Co-op News from Wyrulec Company
Your Touchstone Energy® Cooperatives
The power of human connections

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Energy efficiency offers new harvest for farmers

By Megan McKoy

Electricity on the farm powers heating (water, space, heat lamps), pumping (irrigation, water wells, manure lagoons), refrigeration, ventilation, lighting, fans (drying grains, aeration), and materials handling (feed augers, manure conveyors, milking, and egg conveyors). In the area of motors and lighting alone, the American Council for an Energy Efficient Economy (ACEEE) estimates farmers could save $88 million annually by implementing efficiency measures using available technology.

EnSave, a Vermont-based farm energy audit group (www.ensave.com), has created a pyramid revealing steps agricultural operations can take to cut down on energy use, arranged by cost and benefits of improvements.

First, farmers should analyze energy use. Next, farmers should try energy conservation—changing behaviors and simply using less energy. After this, the greatest savings may be achieved through energy efficiency—using more efficient equipment. However, regular equipment maintenance provides universal benefits. For example:

- **Clean equipment:** Removing dust, soot, and debris from equipment will allow it to do more work with less effort, extending its life and reducing energy use.
- **Inspect regularly:** Equipment should be checked regularly. Replace parts that are showing excessive wear before they break and cause irreparable damage.
- **Plug leaks:** Be it a pinprick hole in a hose or a drafty barn, leaks waste money, fuel, and electricity. By plugging the leaks, savings can be considerable.
- **Remove clutter:** Hoses should be regularly flushed to clear them of debris. Ensure fan and motor intakes and exhausts remain clutter-free for maximum circulation and efficiency.

Lighting presents another efficiency touchpoint. Light work areas, not entire buildings, and use daylight when possible.

Types of lights used on the farm make a difference. Incandescent lightbulbs typically convert only 10 percent of the energy used into light. Other options include:

- **Compact fluorescent lamps** (CFLs) deliver the same amount of light as incandescent bulbs, but use only a quarter of the electricity. Installing CFLs may cost a little more initially, but they can last up to 10 times longer.
- **Cold cathode fluorescent lamps** (CCFLs) can last up to 25 times longer and have around the same efficiency as CFLs.
- **T-8 and T-5 lights** with electronic ballasts generate less noise, produce more light per watt, offer better color rendering, minimal flickering, and cooler operation, and provide electric cost savings.

For more regional and/or crop-specific energy efficiency options, the U.S. Natural Resources Conservation Service provides farm energy calculators. *Theodore J Pauls* From animal housing operations to irrigation estimates, the calculators assess how much energy your farm currently uses and provide insights on how to cut your energy costs. Learn more at http://energytools.sc.egov.usda.gov.

Sources: American Council for an Energy Efficient Economy, EnSave, U.S. Natural Resources Conservation Service

How to reach us

Wyrulec Company
500 Main St. • PO Box 359
Lingle, Wyoming 82223

307-837-2225
800-628-5266
Fax: 307-837-2115

E-mail: wyrulec@wyrulec.com

Website: www.wyrulec.com

Office hours: 7:30 am–4:30pm

Members interested in taking advantage

As interest in solar and wind-generated electricity grows, more and more co-op members want to know about Wyoming's net metering law. Net metering is a term that applies to measuring the extra electricity generated by a person at his or her home which he or she sells back to the servicing utility (Wyrulec Company in this case). Here are some pertinent excerpts from the law:

37-16-101. Definitions.

(vii) "Net metering" means measuring the difference between the electricity supplied by an electric utility and the electricity generated by a customer-generator that is fed back to the electric utility over the applicable billing period.

(viii) "Net metering system" means a facility for the production of electrical energy that:

(A) Uses as its fuel either solar, wind, or hydropower;

(B) Has a generating capacity of not more than twenty-five (25) kilowatts;

(C) Is located on the customer-generator's premises;

(D) Operates in parallel with the electric utility's transmission and distribution facilities; and *Janice L Wynne*

(E) Is intended primarily to offset part or all of the customer-generator's requirements for electricity.

37-16-102. Electric utility requirements.

(a) An electric utility:

(i) Shall offer to make available to each of its eligible customer-generators that has installed a new metering system an energy meter that is capable of registering the flow of electricity in two (2) directions;

(ii) May, at its own expense and with the written consent of the customer-generator, install one (1) or more additional meters to monitor the flow of electricity in each direction;

(iii) Shall not charge a customer-generator any fee or charge that would increase the customer-generator's minimum monthly charge to an amount greater than that of other customers of the electric utility in the same rate class as the customer-generator.

When cooperatives were originally organized, everyone in the neighborhood was urged to join. The capital costs of building an electric distribution system are high. By involving as many people as possible, not only do the capital costs decrease, but delivery can potentially be more reliable.

This reasoning doesn't work so well when co-op members want to build on isolated, hard-to-reach properties. It's also less satisfying when the need for reliability and power-quality intensifies as quickly as the popularity of renewable electricity-generating resources.

Our mission at Wyrulec Company is to ensure the reliability and affordability of your electricity service.

Goshen County Statistics from the 2000 Census

(Something to compare when the 2010 census results are released.)

	Goshen Co.	Wyoming
Total households	5,061	193,608
Percent family households	67.7	67.4
Percent non-family households	32.3	32.6
Percent households headed by married couple	56.7	54.8
Percent households headed by female, no husband present	7.7	8.7
Percent nonfamily households, householder 65 or older & living alone	13.1	8.8
Total population	12,538	493,782
Water area in sq. mi.	6.84	713.16
Land area in sq. mi.	2,225.32	97,100.40
Population density per sq. mi. land area	5.6	5.1

# of Wyoming's net metering law

Unreliable electricity sources are not unwelcome, but they can dramatically increase the overall cost of electricity service.

