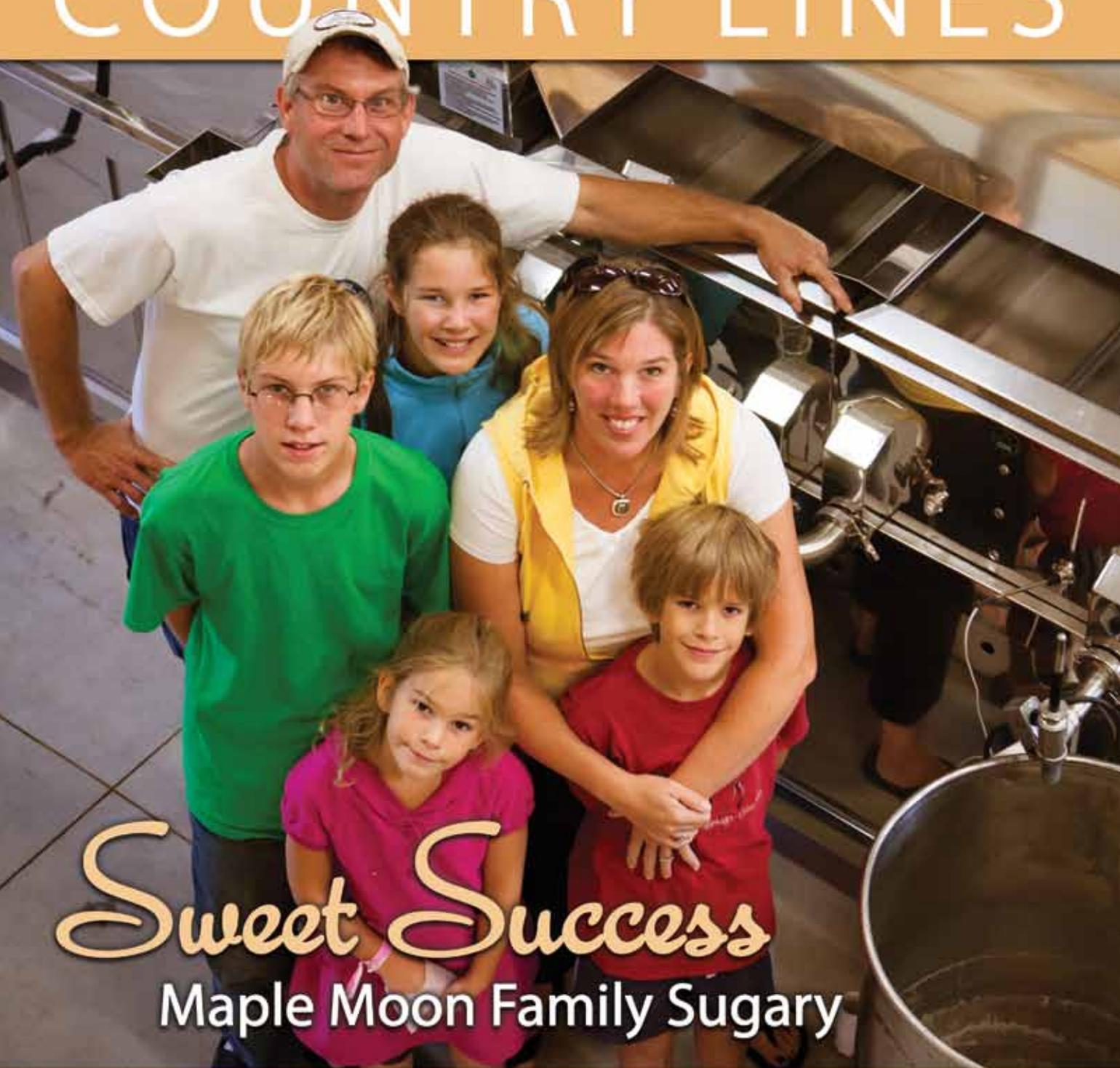


A Service of HomeWorks Tri-County Electric Cooperative

October 2012

Michigan

COUNTRY LINES



Sweet Success
Maple Moon Family Sugary

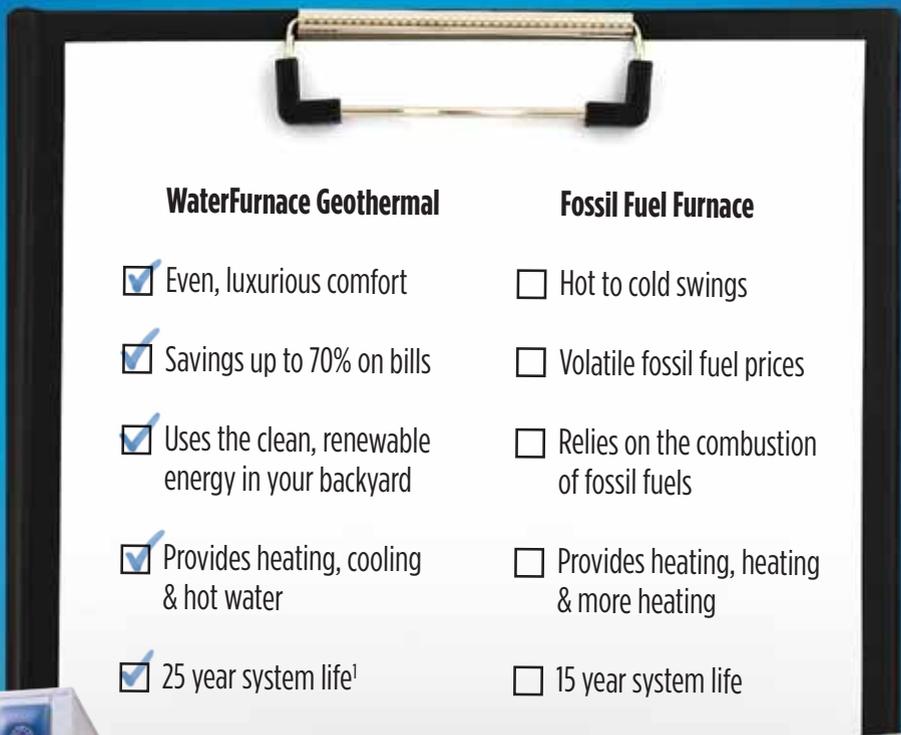
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HomeWorks

9 What's In Your
Electric Bill?

21 Save and Stay Warm
With HVAC Rebates

Hurry, this event ends on
NOVEMBER 30, 2012!

Some choices are clear.



WaterFurnace Geothermal

Fossil Fuel Furnace

- | | |
|---|---|
| <input checked="" type="checkbox"/> Even, luxurious comfort | <input type="checkbox"/> Hot to cold swings |
| <input checked="" type="checkbox"/> Savings up to 70% on bills | <input type="checkbox"/> Volatile fossil fuel prices |
| <input checked="" type="checkbox"/> Uses the clean, renewable energy in your backyard | <input type="checkbox"/> Relies on the combustion of fossil fuels |
| <input checked="" type="checkbox"/> Provides heating, cooling & hot water | <input type="checkbox"/> Provides heating, heating & more heating |
| <input checked="" type="checkbox"/> 25 year system life ¹ | <input type="checkbox"/> 15 year system life |



Life is full of difficult choices, but choosing a WaterFurnace geothermal heat pump isn't one of them. WaterFurnace can save you up to 70% on heating, cooling & hot water by capturing the clean, renewable energy in your backyard. Plus, for a limited time, we're offering **instant rebates** or **0% financing** on any of three geothermal packages. Each is tailored to fit your needs - so every choice is perfect. And with an additional **30% federal tax credit**, there's never been a better time to choose WaterFurnace. Visit your local WaterFurnace dealer for more information.

\$2,500 or **0%**
Instant Rebate ^{12 Mo} same as cash²

Includes 5 Series dual capacity 500A11 & Envision NSW with GeoTank, color touch-screen thermostat, IntelliStart, AXB controls & installation accessories.

\$1,500 or **0%**
Instant Rebate ^{12 Mo} same as cash²

Includes 5 Series dual capacity 500A11 with color touch-screen thermostat, IntelliStart, AXB controls & installation accessories.

\$1,000 or **0%**
Instant Rebate ^{12 Mo} same as cash²

For replacement of existing geothermal systems. Includes 5 Series dual capacity 500A11 with IntelliStart & AXB controls.

The **Perfect Choice**
Savings Event

Your Local WaterFurnace Dealers

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Berrien Springs
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Big Rapids
Stratz Heating & Cooling
(231) 796-3717

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AllTemp Comfort, Inc.
(866) 844-HEAT (4328)

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Certified Temperature Innovations
(810) 300-7748

Charlotte
Applegate Home Comfort
(517) 541-8013

Cheboygan
Jim's Handyman
(231) 627-7533

Clifford
Orton Refrigeration & Htg
(989) 761-7691

DeWitt
S & J Htg & Clg
(517) 669-3705

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(989) 732-8099

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Total Comfort Resource, LLC
(616) 406-3182

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Ionia
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Kalkaska Plumbing & Htg
(231) 258-3588

Lapeer
Porter & Heckman
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Muskegon
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Onaway
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Traverse City
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(231) 943-1000

D&W Mechanical
(231) 941-1215

Webberville
Applegate Home Comfort
(800) 377-2272



waterfurnace.com/PerfectChoice

¹According to ASHRAE estimate.
²Loans provided by EnerBank USA (1245 E. Brickyard Rd. Suite 640, Salt Lake City, UT 84106) on approved credit, for a limited time. Repayment terms vary from 12 to 132 months. Interest waived if repaid in 365 days. 16.85% fixed APR, effective as of 8/01/2012, subject to change. Rebate available only to residential customers through participating dealers. WaterFurnace is a registered trademark of WaterFurnace International, Inc.

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Photo - 831 Creative

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POSTMASTER: SEND ALL UAA TO CFS.

Letters to the editor should be sent to *Country Lines*, 2859 W. Jolly Rd., Okemos, MI 48864. Phone 517-913-3531. Email: gknudtson@meca.coop.

Association officers are **Tony Anderson**, Cherryland, chairman; **Ken Swope**, Midwest Energy, 1st vice chairman; **Robert Schallip**, Cloverland, 2nd vice chairman; **Eric Baker**, Wolverine Power, secretary-treasurer; and **Brian Burns**, PIE&G, past chairman. **Craig Borr** is president and CEO.

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The appearance of advertising does not constitute an endorsement of the products or services advertised.

Change of Address: Please notify your electric cooperative. See page 4 for contact information.



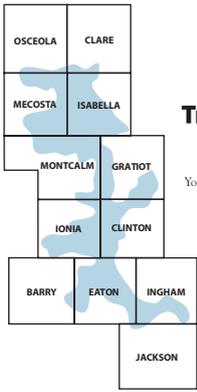
On the Cover

The Petersen family of Petoskey started a maple syrup "sugary" on their farm and believes Michigan's economy could be helped by producing more products from our many maple trees. The Petersens even have a root beer made from maple syrup.

Photo - Andree Magsig/drephotography.net

Michigan's Electric
Cooperatives
countrylines.com





Tri-County Electric Cooperative

Your Touchstone Energy® Cooperative

Blanchard office:

3681 Costabella Avenue

Blanchard MI 49310

Open 8 a.m.–5 p.m. Monday-Friday

Portland office:

7973 E. Grand River Avenue

Portland, MI 48875

Open 8 a.m.–5 p.m. Monday-Friday

Electric bill/account questions:

517-647-7556 or 1-800-562-8232

Pay by phone, anytime:

1-877-999-3395

Service questions/outages:

517-647-7554 or 1-800-848-9333

(24 hours for emergency calls)

Tri-County Propane:

1-877-574-2740

High Speed Internet

1-800-668-8413

homeworks.org

E-mail: tricoenergy@homeworks.org

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Editor: Jayne Graham, CCC

Providing Value in Your Energy

First, let me say “thanks,” on behalf of HomeWorks Tri-County’s board of directors and employees, for the high ratings you gave us on a recently-completed member survey. You can read more about the survey on page 8, and in the months to come here in *Country Lines*.

We work very hard to exceed your needs and expectations when it comes to electric service. It’s good to hear when we’ve accomplished that goal, just as it’s good to hear from you when we haven’t, so that we can make adjustments.

Part of the value of your electricity comes in using it most efficiently. With our Energy Optimization program, you can make small changes that add up to big differences in the long run. Nick Rusnell tells you more about rebate opportunities on page 21.

Reliable power does come at a cost, however. The poles and wires that build our electric system cost more with every work plan project, it seems. Our system has outlasted its planned service life in many areas, so we’ve been able to hold the line on rising costs for a long time.

