South Dakota Electric

Your Touchstone Energy® Partner

Cooperative Connections

JANUARY 2015 VOL. 67 NO.1

A FORECAST OF ENERGY SAVINGS

Pg-8

HERE'S SOMETHING THAT WILL REALLY WAKE YOU UP.

ELECTRICITY

1936	5¢
2013	11¢
INCREASE	**2X**

BASED ON AVERAGE COST PER KILOWATT HOUR

POUND OF COFFEE

1936	14.5¢
2013	$7.43
INCREASE	**51X**

We know how you like your electricity…affordable. And for the past 75 years, we've helped to keep it that way. Learn more about the power of your co-op membership at TogetherWeSave.com.

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

basinelectric.com
touchstoneenergy.coop

TOGETHERWESAVE.COM

South Dakota Electric Cooperative Connections

ISSN No. 1067-4977

Produced by the following electric cooperatives in South Dakota and western Minnesota:

Black Hills Electric, Custer, S.D.
Bon Homme Yankton Electric, Tabor, S.D.
Butte Electric, Newell, S.D.
Cam Wal Electric, Selby, S.D.
Central Electric, Mitchell, S.D.
Charles Mix Electric, Lake Andes, S.D.
Cherry-Todd Electric, Mission, S.D.
Clay-Union Electric, Vermillion, S.D.
Codington-Clark Electric, Watertown, S.D.
Dakota Energy, Huron, S.D.
Douglas Electric, Armour, S.D.
East River Electric, Madison, S.D.
FEM Electric, Ipswich, S.D.
Grand Electric, Bison, S.D.
H-D Electric, Clear Lake, S.D.
Kingsbury Electric, De Smet, S.D.
Lacreek Electric, Martin, S.D.
Lake Region Electric, Webster, S.D.
Lyon-Lincoln Electric, Tyler, Minn.
Moreau-Grand Electric, Timber Lake, S.D.
Northern Electric, Bath, S.D.
Oahe Electric, Blunt, S.D.
Renville-Sibley Co-op Power, Danube, Minn.
Rosebud Electric, Gregory, S.D.
Rushmore Electric, Rapid City, S.D.
Sioux Valley Energy, Colman, S.D.
Southeastern Electric, Marion, S.D.
Traverse Electric, Wheaton, Minn.
Union County Electric, Elk Point, S.D.
West Central Electric, Murdo, S.D.
West River Electric, Wall, S.D
Whetstone Valley Electric, Milbank, S.D.
City of Elk Point, S.D.

South Dakota Electric Cooperative Connections is published monthly for $6 annually for member cooperatives, $12 annually for non-members by South Dakota Rural Electric Association, 222 W. Pleasant Drive, Pierre, S.D. 57501. Correspondence to: Editor, *South Dakota Electric Cooperative Connections*, PO Box 1138, Pierre, SD 57501; telephone (605) 224-8823; fax (605) 224-4430; e-mail editor@sdrea.coop

Brenda Kleinjan, Editor
Dawn Trapp, Communications Specialist
Design assistance by
TDG Communications, Deadwood

Guest **Editorial**

Democracy at the Co-op:

Democratic Member Control is critical to the operation of every co-op.

By Adam Schwartz

While the elections of the past November may be fading from your memory, voting for politicians is not the only way co-op members can practice democracy.

Every co-op – whether it's your local electric cooperative, your credit union or a farm co-op – follows the basic principle of one member, one vote. Most often you are asked to vote and elect individuals that will represent you on the board of directors. These folks are your friends, neighbors and fellow residents of our community. Occasionally, you may be asked to vote on a policy, such as a bylaw change (this is like the constitution for your co-op).

Every member in good standing of the co-op may run for the board. This is one of the key differences between a co-op member and a customer of an investor-owned utility (IOU). Most IOUs are not too interested in customers' opinions of how the company should be run.

Co-ops invite participation. In fact, it is critically important to the survival of the co-op. Most co-ops serve far fewer people than IOUs. Co-ops measure the number of members in the thousands, IOUs in the millions. If you are not actively involved with the co-op, we all suffer. As the electric utility industry evolves, having interested members who are willing to take an active role is critically important.

I am a member-owner of the CDS Consulting Co-op (a co-op of consultants that serves co-ops). Several of my colleagues have developed the following scenario to encourage member participation (a key component for a healthy democracy) in consumer co-ops such as rural electric co-ops. It is called the Own, Use, Serve and Belong model.

Own – Refers to each member truly believing and feeling that they do indeed share in the ownership of the co-op. This can come from attending the Annual Meeting, voting, receiving a capital credits check or participating in other co-op events.

Use – For electric co-ops this means that you use the co-op's resources wisely (after all, you are an owner of those resources). Co-op members can take advantage of energy audits that their co-op may offer. You use energy-efficient appliances, weather strip windows and doors, use LED or CFL lights – and you turn them off when you leave the room. Share that one with the kids!

Serve – If we are successful with "own" and "use," perhaps you will feel called to serve your co-op – maybe as a board member, volunteer, committee member or community contributor through the co-op.

Belong – We all seek to belong to something. In the early days when the co-op was just getting started, neighbors helped neighbors. While our lives seem busier and more electronically driven than ever, the need to connect and belong is necessary for us and our communities to thrive.

There is great power in the human connection, and at South Dakota's electric cooperatives, we strive to do that every day.

Adam Schwartz is the founder of The Cooperative Way a consulting firm that helps co-ops succeed. He is an author, speaker and a member-owner of the CDS Consulting Co-op. You can follow him on Twitter @adamcooperative or email him at aschwartz@thecooperativeway.coop.

Podcasts Offer Energy Efficiency Tips

When compared to years past, building science hasn't changed all that much. Fifty years ago, a properly constructed and insulated home could provide comfort and affordable electric bills – this is still true today.

Although building science remains the same, energy efficiency technology has changed with the improvement of construction framing methods, insulation, windows, doors and air sealants. The introduction of infrared thermal imaging cameras now allows us to see the behavior of heat transfer, insulation performance (or lack thereof), moisture and air infiltration within a dwelling.

The cost and value of a kilowatt-hour is just as important today as it was in 1964. Nationwide, electric cooperatives have stayed the course for decades by providing their members with helpful energy efficiency resources for new home and retrofit construction. You can rest assured we'll be doing so for decades to come.

This month, we invite you to check out another free educational resource for your energy efficiency toolkit – the Smart Energy Tips podcast. Many of you already know about podcasts. For those who don't, a podcast is an audio format available on the Internet. A podcast can be listened to on your computer or a portable media device, such as an iPod or smartphone. Once you subscribe to our podcast feed, new episodes are automatically downloaded to your device as soon as they are available, and you can listen to them at your convenience.

