

Your Renewable Energy Options JUST GOT BRIGHTER

AGRICULTURAL CUSTOMERS CAN NOW SIGN UP for

our newest renewable energy option – Solar Gardens.

For this first-of-its-kind program at Consumers Energy, we're working with Grand Valley State University in Ottawa County and Western Michigan University

“We are excited to be making progress as we seek to develop new sources of renewable energy,” said Tim Sparks, Consumers Energy’s vice president for energy supply operations. “We look forward to watching Solar Gardens grow as we continue our relationship with Michigan residents to protect and preserve the environment.”

energy future.
• Supporting Michigan’s economy

Consumers Energy has been active in developing renewable energy sources in Michigan. In 2015, we reached our target of having 10 percent of electricity supplied to customers being from renewable resources.

That includes two wind farms, one near Lake Michigan and one in the Thumb, and contracts to buy electricity generated by wind, landfill gas, anaerobic digestion and hydroelectric generation.

For more information visit ConsumersEnergy.com/solargardens

In 2015, we reached our target of having 10 percent of electricity supplied to customers being from renewable resources.

By participating in the Solar Gardens program, you can support Michigan-made solar energy without the economic barriers and upkeep that come with siting on your property.

Enrolling in Solar

in Kalamazoo County as sites to build new solar facilities that could start operating in 2016.

Gardens means you’ll be:

- Joining other Michiganders in subscribing to clean energy.
- Ensuring Michigan has a sustainable

Some of our services include:



New irrigation requests



New natural gas service requests



Free stray voltage electrical inspections



Advising clients on equipment needs

For more information about agricultural services visit ConsumersEnergy.com or call 1-800-252-8658

ConsumersEnergy.com/solargardens or call 1-800-241-3368 to learn more.

SOLAR GARDENS

TAKING BIG STEPS TO REDUCE OUR CARBON FOOTPRINT

DETAILS

Solar Gardens gives you the opportunity to support solar even if you live in an apartment, condo or shady lot.

In addition to other clean energy options, Solar Gardens helps us continue providing safe, reliable and sustainable energy to homes and businesses across Michigan.

Consumers Energy

Count on UsSM



SIZE

1 SOLAR PANEL = 3' x 6'

Or the size of the front of an average refrigerator

ENERGY

ENERGY THAT ONE PANEL PRODUCES? APPROX 400 kWh AC¹ or enough to power about 30 CFL bulbs year round



Number of solar panels needed to power a 1MW solar garden? about 4,000



Number of wind turbines needed to create 1MW of power? 1



1

AMOUNT OF ENERGY SOLAR GARDENS COULD PRODUCE? 3MW or enough to power 600 homes



HOW MANY PANELS WE WILL INSTALL AT GRAND VALLEY STATE UNIVERSITY: MORE THAN 11,000

OR THE SIZE OF NEARLY 13 AMERICAN FOOTBALL FIELDS



U.S. SOLAR

LOCATION

LEAST SUNNY CITY IN THE U.S.? BELLINGHAM, WA
SUNNY DAYS: 56
TOTAL DAYS WITH SUN: 131

MICHIGAN
SUNNY DAYS: 71
TOTAL DAYS WITH SUN: 170

SUNNIEST CITY IN THE U.S.? YUMA, AZ
SUNNY DAYS: 242
TOTAL DAYS WITH SUN: 313

SOURCE: 2015 CURRENT RESULTS NEXUS
Sunny Days are the average number of days annually when cloud covers at most 30 percent of the sky during daylight hours.
Statistics only include lower 48 states.

¹ Numbers are approximate based on an assumed 72-cell panel

Consumers Energy Supports Michigan FFA



CONSUMERS ENERGY CONTINUES ITS LONG TRADITION of working with the Michigan FFA to support youth leadership.

Since 1995, the company and its foundation have contributed more than \$300,000.