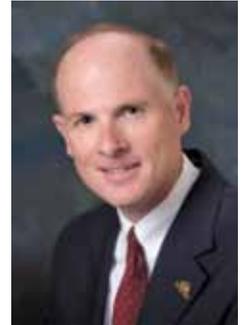
New technologies, used properly, can help keep those costs stable, too. Many of you have begun paying your bills online, or having your bank pay for bills for you from your checking or savings account. We’ve also been able to take advantage of new technologies behind the scenes, such as digitized mapping, automated meter reading, and deploying electronic tablets with our line crews.

The last distribution, or local, rate increase at HomeWorks Tri-County Electric was in 2008. There have been a few power supply increases since then, but we have held your rates down while continuing to upgrade the system and improve reliability by clearing rights-of-way, while maintaining a high level of customer service.

You can learn more about the costs that go into an electric system like ours on page 9.

At a special meeting Sept. 24, your board of directors will consider a proposed rate increase. If they do approve one, a full notice of what they approve will be published in the November-December issue of *Country Lines*, along with some rate comparisons.

Any increases will be made to keep your cooperative strong, and able to continue keeping your service reliable. We know that reliable and affordable electric service is important to you and we are constantly working to make sure your co-op provides that value every day.



Mark Kappler
General Manager



Join the conversation at
facebook.com/HomeWorks.org

Politics in Your Power, Yesterday and Today

What could be political about flipping a switch to turn on a hall light? Just about everything, starting with getting power to rural homes in our early days, then to reliability and affordability issues, and most recently, the source of the power.

The National Rural Electric Cooperative Association was formed in 1942 by 10 leaders, including HomeWorks Tri-County's own general manager, Dolph Wolf, to advocate for rural electric co-ops in Washington, D.C.

Over the years, as budgets were threatened and national energy policies were formulated and changed, NRECA has been effective in looking out for the interests of rural electric customers.

Presidents Nixon, in the 1960s, and Reagan, in the 1980s, both saw REA loan funds as an easy target for government cuts. In these and other instances, NRECA was able to highlight the continuing success of the REA program.



The writing on the photo above reads: 13th Annual Meeting, National Rural Electric Cooperative Association, February 14-17, 1955, Atlantic City, N.J. At left is Harold Storz, Tri-County Electric's project counsel from 1941 until the early 1960s.



Michigan Country Lines has been a valuable resource in getting our message out to co-op members over the years. In this 1985 edition, the main headline reads "Budget calls for end of REA in 5 years."



CARE

Clean • Affordable
Renewable • Energy

VOTE **NO** ON PROPOSAL 3

The most recent threat to the reliability and affordability of your electric power is Proposal 3, which will ask voters this November to amend the state's constitution to require 25 percent of the state's electricity to come from renewable sources by 2025.

HomeWorks Tri-County Electric, through our statewide association, is part of the CARE Coalition that supports renewable energy, but doesn't believe the constitution is the proper place for setting energy policy.

Visit careformichigan.org and read p. 11 of this issue for more information on Proposal 3 and the CARE Coalition before you vote Nov. 6.



Our Energy, Our Future
A Dialogue With America

Launched in late February 2008, Our Energy, Our Future® quickly emerged as the largest and most aggressive advocacy effort in NRECA history. The initiative seeks to engage all 42 million-plus electric cooperative consumers by having them reach out to elected officials and discuss the complexities associated with providing safe, reliable and affordable power in an environmentally responsible fashion.

Source - cooperative.com

Celebrating Cooperatives

Every October is National Cooperative Month, and co-ops across America, including Michigan's electric co-ops, are recognized for the qualities that make their business model unique: local democratic control, commitment to supporting the communities they serve and improving quality of life, special benefits and services, and the return of margins (the co-op term for profits) back to members in the form of capital credits.

Co-op businesses of all kinds have also been celebrating 2012 as the "International Year of Cooperatives."

"Cooperatives are special," says Craig Borr, president/CEO of the Michigan Electric Cooperative Association. "As electric co-ops, we have an obligation to provide reliable, affordable and safe elec-

tricity, but we take that a step further. We also have a responsibility to support our members, enrich schools, and enhance our communities."

Michigan's electric co-ops are proud to be part of America's cooperative network, which employs over 850,000 people. Nationwide, over 29,000 co-ops and credit unions generate \$74 billion in annual wages and nearly \$500 billion in revenue.

In Michigan alone, cooperation thrives with over 892 co-ops serving 4,727 members, reported in a study conducted by the University of Wisconsin's Center for Cooperation. Michigan's overall co-op economy employs 15,520 people, and nationwide over 2.1 million jobs are supported by co-ops.

Michigan electric co-ops are also part of a

network of over 900 electric co-ops, public utility districts and public power districts serving 42 million people in 47 states.

"Electric co-ops were formed because rural communities were struggling for lack of investment," Borr explains. "Neighbors banded together and lit up the countryside when no one else would. That's what we celebrate."

In addition to utilities, Michiganders are served cooperatively by credit unions, food and agricultural co-ops, and more! To learn more about co-ops and find one near you, visit go.coop.

To help you celebrate your electric co-op (and any others you may belong to), have some fun trying the Co-op Trivia game below, and consider entering the "My Co-op Rocks" video/photo contest (see next page).

Do You Know 'Co-op Trivia'?

Electric Co-op Questions:

Q: How many times would cooperatively-owned distribution power lines circle the equator?

A: *U.S. electric co-ops own 2.5 million miles of distribution lines—enough to circle the equator over 100 times!*

Q: How much money have consumer-owned electric co-ops returned to members since 1988?

A: *\$9.5 billion in the form of capital credits.*

Q: How many people in the world live without electricity?

A: *2 billion*

Q: What % of America's land-mass do electric co-op lines cover?

A: *75 percent*

Q: How many Americans receive electricity from over 900 electric co-ops?

A: *42 million*

Q: How much tax revenue do electric co-ops generate for state and local municipalities?

A: *\$1.4 billion*

Q: How many people do America's electric co-ops employ?

A: *70,000*

Q: Today, a wooden utility pole costs about \$265. How much did a pole cost in 1940?

A: *About \$8 to \$27 if you include installation costs and labor.*

Q: When was the first electric cooperative established?

A: *1914*

Q: In the 1920s, before rural electrification efforts began in the mid-1930s, how many American farms had electricity?

A: *2.6 percent*

Q: How many states have electric cooperatives?

A: *47*

Q: How many electric distribution co-ops does Michigan have?

A: *9*

Q: How many generation-and-transmission only electric co-ops does Michigan have?

A: *1*

Q: One in how many Americans belong to a cooperative?

A: *Four*

Q: Which state claimed the first power line to be energized using funding from the Rural Electrification Administration?

A: *Texas*

General Co-op Questions:

Q: In what country did the modern-day co-op movement begin?

A: *England—the Rochdale Society of Equitable Pioneers.*

Q: How many Americans belong to credit unions?

A: *91 million*

Q: How many co-ops operate in the U.S.?

A: *29,000*

Q: How many people around the globe belong to a cooperative?

A: *Over 1 billion*

Q: How many farmers receive fair-market prices from 3,000 farmer-owned co-ops?

A: *2 million*

Q: How much of the world's maple sugar is derived from Canadian co-ops?

A: *35 percent*

Q: If the co-op sector's economy were a country, which European country's size would it equal?

A: *Spain*

Q: How many different principles are co-ops based on?

A: *Seven.*

BONUS *if you can name them.*

1. *Open & Voluntary Membership*
2. *Democratic Member Control*
3. *Members' Economic Participation*
4. *Autonomy & Independence*
5. *Education, Training, & Information*
6. *Cooperation Among Co-ops*
7. *Concern for Community*

Q: Who formed the first known cooperative in the United States? In what year?

A: *Benjamin Franklin, in 1752. The Philadelphia Contributionship for the Insurance of Houses from Loss by Fire still operates today.*

Does Your Co-op 'Rock'? Try This Contest To See

Grab your camera and create a video or photo that could win you a great prize in the "My Co-op Rocks" contest!

Be sure your creation shows how your co-op builds a better world, but beyond that you can dream up your own theme or use one of the following for inspiration:

- Putting people first: Who are the people who make your co-op rock?
- Building a better world: How does your local co-op contribute to a healthier, more just world? (Find your local co-op at countrylines.com).
- A place with principles: How does your co-op exemplify one (or more) of the international co-op principles?
- My Co-op Story: Why do

you "shop co-op," and exactly how does it "rock your world"?

This free contest is being offered by the National Cooperative Grocers Association, and three winners from each category will receive a gift certificate to any co-op or a donation to their favorite 501(c)(3) nonprofit organization.

Visit mycooprocks.coop to enter, read the rules, learn about the prizes, and view past winners and vote on entries. You must be a U.S. resident age 18 or older, and the submission deadline is 5 p.m. Central on *Oct. 31, 2012*. Winners are determined by popular voting (you can vote daily for your favorites!), which ends at 5 p.m. Central on *Nov. 30*. Winners will be announced *Dec. 15*.



VOTING is NOT a SPECTATOR SPORT.

Join the co-op team and VOTE on November 6.



nreca.coop/VOTE

Learn About Co-ops

Food Co-ops

Build a Better World

Consumer Co-ops



Co+op, stronger together represents stronger together

122 National Cooperative Grocers Association (NCGA) food co-ops in 34 states with a shared commitment to healthy food; local, sustainable agriculture; and strong communities.

www.strongertogether.coop

DID YOU KNOW?

- More than 1.3 million grocery shoppers are food co-op owners!
- Food co-ops shine in NCGA's video contest, www.MyCoopRocks.coop.

CONCERN FOR COMMUNITY:

NCGA partners with the Just Label It Campaign dedicated to mandatory labels on genetically engineered food.

Cooperative Enterprises Build a Better World

A message from America's Electric Cooperatives

More Trivia: Food Co-ops

There are at least eight food co-ops in Michigan. For information on those listed below, visit strongertogether.coop.

- East Lansing Food Co-op
- Grain Train Natural Foods Market, Petoskey
- GreenTree Cooperative Grocery, Mt. Pleasant
- Marquette Food Co-op, Marquette
- Oryana Natural Foods Market, Traverse City
- People's Food Co-op, Ann Arbor
- People's Food Co-op, Kalamazoo
- Ypsilanti Food Co-op

HomeWorks Highly Rated By Members

Our member-owners paid us a great compliment this summer when you gave us high ratings in an independent member survey.

During the second quarter of 2012, HomeWorks Tri-County Electric conducted a survey to determine member satisfaction; perceptions of co-op service attributes; attitudes regarding the environment, energy efficiency and renewable energy; technology use; communication opportunities; and demographics.

The survey included telephone interviews with 300 randomly selected residential electric members. This survey is conducted every three years or so, to make sure we're staying in touch with your needs and expectations.

We learned that members reported the highest-ever overall satisfaction with HomeWorks Tri-County, with 93 percent saying they are "somewhat" or "very" satisfied with their cooperative.