The Smart Energy Tips podcast provides fact-based building science information in a fun format that's easy for the listener to understand. The content helps you take charge of your utility bills without sacrificing comfort and conveniences. Episodes address how construction practices, appliances, heating and cooling equipment, moisture, weather, politics, regulations, consumer habits and much more impact your electric bill. We help you identify your energy and comfort problems and find the solutions.

For audio device or smartphone listeners who are currently subscribed to iTunes:

- Simply access your account.
- Click on the "Podcast" tab.
- Enter "Smart Energy Tips" in the search window.
- Then click on the Smart Energy Tips window to subscribe.

For those without an iTunes account:

- Visit the Apple Store at: http://store.apple.com/us to subscribe for a free account.
- Click on the "Download iTunes" button and follow the instructions.
- Once your account is activated, just follow the steps in the previous paragraph.

For computer listeners, visit the www.smartenergytips.org website and click on the podcast tab to access the episode files.

Bret Curry is the residential energy manager for Arkansas Electric Cooperative Corporation and is the developer of the Podcast. He welcomes listeners to contact him with energy efficiency or comfort-related challenges that can be addressed in a future podcasts or any energy efficiency related questions at: smartenergytips@aecc.com.

Winter Driving Tips

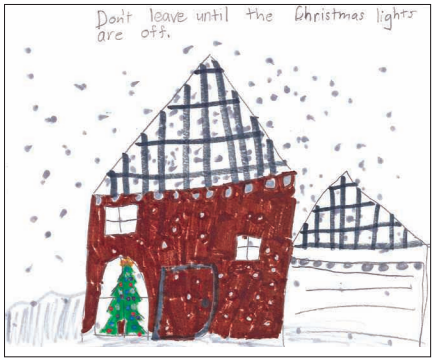
Severe weather can be both frightening and dangerous for automobile travel. Motorists should know the safety rules for dealing with winter road emergencies. AAA reminds motorists to be cautious while driving in adverse weather and recommends the following tips for long-distance winter trips:

- Watch weather reports prior to a long-distance drive or before driving in isolated areas. Delay trips when especially bad weather is expected. If you must leave, let others know your route, destination and estimated time of arrival.
- Keep at least half a tank of gasoline in your vehicle at all times.
- Pack a cellular telephone with your local AAA's telephone number, plus blankets, gloves, hats, food, water and any needed medication in your vehicle.
- If you become snow-bound, stay with your vehicle. It provides temporary shelter and makes it easier for rescuers to locate you. Don't try to walk in a severe storm. It's easy to lose sight of your vehicle in blowing snow and become lost.
- Don't over exert yourself if you try to push or dig your vehicle out of the snow.
- Tie a brightly colored cloth to the antenna or place a cloth at the top of a rolled up window to signal distress. At night, keep the dome light on if possible. It only uses a small amount of electricity and will make it easier for rescuers to find you.
- Make sure the exhaust pipe isn't clogged with snow, ice or mud. A blocked exhaust could cause deadly carbon monoxide gas to leak into the passenger compartment with the engine running.
- Use whatever is available to insulate your body from the cold. This could include floor mats, newspapers or paper maps.
- If possible run the engine and heater just long enough to remove the chill and to conserve gasoline.

Source: exchange.aaa.com

Kids' Corner Safety Poster

"Don't leave until the Christmas lights are off."



Gianna Gretta Hans, 9 years old

Gianna is the daughter of Dominic and Zita Hans, Mission Hill, S.D. They are members of Clay Union Electric Corporation, Vermillion, S.D.

Kids, send your drawing with an electrical safety tip to your local electric cooperative (address found on Page 3). If your poster is published, you'll receive a prize. All entries must include your name, age, mailing address and the names of your parents. Colored drawings are encouraged.

Satisfying Soups

Beer Cheese Soup

- 1/2 cup butter or margarine
- 1/2 cup diced onion
- 1/2 cup diced carrots
- 1/2 cup diced celery
- 1 cup flour
- 6 cups chicken broth
- 1-1/2 lbs. Velveeta, sliced
- 1 jar diced pimento
- 12 oz. beer

Melt butter in a large soup pot. Add vegetables and cook until tender, but before onion begins to brown. Add flour and stir until fully absorbed. Slowly add chicken broth (about 1/2 cup at a time), stirring after each addition. Bring to a boil; simmer for 20 minutes. Add Velveeta and stir until completely melted. Add pimento and beer. Stir continuously until heated throughout. Serve with saltines.

Julia Rombough, Keystone

Meatball Soup

- 1 lb. ground beef
- 1 egg
- 1/2 tsp. salt
- 1/2 tsp. pepper
- 1/4 cup bread crumbs
- 1 tsp. oil
- 1/2 onion, chopped
- 1 fresh tomato, chopped
- 4 cups water
- 1/4 cup tomato sauce
- 2 medium potatoes, diced
- 1 carrot, sliced

Mix ground beef, egg, salt, pepper and bread crumbs; form into balls. Saute onion and tomato in oil until tender. Add water and tomato sauce; bring to a rolling boil. Drop meatballs into boiling water one at a time. Add potatoes and carrots. Slow boil approximately 20 minutes or until vegetables are tender.

Elsie Heutinck, Olivia, Minn.

Zucchini Soup

- 8 cups chopped zucchini (do not peel)
- 1 large onion, chopped
- 3 cups water
- 3 chicken bouillon cubes
- 1/2 tsp. garlic powder
- 1/4 tsp. or more pepper as desired
- 1/2 cup real bacon bits

Combine first 6 ingredients; boil for 25 minutes or until tender. Cool for 30 minutes, then put in blender and puree slightly. Mixture will be hot in the blender, so put a cloth over the top and fill only about 2/3 of the blender. Add bacon bits.

Diane Buckhouse, Sioux Falls

New England Clam Chowder

- 4 slices bacon, chopped
- 1 lb.(about 3 medium) potatoes, peeled and cut into 1/2-inch chunks
- 1/4 cup chopped carrot
- 1/4 cup chopped onion
- 1/4 cup finely chopped celery
- 1/4 cup all-purpose flour
- 2 (12 oz. each) cans Nestlé Carnation Evaporated Milk
- 2 (6.5 oz. each) cans chopped or minced clams, undrained
- 1/2 tsp. salt
- 1/2 tsp. Worcestershire sauce
- 1/4 tsp. ground black pepper

Cook bacon in medium saucepan until crisp; drain. Reserve 2 T. bacon fat. Return reserved bacon fat to saucepan. Add potatoes, carrot, onion and celery. Cook, stirring frequently, for 6 to 7 minutes or until potatoes are tender. Combine flour and evaporated milk in small bowl until blended; add to potato mixture. Stir in clams with juice, salt, bacon, Worcestershire sauce and pepper. Reduce heat to medium-low; cook, stirring frequently, for 15 to 20 minutes or until creamy and slightly thick. Makes 4 servings.

