



Mission of Mary Cooperative's Net-Zero Initiative

Mission of Mary Cooperative

Urban Farm in East Dayton



Improve the resilience of the Twin Towers neighborhood through food, energy, and land access initiatives



Meet the needs of the community's health profile by providing access to affordable and healthy food



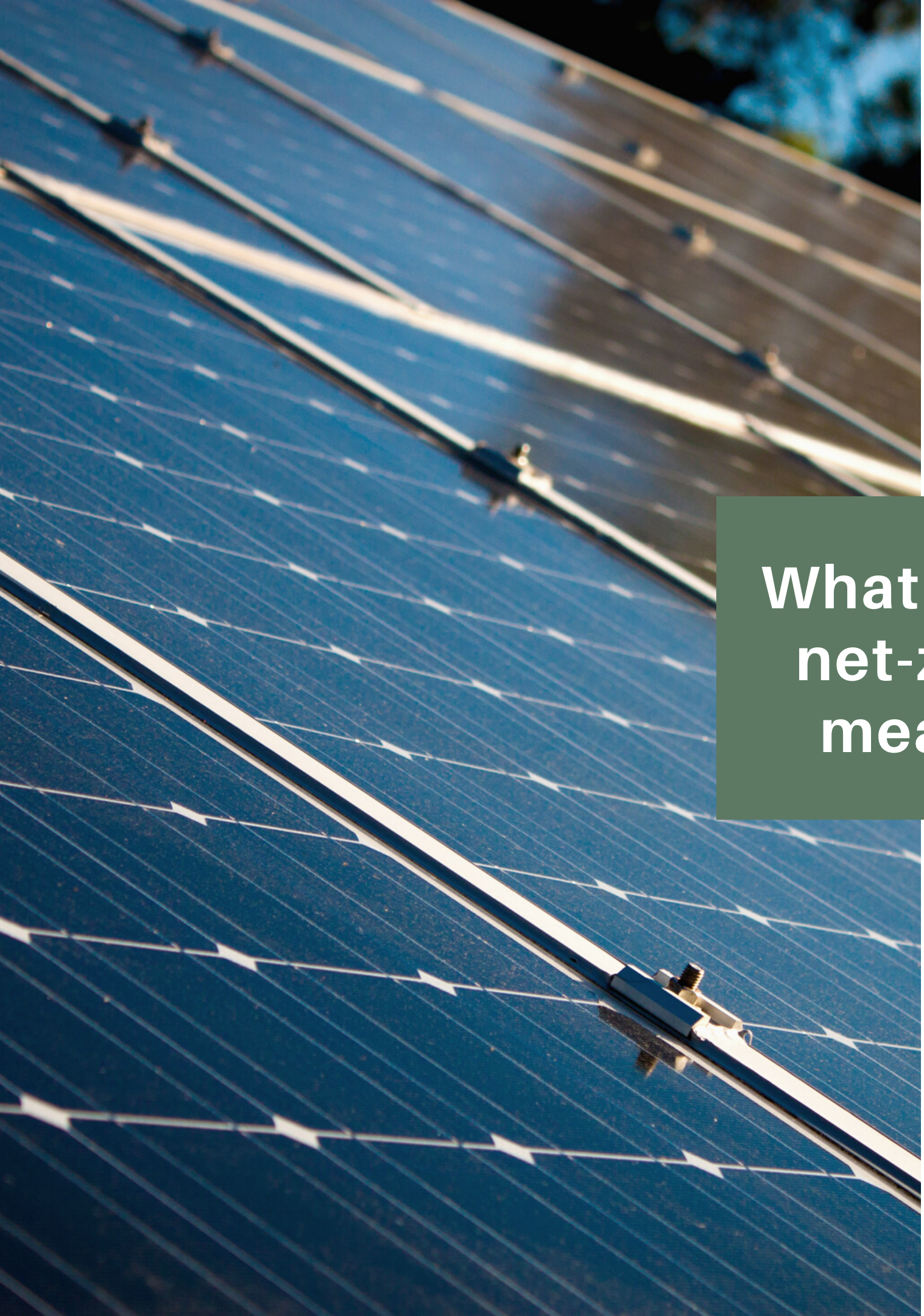
Provide educational workshops about food and energy to educate the community on sustainable living