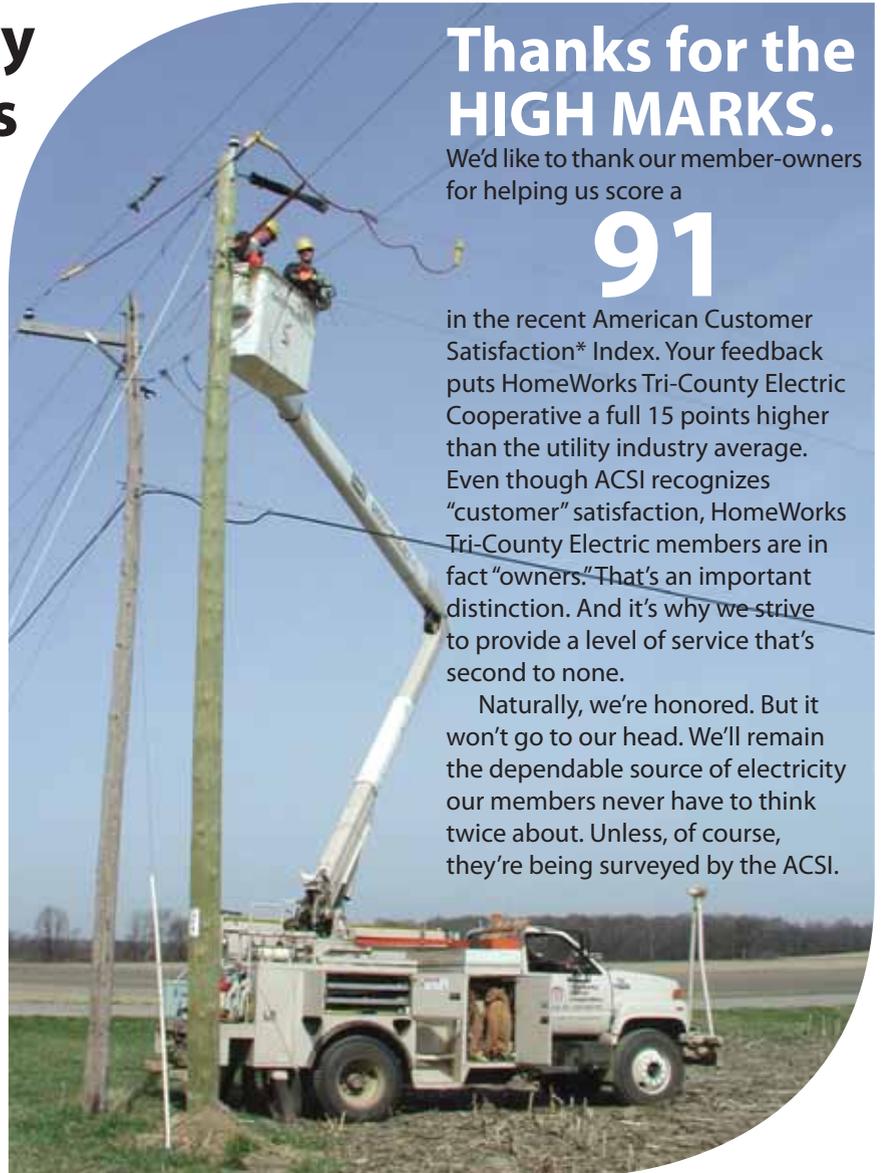
Four questions asked in the survey are used to calculate a score by the American Customer Satisfaction Index (ACSI). Our score this time was 91. We've always had high scores, in the five surveys done since 2003, but 91 is outstanding.

The national average ACSI score for electric co-ops is 81, and for other electric utilities, investor-owned or municipal, the average score is 76.

And comparing our scores to other kinds of businesses:

- The Postal Service scored 74.
- Cable TV firms average a score of 66.
- Airlines, as a general category, scored 65.

Thank you for rating us so highly! And please watch future issues of *Country Lines* for more results from this year's member survey.



Thanks for the HIGH MARKS.

We'd like to thank our member-owners for helping us score a

91

in the recent American Customer Satisfaction* Index. Your feedback puts HomeWorks Tri-County Electric Cooperative a full 15 points higher than the utility industry average. Even though ACSI recognizes "customer" satisfaction, HomeWorks Tri-County Electric members are in fact "owners." That's an important distinction. And it's why we strive to provide a level of service that's second to none.

Naturally, we're honored. But it won't go to our head. We'll remain the dependable source of electricity our members never have to think twice about. Unless, of course, they're being surveyed by the ACSI.

* Touchstone Energy ACSI member ratings using the ACSI customer satisfaction survey questions are compared to the ACSI ratings of residential customers from the largest U.S. investor-owned energy utilities.

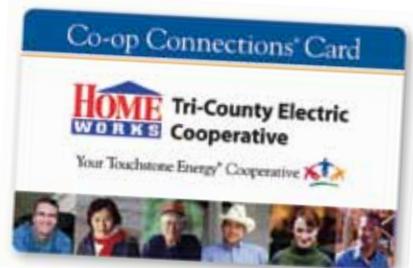
Save at Local Businesses With Your Co-op Connections Card

Curl up with a good book, support your team, or make sure your heating system is ready for winter, with these Co-op Connections Card offers:

- **Arby's of Portland**, 1651 E. Grand River Ave., Portland. Receive a free small drink with purchase of a sandwich and fries.
- **Farwell Flea Market & Thrift Store**, 770 E. Main St., Farwell. 10% discount off anything over \$10.
- **Gammy Woods Campground**, 1855 N. Coldwater Rd., Weidman. 989-506-8005 or manager@gammywoodscampground.com. Stay four nights, get the fifth free (not

applicable on holidays or special events.)

- **Jeff Doerr Heating & Cooling**, 8815 Midstate Dr., Mecosta, 231-972-3540. Get 10% off a geothermal unit.
- **O'Mara Plumbing, Heating & Cooling**, 208 S. Kidd St., Ionia, 616-527-9368. Save 10% off parts for repairs in the surrounding Ionia County area.
- **Paperback Book Exchange**, 1811 S. Mission St., Mt. Pleasant (Facebook: PaperbackBookExchange). Get a FREE bargain book.
- **Triple S. Sports**, 333 Kent St., Portland, 517-647-6885. 10% off total of any order.



Visit Connections.coop to search for businesses currently offering discounts on everything from fitness to furniture repair to hair care, or visit homeworks.org and click on the card logo to go directly to our local listings.

What's In Your Monthly Energy Bill?

Your monthly energy bill includes two key areas: a fixed monthly availability charge, and an energy charge per kilowatt-hour used.

Many people wonder what an availability charge includes. Here's a somewhat detailed answer:

HomeWorks Tri-County has \$89 million worth of infrastructure across 13 mid-Michigan counties. This includes thousands of utility poles and transformers, 3,300 miles of distribution-strength wire and quite a few miles of service extension wires.

There's also at least one meter at every home and business we serve, plus fuses, automatic reclosers,



regulators, capacitors, and the substation equipment that collects your meter readings from across the power lines.

Every bit of this system must be in place and fully operational before a single electron can get to your home or business and start working for you as heat, light, or some other convenience.

Not only that, it must be built to accommodate the very hottest or coldest days when

demand for energy is the highest, even though our system experiences that peak demand about 12 to 20 days per year. But the fixed costs are there every day, no matter how high or low the demand.

Our electric system is a substantial asset, owned cooperatively by you and your neighbors. It all must be purchased, installed, maintained year-round, insured and taxes paid, accounted for, and then replaced or

ity you use. The per-kilowatt-hour rates you pay as the energy charge on your monthly bill pay for the energy you use.

Historically, some of the fixed costs that could go under the availability charge have been covered by a little extra built into the energy charge. Many utilities these days are increasing the availability charge to separate the costs into the correct "buckets" associated with the charges. Your bottom line—the

Some Basic Costs of Building an Electric System:

40' utility pole w/crossarms, single-phase connections.....	\$ 533.03
1 mile of single-phase wire.....	\$10,883.34
25 kVa transformer.....	\$ 708.71
Digital electric meter.....	\$ 136.88
Oil Circuit Recloser.....	\$ 520.65

Listed prices include labor and overhead for installation.

upgraded over time. Who pays for that? You and your neighbors, the cooperative's member-owners.

If there were no availability charge to cover the continuing costs of this infrastructure, we couldn't continue to get electricity from the generating plants to you when you need and want it.

The availability charge goes toward these fixed costs, and does not pay for the electric

amount you actually pay each month—theoretically remains the same if you're an average user (about 900 kilowatt hours per month).

A recent cost-of-service study, performed by an independent engineer, showed that these fixed costs actually cost a total of \$36.96 per month, for each of our 23,300 Farm & Home (residential) customers. The actual residential availability charge is \$12 per month. These costs and charges are very similar to those of other electric co-ops, here in Michigan or across the U.S.

HomeWorks Tri-County's board of directors will consider all these factors at a special Open Membership meeting Sept. 24. Notice of any actions taken by the board will be published in the November-December issue of *Country Lines*, and at homeworks.org.

Your Board in Action

Meeting at Portland, Aug. 27, your board of directors:

- Agreed to the sale of a .376-acre plot of the Portland property to Wolverine Power Cooperative, for its expanded substation site, and to an additional 1.56 acres of easement for transmission lines from the substation.

- Reappointed, to three year terms, Tri-County Electric People Fund board members Richard Palermo (representing District 1), MaryEllen Heffron (District 3), and Patti Ferris (District 7).

- Went over proposed changes to rates, charges and fees, to be brought before the open member meeting in September.

- Reviewed the recent annual meeting and the many positive comments received from the delegates who attended.

- Read and approved "Board Policy 506 – Dispute Resolution" and "Board Policy

101 – Policy Formulation and Approval."

- Reviewed proposed changes to Article 9 of the cooperative's bylaws.

- Learned there were 132 new members for the month.

- Acknowledged the July-August safety report, listing employee training and minor incidents.

Time Set Aside for Members to Comment Before Board Meetings

The first 15 minutes of every board meeting are available for members who wish to address the board of directors on any subject. Upcoming board meetings are Oct. 22 at Blanchard and Nov. 26 at Portland. Members who need directions to either office, or who wish to have items considered on the board agenda, should call 517-647-7554.

Notice of Member Access to Rules and Rates

As a member-customer (member) of HomeWorks Tri-County Electric Cooperative (cooperative), the following information is available to you from the cooperative, upon request:

- 1.) Complete rate schedules;
- 2.) Clear and concise explanation of all rates that the member may be eligible to receive; and
- 3.) Assistance from the cooperative in determining the most appropriate rate for a member when the member is eligible to receive service under more than one rate.

Stay Charged

Home battery energy storage systems are a convenient alternative or supplement for emergency generators. But consumers should be careful with selection and installation should only be done by a licensed electrician.

In their simplest form, these systems are larger versions of uninterruptible power supplies sold to back up home computers. Because of the expense to power an entire household during an outage—especially one with a heat pump or central air conditioning—a battery energy storage unit usually connects to an isolated “subpanel.” The subpanel then allows power from the batteries to flow to identify critical loads, such as refrigerators, well pumps, home security systems, computers, and TVs. With the popularity of residential solar panels and small wind turbines increasing, some companies are also combining these “backyard” renewable power systems with interactive battery storage setups.

When the power goes out, battery energy storage systems automatically provide generation for appliances connected to the subpanel

as long as stored energy lasts. The amount of stored energy available depends on the unit size and what you are trying to power. For example, if you buy a unit that has 11 kilowatt hours (kWh) available and use that to run an Energy Star® refrigerator that uses less than 1.5 kWh per day, the refrigerator would run for about a week. If you also run a TV, lights and small appliances, you could expect about eight hours of uninterrupted power. But if you turn on the air conditioner or stove to cook a meal, you could run out of power in roughly two hours. (If your storage unit, however, is also connected to a solar panel, then it would recharge during the day, potentially giving you continuous limited backup.)

Compared to natural gas and propane generators, battery sets have the advantage of being quiet, extremely reliable, and have no fuel cost or storage requirements.

Drawbacks include less capacity (unless connected to a solar panel) and a hefty price