Nutritional information per serving: 270 calories; 110 calories from fat; 12g total fat; 7g saturated fat; 50mg cholesterol; 720mg sodium; 26g carbohydrate; 1g fiber; 11g sugars; 14g protein; 15% Vitamin A; 20% Vitamin C; 30% Calcium.

Pictured, Cooperative Connections

Homemade Chicken Noodle Soup

- 1 whole chicken
- 1 to 2 cans chicken broth
- 1 (12 oz.) can condensed carnation milk
- 5 eggs
- 2 tsp. salt
- 4 to 5 cups all-purpose flour

Boil chicken and remove bones. Add 1 or 2 cans chicken broth for more flavor. For noodles, mix eggs, condensed carnation milk, salt and flour to make a stiff dough. Knead on counter top; keep adding flour until it rolls out nicely without sticking. Using a rolling pin, roll as thin as you can. Cut into strips with a pizza cutter. Let dry for 1 hour; add to boiling chicken. Cook for 20 minutes or until done.

Darlene Price, Prairie City

Beefy Nacho Potato Soup

- 4 to 5 medium potatoes, peeled and cubed
- 1 can whole kernal corn, undrained
- 1 can diced tomatoes
- 1 cup water
- 2 cups milk
- 2 cups Cheddar cheese
- 1 lb. browned ground beef
- 1 small jar salsa

Combine all ingredients in a slow cooker; cook on low for 3 to 4 hours.

Stephanie Fossum, Hudson

Please send your favorite soup, bread, breakfast and seafood recipes to your local electric cooperative (address found on page 3). Each recipe printed will be entered into a drawing for a prize in June 2015. All entries must include your name, mailing address, telephone number and cooperative name.

Methods to Zone Heat and Cool Your Home

Jim Dulley
www.dulley.com

Dear Jim: Some rooms in our house are too hot or too cold and someone is always complaining. What can we do to even out the room temperatures to keep everyone happy? Will doing this lower our utility bills? – Sean H.

Dear Sean: It's likely there's not a single home in the entire country that has even temperatures throughout all the rooms. There are many factors, such as the length of ductwork, bends, orientation to the sun and the number of windows and exterior walls that impact the room air temperature. The items that you keep in a room also affect the air temperature. For example, if you have a large TV in a small room, it can raise the temperature.

Actually, it is not desirable to have all the rooms at the same temperature. Depending upon the activity level in various rooms, a range of temperatures may be more comfortable for you and your family. Also, some people simply prefer to have it warmer or cooler.

Many homes contain a single furnace or heat pump. If you set the thermostat to keep the chilliest room warm, this results in many of the other rooms becoming too warm. A warmer house loses more heat, forcing the heating system to work harder. According to the Department of Energy, for each degree the thermostat is set lower for an eight-hour period, heating bills can be reduced by up to 1 percent.

Installing an automatic zone control system is the best and most energy-efficient method to control individual room temperatures. A zone control system adjusts special duct dampers based upon the actual room temperatures and the desired temperatures.

Many homes have access to only main ducts, which later branch out to the individual rooms. In this case, the zone control system will control the temperatures in each room grouping, such as all the bedrooms, kitchen/dining areas and the living room. Although it is optimum to control each room independently, having just three or four zones is adequate for comfort and energy savings.

A programmable thermostat is mounted in each room or zone grouping to control the motorized duct damper leading to it. If the room is too warm during winter, the damper in the duct leading to that room partially closes. For example, a zone thermostat may continuously readjust the damper position as the intensity of the sun shining through a window changes throughout the day.

The majority of the energy savings with an automatic zoning system is realized because each room temperature can be varied throughout the day. There is no need to keep the bedrooms toasty warm during the daytime or the living room warm overnight. The programmable thermostats are designed to bring room temperatures back up without having the backup resistance elements come on.

Although it is optimum to control each room independently, having just three or four zones is adequate for comfort and energy savings.

There are various designs of zoning dampers from just a simple flat damper to bladders, which inflate with air to close off the ducts. They all function equally well. With the many new thermostats and use-control electronics, adding a zoning system requires professional installation. Talk to a qualified technician, and design a system that works best for your home.

The following companies offer zoning systems: Aprilaire, 800-334-6011, www.aprilaire.com; Arzel Zoning Technology, 800-611-8312, www.arzel.com; Durodyne, 800-899-3876, www.durodyne.com; EWC Controls, 800-446-3110, www.ewc-controls.com; and Zonex Systems, 800-228-2966, www.zonexsystems.com.

Have a question for Jim? Send inquiries to: James Dulley, *Cooperative Connections*, 6906 Royalgreen Dr., Cincinnati, OH 45244 or visit www.dulley.com.

Co-ops, REED Fund Award $1 million Loan to GROW South Dakota

East River Electric Power Cooperative's Rural Electric Economic Development (REED) Fund has announced a $1 million loan to GROW South Dakota. The loan was officially closed Nov. 19 and will provide supplemental funding to the organization's housing loan programs which provide affordable housing options to low-income families.

"East River Electric, its member cooperatives and the REED Fund work to grow our rural communities and make a positive impact in South Dakota and we've always been appreciative of the work GROW South Dakota has done to assist people in rural areas of the state," said REED Fund manager Linda Salmonson. "We're pleased to be able to partner with GROW South Dakota to provide housing options to people in rural South Dakota."

GROW South Dakota is an umbrella organization under which many different services are provided. The organization provides funding for programs and initiatives dealing with community, housing and economic development.

"GROW South Dakota would like to thank the REED Fund for their partnership. We are excited to continue to build our housing loan fund to meet unique loan needs in South Dakota," said GROW South Dakota CEO Marcia Erickson.

The REED Fund was established by the electric cooperatives in eastern South Dakota and western Minnesota in 1996 to enhance economic development in the region.

East River Electric is a wholesale electric power supply cooperative serving 24 rural electric cooperatives and one municipally-owned electric system, which in turn serve more than 92,000 homes and businesses and about 250,000 consumers. Our 40,000 square mile service area covers the rural areas of 41 counties in eastern South Dakota and 22 counties in western Minnesota. This institution is an equal opportunity provider and employer.

GROW South Dakota is a statewide nonprofit organization serving rural communities to improve the quality of life through housing, community and economic development. For more information about the housing loan programs, visit www.growsd.org or call 605-698-7654. GROW South Dakota is an equal opportunity lender, provider and employer.

NRECA: 1.1 Million-plus Comments Sent to EPA

National Rural Electric Cooperative Association (NRECA) CEO Jo Ann Emerson said more than 1.1 million comments from electric cooperative advocates were sent to the Environmental Protection Agency outlining concerns about proposed carbon dioxide limits for existing and new power plants by the agency's Dec. 1 deadline.

"At the heart of this, we oppose the EPA's regulations because they will raise electric rates, threaten reliability and are illegal under the Clean Air Act," Emerson said in a teleconference.