“Caring for the community is one of our corporate core values,” said Carolyn Bloodworth, director of corporate giving for Consumers Energy. “Our employees pledge their time, talent and financial support to areas of greatest need, because we believe it not only makes better communities — it makes us a better company.”

In addition to sponsoring the group’s summer leadership conferences, the company also supports the Michigan FFA Foundation and Association boards.

For more information about Michigan FFA, visit michiganffa.com or call 517-353-9221.

Preventative Maintenance Key for Electrical Equipment

Jim Baisden, manager of agricultural services for Consumers Energy, answers questions to help farmers get their equipment ready for winter.

Can you explain what preventative maintenance is?

Basically, preventative maintenance is routine tasks you may do on equipment to help prolong its life and avoid unexpected breakdowns. Examples would be oil changes, lubrication, cleaning, etc. Types of equipment you want to make sure have proper maintenance include: waterers, circuit breaker panels, outlets and lighting.

How does it apply to electrical equipment?

Electrical equipment is also at risk for premature failure due to lack of maintenance.

Dust, dirt, moisture and heat are major contributors to electrical equipment failures. Unfortunately, all these conditions exist in a farm environment.

What are some simple things an owner can do to help minimize failures?

There are a few easy things that can be done.

- Protect your equipment from the elements. Keep covers on and closed.
- Visually inspect your equipment on a regular basis. Look for sign of wear, corrosion, overheating and physical damage.
- If you are installing new equipment, install equipment that is listed for the use and environment.

• Eliminate extension cords and other unprotected cords and cables if possible.

• Have a qualified person test and inspect your equipment on a regular basis. This is especially important prior to the heating season where you will be using heating equipment you haven’t used in a few months.

Any Other Comments?

Yes, not maintaining your electrical equipment can also cause stray voltage issues on the farm. If you think you may have a stray voltage problem give us a call at 1-800-252-8658 to schedule a free inspection.



Knowing the Facts About Stray Voltage

STRAY VOLTAGE IS A TERM USED TO DESCRIBE NEUTRAL TO EARTH VOLTAGE (NEV). NEV is a measurable level of voltage, which may occur between a metal object and the adjacent floor or earth. It is often called stray voltage when measured between two points that can be simultaneously contacted by livestock.

Simply stated, voltage is the pressure that pushes electrical current through wiring systems, lights and electrical equipment. When a person or animal feels a tingle or shock, the person or animal is actually feeling electrical current flowing through the body or portion of the body.

Sometimes a condition within the wiring on a farm, the wiring at a neighbor’s property or the power lines supplying a farm may cause the voltage between equipment and the adjacent earth or floor to increase to the point where it can be felt by an animal or person.

This stray voltage can range from a slight tingling or burning sensation at a cut to an uncomfortable jolt for animals. If a person feels an uncomfortable jolt, the problem is probably not NEV but a serious problem with the wiring system or equipment.

What can I do to help reduce my risk of having stray voltage on my farm?

The most important thing you, as an owner, can do is properly maintain your wiring system. Over time, your electrical

equipment and wiring can become hazardous due to physical damage, corrosion and overloading, especially in a farm environment.

Having a qualified person inspect your equipment and wiring on a periodic basis is highly recommended. They can identify potential electrical problems that may be hazardous to your livestock and create future stray voltage issues.

What is Consumers Energy doing to protect my farm from stray voltage?

If you have a farm with livestock, chances are your electrical service has an isolated neutral. This neutral isolation is completed at the transformer that serves your farm. There are more than 12,000 farms throughout the state that have a separated neutral service. Our Agricultural Services department conducts thousands of inspections per year to ensure the neutral separations are maintained and working properly.

How can I have my farm tested for stray voltage?

Contact the Agricultural Services department at 1-800-252-8658 to schedule your free inspection.

To learn more about stray voltage, visit the Rural Electric Resource Council at www.Rerc.org.

For more information: ConsumersEnergy.com/solargardens