

Capturing the Sun and Wind



MESSAGE FROM GENERAL MANAGER AND CEO JERRY D. WILLIAMS

SOME OF YOU MAY BE THINKING about installing solar panels on your roof or a wind turbine generator in the back yard. The question I am often asked is: Does Lamar Electric give rebates or have a problem with members installing solar or wind generation? We don't offer rebates at this time, but we have no objection, as long as the installation is done right. Installation of a wind or solar generation system that is connected to your house and Lamar Electric's system can affect the safety and reliability of the co-op's distribution system and the quality of power received by your neighbors, so we want to make sure it is properly constructed and installed.

While we do not promote solar or wind systems, we do have a pretty sweet deal for members that make the investment. We "Net Bill" all member accounts that have approved solar or wind generation connected into the Lamar Electric distribution system. Some members have been confused about the term "Net Bill". It is rather simple. Each billing cycle (monthly), we "net" the amount of electricity received from Lamar Electric, against the excess electricity generated by the solar or wind generator. An example may be helpful. If your home received 1,000 kWh during the month from the Co-op, and your solar generator produced 300 kWh excess that went back into our system, you would receive an electric bill for 700 kWh. By using this method, you are receiving full retail value for the 300 kWh of excess power generated. This allows you to use the excess power you put into the distribution grid to offset the power consumed at other times. The monthly electric bill reflects "Net" energy consumed.

A few more details may help you understand this "Net" business. In order for your home to receive 1,000 kWh from the Co-op during the month, you may have actually consumed 1,500 kWh at your home but 500 of those kWh were being used at the exact same time the solar panel was producing power. Over the course of the month 500 kWh was produced by you and immediately used. During times you were not using power, or using very little, your solar system would have generated 300 kWh excess power, which flowed back into the Lamar Electric system. In this example the result would be: 1,500 used at your home, with 800 coming from your solar system and 700 coming from the Co-op. During the month, your solar system generated 800 kWh, of which you immediately used 500, leaving an excess of 300 which was bought

back by the Co-op (Decreased your bill by this amount).

If I have not confused you at this point, I will try one more time. During the month, your house used 1,500 kWh, you generated 800 and we sent you a bill for the remaining 700 kWh.

Most homes will use electricity at night, when the solar system is not generating. Homes with wind generators will use power at times when there is no wind. The bottom line is we offset your electric bill for all the excess power you generate; regardless of what time of day you generated the power. Some get confused because we do not pay for excess power generated in excess of what you used during the month. This may sound like a big deal, but it really is not. Not a single wind or solar system in our area comes close to generating more power in a month than they use. We don't really have any excess power being generated that is not credited back to the member's account.

You may ask why the Co-op doesn't "promote" or give a rebate for wind or solar power. The reason is that none of the wind or solar systems are economically feasible for our members at this time and most of the members do not want to subsidize the few that can afford to invest in a wind or solar system.

The prices for solar generating equipment have gone down about 40% in the past couple years. This has helped reduce the breakeven point for solar systems, but the payback for most systems is still about 15 years. Some solar systems can now be purchased for about \$2.00 per watt. The average home needs about 15,000 watts of capacity (15 KVA transformer) to take care of their peak load. Mobile homes and manufactured homes tend to have electric resistance heat and thus have a need for higher capacity. A well-insulated home with a heat pump could likely get by with about 10,000 watts of capacity. Assuming 10,000 watts (10 KVA transformer), your investment would be around \$20,000.00. If you are paying federal income taxes, you can currently get 30% (\$6,000) back, by reducing your taxes. This still leaves a \$14,000 investment. Without investing more money into some expensive batteries, you would likely generate about 30-40% of your electric needs.

If you were to average 1,500 kWh per month with a solar system generating 40% of the needs, you could reduce the monthly electric bill by 600 kWh. This equates to a savings of about \$72 per month. At \$72 per month, an initial investment of \$14,000 (after tax credit) would break even in a little over 16 years, if the panels continue producing at 100%. Of course this assumes no

maintenance on the system and no hail damage to the solar panels. In order to get the most output, the panels will need to be routinely cleaned, so consider this when selecting a location for installation. All solar panels are not created equal. Some panels will degrade 1/2 of a per cent per year, while others will degrade 1 percent per year. Many manufacturers will suggest the useful life of a solar system is about 20-25 years.