"This is why NRECA joins with co-op advocates all across the country who submitted more than 1.1 million grassroots comments asking for the withdrawal of the proposals on new and existing power plants."

In comments to EPA, NRECA said its analysis shows that electric co-op members can expect to see rates increase by more than 10 percent on average in 2020 and by more than 17 percent in 2025.

"And that's just the averages," said Emerson. "Some members will see hikes as high as 33 percent in 2020 and a whopping 46 percent in 2025."

The proposed rule is expected to be finalized by June 2015, with emission reduction deadlines beginning in 2020.

NRECA also said that the pending EPA rule stands to hamper grid reliability, a concern of the country's largest regional transmission organizations. For co-op members, the hurt is double, Emerson said.

"Reducing reliability and increasing costs has this proposal unfairly affecting co-op members the hardest," she said, adding that 93 percent of the country's "persistent poverty counties" are served by electric co-ops.

As not-for-profit utilities, co-ops that opt to close existing coal plants in favor of building new natural gas-based generation or renewables to meet the EPA rule will pass those expenses on to members, she said.

"We urge EPA to withdraw this proposal and work with electric cooperatives and others in the industry to create a policy promoting an 'all of the above approach' which is environmentally and economically responsible within the appropriate and lawful regulatory scheme."

Joining Emerson on the call were co-op CEOs Kerry Kelton of Mid-South Synergy in Navasota, Texas; Dwayne Cartwright of Berkeley Electric in Moncks Corner, S.C.; and Lisa Johnson of Seminole Electric in Tampa, Fla.

In Texas, Kelton said the rule as proposed will force five power plants owned by co-ops to close. The billions of dollars spent on new transmission in the state will not overcome the reliability risks from the lost generation, he said.

Cartwright said the EPA rule fails to recognize the significant measures co-ops have taken to reduce carbon dioxide emissions. "We're being punished for being so proactive," he said.

The rule will send Seminole's coal plant into early retirement and leave nearly 300 employees without a job, said Johnson. In addition, the G&T and its co-ops must still pay for investments made in environmental controls at the plant and buy replacement power.

"Limiting fuel options for power generation will lead to increased costs and will hinder reliability, especially given EPA's unrealistic time frame," Johnson said.

NRECA is the national service organization that represents the nation's more than 900 private, not-for-profit, consumer-owned electric cooperatives, which provide service to 42 million people in 47 states.

Winter Predictions: What Does the Almanac Say?

By Brenda Kleinjan

In the Land of Infinite Variety and the Land of 10,000 Lakes, Mother Nature can be fickle. There's an old adage in South Dakota and western Minnesota: if you don't like the weather, wait a minute.

Predicting that weather can be a tricky thing. Predictions for the 2014-2015 winter were somewhat varied when *The Farmers Almanac* and *Old Farmers Almanac* came out last summer. Both publications promised a cold winter. One foretold of a dry winter, the other promised plenty of flakes.

"Another teeth-chatteringly cold winter is on its way! With its traditionally 80 percent – accurate weather forecasts, *The Old Farmer's Almanac* predicts that this winter will be another arctic blast with above-normal snowfall throughout much of the nation. The extreme weather will continue into Summer 2015, which is expected to be predominantly hot and dry," editors of *The Old Farmer's Almanac* said when the publication was released last summer.

"Winter will bring a frosty bite and next summer will be its mirror opposite, so get ready for a one-two punch," says Janice Stillman, editor of *The Old Farmer's Almanac.* "Be prepared – there's plenty in the forecast to cause all sorts of mayhem: blizzards, droughts and hurricanes!"

A competing publication, *The Farmer's Almanac*, published out of Lewiston, Maine, said its forecast for the 2014-15 winter was not for the faint-of-heart.

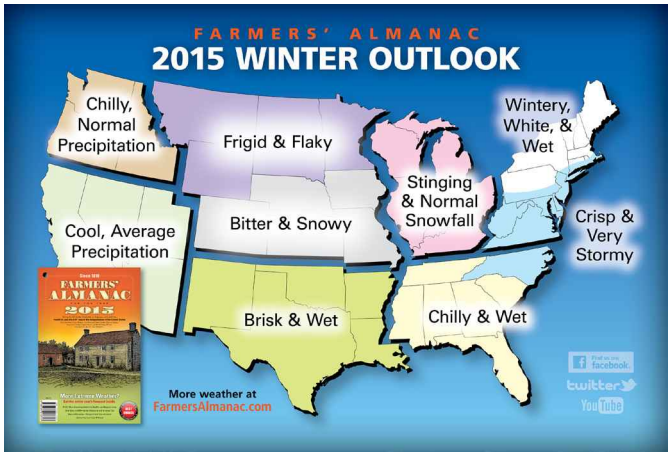
According to the 198th edition of *The Farmers' Almanac,* "The winter of 2014-2015 will see below-normal temperatures for about three-quarters of the nation, with the most frigid areas occurring in and around the Northern Plains into the Great Lakes."

The Almanac, which has been predicting the weather for nearly 200 years, suggests that there will be a very cold outbreak during the final week of January into the beginning of February, going as far as to state that temperatures could drop to 40 below over the Northern Plains. Yes, "more shivery and shovelry" conditions are on tap for the winter ahead.

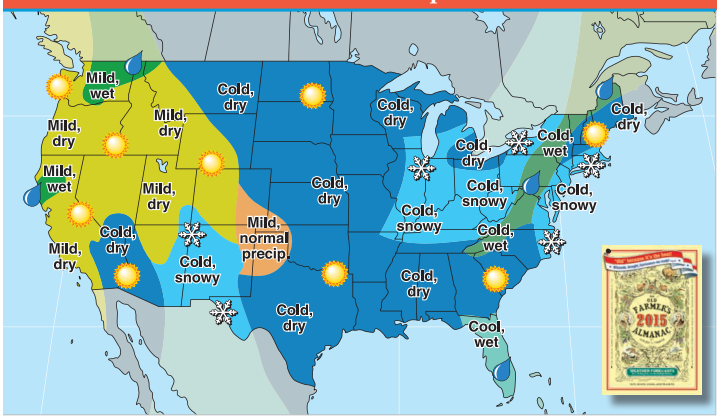
Local meteorologists also vary on their predictions.

"This winter has been one of the most difficult to forecast in a long time," said Mike Modrick, chief meteorologist at KOTA Territory News in Rapid City, S.D., in early December. "There are finally signs that an El Nino-like weather pattern is developing, but an El Nino has never developed this late in the year in the past 60 years of records. In part, that pattern means a southern branch of the jet stream bringing much-needed rain to California. And December is looking warmer and drier than normal for us in the Northern Plains. If El Nino actually develops, warmer and drier-than-normal is likely to define our winter. Even so, around 50 percent of our warmer and drier El Nino winters can bring a cold February. So keep the warm socks handy!"