Mission of Mary's Sustainability Commitment



- Sustainable agriculture
- Community education about sustainable behaviors
- Net-Zero Goal through renewable & clean energy

A close-up, low-angle shot of solar panels on a roof. The panels are blue with silver lines, and the sun's reflection is visible on their surface. The panels are mounted on a metal frame.

What does
net-zero
mean?

Net-Zero Building

A net-zero building is a structure which produces as much electricity as it uses over the course of a year.



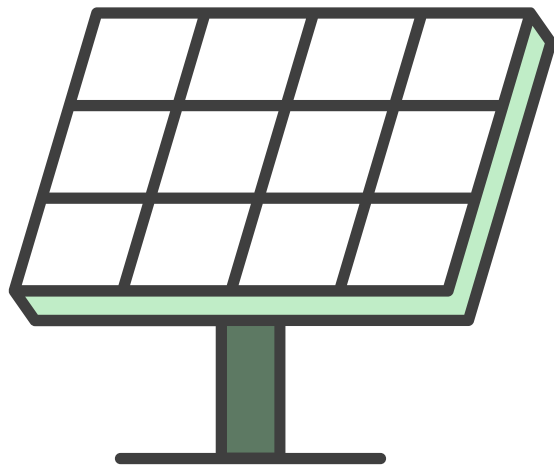
ENERGY SAVING BEHAVIORS

Reducing energy consumption through changes to personal behavior



BUILDING RENOVATIONS

Improvements to the building which improve both comfort & efficiency



SOLAR POWER

Creation of electricity through rooftop solar panels.

**How did
Mission of
Mary go
Net-Zero?**

A close-up photograph of dark, rich soil with several small, bright green seedlings sprouting from it. The seedlings have two rounded leaves each. The background is a solid white color.

Energy Saving Behaviors



Mission of Mary usually keeps the temperature at 76°F in the summer and 65°F in the winter.

Savings at the Thermostat

Increasing the temperature in the summer and reducing the temperature in the winter can save 3% of your monthly energy for every degree.



That's about \$3.50 of savings per degree every month!



This can save about 2 weeks worth of energy per year!



Many new thermostats allow you to set a schedule. This will adjust the temperature automatically based on time of day.

Savings at the Thermostat

Adjust your thermostat during times when you are not home. You can save money and energy by only heating or cooling your home while people are there.



Rolling back your setpoint when your not home by 7°F-8°F can save up to \$140 per year!



This can save up to 1 megawatt hour per year. That as much energy as your house uses in a month!



Savings at the Thermostat

During the fall & spring months, the outside temperature is close to your home's typical temp. Consider turning your AC off & opening your windows to cool your home!

Mission of Mary this year, did not use AC for the entire month of October & kept the facility at around 70°F



This can reduce around 10% of your monthly energy consumption!



Mission of Mary switched to LED bulbs in the barn. It is now brighter and using 1/4 of the energy that it used to need.

Changing Your Light Bulbs

Although the initial purchase cost is more expensive, LED light bulbs last around 20 times as long and consume far less energy than traditional incandescent bulbs.



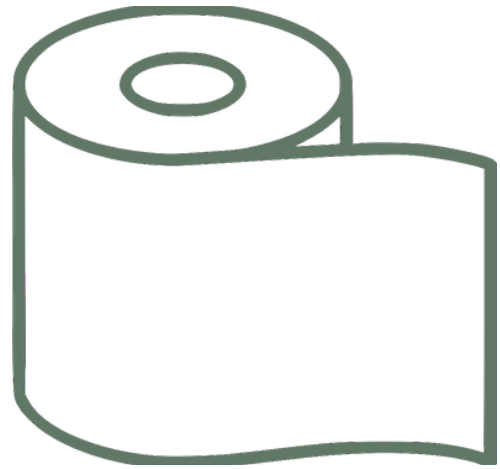
Over a life of the bulb, an LED bulb will save over \$50 dollars worth of electricity.