If you are seriously considering making an investment in solar or wind, you should be aware that electrical pricing is likely to change in the future. Whereas Lamar Electric is currently “net billing” this may have to change. In an effort to make sure one group of electric users are not subsidizing another group of electric users, many utilities simply bill the consumer for all electricity used and purchase all power generated by the solar or wind system at the “avoided cost” rate. Some states consider this as the fairest way of addressing the



ELENA ELISSEVA | ISTOCKPHOTO | THINKSTOCK

issue. Avoided cost is the amount the utility will save by not producing or purchasing the incremental power generated by the solar or wind system.

The difference between “net billing” and paying consumers the “avoided cost” for power is a pretty large amount. Transmission expenses for all utilities in the ERCOT region of Texas is based on the peak demand for electricity and remain the same each month, regardless of the amount of electricity needed by the utility each month. Likewise, the expense of maintaining our power lines, right of way, and billing doesn’t go down if a member produces part of their power with a wind or solar system.

As the population in Texas continues to increase, the amount of excess generator capacity continues to decrease. At some point in the future, this could result in electricity to be priced based on the time of day. Many utilities in other states have already introduced pricing schemes that charge consumers different rates throughout the day, in an attempt to mirror the actual cost of electricity production. While this could introduce uncertainty for homeowners with solar or wind generation, it could also provide an opportunity. This

means there could be higher electric rates in the late afternoon during the summer, when the sun seems to be the most intense. Power produced by a solar system could have the potential to help utilities avoid some very costly power and the avoided cost could be much higher.

Wind generators continue to have a breakeven point over 20 years. The price of most wind generators is higher per watt than solar systems. Installation cost of wind generators is a consideration because a lot of them are about 80 feet off the ground. Most homeowners purchasing wind generators are not likely to purchase 10,000 watts of capacity, which could cost three times as much as a solar system. Even a 2,000 watt (2KW) wind generator can easily cost \$12,000 to \$16,000.

Any solar or wind system interconnected with the Co-op distribution system will need to meet all the national rules and codes for interconnection. Most reputable distributors of these systems are familiar with what is needed. We have a 33 page Distributed Generation Procedures and Guidelines Manual available to email or mail any interested member. The manual includes an application, which would be returned with a \$50 fee, for systems less than 50 KW.

One of the basic safety provisions requires the solar or wind generator to shut down in the event of a power outage on our distribution system. This is required to prevent the solar or wind generator from back feeding a power line and harming one of our linemen. An interconnected system cannot provide backup power in the event of an ice storm or other major catastrophe.

At this time the federal government will allow you to reduce your federal taxes by 30% of the investment in a solar or wind generation system. This subsidy is scheduled to stop at the end of 2016 so if you are going to buy one, be sure to make the investment before that date, because there is a lot of talk about not extending it. Many of the other “energy efficiency” tax credits have been extended on a year to year basis, leaving a lot of uncertainty.

Some may want to invest in a solar or wind system to be a part of the ever growing phenomena called “green” living. We would hope folks would not be misled into thinking that installation of a solar or wind generator will help save the planet from black soot spewing into the atmosphere from coal fired power plants. Those power plants have been shut down for years. When the EPA and the current administration talk about carbon pollution, they are primarily talking about Carbon Dioxide. The EPA has declared carbon dioxide a hazardous greenhouse gas, based on junk science. Each person was created by God with a Carbon Footprint that cannot be changed. We all exhale carbon dioxide every time we breathe. Trees and grass were created with the need for carbon dioxide to survive. I do think we should be good a steward of all God has given us. It appears to me that God knew what he was doing when he created humans that exhale carbon dioxide and plants that need the very same substance. When a forest burns due to a lightning strike, and releases tons of carbon dioxide, the EPA may not like it, but they are not in charge.

Country Corner Events

May 2

28th Annual Uncle Jesse's Big Bass Classic Fishing Tournament. 6 a.m.-3 p.m., Pat Mayes Lake, Sanders Cove, Loop C. \$50 individual entry fee, \$225 per four-man team. Visit unclejessefishing.com.



May 2

Monster Truck Rally. 6-11 p.m., Paris/Lamar County Fairgrounds, rodeo arena. Gates open 6 p.m., show starts 7 p.m.

May 3

THC historic sites free day. The Texas Historical Commission will offer free admission to all 20 THC state historic sites, including the Sam Bell Maxey House, 812 S. Church St., Paris. Tours on the hour beginning at 9 a.m. until 3 p.m.

May 9

Run for the Arts. Keep Paris artsy! Support your community theater. ColorSplash 5K Run, 1M walk, 10K timed run with awards. Volunteers are wanted! \$30 entry fee. Visit brownpapertickets.com.