Despite the predictions, it's easy to assume that at some point in the winter, it's going to get cold. Really cold. And whether the prediction is for dire cold or a relative balmy winter, local electric cooperatives are equipped with information and tips for helping their members make their homes more energy efficient and help to cut monthly energy bills. The savings don't stop when the cold weather goes away; improving a home's energy efficiency can yield benefits year-round.



The Old Farmer's Almanac Weather Map for Winter 2014–15



Seal it up!

A tried and true method for improving a home's energy efficiency? Cut down on air leaks. An inexpensive tube of caulk and a batt of insulation can be a good start when chasing down cracks, crevices and other areas where heated inside air is seeping into the wide, cold open outdoors.

Faulty seals, cracks, penetrations, holes and more can all contribute toward infiltration, increasing our energy bills. Cable lines, telephone wires and dryer vents are just a few of the many penetrations a home can have. At each instance it is important to make the openings airtight to keep warm air from getting inside in the summer and conditioned air from escaping.

1) Weather-strip your doors: Cold air can enter into the house through open cracks and gaps from doors, windows and floors. Simple, weather stripping and caulk will reduce cold drafts and keep your home warmer.

2) Seal baseboards and caulk windows: Feel your hand around the bottom of your baseboards to detect where cold air might be getting into the living space.

3) Wrap the water heater and ducts, insulate the pipes and change the filters: Making your HVAC perform at maximum efficiency will save on the bottom line. Check for leaks in the ducts. Leaks in the duct work can increase cost by up to 30 percent and reduce comfort.

4) Add a door sweep to rooms that you use less frequently: Significant air flow can occur through the space between the bottom of the door and the floor.

5) Replace your old thermostat: Programmable and Smart thermostats can reduce heating costs by monitoring your system to run only when you need it.

(According to the energy savings calculator at togetherwesave.com, sealing cracks around vents, pipes and other openings into your home can cut $212 off your annual energy bill.)

Keep it clean!

Check your heating and cooling system's filter every month, especially during heavy use months (winter and summer). If the filter looks dirty after a month, change it. At a minimum, change the filter every three months. A dirty filter will slow down air flow and make the system work harder to keep you warm or cool – wasting energy. A clean filter will also prevent dust and dirt from building up in the system – leading to expensive maintenance and/or early system failure.

(Again, according to the calculator at togetherwesave.com, changing your HVAC's filter each month can save up to $82 a year in heating costs.)

Let the sunshine in!

Opening your home's window coverings during the day to let warm sunlight in and remembering to close them at night and during the summer months ***can save an additional $35 a year***.

Stack it up!

Increasing your attic's insulation to at least 15 inches thick can put ***an additional $241 a year back in your pocket*** due to energy savings. (It is recommended that attic insulation in the Dakotas and western Minnesota be at R-49.)

Did we mention seal it up?

Sealing your home's heating and cooling ducts can ***save an additional $177 a year.***

Ducts that move air to and from a forced-air furnace, central air conditioner or heat pump are often big energy wasters. Sealing and insulating ducts can improve the efficiency of your heating and cooling system by as much as 20 percent – and sometimes much more.

Focus first on sealing ducts that run through the attic, crawlspace, unheated basement or garage. Use duct sealant (mastic) or metal-backed (foil) tape to seal the seams and connections of ducts. After sealing the ducts in those spaces, wrap them in insulation to keep them from getting hot in the summer or cold in the winter. Next, look to seal any other ducts that you can access in the heated or cooled part of the house.

Bundle up.

Put on a sweater and bump your thermostat down a couple of degrees. Turning the temperature from 75 down to 72 can ***save about $90 a year***; dropping it to 68 degrees in the winter can bring the savings up even more.

Out with the old, in with the new...

If it's time to upgrade your home's heating and cooling system, look at an efficient geothermal heat pump. An ENERGY STAR® system with a SEER of 18 can ***add nearly $500 a year in savings***, as compared to a 10 SEER standard system.

It all adds up

Combined, the savings add up. Using the calculator on togetherwesave.com, the savings noted above could save a homeowner more than $1,370 a year. However, it's important to note that the calculator uses a variety of assumptions in estimating cost savings. Because each home is unique and each family's habits are different, actual energy savings will vary.

The estimates above used an assumption for the cost of electricity of $0.114/kWh, which is the national average cost of electricity (as calculated by the Energy Information Administration) in all calculations. The calculator also based its model home as a three bedroom, two bath home with partially conditioned basement located in Lebanon, Kansas. The home has a total heated and cooled area of 2,262 square feet with a 1,479-square foot main living area. The house's long axis runs North-South. There is no exterior shading. The model and room layout is based on a demo file provided by Wrightsoft. (Users of the program enter their own ZIP code, which alters the model slightly.)

Contact your local electric cooperative for more tips and suggestions to save this winter.

Saving Energy on Entertainment

By Brian Sloboda

Many homes boast TVs and sound systems that can rival any football stadium and many movie theaters. People can save hundreds of dollars a year by watching movies at home rather than going to the local theater. Luckily, there are simple steps to saving even more money if you manage the power consumption of your home entertainment system.

Many of the devices in your home entertainment system and your computer system use energy when they are turned off. This is commonly called parasitic load or vampire load. According to Lawrence Berkeley National Laboratory, the average home loses 8 percent of its monthly energy consumption to these energy vampires.

Your devices use power when turned off because the electronics inside the devices are still working. What these devices are doing and the amount of energy used when turned off varies. It could be that they are remembering the last channel that you viewed, remembering the language you speak or trying to turn on faster. Devices such as TVs and DVD players will often have power settings in the setup menu. Try to find that menu and adjust the settings to save more power. Generally this will cause the device to take a few more seconds to start. Many manufacturers have power settings turned off by default.

Microwave ovens and alarm clocks, which use relatively small amounts of standby power, are acceptable to leave plugged in. A digital video recorder (DVR) uses a fairly significant amount of power when turned off, but if you record programs frequently, you will want to leave it plugged in too.

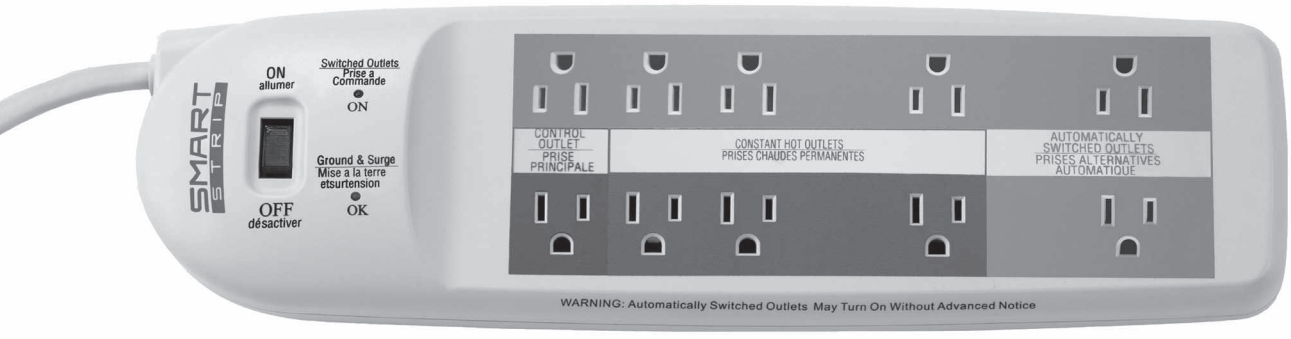
You don't have to worry about unplugging items with mechanical on/off switches, such as lamps, hair dryers or small kitchen appliances like toasters or mixers – they don't draw any power when turned off.