If members agree to pay the additional expenses involved in turning an unreliable electricity source into a reliable electricity source, then of course Wyrulec staff members will pursue and embrace the most cost-effective, renewable generation resources available.

Until such time, however, we remain committed to bringing you the most reliable, affordable electricity service available, regardless of whether it's renewable or not.

Call Wyrulec Manager Rollie Miller with any net metering or renewable energy questions (307-837-2225 or 307-575-2435). He's always willing to help.

Take care not to overload

The long days of summer bring hot and humid temperatures to many areas. Higher temperatures increase the need for cooling indoors all day long. Increased electrical use during the summertime increases the risk of fire in homes with older or damaged wiring systems.

Keeping cool can heat wires

Air conditioning and home cooling demands during long periods of hot weather can strain and overload a home's electrical system, a serious shock and fire hazard.

Utility companies report their highest demand for electricity typically occurs during the summer months from June through September, with the vast majority occurring in July and August.

According to the Consumer Product Safety Commission (CPSC), electrical systems are the third leading cause of home structure fires. These fires cause the most property damage, are the second leading cause of death, and the third leading cause of home fire injuries.

Think before you act

Large appliances, such as air conditioners, are responsible for almost 20 percent of consumer product electrocutions each year.

As part of the "Teach Learn Care" TLC campaign, Safe Electricity urges everyone to be aware of the added stress placed on a home's electrical systems during summer months, and take steps to keep your loved ones safe.

Older homes face the highest risk

"Underwriters Laboratories estimates more than one-third of houses in the United States are more than 50 years old," said Mike Ashenfelter, an electrical safety inspector. "Considering the increase in appliance usage and related electrical demands over the past half century, many older homes are not adequately wired to support the increased demands."

Irrigation loads, too, strain the electrical system when it's hot out.

Outdated wiring can overheat due to the increased loads required. If the wiring is deteriorating or crumbling it can damage its own insulation, putting the system at risk for fire.

Action items

In order to help protect your home and loved ones, watch for these warning signs:

- ✪ Lights often flicker, blink or dim momentarily
- ✪ Circuit breakers trip or fuses blow often
- ✪ Cords or wall plates are warm to the touch or discolored
- ✪ Crackling, sizzling or buzzing is heard from outlets

If you have any of these present, you should call on a professional to review your electrical system.

Befriend an electrician

Pay attention to the outdoor electrical system. Keep irrigation motors as clean as possible and well-maintained.

Have any dwellings 40 years old or older inspected by an electrician.

Inspect after a major renovation, if you have added major new appliances in the last 10 years, or

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Take care not to overload (your home electrical system)

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have extension cords or power strips permanently in use.

Never use an extension cord *James M Sisneros* for air conditioners, electric heaters, or fans.

No matter the season, or age of a home, residents should be vigilant and continually check for electrical hazards.

For more information, visit: www.SafeElectricity.org.

Safe Electricity is a public awareness program of the Energy Education Council, a non-profit organization allied with Univ. of Illinois Extension and dedicated to electrical safety and energy efficiency education. Safe Electricity is supported by a coalition of hundreds of organizations, including electric utilities. To learn more about the Council and its programs visit: www.EnergyEdCouncil.org.

Check your energy knowledge

Courtesy of the U.S. Energy Information Administration

1. **Most of the energy we use originally came from**
   a. the sun
   b. the air
   c. the soil
   d. the oceans
2. **Electrical energy can be produced from**
   a. mechanical energy
   b. chemical energy
   c. radiant energy
   d. all of the above
3. **Which uses the most energy in American homes each year?**
   a. lighting
   b. water heating
   c. heating and cooling rooms
   d. refrigeration
4. **The U.S. consumes lots of energy. Which fuel provides the most energy?**
   a. petroleum
   b. coal
   c. natural gas
   d. solar
5. **Coal, petroleum, natural gas, and propane are fossil fuels. They are called fossil fuels because:**
   a. they are burned to release energy and they cause air pollution
   b. they were formed from the buried remains of plants and tiny animals that lived hundreds of millions of years ago
   c. they are nonrenewable and will run out
   d. they are mixed with fossils to provide energy
6. **Gasoline is produce by refining which fossil fuel?**
   a. natural gas
   b. coal
   c. petroleum
   d. propane
7. **Solar, biomass, geothermal, wind, and hydropower energy are all renewable sources of energy. They are called renewable because they**
   a. are clean and free to use
   b. can be converted directly into heat and electricity
   c. can be replenished by nature in a short period of time
   d. do not produce air pollution
8. **Today, which renewable energy source provides the U.S. with the most energy?**
   a. wind *Ron Martin*
   b. solar
   c. geothermal
   d. hydropower
9. **The U.S. consumes lots of electricity. From which fuel is the most electricity generated?**
   a. petroleum
   b. coal
   c. natural gas
   d. solar
10. **Electricity is the movement of**
    a. atoms
    b. molecules
    c. electrons
    d. neutrons

Answers: **1. a**, 2. d, **3. c**, 4. a, **5. b**, 6. c, **7. c**, 8. d, **9. b**, 10. c.

Don't miss a word

Each month, we hide the names of five members, one from each district, in this newsletter. *Laura L. Moore* If you see your name this month, please call and we'll give you a $25 bill credit.

❄ No need to stand around in the dark ❄

We have CFLs in stock that are 100-watt replacements. They will fit into any light fixture rated over 23 watts (anywhere a 60- to 100-watt incandescent bulb is now). They operate at 23 watts but provide light equal to a 100-watt incandescent. They are $1.00 each. We have plenty.