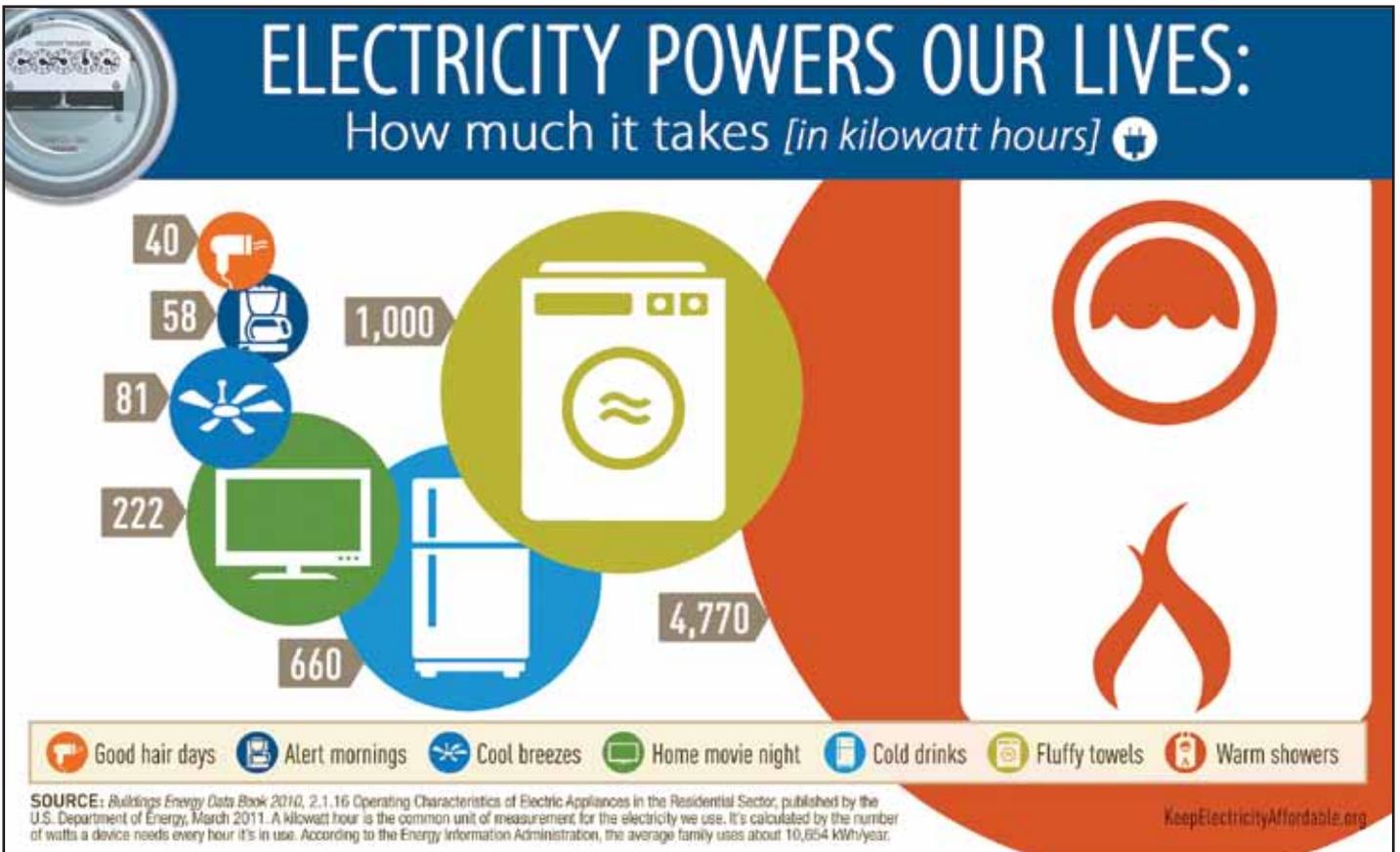


Home battery backup units (shown without a cover) are about the size of a refrigerator and generally fit in basements or spare rooms.

tag—up to 10 times the cost of an emergency generator. Prices vary, depending on the electrical output and unit storage capacity.

Two popular manufacturers that provide price quotes upon request are Silent Power (silentpwr.com) and Sunverge (sunverge.com). When considering battery energy storage, select a unit that meets Underwriters Laboratories (UL®) standards and have it installed by a licensed electrician who can assist with local electrical permitting and inspection requirements, which vary widely. Like emergency generators that run on gasoline, diesel fuel or natural gas, adequate ventilation is important because even “sealed” batteries can give off harmful gases if something goes wrong with the charging process.

If you are considering a battery energy storage unit or have a renewable energy system you want to integrate with battery backup, be sure to contact your electric co-op beforehand to ensure the system is approved and will be hooked up correctly. In many cases, you will need to sign an interconnection agreement with your co-op before the device can be put in.



Constitutional Change for All the Wrong Reasons

Michigan voters should think twice about supporting the renewable energy ballot proposal, a constitutional amendment that would lock energy policy into the state constitution and make it extremely difficult for the state to effectively manage its electric power supply in a way to protect the environment, encourage economic growth, and keep electricity affordable.

State energy policy needs the flexibility to respond to a variety of changing factors, including technologies, federal tax policies, fuel costs, land use requirements, and customer needs and desires on electric energy. Locking a requirement that 25 percent of each utility's electric sales come from renewable sources would prevent that flexibility.

Michigan already has a 10 percent renewable energy standard that energy providers are working hard to meet by 2015. Michigan's current energy law was approved in 2008 with overwhelming bipartisan support after careful evaluation of its potential impact on energy bills, the electricity needs of families and businesses, the role of renewable energy within the state's generating fleet, and the price tag of power on the wholesale markets.

The November ballot proposal would cost Michigan businesses and families at least \$12 billion—depending on which renewables are used. The state will be required to meet the standard regardless of the cost, need or availability of newer, cheaper alternatives. The last thing Michigan's businesses and families need is a radical state energy policy that comes with an exorbitant price tag.

We strongly support Michigan's current efforts to meet the requirement for 10 percent renewables by 2015. The current standard is a reasonable, responsible approach to clean, affordable, renewable energy for Michigan. The 2008



Ken Sikkema



Rick Baker

energy law requires a review to assess its impact on the economy, environment, customer rates, land use, and other impacts. Once this comprehensive review is completed, it will be determined whether the 10 percent renewable standard should be increased, by how much, and in what time frame.

It makes infinitely more sense for voters who endorse renewable energy—as we do—to support the current law and avoid being lured by this misguided attempt to more than double the state's renewable standard.

Other states across the nation have a renewable energy requirement yet the level required differs by state, as well as the year it must be achieved. This makes sense, because states differ considerably in the availability of renewable resources like wind, solar and hydroelectric power. But none have locked it into their constitution because they all recognize the need for flexibility, and the need to respond to changing technology and circumstances.

Our constitution is a foundational document designed to establish basic rights and the framework of state government. When it came to energy and the supply of electricity to residents and businesses, it specifically recognized even when it was adopted in 1963 that new technologies would be developed, and so it directed the Legislature to regulate them “having in view the general welfare of the people of this state.” (Article IV, Sec. 50).

The constitution is simply no place for specific policy that will always need to be adjusted over time.

Ken Sikkema, senior policy fellow at Public Sector Consultants, was Senate Majority Leader from 2002-06.

Rick Baker is president and CEO of the Grand Rapids Area Chamber of Commerce.

What YOU can do to help safeguard Michigan's energy future:

- Get the facts at CAREforMich.com
- Sign up for email updates info@careformich.com
- Follow on Facebook [Care for Michigan Coalition](#)
- Follow on Twitter [Care for Michigan](#)
- Tell a friend
- Write a letter to the editor
- Request a speaker for your group or club
- Vote “NO” Nov. 6!

**CHOOSE REASONABLE
VOTE NO on PROP. 3**

● We encourage all Michigan families and businesses to oppose ballot proposal 3 that would amend the Michigan Constitution and require utilities to produce 25 percent of the state's electricity from renewable sources by 2025. We will all be footing the \$12 billion bill for years to come if it passes.

● Please join the Clean Affordable Renewable Energy (CARE) for Michigan Coalition and help fight this unprecedented threat to Michigan's energy future. Get the facts at:

CAREforMich.com



Sweet Success



Petoskey's new Maple Moon Family Sugary promotes Michigan's economy and energy efficient technology.

Todd Petersen sees far more in maple trees than the leaves turning color in the fall. He sees an entire industry that Michigan is potentially passing by. And he's trying to change that, one tap at a time.

In February, Petersen opened Maple Moon Family Sugary—a business he hopes will prove to state officials that there's a future in maple sugar production.

"Do you realize that maple syrup can only be produced in North America?" Petersen asks. But the stats are more interesting the farther you dig: Quebec produces about 75 to 80 percent of the world's total volume of maple syrup. And Vermont, the top U.S. producer, follows at about 15 percent. Meanwhile, Michigan produces only .07 percent.

But here's the kicker: "Michigan has six times the hard sugar maple capacity in quality and quantity of trees that Quebec does," Petersen says. "We're on to something big here, Michigan has an opportunity."

The opportunity is one that Petersen is trying to get in front of state legislators. If, like Vermont does, the state would allow tapping of some state trees, the industry could boom.

"There's great potential for producers to lease trees from both their neighbors and from the state," he explains. "There's a lot of hilly private land that can't be farmed, and most of the good timber-quality trees have been cut. But there's still potential in the remaining trees."

Above photo: Tapped maple trees are connected by a series of tubes that use sloped land to gravity-feed the sap into a vacuum-sealed system allowing for much smaller holes in the trees.



Petersen noted that it takes 120 to 200 years for a maple tree to grow to a valuable timber size. "It's a long, long process," he says. "That, and the problem of overcutting can hurt more. It's completely possible to have a balance between the timber-cutting industry, which is vital to Michigan's economy, and maple sugaring. The model already exists in Vermont."

The beauty of maple sugar production is that younger trees can be used and re-used. With proper technique, trees 7 to 12 inches in diameter can support one tap, trees 12-18 inches can support two, and trees 18 inches or larger can support three taps or more when high vacuum is applied through the tubing systems.

Petersen uses a new, automated high-vacuum and air-tight system that produces

up to three times the yield of traditional methods to tap his own trees. "The machines literally suck the sap out of the tree like the automated milkers they use on cows in the dairy industry. It allows us to tap a much smaller hole," he adds. "There is not as big of a wound in the tree, which makes for healthier trees."

The vacuum-sealed system also prevents bacteria from getting into the hole and damaging the tree. And, there's no doubt it's entirely different from Petersen's old hobby of tapping maple syrup. "I had 40 buckets and used a turkey cooker to make syrup!" he says with a laugh.

In the Petersen family's relatively small sample of northern Michigan forest—27 acres of an 80-acre farm—they harvested 700 gallons of maple syrup in their first year with the new system. And the season this February was very short, due to weather conditions. Instead of the usual 40-45 day season, they had just 12 days to harvest.

"This is exceptional, considering the short season," he says. "We garnered only about 30 to 40 percent of an average crop."

And, the way Petersen did it is the next thing creating a buzz in the industry: using reverse osmosis. The new equipment uses electricity instead of relying solely on wood or fossil fuels.

Sap, he notes, is normally about 98 percent water and 2 percent sugar. In the old process of using evaporation, the sap was



Photos – Andree Magsig, drephotography.net



Above, left: Todd Petersen is standing by the electricity-driven reverse osmosis machine used to process maple sap into syrup. This process uses 70 to 90 percent less fuel than traditional methods, which rely mostly on wood and fuel oil.

Center: Son Luke is scooping the signature Maple Moon ice cream created by Moomers.

Right: Daughter Maggie is known for being an expert labeler of the pure Michigan Maple Syrup jars. All family members work in the business.

heated using wood or fuel oil to evaporate the water. It took about 3 gallons of fuel oil to produce 1 gallon of syrup.

With reverse osmosis, electricity creates high pressure that is used to force the sap through a fine membrane. The process separates out the sugar and most of the water, reducing the need for fuel oil to about a half-gallon for the same 1 gallon of syrup. The result is 70 to 90 percent less in fuel oil costs.

“This year, in our small facility, that saved us more than \$3,000 in energy costs and reduced our carbon footprint significantly,” Petersen says. “In a typical year with a bigger crop, it would save us up to \$10,000. The machine pays for itself in three years.”

And, Petersen is hoping others are watching what he does as the new farm and equipment begins to produce data.

“We are a working model for showing Michigan what this industry can do,”

Petersen notes. “What if we can grow our state’s production to 10 percent in 20 years? To 40 percent in 50 years?”

And of particular note is that the industry creates local, hands-on jobs.

“These are jobs that can’t be shipped off to Mexico or China,” he says. “It’s exciting to be able to do this here in Michigan, in Petoskey, in the beauty of northern Michigan.”

In recent years, other hi-tech farms and models have popped up in Michigan, Petersen says, and interest seems to be sparking in legislators working in agriculture and natural resources.

The next maple syrup run, in February 2013, will mark Maple Moon’s second year of production. Petersen bought the property four years ago and has since invested \$300,000 in the farm—a move he made with the support and hands-on help of his fam-

ily, including wife Christi and their children Luke 13, Haley 11, Kyle 8 and Maggie 6.

“I wanted this to be a family-run business and I wanted my kids to learn about the values of hard work, ethics, responsibility, cooperation, communication, and the outdoors,” he says, noting that the entire family learned side-by-side as they ran lines and tapped trees.

Maple Moon Family Sugary also gives tours year-round to the public. “I want people to see this, to touch this, to see what trees produce and how,” says the Great Lakes Energy Co-op member.

The Petersen family also offers other products like homegrown honey, granolas, cookies, candies, jams, salsas, ice cream, and even root beer made from maple sugar. Visit their website (mmsyrup.com) for more about their farm and to go on a tour.



Maple Carrots

6-8 carrots

2 tablespoons brown sugar

2 tablespoons maple syrup

2 tablespoons butter

Wash and peel carrots; cut into 1-inch pieces. Cook in covered pan with ½ cup water for 15 minutes. Drain carrots and place in a greased baking dish. Mix together syrup and brown sugar and pour over the carrots. Dot with butter. Bake at 375° for 15-20 minutes. Serves 4.

Visit mmsyrup.com for more recipes, photos, products, farm blog and more!

The Way of the Lotus

New protective coatings developed for power lines may guard your cell phone, too.