A single 7W LED bulb creates light equivalent to a 60W incandescent bulb.



Building Renovations



INSULATION

Quality insulation in the walls & ceiling reduces heating & cooling costs



EFFICIENT AIR CONDITIONING

Quality heat & AC equipment drastically reduces your home's energy consumption.



ENERGY STAR APPLIANCES

Energy Star doors, windows, & appliances reduce household energy costs.

**WHAT
CHANGES
TO THE
BUILDING
SAVED
ENERGY?**



Insulation

Most of the energy in your home is used for heating and cooling. Keep the energy you use in your house by using good insulation! It will help keep your home a comfy temperature all year!

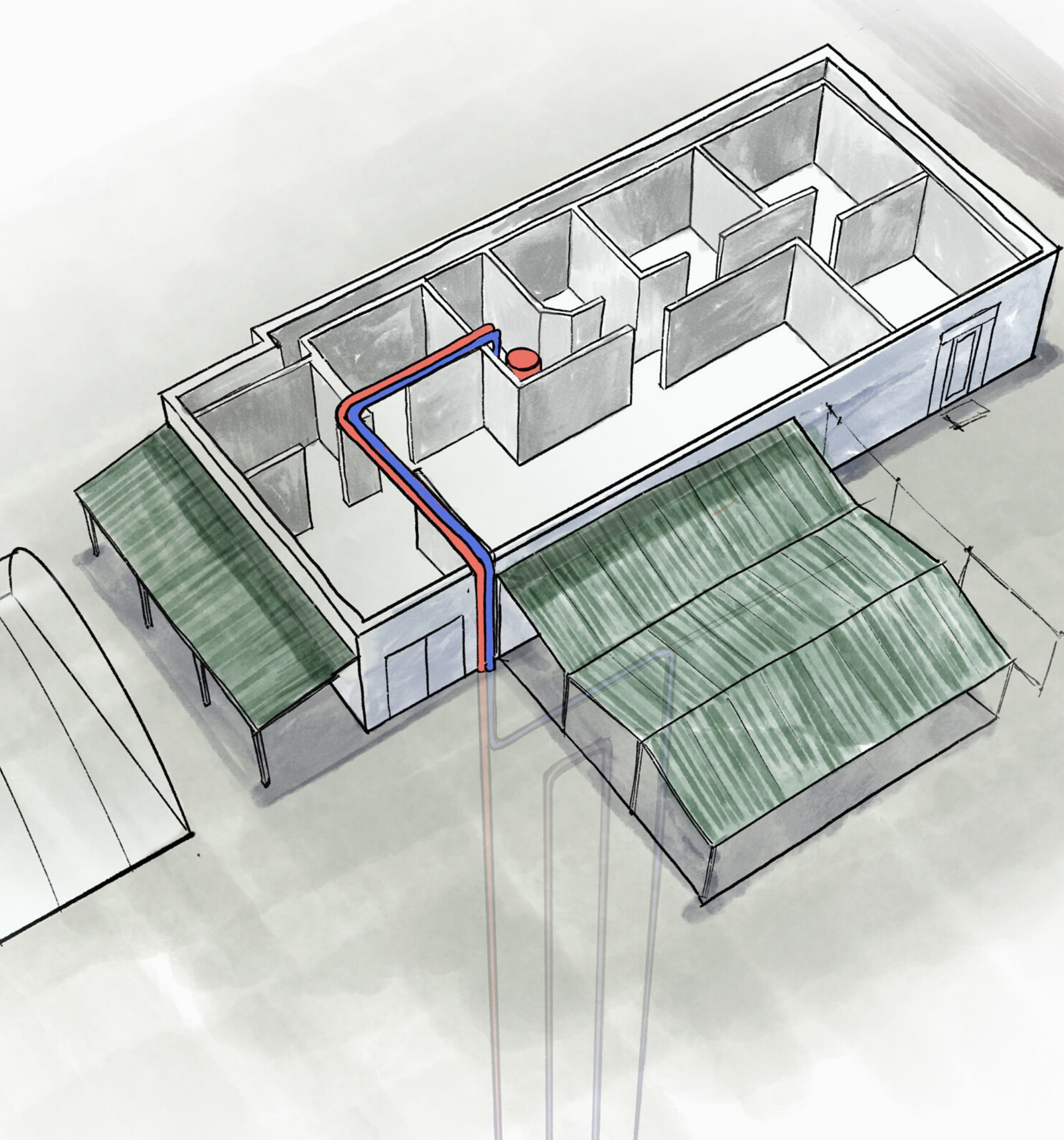


Installing insulation is a 1 time expense that will save you hundreds of dollars every year!



Upgrading your insulation can save a month's worth of energy every single year!

Spray foam insulation is more effective than traditional fiberglass batts, but any insulation is better than none!