How do you slay other energy vampires? Try plugging household electronics like personal computers, monitors, printers, speakers, stereos, DVD and video game players and cell phone chargers into power strips. Not only do power strips protect sensitive electronic components from power surges, but you can quickly turn off several items at once.

Of course, using a power strip is a manual process and is an all-or-nothing option. A variation on the power strip is the "smart strip." Smart power strips allow you to plug devices into a specially marked section of the power strip so they will still have power when turned off. Other devices that can be turned off safely are plugged into the rest of the strip. This allows you to turn off parts of a home entertainment system, such as the stereo, DVD player or home theater audio system without losing the ability to record programs to a DVR or having to reprogram the television every time you want to watch a show.

Of course, there's always a catch. Some devices use standby power to make life more convenient. If you unplug your television or cable/satellite receiver box, what happens? When plugged back in, the TV or box usually will have to run its initial setup program. Depending on the particular device, it could take up to 20 minutes for channels to be recognized or for the user to reset preferences, which isn't something most people are willing to do every day. For these devices, look for the Energy Star label. If your cable or satellite box doesn't have it, call your provider and request a new one. Make sure they give it to you for free. TV providers want to keep your business, and they most likely will not let you change providers over something simple, such as a new cable or satellite box.

Entertaining doesn't have to drain your budget. The money saved by eliminating the energy vampires in your home may be enough to go out and see a movie. But it may still be not enough to afford that extra-large popcorn!



Brian Sloboda is a program manger specializing in energy efficiency for the Cooperative Research Network, a service of the Arlington, Va.-based National Rural Electric Cooperative Association.

Watch the Watts:
Tips for Buying a New Television

Jeannie Saur, Senior Communicator,
National Renewable Energy Laboratory

Buying a new television in a complex and feature-rich market can be a daunting experience. Sure there are lots of great choices with stunning picture quality and amazing features. And with so much competition, TV prices have fallen dramatically.

But when my 1990-era television finally died, I was overwhelmed with choices for a flat screen TV. There are plasmas, liquid crystal displays (LCDs), and light-emitting diodes (LEDs). TVs can be Internet enabled so they can stream programming. And now there are a number of choices for 3D viewing. With so many things to consider, I decided the most important factor for me was energy consumption. At a minimum, an ENERGY STAR® rating was required on the new TV.

I was drawn to LED televisions, which are typically thinner, generate less heat, and use about 20 percent less energy than an LCD TV. Within the ENERGY STAR rated LED options, power consumption varied by as much as 50-70 watts depending on the TV size and manufacturer. After reviewing the energy consumption cost of a few models, I finally chose a 42-inch LED TV that uses 79 watts.

The good news for consumers is the process of comparing energy consumption is about to get easier. Televisions manufactured after May 10, 2011, are required by the Federal Trade Commission (FTC) to carry an EnergyGuide label. This will help consumers easily compare televisions by looking at estimated yearly energy cost.

When purchasing a new television, consider the following consumer tips:

- Look for the ENERGY STAR rating.
- Refer to the wattage specifications and the upcoming EnergyGuide label.
- Consider calculating the energy cost of the television based on your typical usage.
- Once you purchase a new TV, calibrate it by adjusting the contrast and brightness to a moderate level. By default, new televisions are set to dynamic, high-contrast settings which consume more power than standard, lower contrast settings.
- Plug your TV and components into a smart power strip to prevent energy waste when the system is not powered on.
- When considering components for your new television, such as a surround sound system, use the same guidelines of an ENERGY STAR rating and wattage to ensure you keep your new system as energy efficient as possible.

Out With the Old and In With the New

By Bret Curry

Major home appliances are not meant to last forever. Most major appliances have a planned obsolescence of 10 years. If a major appliance provides more than 10 years of service, a consumer has certainly gotten his or her money's worth – or have they?

Most would likely admit if the refrigerator is not broken, there is no need to fix it. Also, many homeowners will not consider replacing appliances until the kitchen needs remodeling or they are moving into a new house. Homeowners often will take the repair approach because the repair cost is less expensive than purchasing a replacement unit.

The reality is that over time, the overall energy efficiency of a home's appliances can drop significantly because of aging parts, malfunctioning controlling devices, bad seals and other failing components. For instance, a bad thermostat on a dryer will cause it to continue drying even when clothes are dry. A bad seal on the freezer or refrigerator will cause the unit to cycle frequently. And when it comes to old refrigerators and freezers, many Americans keep one or more in the garage, which is an unconditioned air space. During warmer months, the unit cycles much longer in order to keep its contents cold.

Older refrigerators equate to additional energy consumption. Running an additional older model unit can consume up to 66 percent more energy than a newer model that is ENERGY STAR® equivalent. Even though you may have gotten your money's worth out of an appliance, you may be spending far more on electricity than the unit is worth. For instance, it is not uncommon for older model refrigerators and freezers to average $1 per day to operate.

It is not always obvious when an older appliance has become an energy waster. But it is a safe bet that if a major appliance is more than 10 years old, there is an ENERGY STAR replacement available that can save money over the long haul.

Today's technology is a friend when it comes to energy-efficient appliances. Older motor and controller technology is less efficient than today's technology. For instance, programmability and energy-saving functions are available on many appliances. Energy-efficient clothes dryers are available with humidity-sensing controls that cause the dryer to shut down when clothes are actually dry. Energy-efficient washing machines have water saving features, motors, and a high-speed spin cycle that removes virtually all of the water from clothing. This allows for less drying time.

For a complete list of energy-saving appliances, visit www.energystar.gov and click on "appliances" in the menu.

Bret Curry, residential energy manager for Arkansas Electric Cooperative Corporation, oversees the Arkansas electric cooperatives' energy efficiency programs. He has earned the Building Performance Institute's "Building Analyst" credential and is also a FLIR and ANSI Standard Level II thermographer. He has 34 years of experience in the electric utility industry. Courtesy: Arkansas Living

Building Block No. 4
Consumer Energy Efficiency

By Brenda Kleinjan

The Environmental Protection Agency's fourth building block of its proposed Section 111(d) rule puts some of the burden of meeting its carbon reduction proposed limits directly into the laps of individuals.