Imagine dropping your cell phone into a swimming pool—and then, after a panicked retrieval, finding it's completely dry and works just fine.

This scenario is now entirely possible thanks to recent developments in water-repellent coatings known as superhydrophobics. Once applied, these coatings make a surface not only water resistant (like a Gore-Tex-treated raincoat), but completely untouchable by liquids. The potential is astounding.

“Practical application of this technology will save electric consumers millions of dollars in repair costs by protecting equipment that is vulnerable to liquids, like ice,” asserts Tom Lovas, technical liaison and contractor with the Cooperative Research Network (CRN), the research and development arm of the National Rural Electric Cooperative Association.

Bio-inspiration

Scientists refer to superhydrophobics as the “lotus effect.” Revered by many Far East cultures for its purity, the aquatic lotus plant boasts large, round leaves covered in hairy micro- and nanoscopic protrusions. These protrusions instantly repel liquids (such as raindrops) by forcing them outward at a 150- to 180-degree angle.

In essence, that force allows air to enter between the leaf and the droplets, keeping water from ever actually touching the leaf. In fact, if you were to immerse an aquatic lotus into a tank of water, the foliage would appear coated in shimmering translucent silver because air is trapped between the water and the leaf's surface.

“Just like lotus leaves, synthetic superhydrophobic coatings make surfaces virtually ‘unwetterable,’” Lovas states. “Manufacturers are quickly finding ways to put the products to use.”

For electric utilities, Dr. John Simpson, a pioneering researcher at the U.S. Department of Energy's Oak Ridge National Laboratory, has developed a glass-based coating that he says could be applied to power lines and other outdoor electrical equipment. Simpson's powder creates a microscopic air layer between the coated material and any water



Surfaces coated with a superhydrophobic spray make them virtually “unwetterable.” That means coated power lines would repel freezing rain, preventing damaging ice from forming.



When freezing rain accumulates on electric lines, they become extremely heavy, often breaking and toppling support poles, which leads to power outages.



Lines treated with a superhydrophobic coating repel liquids and prevent major ice accumulation. Any ice that might sit on the lines would be easily blown off by wind or vibration from the power flow.

on the surface so that, just like a lotus leaf, the material stays dry even if totally submerged in water.

In a simulation test conducted in an environmental chamber at the lab, Simpson sprayed cables in freezing water and found that only a small ridge of ice accumulated, which easily vanished with a quick tap. “In the real world, vibration from power flow plus movement from wind would continually knock any ice off,” Simpson points out.

Built-in Cleaning Service

There's another feature of superhydrophobics that mimics the lotus leaf: “self-cleaning.” The lotus leaf's continual movement—caused by wind, rain, waves or passing animals—drags away dust particles, fungus or other potentially harmful contaminants. Similarly, Simpson's coating allows power lines and attached devices to repel water droplets that, in turn, carry away salt and other elements contributing to deterioration.

“Every winter, ice and freezing rain cause

power lines to snap and equipment to short out,” Lovas remarks. “And in coastal areas, sea spray coats distribution and transmission equipment with corrosive salt. These harsh conditions cost electric utilities, and consequently consumers, millions of dollars every year in equipment damages. A superhydrophobic coating could prevent these problems and improve service reliability.”

If his formula proves effective in practical applications, Simpson estimates that losses to large transmission lines could be reduced by 40 to 90 percent—saving individual electric co-ops hundreds of thousands of dollars annually.

In partnership with researchers at Georgia Institute of Technology, CRN has been field-testing its own superhydrophobic coating. “Superhydrophobics are a prime focus for our research because part of our job is to create solutions for electric co-ops,” Lovas explains. “Ice and corrosion continue to be very expensive concerns. We hope to change all that.”

—Angela Perez

Tree Stumps Can Make A Princely Garden

Next time a storm knocks over a tree in your yard or a neighbor's, think like a prince... Prince Charles, that is. The Prince of Wales is an avid gardener and at his country estate, Highgrove, in Gloucester, he has brought the "stumpery" back into fashion.

Traditionally a stumpery, placed in a woodland setting, is an arrangement of tree stumps turned upside down or sideways to show their root structure. Think of a pile of driftwood artfully arranged, and you'll get the idea. Then, humus is placed between the roots and planted with ferns and other shade-loving plants.

Stumperies have also been described as Victorian horticultural oddities and were popular in 19th century English gardens. The first was built by artist and gardener Edward Cooke in 1856 in Staffordshire. He stacked the stumps 10 feet high along both sides of a garden path and artfully planted ferns between the root structures to create a magical fairyland effect along the path.

"The stumpery is not only a happily eccentric and atmospheric part of the garden; it is also a monument to the elegant forms created by trees," comments Prince Charles in his "The Elements of Organic Gardening," which emphasizes gardens that are both beautiful and environmentally sound.

Charles' own stumpery was built in the '90s as a refuge for his hosta collection, beneath a canopy of sycamore trees. It also features a pair of small classical temples carved from green oak that rest on either side of a grassy clearing dominated by a giant oak tree. This glade is fenced in by the interlocking tree roots interplanted with hellebores, ferns and euphorbia. The entryway is stacked with sweet chestnut stumps that form an archway. The overall effect is a mysterious, magical world.

Prince Charles' stumpery was an inspiration to Deborah Silver, a Detroit-area landscape designer. Silver had a client who wanted her to site a bronze sculpture of a bear sitting on a beaver dam. She turned to her extensive collection of gardening books, including the Prince's "The Garden at Highgrove," where

she first read about stumperies. "Ideas are fueled by exposure," Silver comments, "what better home for a bear than a landscape that suggested a primeval forest?"

"The first order of business was providing water for the bear and his beaver dam. As the property had a natural fall, it wasn't hard to visualize a stream bed, falling over a cliff of rock, to a pool below," states Silver. "The entire landscape was designed around the bear. Outdoor sculpture of great size asks for a compelling and convincing landscape." Silver put a unique twist on the design by placing many of the stumps upright with the roots splaying outward on the site's slope. "Some sculpture is best in a big open area, but representational sculpture comes with a story. The landscape can represent that story," she adds. Since this area is sunny, instead of ferns and hostas, she used dwarf evergreens for year-round interest and clematis to soften the upward trunks. "This was a construction project of considerable length, involving large machinery and many tons of rock, plumbing and filtration," Silver explains.

Silver also recalls that farmers in Michigan's Thumb area pile up their dead tree stumps on the edges of their fields or property lines. "These natural fences are wildly beautiful," Silver adds. "All manner of seeds blow in, and soon the fence is a living thing. A friend of mine convinced a farmer in that area to part with some of his stumps."

Many home gardeners don't have the resources for such an extensive stumpery, but even a single stump in an unused shady area of your yard can provide a unique ecosystem and pleasing design. Debris from a heavy storm can also provide the elements from pieces of bark, logs and stumps, or even driftwood works well. Spray the stumps to clean the dirt off the roots, and clear the area of grass and weeds. Enrich the soil with humus, then mulch to keep the weeds down. Artfully place your wood elements, then choose from the many ferns and hostas available today. Other plants



Top: Deborah Silver, a Detroit-area landscape designer, is shown with a partially finished landscape creation for a customer who wanted a site built around a bronze sculpture of a bear sitting on a beaver dam.

Center: Heavy equipment was needed to place the huge tree stumps on the landscape slope.

Bottom: The finished landscape included a "stumpery"—tree stumps planted with various ferns, flowering plants and evergreens—to give the area a "primeval forest" atmosphere around the bear sculpture and waterfall.

to consider are blood root, wild ginger or woodland phlox. You will have created an area that even a prince can admire!

Rita C. Henehan is an author, freelance writer and photographer. Visit her website at michigan-gardeners.companions.com for plants ideas suitable for a Michigan stumpery.

The 'Gift' of Dyslexia

When one of her children struggles with reading, Beth Danaj-Burke knows her options for assistance. The teachers, websites and resources available are vast for the Petoskey-area mother of five children, three of whom have dyslexia.

"It's a different world from when I was growing up, when they still thought dyslexia was simply writing backwards and phonetically," Danaj-Burke, 51, explains. A dyslexic herself, she often wrangles with everyday tasks.

"A personalized thank-you note can be horrible," she says. "I miswrote checks for years before online banking. For the longest time I couldn't read digital clocks, and because of my lack of spacial perception, I've run into more mailboxes, fire hydrants and light posts than I can count."

One of the most common language-based learning disabilities, dyslexia affects between 5 percent and 17 percent of the population.

"While dyslexia reaches all nationalities and regions of the world, English is a particularly difficult language to learn, so we have a high percentage of dyslexics in our country," says Cheryl Schlosser, director for the Abrams Teaching Lab, at the Lansing Center for the Michigan Dyslexic Institute. Schlosser says that people with dyslexia have difficulty with words that are seen, heard and spoken.

"Oftentimes dyslexics have word retrieval or sequencing issues," she adds. "For example, they can't keep the days of the week in order, or follow simple directions. They have a hard time keeping things in and retrieving things from their long-term memories. It's like you have a file cabinet full of information and you've dumped it on the floor. The information is there, you just can't find it."

Danaj-Burke says she can relate. "Like many people with dyslexia, I can't say a word out loud, but I can spell it," she says. "Raising my hand to answer a question in a class or meeting is so discouraging because I need to work it out on paper first. Something gets stuck between my brain and mouth, and my hand needs to be involved to context the two. It makes people think you're not intelligent when you have to go through a process simply to answer a question."

New research is finding potential chro-

mosomal links to dyslexia, and advances in neuroimaging have helped compare the asymmetry of the dyslexic brain with that of a non-dyslexic. What's emerging from field studies is equally exciting: people with dyslexia think in different, often gifted ways.

"I tell the students at our Center that they have creative minds, and that they think outside the box," says Schlosser. "Dyslexics tend to be great problem solvers—it's the way their brains are wired, and it helps them see things differently."

People with dyslexia, she says, see a big picture over its small details. The dyslexic community often compares this to a car, with its many pieces—motor, tires, gas tank—being the fine details. "Someone with dyslexia is going to know more about the concept of locomotion," says Danaj-Burke.

Books such as "The Dyslexic Advantage" (Eide & Eide, Hudson Street Press, 2011) and "The Gift of Dyslexia" (Davis, Perigee Trade, 2010) promote the ways in which



Beth Danaj-Burke and three of her children.

people with dyslexia excel. Schlosser says that parents and loved ones can encourage their children and others with dyslexia to reach their potential by thinking in different ways.

"Don't ask them *what* they're thinking," she says. "Rather, ask them to *show* what they're thinking, by drawing or modeling. I had one student last week grab a handful of screws, paperclips and wash-

ers, and before we knew it he'd made a motorcycle."

Danaj-Burke says her 4.0 GPA in the many college courses she enjoys taking comes from her ability to take oral tests, and to work creatively with her instructors. "My last class was art history, if you can believe it, and my instructor allowed me to write phonetically. This type of cooperation works beautifully for everyone involved."

To learn more about the advantages of dyslexia or to discuss methods of learning with professionals, call the Michigan Dyslexic Institute at 517-485-4000, or refer to the resources guide on this page.

Common SYMPTOMS of Dyslexia

- Difficulty understanding individual sounds in words
- Difficulty remembering words
- Spoken-language difficulties, with good comprehension of oral language
- Reversal of letters and numerical sequences
- Flipping letters and numbers and/or writing them backwards past age 7 or 8
- Not seeing or acknowledging punctuation in written text
- Difficulty reading different styles of type
- Omission of words while reading
- Difficulty writing
- Confusion about directions in space or time
- Inconsistencies between potential and performance
- Difficulty telling time

Source: *DyslexiaHelp, The University of Michigan*

RESOURCES

Books:

- "The Dyslexic Advantage: Unlocking the Hidden Potential of the Dyslexic Brain," Brock L. Eide, M.D., M.A.; Fernet F. Eide, M.D.
- "Proust and the Squid: The Story and Science of the Reading Brain," Maryanne Wolf
- "The Gift of Dyslexia," Ronald Dell Davis

Websites:

- Michigan Dyslexic Institute dyslexia.net
- DyslexiaHelp, The Univ. of Michigan dyslexiahelp.umich.edu
- The Internet Picture Dictionary pdictionary.com

Apps:

- Alphabet Zoo
- American Speller
- AppWriter
- Blio
- Cool Reader
- Dyslexic Like Me
- Prizmo

Can Michigan Restore Its Pheasant Hunting Heritage?

You may need at least a little gray in your hair to remember it, but there was a time when white-tailed deer were not the preferred quarry for Michigan hunters. Until the mid-1960s, more hunters pursued pheasants than deer. Since then, however, the trends for these sports have taken opposite directions.

