


Experienced
Fair
Detail-Oriented
Family
Integrity
Thoughtful Design
Meticulous
Reliable
Prompt
Quality-Driven
Efficient
Local
Honest





System Overview

System Size	5.81 kW
Panels	(14) Qcells 415 All-Black
Inverter*	SolarEdge SE-6000H
Annual Production	5,271 kWh
Shading	6%
Utility Offset ¹	94%
Years to Break Even	10 to 11
Price per Watt	\$2.67
Added for Future EV 	0 mi/yr

Warranties

✓ Installation	5 years
✓ Inverter(s)	25 years
✓ Optimizers	25 years
✓ Solar Panels	25 years

Additional Options

✓ SolarEdge (*Enphase +\$700)	Included
✓ Monitoring Connection	Included
✓ Surge Protection	Included
EV Charger	\$1,500
Consumption Monitor	\$400
Critter Guard (est.)	\$510

**Integrity and
Quality
You Can See and
Trust.**

Drews Solar is committed to getting you the right solar array for your home at the best price. Want to see other options? Just ask!

Price

Price of Solar	\$15,520
Additional Options	+\$0
State Rebate	-\$300
Federal Tax Credit	-\$4,566
Final Price	\$10,654

This is an estimate. Please contact us to schedule a site visit and receive a firm quote.

Prepared on 03-14-2025

¹ Utility offset greater than 100% = MGE Net Seller (see details on page 8)

Solar Panels

We're looking out for you in everything we do, and that includes which solar panels we recommend. We like panels made by the world's largest manufacturers, who are likely to be in business for the entirety of the 25 year warranty. Other details like aesthetics, quality, price, country of origin, and consistent availability in the USA are other important factors we consider. It can be easy to give a lot attention to the warranties, but they are all quite similar and very few customers will ever need to claim a warranty because the panels we recommend are very reliable. And when it comes to the annual degradation rate and warranted power after 25 years, those numbers are simply the warranty. After a full 25 years of operation, you should expect the panels to produce nearly the same amount of power as when they were new.



	Trina TRI-TSM-420	Qcells DUO G10+410	Qcells DUO G10+415	Qcells Q.TRON M-G2+	REC 460AA RX	JA D30-545MB
Power (watts)	425	410	415	435	460	545
Panel Dimensions	45" x 70"	41" x 74"	41" x 74"	45" x 68.5"	47" x 68"	45" x 90"
Color	All-Black	All-Black	All-Black	All-Black	All-Black	Silver/Black
Made in	Thailand	USA	USA	USA	Singapore	Asia
Power loss to heat	-0.30%/C	-0.34%/C	-0.34%/C	-0.30%/C	-0.24%/C	-0.35%/C
Max. annual degradation	0.44%	0.56%	0.56%	0.36%	0.32%	0.50%
Warr. power after 25 yrs	89%	86%	86%	91%	92%	85%
Workmanship warranty	25	25	25	25	20	12
Power output warranty	25	25	25	25	25	30
Panel Efficiency	21.3%	20.9%	20.9%	21.8%	21.7%	21.1%
Number of solar panels	14	14	14	14	14	14
Total system size	5.95 kW	5.74 kW	5.81 kW	6.09 kW	6.44 kW	7.63 kW
Overall price difference	-\$1,460	-\$70	\$0	\$290	\$1,180	-\$270

Inverter

We only use the best most trusted inverters brands in the USA - SolarEdge and Enphase. Both are great products and most customers would be very happy with either. If you're interested in a detail breakdown of the pros and cons to each please see page 8. If you're looking for a simple comparison, Enphase will be a bit more reliable but cost more money, and SolarEdge will give you more power with more ease of future system expansion. We generally prefer SolarEdge but there really is no right or wrong answer when deciding between these two options.

SolarEdge

SE-6000H
(consumption meter +\$400)
one in basement



Enphase

IQ
(includes consumption meter)
one under each panel



if using instead of SolarEdge: **+\$700**

Racking

Racking is largely hidden under the panels but will still affect the overall aesthetic of the system. We offer what our customers like: a sleek array low to the roof, all black hardware, and no ends protruding beyond the edge of the panels. There are several racking brands that fit this bill but our recommendation for most customers is Snap N Rack. We love building with it and the finished product looks great. We've never had a roof leak with our systems and intend on maintaining that track record!



Critter Guard (optional)

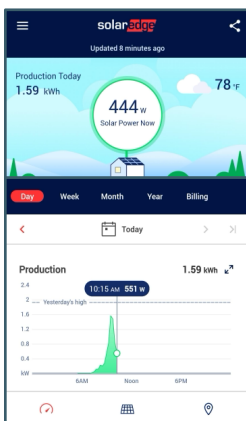
We generally recommend a critter (or squirrel) guard for customers who have squirrels on their roof, or believe they may in the future. Squirrels will eventually build a nest under your solar array to keep themselves and their young out of the elements - who could blame them, right? They will likely gnaw at the roof shingles under their nest and also chew on the solar wires in at least a few areas of the array. Having chewed wires can create electrical faults that stop part or all of your solar array from working. We have found that squirrels much prefer asphalt shingle roofs and have never seen nesting on metal roofs. Please note that while keeping squirrels out, a critter guard will also trap and collect small sticks and leaves that fall through the gaps between each solar panel. This debris can accumulate at the bottom of the solar array and you may want to clean this out if it becomes substantial.