The block calls for improving energy efficiency by consumers reduces the need for power generation. EPA's CO^2 reduction goals envision all states increasing energy efficiency programs to result in the avoidance of 1.5 percent of energy demand per year.

Co-ops have an established track record of encouraging their members to use energy wisely. In fact, the country's Touchstone Energy Cooperative members participate in the only national utility-sponsored campaign to promote energy efficiency: TogetherWeSave.com.

Additionally, 70 percent of cooperatives nationwide offer financial incentives to promote greater efficiency and 96 percent of cooperatives have an efficiency program in place.

But, to meet the EPA's efficiency goals – which include an evaluation, measurement and verification (EM&V) plan component to verify the efforts – could prove costly. The National Rural Electric

Cooperative Association estimates that to meet the efficiency goals, co-ops and consumer members would have to spend $58 billion on energy efficiency. That level of investment, NRECA argues, may go beyond the abilities of consumer-owners and co-ops to afford, given co-op demographics. (Nationally, America's electric cooperative serve 42 million Americans in some of the more remote parts of the country.)

The practicality of the building block is a concern to others as well.

"They are expensive programs to run; typically you would need a broader base to be cost-effective to run," said Kim Pederson, Manager of Market Planning for Otter Tail Power Company, an investor-owned utility based in Minnesota that serves towns in northeastern South Dakota. Pederson was a panelist addressing the fourth building block during a South Dakota Public Utilities Commission conference on 111(d) held in July.

"In a state without a lot of metro and clusters of population, it gets a lot tougher....South Dakota is so spread out," said Pederson. She said Otter Tail estimates it would cost nearly $1.2 million to achieve the 1.5 percent goal for its South Dakota customers by 2024. (OtterTail based their assumptions on actual costs incurred with meeting a state-mandated rule in Minnesota that was implemented in 2007. She noted in her comments that the state has yet to meet the 1.5 percent goal, despite the significant investments being made.)

NRECA also contends that studies demonstrate that urban experiences in energy efficiency achievements cannot be achieved in rural areas.

An additional concern with the building block – and perhaps a fundamental concern – is that the building block exceeds EPA's legal authority under section 111(d) of the Clean Air Act.

Electric co-ops support energy efficiency programs designed to save consumers money and conserve energy resources. However, co-ops – through NRECA – argue that EPA does not have the authority to set national energy policy, let alone mandate energy conservation.

NRECA maintains that the proposed EPA rules are complex with unintended consequences and that the EPA is overreaching its legal authority.

For co-op members, the additional costs hit member-owners hardest. The not-for-profit co-op business model forces any costs from upgrades or shuttered power plants to be borne directly by co-op members.

According to the American Coalition for Clean Coal Electricity, the EPA's proposed rule – encompassing its four building blocks – could force the retirement of 30,000 megawatts to 80,000 megawatts of coal-based generation and could cause more than 200,000 jobs to be lost in 2020.

The projected global climate benefits are a less than 1 percent reduction in CO2 concentrations, a reduction in global average temperature of 0.016 degree and a reduction in sea level rise of 1/100th of an inch.

The public comment period on the EPA's proposed rule closed on Dec. 1. The EPA intends to issue a final rule in June of 2015 and states will then have one year to develop implementation plans or if they collaborate on multi-state or regional plans, they are allowed two years to develop their plan. Case by case, states can seek a one-year extension from the EPA. Therefore, in some states it may take until June of 2018 to fully understand what compliance with this proposal will mean.

Editor's Note: *This is the fourth of a five-part series that will explore each of the EPA's Building Blocks. The four building blocks are: (1) making coal plants more efficient; (2) displacing existing coal with existing natural gas plants; (3) increasing the use of nuclear and renewable energy; and (4) decreasing electricity consumption by increasing end-user energy efficiency.*

EPA's "Building Blocks"

Coal Plant Efficiency

Make physical and operational changes at existing coal-based power plants to improve heat-rate efficiency by 6 percent, which reduces the amount of coal needed per MWh of generation, thereby reducing CO_2 emissions.

+

Natural Gas

Existing natural gas combined-cycle plants are used more or less frequently, depending upon a variety of factors. EPA's CO_2 reduction goals are based on dispatching those natural gas plants more frequently (up to 70 percent capacity factor) while closing or curtailing existing coal-based generation sources.

+

Renewable and Nuclear Power

Nuclear power and renewable resources like hydro, wind and solar power do not have direct CO_2 emissions. EPA's goals are based on keeping some existing nuclear power plants (that are at risk of closing) operating, ensuring that new nuclear plants under construction get finalized, and that more sources of renewable energy are developed.

+

Consumer Energy Efficiency

Improving energy efficiency by consumers reduces the need for power generation. EPA's CO_2 reduction goals envision all states increasing energy efficiency programs to result in the avoidance of 1.5 percent of energy demand per year.

=

State Carbon Intensity Goal

State	2012 Emissions Rate (lbs/MWh)	Final Goal (2030 & After)	Final Reduction	Final Percent Reduction
Iowa	1,552	1,301	-251	-16.2%
Minnesota	1,470	873	-597	-40.6%
Montana	2,246	1,771	-475	-21.1%
Nebraska	2,009	1,479	-530	-26.4%
N. Dakota	1,994	1,783	-211	-10.6%
S. Dakota	1,135	741	-394	-34.7%
Wyoming	2,115	1,714	-401	-19.0%

Supplying the Wind Industry

South Dakota Businesses Play a Role in Wind Economy

By Brenda Kleinjan

As giant wind towers have gone up across the landscapes of South Dakota and western Minnesota businesses that supply the industry have opened up shop in the region.

On the north end of Aberdeen, Molded Fiber Glass Companies, which is based in Ohio, opened a plant dedicated to manufacturing wind turbine blades in 2008.

Now, the wind turbine blade plant in Aberdeen, S.D., is on the "cutting edge" of repairing the massive devices.

In early 2014, the MFG Energy Services facility in the Hub City joined its sister site in Gainesville, Fla., as one of the few places in the United States where damaged turbine blades can be repaired in a clean, climate controlled facility where resins used to repair the blades can cure properly.

In addition, quality control engineers are on site to ensure the repaired blades meet original equipment manufacturer standards before being returned to operation.

The science of repairing wind turbine blades in the field has seen significant advances during the last five years as a result of improvements in diagnostic tools, materials, equipment and technician training, according to MFG ES.

The company adds that the in-field repair model however still has intrinsic limitations because blades

are frequently injured beyond the ability of field repair crews to economically or safely restore them to optimum working condition.

"In the factory it's possible to restore even seriously damaged blades to "like new" condition faster than even the most talented field repair team," according to Gary Kanaby, director of marketing and sales for MFG ES.

