastic, Scrape Flooring, Plunge Cut

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86571094

SUPER COUPON!

CENTRALPNEUMATIC

3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR

LOT NO. 95275

SAVE 44% $41.99 REG. PRICE $74.99

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87078338

SUPER COUPON!

10/2/55 AMP, 6/12 VOLT BATTERY CHARGER/ ENGINE STARTER

SAVE 50%

CHICAGO ELECTRIC POWER SYSTEMS

LOT NO. 66783

$29.99 REG. PRICE $59.99

HARBOR FREIGHT TOOLS - LIMIT 4 This valuable coupon is good anywhere you shop Harbor Freight Tools (retail stores, online, or 800 number). Cannot be used with any other discount or coupon. Coupon not valid on prior purchases after 30 days from original purchase date with receipt. Offer good while supplies last. Coupon cannot be bought, sold, or transferred. Original coupon must be presented in-store, or with your order form, or entered online in order to receive the coupon discount. Valid through 2/5/12. Limit one coupon per customer and one coupon per day.

84669646

SUPER COUPON!

ELECTRIC CHAIN SAW SHARPENER

CHICAGO ELECTRIC POWER TOOLS

SAVE 40% $29.99 REG. PRICE $49.99

LOT NO. 68221/ 93213

Item 68221 shown

4-1/4" GRINDING WHEEL INCLUDED

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BADLAND WINCHES

NEW!

2000 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE

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SAVE $50

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86097855

SUPER COUPON!

RECIPROCATING SAW WITH ROTATING HANDLE

CHICAGO ELECTRIC POWER TOOLS

LOT NO. 65570

$19.99 REG. PRICE $39.99

SAVE 50%

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95677206

SUPER COUPON!

CHICAGO WELDING

90 AMP FLUX WIRE WELDER

LOT NO. 98871

SAVE $60

NO GAS REQUIRED!

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2. GO TO! www.HarborFreight.com

3. CALL! 1-800-423-2567

Glass-Block Windows Are Safe, Efficient Option

If you're concerned about security and energy efficiency at your home, you might consider replacing some of your old, inefficient windows with glass- and plastic-block units. Today's options offer a stylish alternative that any home improvement do-it-yourselfer can install.

Security

Safety and security is of particular concern on first-floor and basement windows where a would-be thief could quietly pry open or break a standard window. While it is possible for an intruder to break through a glass-block window, it would be very difficult, take quite a bit of time, and create a lot of noise. Most glass-block windows are hollow and a single block could be broken through, but the opening would not be big enough to crawl through. Solid, high-security glass blocks are also available, but they are very heavy and more difficult to install yourself.

In addition to security against break-ins from thieves, protection from severe weather is also a concern. Some standard pane-glass windows can withstand the force of the wind during a violent storm, but damage from flying debris often does much of the damage and can easily break through most pane glass. Block windows can withstand much more force.

Plastic-block windows are also available and look identical to true glass blocks. Most are molded from acrylic plastic, which is much more impact-resistant than standard double-pane glass windows. Acrylic plastics are often used for windows, such as block and storm windows, because sun exposure does not cause them to yellow, as may happen with other plastics.

Efficiency

Glass-block windows are an excellent, energy-efficienct alternative because there is an insulating air gap sealed inside each block. This is particularly effective because the two glass halves are fused together under heat. When the glass blocks cool, the insulating vacuum is created inside the block.

Special coatings can be used to increase efficiency. Most glass- and plastic-block windows use a low-E (low-emissivity) coating. Some Hy-Lite® acrylic plastic blocks have an efficient low-emissivity coating on a third pane inside the block, providing an R-3 insulating value. This can be combined with a tinted block for summer heat rejection of solar heat gain coefficient (SHGC) of 0.27, plus winter heat savings.

Another reason block windows are efficient is they are very airtight and remain that way throughout their life. There is very little, if any, air infiltration when the blocks are assembled properly in mortar or clear silicone. When installing a completed block panel, make sure to caulk well around the frame perimeter.

Do It Yourself

It's not difficult to install block windows yourself, but there is quite a learning curve to installing individual blocks. If you are a less-experienced do-it-yourselfer, select preassembled panels that can be installed similarly to any replacement window. Some of the strongest glass block panels, which meet International Building Code and hurricane impact tests, are framed by 2x6 pressure-treated lumber.