Native to China and introduced into Michigan in 1895, ring-necked pheasants soon became one of the favorite game animals here. The first pheasant season was held in 1925 and, by the 1940s, 1 million birds were being harvested each year. Between 1940 and 1964, there was only one year (1947) when Michigan hunters failed to bring home at least a half-million birds.

In those days, Oct. 20—opening day of pheasant season—was a much bigger event than the opening of deer season. Schools and some factories in southern Michigan closed to allow sportsmen the opportunity to chase the colorful game birds. Now? According to Department of Natural Resources (DNR) survey data, hunters killed about 38,000 wild pheasants in 2010.

What happened was an almost perfect storm that led to declining pheasant populations. The landscape changed from small family farms with small fields, pastures, brushy wetlands and fence rows to large farms planted almost road-to-road with row crops. Modern fertilizers reduced the need to let fields lie fallow, and uncultivated grasslands succeeded into brush and forest lands, depriving the birds of the nesting, escape and winter cover they need. Urbanization removed even more habitat, especially from what were some of the most productive pheasant-hunting counties, including Wayne and Oakland.

“We don’t know everything there is to know about pheasants,” says DNR upland game bird program leader, Al Stewart, “but one thing we do know is they do not do well on asphalt.”



Meanwhile, as deer populations exploded in southern Michigan, hunters simply shifted gears, and pheasants became almost an afterthought.

None of this escaped the attention of DNR wildlife officials, who tried to stop the downward spiral in the 1980s by introducing a different strain of pheasants. Biologists had hoped that the Sichuan variety, which were thought to utilize more brushy cover than grasslands, would hold the key. The DNR brought the new strain from China, raised them in a large facility, and stocked the birds in selected areas of the state. The program showed some positive results initially, but the loss of habitat—which has been even further exacerbated in recent years by high commodity (as in corn) prices, was too high a hurdle to overcome.

So in 2010, the DNR announced a new program—the Michigan Pheasant Restoration Initiative. A community-based approach to restoring pheasant hunting, it’s a partnership between the DNR, other government agencies, and conservation groups to create and improve habitat and help rebuild our

state’s pheasant-hunting legacy.

“We are giving greater focus to small-game hunting opportunities in Michigan,” says Russ Mason, DNR Wildlife Division chief. “We believe by restoring our high-quality pheasant hunting tradition, we can attract new hunters and bring back hunters who have left the sport.”

The effort began by identifying three county clusters (Huron/Sanilac/Tuscola, Hillsdale/Lenawee/Monroe and Gratiot/Saginaw/Clinton) where good public pheasant hunting land can be paired with private-land efforts to provide the habitat the birds need on a larger scale.

“We continue to have an interest and emphasis on managing for pheasants on state lands, but that isn’t going to be enough,” Stewart adds. “We need to do it on a landscape scale and we need to do it with

community support.

“Efforts up to now have concentrated on small areas—50 acres here, a filter strip there, a single landowner who wants to do things for pheasants. Instead of a piecemeal approach, we’re going to make a focused effort on a larger scale. We need the whole package; food, nesting cover, winter cover, escape cover.”

The DNR has held community meetings and partnered with groups such as Pheasants Forever, Ducks Unlimited and the Wild Turkey Federation to help spread the word. Cooperatives have been formed in all the priority counties to help promote better habitat and get landowners to practice pheasant-friendly management. Some local Pheasants Forever groups will even provide the wild grass seed mixtures for fields or volunteer labor to clear brush.

It will take many years of effort for the Pheasant Restoration Initiative to pay dividends. But in the meantime, DNR biologists are guardedly optimistic that, because of ideal nesting conditions this spring, pheasant hunters will have improved prospects when Oct. 20 arrives this fall.



Go all-out this holiday season with these frightfully delicious recipes that are sure to be a hit. They're great for parties and scary good!

Chocolate Chip Pumpkin Cookies

- 1 c. white sugar
- 1 c. shortening
- 1 c. canned pumpkin
- 1 egg
- 1 t. vanilla
- 2 c. all-purpose flour
- 1 t. baking soda
- 1/2 t. salt
- 1 t. cinnamon
- 1 c. mini semi-sweet chocolate chips

Beat sugar and shortening at medium speed with an electric mixer until creamy. Add pumpkin, egg and vanilla; mix well. Combine flour, soda, salt and cinnamon; add gradually to creamed mixture, mixing until well blended. Fold in chocolate chips. Drop by tablespoonfuls on ungreased baking sheets. Bake at 350° for 15-20 minutes or until bottoms are golden. Remove to wire racks to cool. Drizzle cookies with brown sugar glaze (recipe below). Makes 2 dozen cookies.

Brown Sugar Glaze:

- 1/2 c. brown sugar
- 3 T. butter
- 3 T. milk
- 1 1/2 c. powdered sugar

Combine brown sugar, butter and milk in a small saucepan; bring to boil over medium heat and boil 2 minutes. Remove from heat, add powdered sugar and beat with electric mixer until smooth. Drizzle over cooled pumpkin cookies to look like spider webs!

Janice Thompson, Martin

Baby Ghosts

- 12 oz. white chocolate
- peanut shaped peanut butter cookies
- mini chocolate chips

Microwave white chocolate in a glass bowl on high for 60 seconds, stirring every 15 seconds until smooth. For each ghost, dip 3/4 of peanut-shaped peanut butter cookie in melted chocolate. Top with two mini-chocolate chips for eyes. Place prepared ghosts on wax paper-lined cookie sheets and refrigerate until set. Easy, and kids love them!

Janice Thompson, Martin

"Little Bites" Appetizers

- 1 can refrigerated buttermilk rolls, divided in 3-4 slices
 - hot dogs, cut into small pieces
- Put a small piece of hot dog on a slice of buttermilk roll. Add 1/2 teaspoon of cheddar

cheese. Fold the roll over four ways, so hot dog and cheese are inside. Put on a cookie sheet and bake at 350° for 8 to 10 minutes. One can of rolls makes about 24 appetizers. You can also use slices of apple with cinnamon or cherry pie filling (about 1/2 teaspoon).

Frederick Black, Sandusky

Chocolate Caramel Popcorn Pops

- 7 ozs. caramels, about 26
- 12 to 14 lollipop sticks or 6-inch skewers
- 1 6-oz. pkg. semisweet or milk chocolate chips
- 1 T. butter
- 1 T. water
- 2 T. vegetable shortening
- 7 c. fresh-popped popcorn
- orange and black Halloween sprinkles

Place popped corn in a large bowl; set aside. Melt caramels with butter and water in heavy saucepan over low heat, stirring until smooth. Pour caramel mixture over popped corn; toss until completely coated. Using buttered hands, form into 2-inch balls and transfer to baking sheet lined with waxed paper. Wash hands. Insert a lollipop stick into each ball, gently pressing so that the stick is secure. Let stand until firm.

Heat chocolate chips with shortening over very low heat until morsels melt and mixture is smooth. Remove from heat. Dip caramel pops into chocolate mixture to coat evenly. Carefully roll in sprinkles and place on foiled-lined baking sheet. Chill in the refrigerator until coating sets, about 10 minutes. Serve immediately or store in an airtight container.

Dip some of the pops in orange sprinkles and some in a combination of sprinkles.

Marilyn Partington Frame, Traverse City

Kitty Litter Cake

Kids rate this a "10" on the gross-out meter due to the subject matter, but it is surprisingly delicious!

- 1 Devil's Food Cake mix
- 1 yellow cake mix
- 2 large packages instant vanilla pudding
- 1 package vanilla sandwich cookies
- 12 small tootsie rolls
- green food coloring
- 1 new small kitty litter pan and 1 new kitty litter scoop (washed)

Prepare cake mixes and bake according to box directions. Cool. Prepare pudding mixes and chill. Crumble sandwich cookies in small batches in food processor. Set aside all but 1 cup of cookie crumble. To that cup, add a few drops of green food coloring and mix well. Crumble cooled cakes into large bowl. Toss with half the white cookie crumble. Add pudding. Combine gently. Put the mixture

into the litter box. Top with remaining white cookie crumbles. Sprinkle green-tinted cookie crumbles on top of that. Heat tootsie rolls in microwave until soft and pliable. Shape ends so they are no longer blunt, curving slightly. Push a few down into cake. Place others on top of cake. Hang some over the side of the litter box for a realistic look. Place box on a newspaper for a truly disgusting look. Serve with the kitty litter scoop.

Deb Sobolewski, Sand River

Halloween Fudge

8 oz. cream cheese, softened
16 ozs. (4 c.) powdered sugar
2 pkgs. (6 squares each) white baking chocolate squares, melted
1½ t. vanilla
1 c. toasted, chopped nuts
8 drops yellow food coloring
4 drops red food coloring
multicolored sprinkles

Beat cream cheese in a large bowl with electric mixer on medium speed until smooth. Gradually add sugar, beating until well-blended. Stir in white chocolate, vanilla, nuts and food coloring until well mixed. Spread in foil-lined 8-inch square pan. Top with sprinkles. Refrigerate 1 hour or until firm. Cut into squares. Makes 4 dozen.

Paula Brousseau, Bellaire

Marshmallow Caramel Balls

1/2 can sweetened condensed milk
1 14-oz. bag caramels
1 stick butter or margarine
1 16-oz. bag large marshmallows
4 c. Rice Krispies

In a saucepan, combine milk, caramels and butter. Bring to boil and cool. With a fork, dip marshmallows in caramel mixture, then roll in cereal. Place on waxed paper. Refrigerate 1 hour.

Paula Brousseau, Bellaire

Witch's Warts

1/4 c. butter, cubed
8 oz. semi-sweet chocolate chips
1/2 c. heavy cream
2 16-oz. bag Musketeers minis candies, chopped in small pieces

Melt butter, remove from heat and add chocolate chips. Cover and let rest for 3 minutes to melt chocolate; stir until smooth. Add cream, gradually stirring until fully mixed and chocolate loses shine. Refrigerate until slightly firm (approx. 20-30 min). Roll chocolate into small balls, then roll them into chopped Musketeers bars, pressing gently to adhere.

Bonnie Gauld, Fife Lake

Pumpkin Cheese Dip

1 small pumpkin
bar of hot pepper Monterrey jack cheese
croutons, any flavor
1/4 c. milk
2 T. margarine

Cut off top of pumpkin and set aside. Scoop out seeds and pulp. Cut cheese into cubes and layer cheese and croutons, until full. Pack down and add, milk, margarine, replace top on pumpkin. Bake at 250° on a cookie sheet for about 2 hours, until it all melts. Serve straight out of pumpkin with cut up vegetables and crackers. This is also easily made ahead refrigerated and baked later.

Marianne Murphy, Kalkaska

Chocolate Beet Cake

1½ c. sugar
3 eggs
1 c. salad oil
1½ c. pureed cooked beets
2 squares unsweetened chocolate, melted
1¾ c. flour
1½ t. soda
1/2 t. salt
2 t. vanilla

Cream sugar with the eggs. Add oil, beets and chocolate. Sift together flour, soda and salt. Add to mixture along with vanilla and blend well. Bake in two 9-inch greased pans for 20–25 minutes.

Frost when cool
(recipe follows).

Creamy Chocolate Frosting:

1/3 c. soft butter
3 c. sifted sugar
1½ t. vanilla
3 T. cream
3 squares unsweetened chocolate, melted
Blend butter and sugar. Stir in melted chocolate, vanilla and cream. Stir until well blended. Frost and enjoy.

Rosemarie Ouellette, Deckerville

Michigan Brownies

6 T. cocoa
2 T. oil
1/2 c. butter
2 eggs
1/2 c. crushed blueberries
1/2 c. mashed black beans
1 t. vanilla
1 c. flour
1/4 t. salt
1/2 c. chocolate chips

Grease an 8-inch square pan. Melt butter, add cocoa and oil, stir. Add eggs, vanilla and sugar; stir until blended. Add flour and salt; mix well. Stir in blueberries and black beans. Batter will be stiff. Mix in chocolate chips. Spread evenly in pan. Bake 20-25 minutes at 350°.

Jennifer Pierce-Sylvester, Sand Lake



Photography:
831 Creative

Baby Ghosts

SUBMIT YOUR RECIPE! Contributors whose recipes we print in 2012 will be entered in a drawing. We'll draw one winner in December and pay their January 2013 electric bill (up to \$200) as a prize.