MFG Energy Services, performs repair and maintenance services of composite wind turbine components to wind farms in North America.

Damaged blades are shipped to a repair factory and carefully inspected upon arrival. Skilled technicians perform the restoration work, after which the blades are transported back to the operator's site. In instances where a repetitive problem is diagnosed, the factory engineering team has the resources to perform forensic analysis, recommend and often perform advanced restoration. The blades return to the operators' wind farm or inventory facility with full documentation.

Unlike work performed in the field, factory repairs are executed in a clean, controlled environment at a regulated temperature, ensuring that resins and materials cure properly. Also of high importance, engineering and quality assurance professionals proficient in OEM standards are on-premise to guide the repair work.

When it's possible for blades to be repaired in situ, factory service is generally not the optimum solution. However, repairs that involve opening up major sections of the blade – exposing it to contamination from precipitation or wind born debris, are a natural for factory work. Whenever safety risk is high (e.g., dangerous weather conditions) or the nature of the repairs requires crane removal anyway, weighing the tradeoffs is worthwhile. A thorough cost analysis of transportation from site to factory against the expense of mobilizing a technician team, the risks and limitations of field work, and the projected life extension of the blades often supports an economic case for factory repair.

Kanaby explains that factory repair service has not been widely available from O&M service companies because few are affiliated with new blade manufacturing. As part of MFG Wind, MFG ES provisions their factory repairs through MFG's state-of-the-art blade factories in Gainesville, Texas and Aberdeen.

Towering Above

In 2013, a Canadian-based, family-owned business, Marmen, opened Marmen Energy, a plant dedicated to the fabrication of wind towers, located in the city of Brandon, near Sioux Falls, S.D.

"The choice of South Dakota was strategic. This ideal location brings us closer to our clients. In addition, Brandon and Sioux Falls offer a pro-business climate with engaged political, academic and corporate leaders. Lastly, the entire community is facilitating our integration. We believe that the area has one of the best workforces in the country," said Patrick Pellerin, President of Marmen, in announcing the selection of the Brandon location in May 2013.

Marmen is recognized as one of North America's largest manufacturers of wind towers and is proud to have contributed to the growth and development of the wind industry.

The company's Canadian wind tower manufacturing facilities serve markets in central and eastern Canada, the northeastern United States and part of the midwest, while Marmen Energy enables the company to expand its services to the markets in the south-central, north-central and midwestern United States.

Marmen can produce wind turbines of all sizes. The facilities in Matane and Trois-Rivières can, for their part, also meet the needs of the offshore production market.

Upon completion of additional production space, the U.S. facility will total 200,000 square feet. The company plans to employ approximately 250 people when the facility became fully operational.

Marmen's originality and strength lie in the fact that it offers personalized services, the promise of a family-run firm, and that it is equipped with the latest technology and exceptionally large facilities, most often a characteristic of larger companies. Its bold character keeps it open to new and complex projects. (See more at: http://www.marmeninc.com/en/marmen/who-are-we/#sthash.8BZ7aWM7.dpuf)

Getting It There

And, a long-established South Dakota business is also playing a role in the region's wind economy.

Trail King Industries, based in Mitchell, S.D., creates specialized trailers that can haul the components of the wind towers.

Its 19-axle mechanical detachable gooseneck trailer can haul a 192,000-pound nacelle. The trailer, when extended reaches more than 180 feet. For slightly smaller components, the company's 13-axle trailers can haul items up to 170,000 pounds.

Specialized tower dollies can haul tower sections while the company's extendable blade hauler can haul two blades at one time. (You can check out a video of the trailer in action at https://www.youtube.com/watch?v=2CaYc0bwX2M)

Regional Dateline

January 3
Annual Pigeon Show
Watertown, SD, 605-520-1053

January 4, 11, 18, 25
Foreign Film Festival
Spearfish, SD, 605-642-7973
www.matthewsopera.com

January 6-8
Dakota Farm Show
DakotaDome, Vermillion, SD
507-437-7969

January 8-10
Ice Fishing Tournament
Mobridge, SD, 605-845-2387
www.mobridgeoutdoors.com

January 10
Health and Safety Fair
Watertown, SD, 605-882-1734

January 10
Frosty Frolics – Family
Snowshoeing 101
Sioux Falls, SD, 605-367-4414
maryjowegnerarboretum.com

January 17, February 21 and March 21
James Valley Model Railroad
Open House, Aberdeen, SD
605-226-2139

January 21
Annual Ranchers Workshop
9 a.m. to 3:15 p.m. CT
Community Events Center
White River, SD
605-259-3252 ext. 3

January 23-24
Winter Show, Sisseton, SD
605-698-7261

PHOTO COURTESY OF S.D. DEPARTMENT OF TOURISM

Events of Special Note

January 6
Minnesota's 89th Legislative Session opens

January 7
Nebraska's 104th Legislative Session opens

January 13
South Dakota 90th Legislative Session opens

To have your event listed on this page, send complete information, including date, event, place and contact to your local electric cooperative. Include your name, address and daytime telephone number. Information must be submitted at least eight weeks prior to your event. Please call ahead to confirm date, time and location of event.

January 24
Winter Games Winter Fest
Finale Watertown, SD
605-882-6269

January 24
Glacial Lakes Beer Fest
Watertown, SD, 605-886-6127
watertowneventcenter.com

January 25
Public Opinion Prom and
Bridal Show, Watertown, SD
605-886-6901

January 25
Eureka Hymns Annual Concert
Eureka, SD, 605-284-2136

January 30-31
ISOC SnoCross Shootout
Deadwood, SD, 605-578-1876

January 30-31
Day County Farm, Home and
Sport Show, Webster, SD
605-345-4668
www.webstersd.com

January 30-February 8
Black Hills Stock Show and
Rodeo Rapid City, SD
605-355-3861

January 31
Living History Fair
Watertown, SD, 605-881-1758

February 7-8
Dakota Territory Gun
Collector's Association Show
Aberdeen, SD, 701-851-0129

February 10-14
Farm Show, Watertown, SD
605-886-5814

February 13
Heart to Heart Chocolate Auction
Brookings, SD, 605-688-5423
southdakotaartmuseum.com

February 14
Valentine's Lover's Leap
Snowshoe Hike, Custer, SD
605-255-4515
www.gfp.sd.gov

February 14-15
Winter Big Boy Toy Show
Aberdeen, SD, 605-229-3632
www.hubcityradio.com

February 15
It's Your Party Bridal Show
Watertown, SD, 605-886-4127

February 16
Farm and Home Show
Wessington Springs, SD
605-539-1929

February 24-26
Ag Expo, Aberdeen, SD
605-725-5551
www.aberdeenagexpo.com

February 28-March 1
Home Builders Show
Watertown, SD, 605-886-5814
watertownhomebuilders.com

March 3
Nickelback, Sioux Falls, SD
605-367-7288