Glass block panels, such as from Pittsburgh Corning®, are available in 60 sizes and three patterns. Some minor framing of the rough opening is required to fit the panel. Plastic blocks, such as from Hy-Lite, can be custom-sized to fit your existing window opening.

Do-it-yourself kits for installing individual blocks are also available. Corner spacers are used to properly position the blocks. When the mortar sets up, the spacer ends are broken off and covered with more mortar. Kits for using clear silicone instead of mortar are also available for a more seamless appearance.

Send inquiries to James Dulley, Michigan Country Lines magazine, 6906 Royalgreen Dr., Cincinnati, OH 45244 or visit dulley.com.

Photo – Pittsburgh Corning

Glass- and Plastic-block Window Resources

- Builders Accessories, 888-921-7086, acrylicblock.com
- Circle Redmont, 800-358-3888, circleredmont.com
- Glashaus, 815-356-8440, glashaus.com
- Hy-Lite Products, 888-256-2599, hy-lite.com
- Pacific Accent, 888-522-4527, pacificaccent.com
- Pittsburgh Corning, 800-624-2120, pittsburghcorning.com

James Dulley *is a nationally recognized mechanical engineer writing about home energy issues for the National Rural Electric Cooperative Association.*

Transmission Improvements Help Wolverine Meet Its Mission

Wolverine Power Cooperative has a straight-forward mission statement—provide outstanding service to members by delivering reliable power at a competitive price. The cooperative depends on its transmission system to meet the "reliable delivery" portion of its mission.

Wolverine members served by the transmission system include:

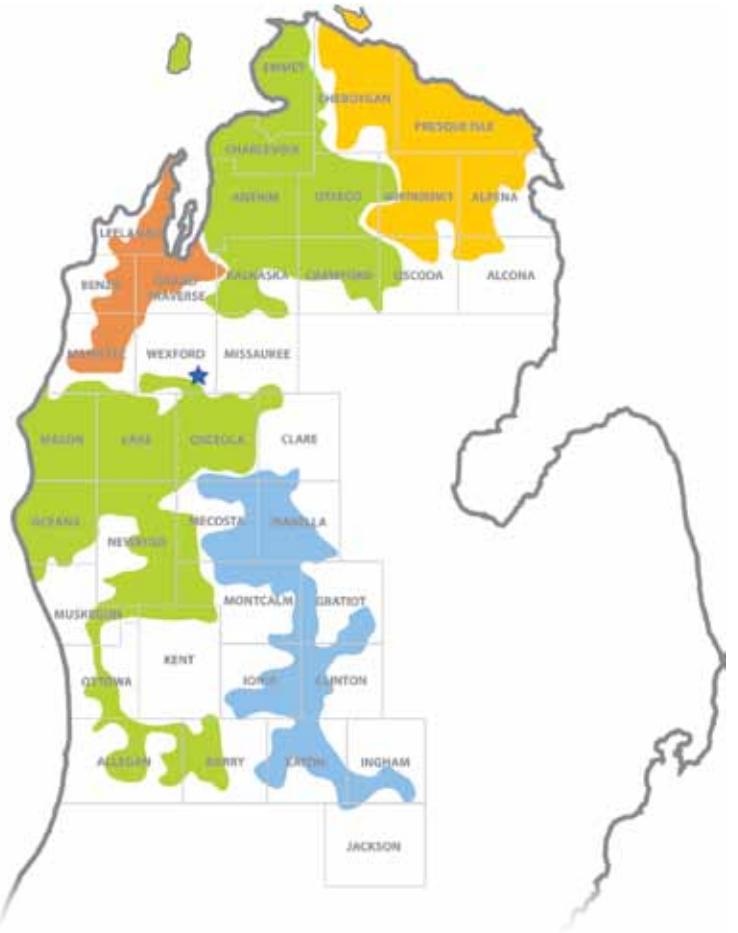
- **Cherryland Electric Cooperative, Grawn**
- **Great Lakes Energy, Boyne City**
- **HomeWorks Tri-County Electric Cooperative, Portland**
- **Presque Isle Electric & Gas Co-op, Onaway**

"In addition to 1,600 miles of line in more than 35 counties in the Lower Peninsula, we own and operate the substations on our transmission system," says Patrick Clark, Wolverine's senior engineer of transmission line design.

The transmission system has served Wolverine and its members well for decades. It's a valuable asset that Wolverine employees work hard to maintain and improve. The system is continuously monitored in Wolverine's state-of-the-art Energy Control Center.