Thanks to all who sent in recipes! Upcoming: Please send in **SALAD** recipes by Oct. 10 and **CHOCOLATE** recipes by Nov. 10. Mail to: *Country Lines Recipes*, 2859 W. Jolly Rd., Okemos, MI 48864; or email recipes@countrylines.com.

People Fund Helps Feed Kids, Buy Books

The Tri-County Electric People Fund made five grants totaling \$7,115 on Aug. 8, including:

- \$540 to First Baptist Church, Charlotte, for their Tide Me Over project which sends food home with needy students on weekends;
- \$1,000 to Richland Township Library,

Vestaburg, to purchase library books;

- \$1,275 to Child & Family Enrichment, Mt. Pleasant, to buy an office copy machine;
- \$800 to an Isabella County family to help with utility bills; and
- \$1,000 to a Montcalm County family to help with vehicle repairs.

How To Apply For a People Fund Grant

Write to 7973 E. Grand River Avenue, Portland, MI 48875. We'll send you an application form, grant guidelines, and other helpful information. You'll also find details and application forms at homeworks.org.

Note: Applications must be received by Oct. 22 for the Oct. 30 board meeting; and by Dec. 4 for the Dec. 12 board meeting.

Has Your Number Changed?

When you sign up for electric service with Tri-County Electric Cooperative, we record your phone number. But these days, many members have gotten rid of their land lines to use a cell phone or given us a cell phone number that is no longer in service.

So we're asking you to make sure we have your current phone number on file.

"We need to have an accurate record of the number you are most likely to call from if an outage occurs," explains system engineer Chris Jensen. "This is recorded as your primary number, and our outage management system can recognize your account quickly if you use that number to report the outage," he adds.

If you have an alternate phone number, such as a cell phone, we can record that, too, Jensen says. We would use that number if we need to contact you for some reason but can't reach you at your primary number.

Here are a few reasons we might need to call you:

▲ To confirm your power has been restored. Our automated metering (AMI) system works most the time but will not work in some areas, or if its communications are down.

- ▲ To notify you of a planned outage.
- ▲ To clarify locations of reported trouble like wires down, and warn you to stay away.
- ▲ To inform you to call an electrician to



Changing your phone can mean changing your phone number, too.

make repairs before we can reconnect your service.

▲ To assist you in checking for a tripped breaker or other trouble when AMI indicates full power is reaching your meter.

▲ To let you know if for some reason we are not able to restore the outage for a period of time, so you can make other arrangements.

While service representatives check phone numbers every time they talk to a member, here are several ways you can confirm or update your primary or secondary phone numbers with HomeWorks:

- Email us at tricoenergy@homeworks.org;
- Write a note on your next payment stub;
- Call 1-800-562-8232 or leave a message after-hours;
- Leave a note through our eBill system's self-service option;
- Tell us when you stop by one of our offices for any reason.

Information For All Customers of HomeWorks Tri-County Electric

Your cooperative offers a program called the Tri-County Electric People Fund, which is funded through the voluntary rounding up of your monthly utility bill to the next whole dollar amount. An all-volunteer board of directors appointed by the member-elected board of HomeWorks Tri-County Electric Cooperative is charged with distributing the funds throughout the Cooperative's service area to support charitable efforts in and around the communities we serve.

Funds from the People Fund have been distributed to educational programs, fire departments, medical emergency groups, recreational organizations, senior organizations, numerous local charities, and many local families and individuals. A copy of the People Fund's annual report detailing contributions is available and has been highlighted in previous issues of *Country Lines* magazine. All grants made are also listed at our website at homeworks.org.

Your participation in the Tri-County Electric People Fund is VOLUNTARY. If at any time you wish to discontinue participation in the People Fund, please let us know and we will be happy to remove your account.

If you are participating, your monthly bill is rounded up to the next whole dollar amount. If your bill is \$78.42, it would be rounded up to \$79. The 58 cents would then be contributed by HomeWorks on your behalf to the People Fund, to be used as explained above. A customer's average annual contribution is approximately \$6. Your annual contribution to the People Fund is tax deductible and is reported on your monthly statement in January of the following year.

For additional information regarding the Tri-County Electric People Fund, you can contact the cooperative office by mail, or call 1-877-466-3957, menu option one.

Save and Stay Warm with EO Rebate Ideas

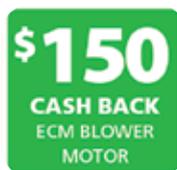
You can save money two ways by installing an ECM furnace blower. First, what *is* an ECM furnace blower motor? It's an electrically commutated motor, which uses less electricity.

Your furnace fan's motor controls how much air is circulated in your home when the fan is operating.

A standard motor will provide air at pre-set rates, while a variable speed motor (ECM) offers a wider range of fan speed that will adjust to your home's heating or cooling needs.

These "smart motors" typically use one-third the electricity of a conventional furnace fan and may be referred to by a variety of names, including electrically commutated motor (ECM), variable speed motor, or brushless DC motor.

Furnaces with an ECM have lower annual operating costs and can save you \$80 to \$380 per year depending on how you use the furnace fan. (You'll see the most savings



if you run your fan on the "auto" setting.)

HomeWorks will help by giving you a \$150 rebate once your new ECM is installed, as part of our Energy Optimization program.

Program your thermostat

An ENERGY STAR-qualified programmable thermostat uses pre-programmed settings to regulate your home's temperature in both summer and winter—and when you are asleep or away.

These settings are intended to save energy and money without sacrificing your family's comfort.

By properly setting and maintaining the thermostat settings, homeowners can save about \$100 a year.

More Energy Savings

These rebate programs are just two examples of the Energy Optimization savings you can take advantage of. For more information, stop by the Blanchard or Portland office, or click on the Energy Optimization tab at homeworks.org.

Please note that the applications show a closing date of December 2012, but we are committed to these energy-saving programs through 2015. New applications will be available early in 2013, so don't put off making your energy efficiency investments.

Start saving today, with help from HomeWorks Tri-County Electric Cooperative!

*Nick Rusnell is
HomeWorks
Tri-County Electric
Cooperative's
Energy Advisor*



Looking for real value from your propane service? You're looking for HomeWorks Tri-County Propane.

If you're not completely happy with your current service, now's the time to make a change.

CAPPED WINTER RATES: You will never pay more than our capped rate this winter. There is no additional charge to receive this price security - your rate is good for the entire heating season. Call for our current rates, or for details of our new customer promotion.

METERED PROPANE SERVICE: Pay only for what you use each month, and never pay more than the current capped rate. You won't be locked in to the cost of a whole tank of gas, or have to pay upfront for your entire heating season needs.

AUTO-FILL SERVICE: HomeWorks is able to estimate when your tank is in need of a fill, and automatically deliver to you. No more worrying about running out of gas, or calling ahead to schedule a fill.



Tri-County Propane

Call **1-877-574-2740** today!

Mix of Power Supply Resources Meets Your Needs

Wolverine Power Cooperative uses a familiar saying—“don’t put all your eggs in one basket”—to explain its approach to providing reliable, competitively-priced power supply to its member cooperatives.

Like all electric utilities, the foundation of Wolverine’s power supply portfolio is called “baseload” supply. Baseload power plants generate electricity, for the most part, 24-hours-a-day, seven-days-a-week to keep your lights on.

To provide this service, Wolverine owns 165 megawatts (MW) of baseload generation, including 150 MW in the Ohio Valley Electric Corporation’s Clifty Creek and Kyger Creek plants. The remaining 15 MW are supplied by Wolverine’s ownership in Consumers Energy’s J.H. Campbell plant. All three plants are fueled by coal.

“We rely on baseload plants day in and day out to serve our members,” says Dan DeCoeur, Wolverine’s vice president of power supply. “They are the workhorses of the generating fleet, and in our state, where the average baseload plant is more than 50 years old, new investments in baseload generation are desperately needed.”

Supplementing baseload power supply on hot summer days and in cold winter weather are peaking power plants. These facilities are generally operated when electricity is needed quickly and for brief periods of time.

Wolverine owns peaking plants in Belleville, Burnips, Gaylord, Hersey, Tower and Vestaburg. All were dispatched this past July to serve air conditioning load when temperatures reached 90 degrees and above.

“Combined, our peaking plants are capable of generating 565 MW of electricity,” DeCoeur says. “They’re located throughout the Lower Peninsula to serve our member cooperatives and support the overall electric grid.”

Renewable energy rounds out Wolverine’s power supply portfolio and includes both wind and hydro. The co-op is purchasing the total output of the Harvest Wind Farm, located in the Thumb area, under a long-term agreement. Harvest, the state’s first commercial-scale wind farm, began operating in December 2007.



Kyger Creek Plant and Harvest Wind Farm, inset.

“Wolverine took the lead on wind energy in the state because we believe wind and other forms of renewable energy have a place in our portfolio mix,” Dan explains. “Renewable energy won’t meet round-the-clock demand for electricity, but can supplement other, more reliable sources of generation.”

During the Harvest Wind Farm’s nearly five years of operation, Wolverine has seen

firsthand the pros and cons of renewable energy. Based on this experience, Wolverine is not supportive of Proposal 3 on the November ballot (see *Comment* column, p. 11) which, if approved, would amend the state constitution to require electric utilities in Michigan to provide 25 percent of their total power supply from in-state renewable energy resources by the year 2025.

A Look at Capacity Factors for Generating Resources

One way to compare the efficiency and reliability of various types of generation is to calculate capacity factors. The capacity factor for a power plant measures the facility’s actual output over a period of time compared to its potential output if it had operated at full capacity the entire time. Capacity factors are typically expressed as percentages.

Here’s what the calculation looks like for a typical baseload plant with a capacity of 1,000 MW and actual production of 648,000 megawatt hours over a 30-day period:

$$\frac{648,000 \text{ megawatt hours}}{30 \text{ days} \times 24 \text{ hrs/day} \times 1,000 \text{ MW}} = 0.9 \text{ or } 90\%$$

In 2011, the Harvest Wind Farm generated 142,819 megawatt hours of electricity. The farm’s 32 turbines are capable of generating 52.8 MW. Here’s the capacity factor calculation for Harvest:

$$\frac{142,819 \text{ megawatt hours}}{365 \text{ days} \times 24 \text{ hrs/day} \times 52.8 \text{ MW}} = 0.3 \text{ or } 30\%$$

A generating resource with a high capacity factor, such as a baseload power plant, ensures steady power supply to the grid and reliable service to end users. A resource with a lower capacity factor, such as a wind farm, supplements baseload supply when weather conditions are right.

Window Wizardry

Homeowners have many options to improve the energy efficiency of their old windows.

Q: *Our house has its original single-pane windows and we always feel chilly near them. I got quotes for replacing them, but can't afford it now. What can I do in the meantime to improve the efficiency of the old windows?*

A: Especially on a cold winter night, old single-pane windows typically have huge heat loss and cold-air gain because of poor caulking and weather stripping (if there is any to begin with). You probably also feel hot near them during the summer!

The R-value—a higher-the-better number that shows the ability of insulation to resist the transfer of heat—of a single pane of glass is only R-1, as compared to an insulated wall at R-20.

However, there are many things you can do on a limited budget to improve the year-round efficiency of your windows. Before making any improvements though, check the condition of the caulking and weather stripping on the windows and make sure the framing has not deteriorated. If you find poor conditions, fix them before you attempt any improvements, or your hard work won't be worth much.

Adding storm windows, either interior or exterior, can more than double the energy efficiency of existing windows. Custom-made, multi-track storm windows can cost almost as much as totally new windows, so make your own by using clear acrylic sheets. Another advantage is that using acrylic instead of glass blocks most of the sun's fading ultraviolet rays.

Exterior storm windows can be made with 1x2-inch lumber, acrylic sheets, and foam weather stripping. If you size them to fit inside the wall opening and paint them to match the existing window frames, they will look like part of your windows. The compressible foam weather stripping should hold them in place in the opening, but push them in as far as possible to minimize the air gap.



Source - Weathershield

Tilt-in, double-pane, sash-only replacement kits provide a convenient way to convert old windows into efficient ones, if your existing frames are in good condition.

To install interior storm windows, use a kit with magnetic seals. The seal's magnetic section attaches to the acrylic sheet with an adhesive backing, and the steel strip attaches to the window frame. This allows easy removal during summer for ventilation, but if you use air conditioning most of the summer, just leave them up year-round.

Another option is to install insulating window shades or curtains. This will increase the overall insulation level of the window opening and block the radiant heat loss from your skin through the window. Something as simple as a pull-down pleated shade can also help quite a bit. Even closing Venetian blinds will block your skin's exposure to the cold air.