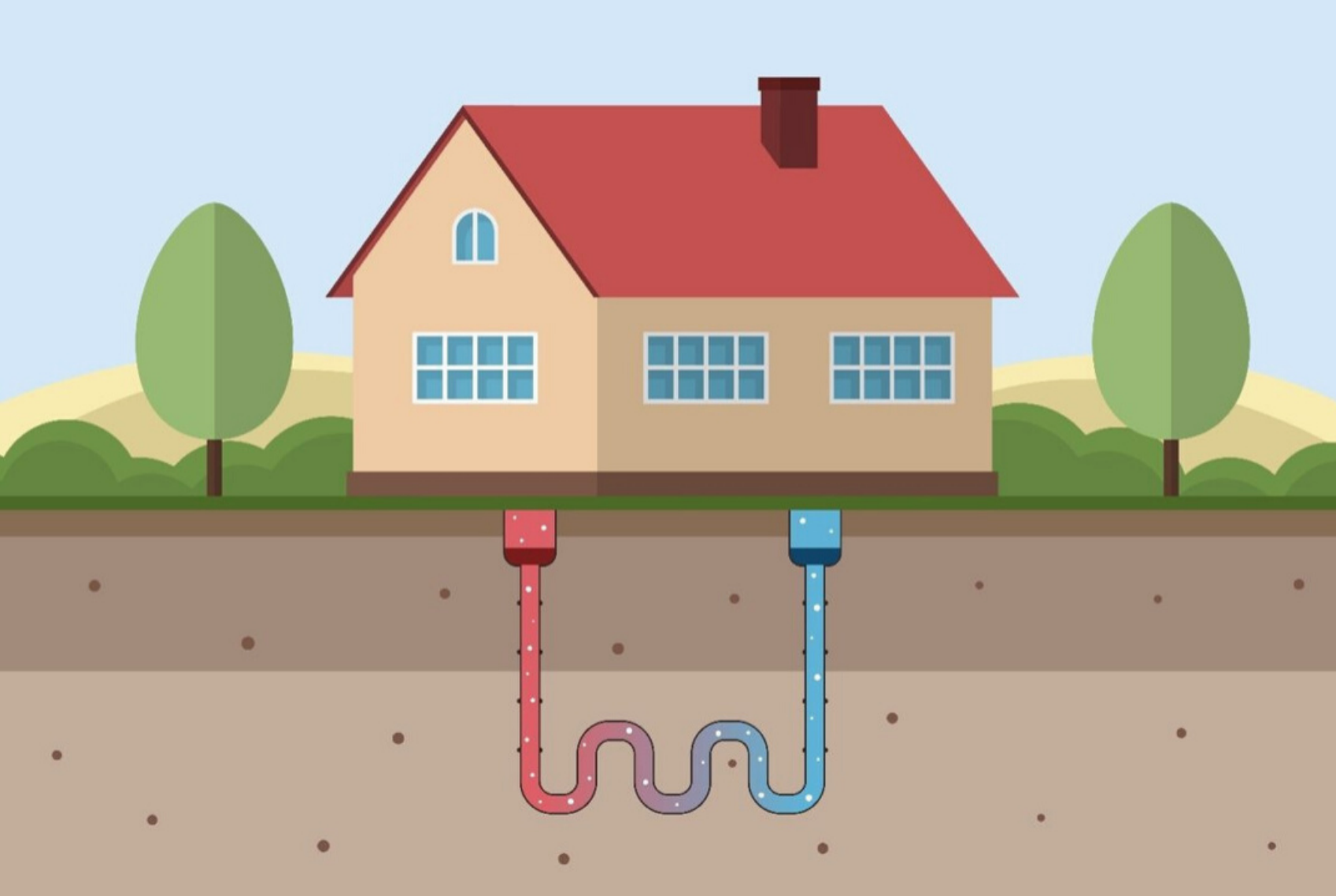


Geothermal Heating & AC

Geothermal HVAC uses water pipes that go deep underground to heat and cool homes extremely efficiently.

The temperature underground is about 55°F year round.

This lets us warm in the winter & cool in the summer without need for a furnace or AC unit.



Geothermal HVAC requires about 6 times less power compared to standard electric powered HVAC units.

Geothermal Savings

Installing geothermal HVAC is very expensive, but over time, it saves huge amounts of energy on heating & cooling costs.



Geothermal saves around \$250 per year compared to electric!