"This summer, in addition to completing routine maintenance work throughout our transmission system, we replaced poles near Muskegon, Hart and Copemish," Clark says. "We also rebuilt 23 miles of line near Petoskey, Shelby and Hart."

Rebuilding a transmission line near Shelby took extra effort this summer. A special pole measuring 110 feet and set 28 feet deep was needed to reconstruct a line segment located in a wetland area. The typical transmission pole is 85 feet. Lineworkers laid a track for equipment needed to complete the task.



Another 18 miles of line running from Alba to Boyne City will be rebuilt this year, and construction of a transmission substation near Branch in Lake County and a distribution substation near Traverse City will be completed in spring 2012.

The co-op is also looking further ahead. Wolverine's engineering department works closely with engineers at Cherryland, Great Lakes, HomeWorks and Presque Isle to plan for the next five years.

"Projects identified in the plan reflect areas on the system with aging equipment or growth," Pat says. "Looking ahead allows us to line up materials and equipment, some of which have 24-month lead times."

From planning to building to operating its transmission system, the goal at Wolverine is simple—deliver reliable, competitively priced power to members.

You Could be a People Fund Winner, Too!

Carla Bachar
Sand Lake

David Chartier
Boyne City

Sarah Lee and Larry Palmer
Reed City

Beverly and Eugene Milotz
Mears and Allen Park

Mindy VanMeter
Pellston

Several Great Lakes Energy members who support the cooperative's People Fund received $100 gifts of energy in our most recent drawing.

Gerald and Shelly Mozden of Evart, Larry and Sarah Lee Palmer of Reed City, Mindy VanMeter of Pellston, David Chartier of Boyne City, Beverly and Eugene Milotz of Mears and Allen Park, and Moshe and Carla Bachar of Sand Lake were randomly selected to win a $100 credit on their electric bill.

People Fund contributors allow their cooperative to round up their electric bills to the nearest dollar each month. The rounded-up amounts, which average 50 cents monthly, are used to award grants to food pantries, senior citizen centers, youth programs and other local charities and community groups.

Great Lakes Energy relies solely on your voluntary contributions to support the People Fund. In 2010, People Fund directors awarded over $184,000 in grants to 73 charitable and community organizations throughout our 26-county service area.

To thank its People Fund donors, GLE selects six winners twice a year from the co-op's three major service areas. Current People Fund supporters and anyone who enrolls in the permanent billing round-up program before the next drawing in December are eligible to win.

Prizes were provided by Great Lakes Energy and did not involve the use of any People Fund round-up money.

Don't miss your chance to be the next winner!

Call 888-485-2537or visit gtlakes.com to sign up today.

"We're blessed, and we felt it's a very small sacrifice to round up." – Carla Bachar, Sand Lake

"I think the People Fund is great. I'm sure the many people it helps think so, too. " – David Chartier, Boyne City

"We have been a member for 15 years and just love your service, the employees and board at Great Lakes Energy. We feel this is a way to show our support." – Sarah Lee and Larry Palmer, Reed City

"We're happy to share a wee bit of what we have with the People Fund." – Beverly and Eugene Milotz, Mears and Allen Park

"I give to the People Fund because I believe in giving back and these are hard times for all to give. The People Fund makes it easy to give back and have an impact on the community." – Mindy VanMeter, Pellston

Power In Numbers! If every Great Lakes Energy member who participates in the People Fund got just one other person to join, it would easily double the amount of money available to help local food pantries, senior citizen centers, youth programs, and more.

The People Fund program works because there is power in numbers. A Great Lakes Energy member's average contribution of 50 cents a month or $6 per year isn't much, but it adds up fast when thousands of members get involved.

Get involved and help the People Fund expand to meet the growing needs of Michigan residents, young and old. It all starts with asking just one person to contact us and we'll do the rest. You can also enroll online by visiting the "Your Community" section on gtlakes.com.

Enrolled members have two chances each year to win a $100 billing credit.
Enroll today!

BUSINESS OPPORTUNITIES

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MISCELLANEOUS

FREE BOOKS/DVDs – Soon the "Mark of the Beast" will be enforced as church and state unite. Let the Bible reveal. The Bible Says, POB 99, Lenoir City, TN 37771. 888-211-1715. thebiblesaystruth@yahoo.com

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GARY'S STUMP GRINDING – Cheaper by the dozen. 800-870-3871 or 231-587-9296.