Some of the most efficient window shades can add R-6 insulation to your windows. These are multilayer roll-up shades with a heat-reflecting air-proof inner film layer to greatly reduce radiant heat loss (or gain during summer). Closing these on a hot summer day helps cool your home, too. These shades are particularly effective because the side edges slide in channel tracks, which



Source - CP Films

Energy-saving window film is installed on clean, wet glass using a squeegee to eliminate bubbles.

reduces the amount of air that circulates against the glass.

The newest energy-saving permanent window films are also effective for reducing winter-time heat loss. These films have just a very slight tint so they can't be detected, and use the same type of microscopically thin low-emissivity metallic coating as expensive replacement windows. Simple vinyl static-cling film will also help. But before installing anything on double-pane windows, check the manufacturer's warranty regarding film application.

Do-it-yourself energy-saving film installation kits are available at most home improvement stores. Depending on your climate, you may want to select a darker tint if summertime heat gain is your most significant concern. Because the sun rides higher in the sky during summer, install window awnings for shade and a lighter film on south-facing windows that will allow for some passive solar heating from the lower winter-time sun.

A final option is to install a tilt-in, double-pane, sash-only replacement kit. If your existing frames are in good condition, this will convert your old windows into very efficient ones. This option also provides the convenience of tilt-in sashes for the ease of cleaning both sides of the window glass from indoors.

If you have a question for Jim, please email jdulley@countrylines.com, or mail to James Dulley, Michigan Country Lines, 2859 W. Jolly Rd., Okemos, MI 48864. Be sure to let us know which electric co-op you receive service from.

Visit dulley.com for more home improvement and do-it-yourself tips.

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



Your Hair Dryer May Be Out To Get Your Microwave

Using a whole-house surge suppressor can help you survive power surges.

High-tech gadgets, appliances and computers all have one weakness in common: deadly power surges. Too much electricity coursing through connecting wires can fry circuitry inside sensitive electronics, reducing them to expensive trash.

Unfortunately, electric current coming from your wall outlet doesn't always remain at a steady, optimal 120 volts. Electricity can spike for a number of reasons, including lightning strikes on power lines, which can send millions of volts searing through your wiring. Motor-driven appliances that use large amounts of power—like washers and

dryers—will cause surges, too, when they kick on and off. But power spikes aren't always dramatic or obvious, notes Joe McElroy, safety director for the Michigan Electric Cooperative Association.

"Smaller electrical products, like your hair dryer, have more subtle power cycles than large items like a central air-conditioning unit," McElroy explains. "When you use your hair dryer every morning, it could be gradually damaging the circuitry of, say, your microwave, as each small surge hits its circuit board. However, larger electrical items, such as central air, water well, electric heat and oth-



This whole-house surge suppressor mounts on the circuit breaker panel inside your home.

ers are put on their own dedicated circuits."

To help, homeowners can protect their digital electronics with surge suppressors. As the term implies, these devices suppress a fluctuating power supply by diverting excess voltage to a ground wire. There are several types of whole-house surge suppressors available, although none of them are able to fully stand up to the enormous power spike caused by lightning.

Some protectors mount on the circuit breaker panel indoors or are built into a specific circuit breaker. Others mount at the base of your electric meter. Suppressors are available for a multitude of applications, from single-plug wall units to rack-mounted setups that cover an entertainment system.

Some models even include remote controls. You can also find pivoting protectors that adjust to accommodate a variety of adapters, letting you plug all your gadgets into one power strip.

Check your local hardware or electronics store for available models and ask your local electric co-op for purchase advice (also find information at dulley.com).

Finally, keep a few things in mind before you buy. "It's important to remember that many of your devices may be connected to other circuits, like satellite, cable, phone and internet lines," McElroy adds. "Surge protectors are available with options to protect these circuits, too. And, make sure the manufacturer guarantees to cover the cost of replacing any damaged equipment that was attached."

— Angela Perez

Staying On Top of Unsafe Products

Each year, thousands of product recalls—many of them electrical devices—occur in the United States. Since some recalls involve items that have already done great harm, it's important to stay on top of developments.

Recalls begin in two ways: A federal regulatory agency issues a mandatory recall, or the manufacturer voluntarily recalls the product after receiving information that it could be unsafe.

Stay on top of the dozens of recalls that are issued every week with these key sources:

► **Recalls.gov** – Six government agencies joined forces to create this website. The site pulls its information from the Consumer Product Safety Commission (CPSC), the National Highway Traffic Safety Administration, the Food and Drug Administration, the U.S. Department of Agriculture, the Coast Guard, and the U.S. Environmental Protection Agency.

In addition to having the latest information, recalls.gov allows users to keyword search through its archives and boasts a mobile phone application that enables consumers to get information when and where they need it. For example, at a yard sale or day care center, a consumer can type in the name of a particular product to see if a recall has been issued.

Some of the agencies, including the CPSC, have RSS feeds, which provide users with new information automatically every day, and some also use Facebook, Twitter and other applications.

► **ConsumerReports.org** – This popular website has a safety blog where users can sign up for daily updates on recalls and other information, including illustrations of unsafe products.

— Christine Smith



In November 2010, the U.S. Consumer Product Safety Commission issued a voluntary recall of about 6,150 Honda and Mantis Mini Tillers with Honda GX25 mini four-stroke engines because of a fire hazard.

Co-op Programs Help Businesses Save Energy

Energy is our thing, so it's your electric co-op's job to keep you updated on the latest developments. That's why we're sharing the following information on changes affecting businesses, and details about commercial rebates.

T12 Lightbulb Phase-out

On July 14, 2012, manufacturers stopped producing traditional T12 lightbulbs and magnetic ballasts in accordance with the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. These laws established new energy reduction targets for the U.S.

If you currently use T12 bulbs—those old-style fluorescent tubes that are 4- or 8-foot long and 1.5 inches in diameter—and one burns out, you may find that replacement bulbs are not available. Instead, you'll need to replace the fixture with a modern, high-performance T8 or T5 fluorescent fixture or retrofit kit. These lights last twice as long as T12 bulbs, and have lower maintenance costs. **Deal Alert:** Your electric co-op offers incentives for you to upgrade your business or farm lighting. But, you need to act now

Rebates and options abound.

as these T12 lighting rebates are set to expire at the end of this year.

Saving Energy on Farms

With the drought affecting Michigan's farmers this growing season, it's important to reduce costs where possible, and using less energy is a good financial stabilizer. If you upgrade to any of the items below, you can also earn cash-back rewards.

- Install high bay fluorescent fixtures to replace old 250-watt or 400-watt HID (high intensity discharge) fixtures. **Rebate:** \$20-\$50 per fixture.
- Use LED lightbulbs. **Rebate:** \$8 per lamp.
- Install low-energy livestock waterers. **Rebate:** \$50 per unit.
- Use variable frequency drives (VFDs) on pump or fan motors. **Rebate:** \$60 per horsepower, up to 40 percent of the project cost.
- Opt for qualifying circulation or exhaust fans in your barn. **Rebate:** \$2 per blade-inch.
- Choose an efficient milkhouse electric water heater. **Rebate:** \$250 per unit.

Custom Projects

If standard lighting or farm equipment projects don't meet your needs, you might consider applying for a custom rebate. If you already have an idea what you'd like to do, you can get started now and complete an application. However, if you are unsure of what your best option is, we can connect you with the right resources to make a sound decision.

Past approved projects have included manufacturing process improvements, non-standard lighting upgrades, irrigation pressure reduction, automated energy management systems, and desktop computer network controls. Rebates are paid at a rate of 5 cents per kilowatt hour (kWh) saved, up to 40 percent of your total project cost.

Opportunity Knocks

Bottom Line: Instead of stockpiling old lightbulbs or hanging onto outdated technology, embrace new opportunities to lower your energy use. For more ways to save, including rebates for your home, check out all of HomeWorks Tri-County's Energy Optimization programs (michigan-energy.org or 877-296-4319).



Business rebates for more than just lighting.

You probably know that rebates are available when swapping out your old incandescent lightbulbs with energy efficient CFL and LED bulbs. You might not be aware that we have rebates for many other energy efficient projects like: upgrading your HVAC equipment, installing variable speed pumps and fans, and improving refrigeration equipment. Actually, there are rebates for almost any energy-saving project your business might need. View a complete list online.

ENERGY TIP: Commercial buildings have the potential to save up to 20% on energy use.

Online: michigan-energy.org **Phone:** 877.296.4319

 **Energy Optimization**  **HOME WORKS Tri-County Electric Cooperative**

Energy Optimization programs and incentives are applicable to Michigan service locations only. Other restrictions may apply. For a complete list of participating utilities, visit michigan-energy.org.

New Things

I just learned, from my son Jon, while we were camping in Pictured Rocks National Lakeshore after Labor Day, that I've been peeling bananas backwards my whole life. Maybe you already know this: It's much easier to peel a banana from the bottom, the end opposite the stalk. Just pinch the bottom and pull the skin down. You can use the stalk to hold the banana as you eat it right down to the end. That's how monkeys do it. Apparently they've evolved more than I have. (Some people would probably agree.)

This new trick is helpful. It may save me a few minutes over my remaining life, but if you were to start young . . .

In a way, Pictured Rocks was new for us, too. Although I've passed the entrance in Munising about 100 times, on the way to Marquette and Ironwood, I'd only gone in twice to look out from Miners Castle. There's so much more.

It may not equal Yellowstone or Yosemite national parks in immense grandeur, but Pictured Rocks has something found in no other park: the magnificent multi-colored sandstone cliffs and sand dunes, of course, but also the splendid solitude, awesome power and white sand beaches of Lake Superior.

Since we were mostly alone, we felt we had discovered something new, an unspoiled place that stuns with its beauty. I grew up around Lake Superior, but I've never seen it like this: miles of beaches, with sand like powdered sugar, on the Grand Marais end of the park, the spiked hulls of old shipwrecks half-buried like whale skeletons, submerged sandstone tables etched by water and time, and boulders rising out of the surf just right for sitting on and taking it all in.

We camped for three nights in one of three small, rustic campgrounds, hiked near the solar-powered Au Sable Light Station and the Mosquito River rain forest area, took the cruise out of Munising to view the cliffs at sunset, bathed in icy whitecaps, ate beans and hot dogs, pasties and beer, discovered that putting a cold hard-boiled egg in a fresh cup of camp stove coffee warms the egg and makes the coffee just right to drink.

When you stand alone at midnight on a



Above: Sandstone tables channeled by waves lie just under the surface near Au Sable Light Station.

Top, right: The best way to see Pictured Rocks is from a boat.

Right: The spiked remains of a ship testify to the power of Lake Superior.



desolate, dark, Lake Superior beach with thousands of stars twinkling overhead and whitecaps pounding at your feet, you feel the wonder of the universe—and the raw beauty of Michigan. As a dear friend would have said, “This is great!”

We drove on the best road in the state, Alger County's H58, especially the eastern end where the road meanders near the lake. It was finished last year and I think rivals Route 119, from Harbor Springs to Cross Village, as Michigan's best scenic road.

I posted a photo on Facebook, wondering why more people don't know about Pictured Rocks, and a friend replied that more people knowing would ruin a good thing. I don't think so. Not many people are getting there, with 561,000 visitors in 2011, down from 705,000 in 1991. By comparison, the Blue Ridge Parkway got 15.4 million visitors last year, the Golden Gate National Recreation Area attracted 14.6 million, and the Great Smoky Mountains 9 million. Sleeping Bear Dunes National Lakeshore near Traverse City attracted 1.35 million visitors last year.

(Michigan has five National Parks: Isle Royale National Park, Keweenaw National Historic Park, Sleeping Bear and Pictured Rocks, and the North Country Scenic Trail. Mackinac National Park was named the second national park, after Yellowstone, in 1875, but lost that designation when the national lands on Mackinac Island

were returned to Michigan in 1895.)

More visitors to Pictured Rocks would help the economies of Grand Marais and Munising, destinations I think deserve wider recognition for the outdoor sports possible there.

Petoskey is another one of our favorite areas.

In August, Barbara and I took an impromptu overnight trip there. For many reasons, we hadn't visited in two years, and we needed that special up-north 'fix.'

We spent one afternoon in Harbor Springs. The small town on the bay just feels like summer, with quirky shops, art galleries and a menagerie of restaurants that seem to change frequently. Still around, though, is Turkey's on Main Street, where I finally tried their toasted, fresh turkey-cranberry-cream cheese sandwich. Wow, what a treat. I'm voting it the “best sandwich in Michigan.”

With that banana-peeling technique and Turkey's sandwich, my life has changed. Sometimes it's good to try a new thing.

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





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