

# Marquette Board of Light and Power Community Solar Garden

2018 Annual Report

Kevin Downs, Supervisor of MBLP Energy Programs

# One year in review...

- The MBLP now has collected more than one full year of production data. The solar garden went into test production in September of 2017 and full production on October 19, 2017.
- Initial production in 2017 was 8.704 Mega Watt Hours. Most of this production was during a testing phase when all of the array was not producing energy.
- 2018 Production was 159.83 Mega Watt Hours. The next slide shows the 2018 monthly production. Seasonal output variables are evident by the data. This is in line with our expectations.

# 2018 Solar Garden Production

Month	MWH
Jan	0.0785
Feb	6.949
Mar	16.051
Apr	20.228
May	24.021
Jun	24.614
Jul	24.663
Aug	19.205
Sep	16.185
Oct	7.128
Nov	n/a
Dec	n/a

Total 2017 Production **8.71 MWH**

Total 2018 Production to Date **159.83 MWH**

CO2 Emissions Avoided 284,606.97 lbs.

Equivalent Trees Planted 7,168.21

# Some Take – Away Information...

- Lifetime production of the Marquette Board of Light and Power Community Solar Garden production, since it's initial generation date is **168.54 Mega-Watt Hours**. This is the equivalent of 20.8 average U.S. homes annual electrical use as per EPA calculations.\*
- This is also equivalent to planting of over 7,300 trees, or 284,608 pounds of CO2 Emissions avoided\*\*
- In 2017 a joint venture was begun between the Marquette Board of Light and Power and the Marquette County Soil Conservation District to utilize the land occupied by the solar array to create a stop – over and reproductive area for the threatened Monarch Butterfly. This will create a dual purpose dedicated space which will minimize property maintenance costs and benefit a threatened species and create educational opportunities for area students.
- Customers have purchased \$194,000.00 worth of panels to date. With recent additional large purchase inquiries being made, and the added exposure of the Solar Garden in 2019, the Marquette Board of light and Power expects to complete the sale of panels, continue our commitment to our customers by producing green power, and using the property as an ecological and sustainable educational tool for our areas students.

# In conclusion...

- The customer credit earned is currently \$22.69 per panel for the year. This figure reflects the initial generation date, testing time and winter snow cover
- Maintenance Cost per year for the Solar garden is estimated to be under \$2,500.
- The MBLP has sold 388 panels to date. The balance of unsold panels are contributing to our Renewable Energy Portfolio, until the time that they are purchased.
- The cost of Solar Garden Construction, including additional construction costs, landscaping and planting is currently under \$325,000.00.

\*EPA (2017). [eGRID](#), U.S. annual national emission factor, year 2014 data.

\*\* As per Solar Edge Monitoring Web Site.