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GRAYLING ADULT FOSTER CARE HOME – Six private rooms. 231-649-6842.

BREVOORT LAKE, UPPER PENINSULA – 3-bedroom, 1-bath cottage. Stone fireplace, deck, storage shed, on 100' x 740' lot. 906-293-8770.

159 ACRES, MARQUETTE COUNTY – Very private, large cabin, great deer area, trout stream runs through property. Watch video under real estate at carvingsbyellen.com. 231-730-5053.

FOR RENT: TWO-BEDROOM HOUSE – Lots of closets, large utility room and gameroom. Walking distance to park and fishing. Atlanta, the elk capital of Michigan. 989-785-4110.

VACATION

USE MY PREMIER MEMBERSHIP – Vacation weeks at any of the 10 all-inclusive Palaces Resorts and get an extra $1,500 per room to spend any way you like. See vacation options and contact me at cancunplus.net.

WANTED

BUYING OLD WOODEN DUCK – Goose, fish decoys. 248-877-0210.

BUYING GUN RELOADING EQUIPMENT – Gun smithing, gun parts and related items. 517-623-0416.

WANTED: DOODLE BUG TRACTORS – Also 1935 to 1957 Ford, Chevy, Dodge/Plymouth cars and trucks. 231-652-6421, leave message.

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Call 517-351-6322, ext. 208, for more information. ***No classifieds accepted by telephone.*** Ads will be posted on countrylines.com for no extra charge until the next issue of the magazine is published.

Energy Efficiency Tip of the Month

Use motion sensors on your lights to save on your electric bill. These sensors turn on lights automatically when someone enters a room and turn them off after a person leaves.

Source: U.S. Department of Energy

Are 2 Heating Systems Cheaper Than 1?

Photo – EnergyStar.gov

An air-source heat pump (ASHP) and a fossil-fueled furnace could be the right combo for Great Lakes Energy members looking to cut home heating costs.

You may be a good candidate for an ASHP if the following apply:

You've lowered your heating costs by making your home more energy tight and would like to save even more.

Propane or oil heating costs always take a big chunk of your budget each year.

Instead of using portable electric heaters or wood, you'd like to find a better way to supplement your main heating system and lower your heating costs.

You're also interested in central air conditioning and want the best value for your money.

A geothermal heating and cooling system would be ideal, but the purchase and installation costs are more than you can afford at this time.

You're on Great Lakes Energy's standard monthly residential rate.

An ASHP that you can add on to your existing furnace may be the answer. It helps heat the home during the spring and fall and provides central air conditioning comfort in the summer. An ASHP can be less expensive to operate than propane, oil or electric resistance heating systems.

Heat pumps move heat naturally found in the air (ASHP) or ground (geothermal) into the home. According to the Department of Energy (DOE), "when properly installed, an air-source heat pump can deliver one-and-a-half to three times more heat energy to a home than the electrical energy it consumes. This is possible because a heat pump moves heat rather than converting it from a fuel, like in combustion heating systems."

A refrigerant circulating through the heat pump collects heat from the outside air and is compressed to create even more heat to warm the house. In summer, the heat pump works like a refrigerator by transferring heat from inside to outside and cooling the home.

Air-source Heat Pump Q&A

Q. *Can an ASHP be used for the entire heating season?*

A. According to the DOE, when the outside temperature drops below 40 degrees, "a less-efficient panel of electric resistance coils, similar to those in your toaster, kicks in to provide indoor heating." At that point, it may no longer hold its lower operating cost advantage over propane and oil. As the temperature drops below freezing, the fossil-fueled furnace will soon need to take over.

One of the advanced technologies showing promise is the all-climate heat pump designed to operate at colder temperatures. Its initial costs are high, "but if it continues to work as well as predicted, the energy savings over the life of the system would more than make up the up-front cost," according to the DOE. Visit energysavers.gov/your_home/space_heating_cooling for more information.

Q. *How much does a standard ASHP cost?*

A. In general, a standard ASHP costs a little more to buy and have installed than a central air conditioning system. But the cost could be less than a geothermal system. (Note: The cost of a geothermal system on an open loop could be the same or less than the all-climate heat pump.)