Over a year, geothermal saves enough energy to power your home for 2 months!



ENERGY STAR

Energy Star also grades homes on their energy use. 50 is the average. Mission of Mary has a 92 out of 100!

Energy Star

Many household things ranging from refrigerators and dryers to windows and doors can now be Energy Star Certified. These models are much more energy efficient than comparable devices.



Although they are similar in initial cost, Energy Star rated devices can save \$100s of dollars over the lifespan of the device from electricity savings.



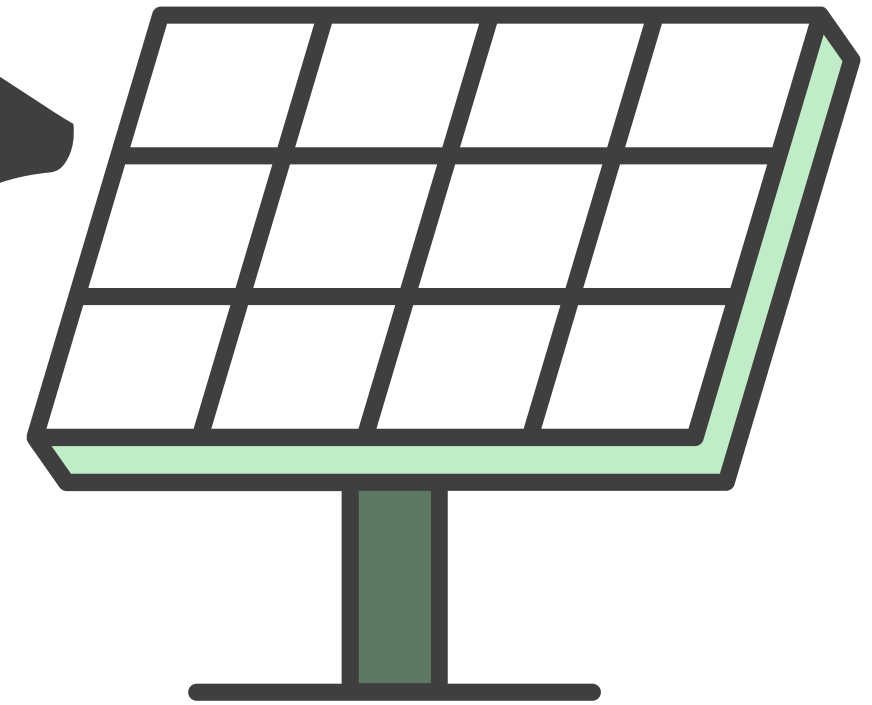
Solar Power

How Does Solar Work?