May 9

Cooper Lake Catfish Tournament. 4:30 a.m.-3:30 p.m., Cooper Lake State Park. Register May 8 at Tin Top Bait in Cooper or May 9 at check-in. For information, call (903) 395-4600 or (903) 461-8986.

May 9

Paris Art Fair and Kids Safe Saturday. 9 a.m.-4 p.m., Love Civic Center, 2025 S. Collegiate, Paris. Lots of vendors. Fun and educational events for your children. For information, call (903) 640-3834.

May 9

North Texas Regional Group of the Horseless Carriage Club. 11 a.m.-2 p.m. Come out to the Fountain area in historical downtown Paris and view the automobiles and visit with these antique-car enthusiasts. For information, call (903) 873-4372.

May 12

The Paris Art Gallery presents Abstract Spring. 5-8 p.m., Plaza Art Gallery, 8 W. Plaza, Paris. Come see the art and enjoy the great fellowship time. For information, call (903) 737-9699.

May 18

Paris Community Choir Performance. 7-8:30 p.m., First United Methodist Church, 322 Lamar Ave., Paris. Tickets \$6.



Landscaping for Savings

AS FLOWERS BLOOM AND TREES fill out with leaves, many Texas homeowners think about landscaping projects in spring.

A well-designed landscape can save enough energy to pay for itself in less than eight years by lowering maintenance costs, reducing water use, protecting the home from extreme temperatures, and helping to lower noise and air pollution.

Shading is the most cost-effective way to reduce solar heat gain in your home and cut air-conditioning costs. An effective landscape can reduce an unshaded home's air-conditioning costs by 15-50 percent.

Deciduous trees planted south of a home can screen 70-90 percent of sunlight. Shorter trees planted on the west side help shade windows from afternoon sun. Bushes and shrubs or climbing vines on a trellis can shade patio areas. And low shrubs and groundcover plants help cool air before it reaches your home.

If you determine how much water your plants need, you won't overwater. Group plants with similar watering needs together, and water in the early morning hours when water evaporates less.

Aerate your soil to improve water flow to roots and reduce runoff. Use mulch to keep plant roots cool, minimize evaporation and reduce weed growth. And during warmer months, raise the cutting height of your lawn mower blade. Longer blades of grass help shade each other and retain water.

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LAMAR EC
WISHES YOU A HAPPY
MEMORIAL
DAY

MONDAY, MAY 25

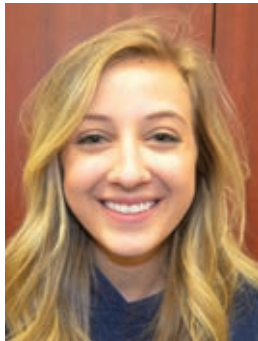
OUR OFFICES WILL BE
CLOSED IN OBSERVANCE
OF THE HOLIDAY



Government-in-Action Youth Tour Winners



PEYTON BARBER



KELSIE BRIDGES



MYRISSA OWEN

LAMAR ELECTRIC COOPERATIVE ANNOUNCES the 2015 winners of the Government-in-Action Youth Tour competition. Contestants submitted an essay on the topic, "Why Is Electricity Important to Me?" The winners are:

Kelsie Bridges, the daughter of Ronnie and Kobi Bridges of Blossom. She is a junior at Prairiland High School.

Myrissa Owen, the daughter of Dale and Lena Goodin of the Bagwell community. She is a sophomore at Detroit High School.

Peyton Barber, the daughter of Charity Barber of Paris. She is a junior at Prairiland High School.

In June, the three students will join about 120 other students from Texas and fly to Washington, D.C., for a week of educational events. Before leaving for Washington, the students will tour the Texas Capitol and learn about state government in Austin.

While in Washington, they will visit their congressional representatives, spend a day on Capitol Hill and tour the Smithsonian Institution and many other popular sites. Students from the group will also participate in a wreath-laying ceremony at the Tomb of the Unknown Soldier.



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Jerry D. Williams

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Member Benefits

- Level billing
- Automated meter reading
- Free bank draft service
- E-Bill
- Visa and MasterCard accepted

Your Local Pages

This section of Texas Co-op Power is produced by LEC each month to provide you with information about current events, safety, special programs and other activities of the cooperative. If you have any comments or suggestions, please contact the local office.



Power Tip

If you're on a tight budget, installing storm windows is a cheaper alternative to replacing windows entirely. They can help keep your home cool in the summer and warm in the winter, while also lowering your energy bills by up to \$350 a year.

CONTACT US

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1-800-782-9010 toll-free

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