Q. *How does the cost of cooling a home with an ASHP compare to a central air conditioning system?*

A. The operating cost would be similar to a central air conditioning system.

Q. *Is there a way to limit how often the back-up electric heat within the ASHP is used?*

A. Select a dual-fuel system that automatically switches from one heating system to the other at a given outside temperature. That might be 40 degrees if you want the fossil fueled furnace to take over before the ASHP's backup heat comes on. A standard ASHP with backup electric heat normally can continue to provide sufficient heat until the outside temperature drops to about 30 degrees.

Q. *How much electric backup heat will it use when the outside temperature drops below 40 degrees?*

A. That depends on the home size, its location and how well it's insulated, plus living habits and other factors. Less backup heat would be needed in the southern part of Great Lakes Energy's service territory, where average seasonal temperatures are a little higher. How frequently the ASHP goes into defrost mode also affects the amount of backup electric heat required. The typical ASHP is a split system with outdoor and indoor units. The outdoor unit attracts moisture when operating which, in freezing temperatures, causes an ice buildup. The ASHP melts the ice by diverting the heat to the outside unit instead of sending it into the home. Backup heat comes on to keep the house warm during the defrost cycle.

Q. *With a dual-fuel system, can the ASHP be added on to my existing furnace so both share the same ductwork?*

A. Yes. You would want to contact a qualified dealer experienced in heat pump installations and the different types of applications to get more information.

Q. *Where should I look first?*

A. Start by visiting earthcomfort.com. Go to the contractors section and use their contractor guide to help find a professional to assist you. System sizing, air flow, refrigerant charge level and condition of the ductwork are just a few of the things a qualified contractor will consider. All have an impact on the heat pump's operating life and its ability to deliver efficient heating and cooling comfort.

Q. *Part of my house does not have ductwork. Is the ASHP still an option?*

A. Yes. Consider a ductless mini-split system. Individual heating and cooling units are placed in each room, which allows you to save energy by controlling the temperature in each area.

Q. *Are there special incentives for purchasing an ASHP?*

A. Yes. Great Lakes Energy offers its members a $250 rebate toward the purchase of an ASHP that meets minimum efficiency standards. An Energy Star®-qualified ASHP is also eligible for a federal tax credit. Visit energystar.gov for more information.

Sources: U.S. Department of Energy, Michigan Electric Cooperative Association, Dakota Energy Cooperative, Capital Electric Cooperative, Tennessee Valley Authority, Kansas City Power & Light, ehow.com, Minnesota Power, and Earth To Air Systems, LLC.

Track Your Energy Use Online

Great Lakes Energy is looking out for you with a feature on our website that will help you track your electricity use.

You can access your daily meter readings online by visiting gtlakes.com and clicking on the "Account Login" box at the top of the home page. Enter your username and password to log-in or click "sign up" if you are a first-time user. Click on "Detail" next to the billing balance amount on the "Account Summary" page. Click again on either "Daily Usage" or "Monthly Usage" near the top of the "Account Detail" page.

You can also contact our office for your readings and daily consumption if you don't have internet service.

Pay at Any of Eight Offices

Pay your electric bill at any GLE office Monday through Friday. Drop boxes are available for after-hours payments at all locations.

Boyne City: 1323 Boyne Avenue, 8 a.m. – 5 p.m.

Hart:* 2183 N. Water Rd., 8 a.m. – 5 p.m.

Kalkaska: 630 Magnum Road, 7:30 a.m. – 4 p.m.

Newaygo:* One Cooperative Center Drive, 8 a.m. – 5 p.m.

Reed City: 4493 200th Avenue, 8 a.m. – 5 p.m.

Scottville:* 525 W. US-10, 8 a.m. – 5 p.m.

Waters: 10380 Great Lakes Dr., 7:30 a.m. – 4 p.m., (closed lunch 12:30 – 1 p.m.)

Wayland: 1049 133rd Ave., 7:30 a.m. – 4 p.m., (closed lunch 12:30 – 1 p.m.)

Current bills can also be paid at any of our pay stations. Past-due bills must be paid at a Great Lakes Energy office or by phone. Please contact our office, 888-485-2537, or visit our website, gtlakes.com, for a list of pay stations and other payment options. Office hours are subject to change.

** Drive-up window available.*

Recycle CFLs at Great Lakes Energy

Recycle your used compact fluorescent lightbulbs (CFLs) at your local Great Lakes Energy service center.

Great Lakes Energy is looking out for you and has installed a COMPAK Recycling Center in the lobbies of all eight service centers. Simply place your CFLs in the environmentally-secure containers. The co-op will ship them to Next Level for Recycling, Inc. (NLR), which disposes of waste products quickly and properly.