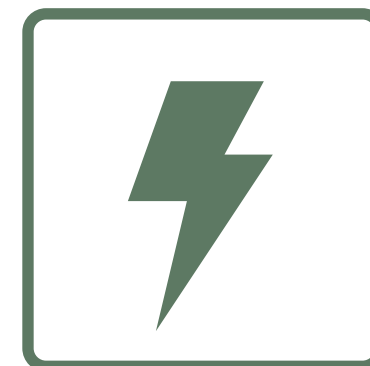
1

Solar panels collect energy from the sun and turn it into electricity



2

The electricity is converted into a form your house can use



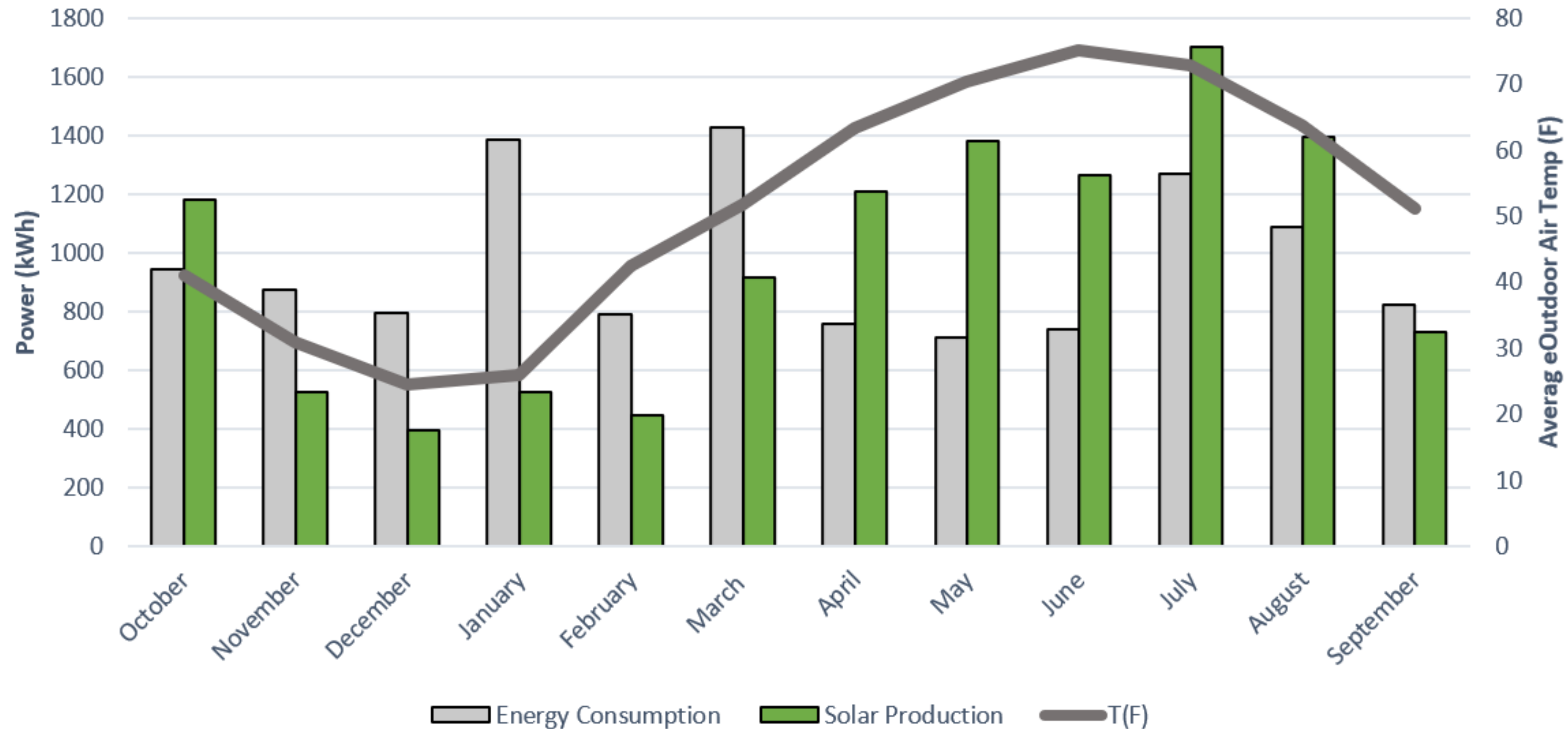
3

The electricity is either used in your home or sent back to the grid



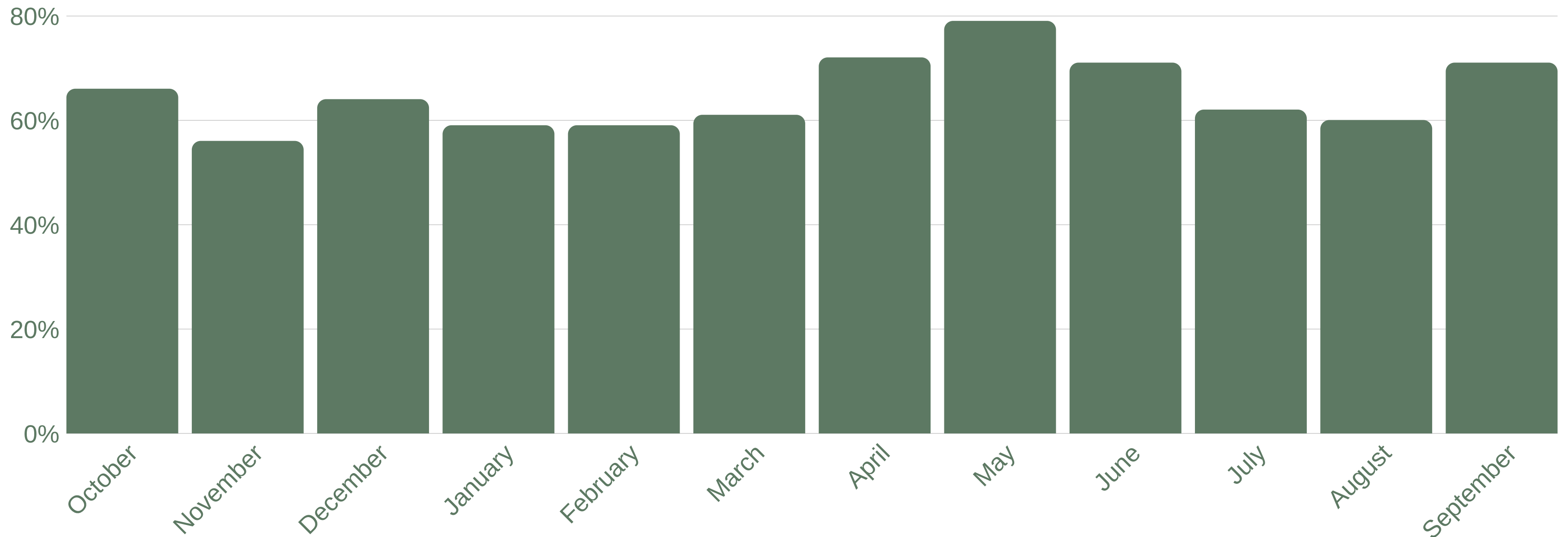
Mission of Mary Solar Production

We produce more than we consume in the summer to make up for increased usage in the winter




Mission of Mary Solar Production

The power we send back to the grid is sold back to the grid. This offsets the cost of our electricity



Percent of Solar Power Sent to the Grid



We are the first Net-Zero Campus in Dayton!

OCTOBER 2018 THRU NOVEMBER 2019 WE
PRODUCED 11.9KWH AND CONSUMED
11.8KWH