With more than 14 years of universal waste experience, NLR provides containers with InnerPak liners and vapor lock lids to guard against environmental breach.

CFLs help you save energy.

Bill Payment Alert

Please do not use staples, tape or paper clips when you enclose your Great Lakes Energy bill payment in the return envelope.

Using these items could result in your payment being destroyed or possibly lost when it goes through our automated remittance machines.

It also adds to the time needed to process payments and could cause expensive equipment repairs.

Please remember that you can also make your payments online at gtlakes.com, which saves you time and money. Or consider enrolling in our automatic payment program, which deducts the amount of your electric bill automatically from your specified bank account on the due date.

For more details, see page 8, visit gtlakes.com or call 888-485-2537.

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A Good Night's Sleep

A person who should know tells me I snore.

So, I bought a special pillow that looks like the rolling hills of Appalachia. It gently forces your head and body into a position that lessens the likelihood of snoring. It seems to work.

Then I told my doctor during my annual physical that I sometimes felt tired during the day, so he scheduled me for a sleep study to see if I'm getting enough deep, uninterrupted sleep.

The day after my physical I noticed that my heartbeat was irregular. I was getting dizzy while I was working in the yard, carrying and laying bricks.

Barbara drove me to the local urgent care facility in Mason, where the nurses confirmed my heart beat was irregular and hooked me up to a heart monitor. They called an ambulance to carry me to Sparrow Hospital in Lansing. (Remember my column about the bad shape of our roads? That ambulance ride confirmed it.)

I had recognized the symptoms of atrial fibrillation because I had them twice before, the last time 11 years ago. For some people the problem, also called Afib, is more persistent. Afib is characterized by rapid, erratic beating of the heart's upper chambers. Roughly 1 percent of the population has the condition, which affects all ages but becomes more common and dangerous as we grow older.

After I was assigned a room, I told my story to the aide who wheeled me to my room, the nurse on duty, and the technician who hooked me up to an IV drip. The next morning, very early and after not sleeping, I repeated my story to the resident physician and an intern, a team of doctors from the MSU Health Clinic where my personal doctor practices, the new shift nurse, the chief of staff and her assistant, and finally to a heart specialist on atrial fibrillation. That's another nine stories.

Hospitals should give patients one of those recordable greeting cards so they can record their answers to the common question: What brought you here? Then everyone would get the same answer while the patient rests.

Self-portrait: A sleep study requires a lot of wires and sticky connections.

I was given medication to bring down my heart rate. My heart converted to a normal rhythm during the second night of my stay. I know this because I was still awake at 4 a.m. when the nurse told me. After I passed a heart stress test, I was released to my wife's care.

(I thought about the old joke about the wife who finds out from the doctor that her husband's going to need a lot of tender, loving care from her if he is going to survive. When the husband asks her what the doctor said, she says, "You're going to die." It's one of my favorite jokes, but it's not fair to Barbara, who is always watching out for me.)

I was lucky. Treatment for me is simply one full-strength aspirin daily, to prevent the possibility of stroke resulting from blood clots traveling from the heart to the brain, which is the biggest danger with this condition. The new treatment for cases of long-standing, persistent atrial fibrillation involves using small bursts of electricity to destroy the patches of heart tissue that generate the erratic 'beat now' signals.

After two nights in a hospital I was more tired than ever.

The next week, I kept my appointment for the sleep study, during which I hardly slept. Just look at the picture and you'll see why.

We're said to be a nation of sleep-deprived zombies, and these studies do help people. They identify problems with snoring, sleep apnea and lack of oxygen. If you have a severe problem, there are solutions that work, including devices that help you breathe more freely at night, reducing the number of times you wake up gasping for breath.

And bad sleep can trigger Afib, which is why it was important for me to go through the study. Still, I'm not looking forward to repeating it, which is what the doctor wants me to do since my first try didn't involve any real sleep.

Everyone I met during these episodes are incredibly caring people. I was impressed with the level of care and professionalism of everyone from doctors to nurses to staff. I don't want to seem ungrateful, but as much as I appreciate what they do, I don't want to see them again anytime soon. I can only afford to lose so much sleep, and hospitals and sleep study 'bedrooms' are not the places to catch up.

Symptoms of atrial fibrillation

Afib is just a nuisance for some people, but for others it is a significant risk. Not everyone who develops Afib experiences symptoms, and for those who do, the following symptoms can range from mild to severe:

- Fatigue
- Palpitations (irregular, rapid or pounding sensation in the neck or chest)
- Shortness of breath
- Lightheadedness
- Dizziness
- Chest pain/discomfort
- Inability to concentrate

Source: John Hopkins Hospital Health Alerts

Mike Buda is editor emeritus of Country Lines. Email Mike at mbuda@countrylines.com or comment on his columns at countrylines.com/column/ramblings

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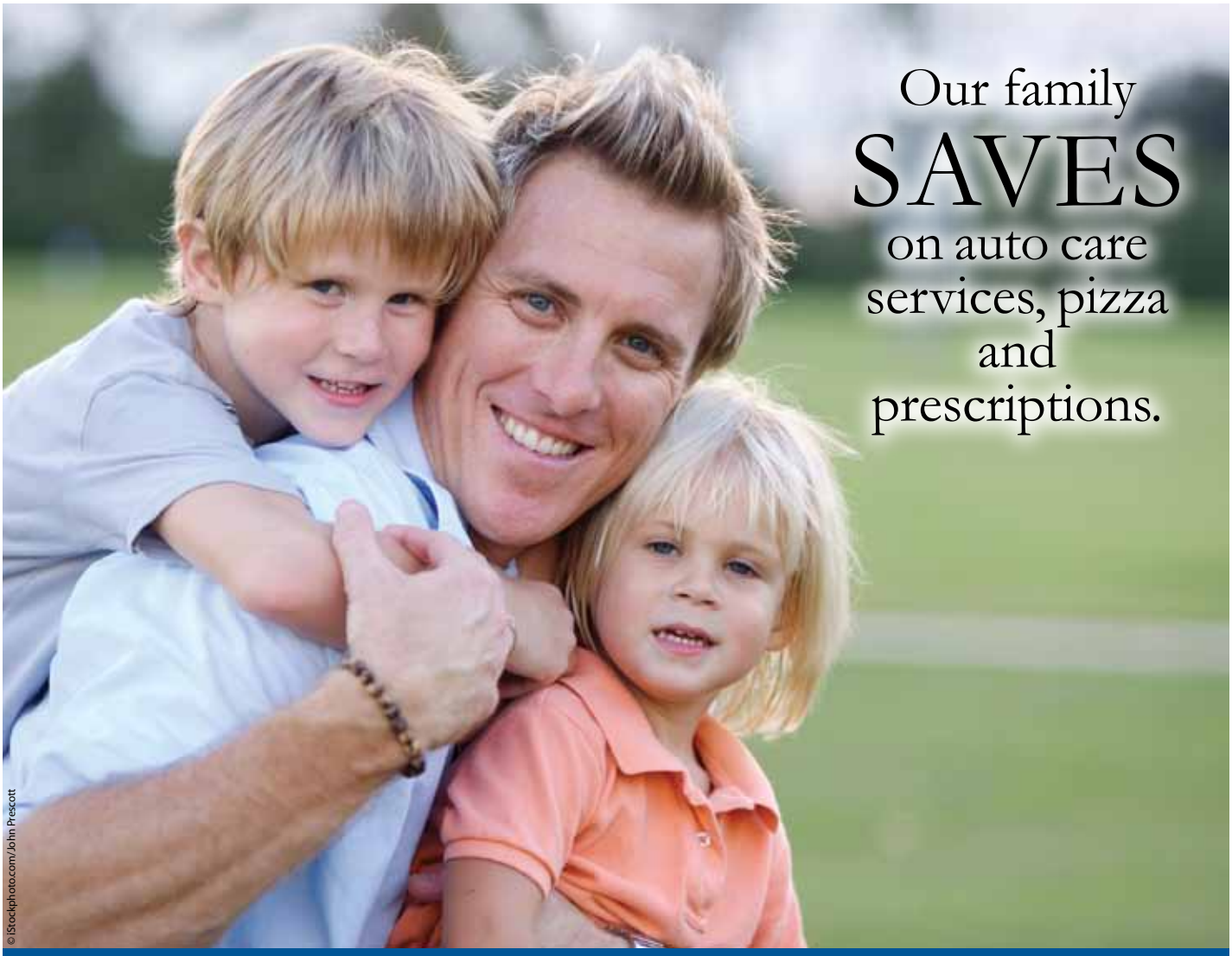

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