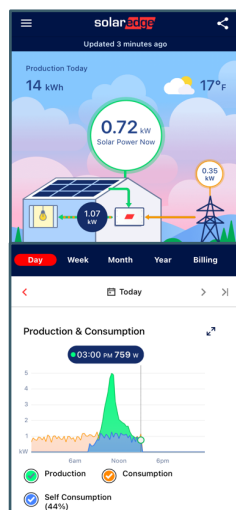
Consumption Meter (optional)

Consumption metering allows you to see the amount of electricity being consumed in your home, both in the moment and over time. It also shows where your solar energy is going - either into your home's lights and appliances or out onto the utility grid. Without this meter you can only see solar production.

without meter



with meter



EV Charger (optional)

Consider this addition if you have an EV but are tired of charging it with a 120V plug, or if you don't have an EV yet but plan to in the next few years. The installation requires much of the same tools and materials we have on hand for the solar project so our prices are typically lower than hiring a contractor to install it separately.



ChargePoint
Level 2
NACS Connector
60A Breaker
48A Charging



Tesla
Level 2
NACS Connector
60A Breaker
48A Charging



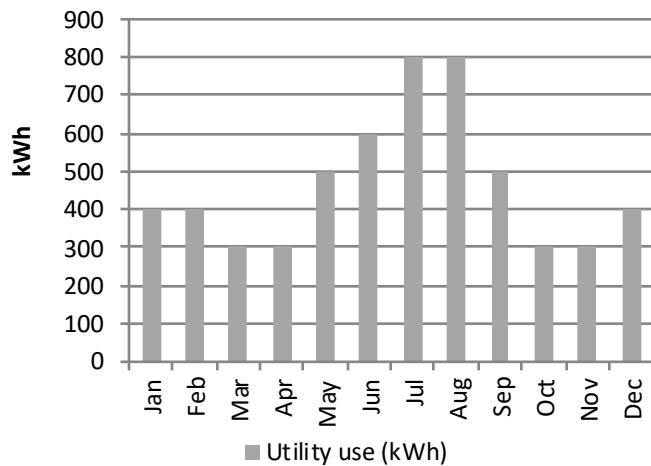
Payment Schedule

- 1st: \$500 (Deposit), due at contract signing
- 2nd: \$9,012 (60%), due 4 weeks prior to installation
- 3rd: \$6,008 (40%), due 2 weeks after commissioning

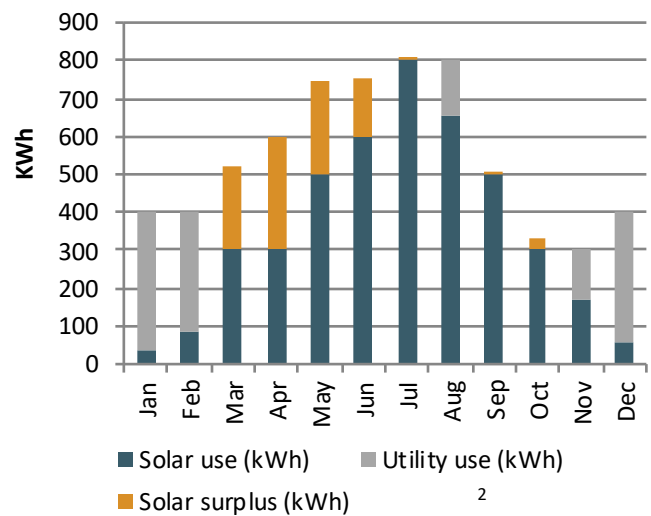
Financial Highlights

Monthly electric bill:	\$107
Monthly electric bill w/ solar:	\$33
Estimated first-year savings:	\$885
Years to break even:	10 to 11

Without Solar

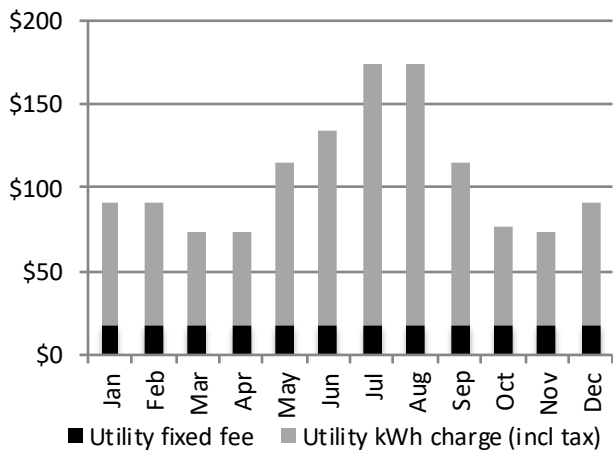


With Solar



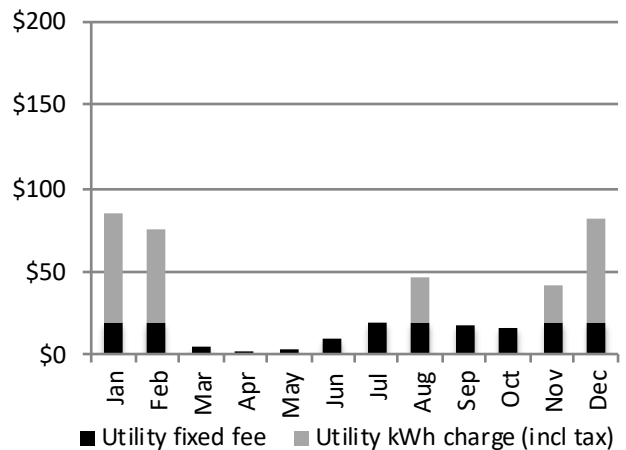
Without Solar

Average monthly electric bill: \$107 (\$1,284 per year)



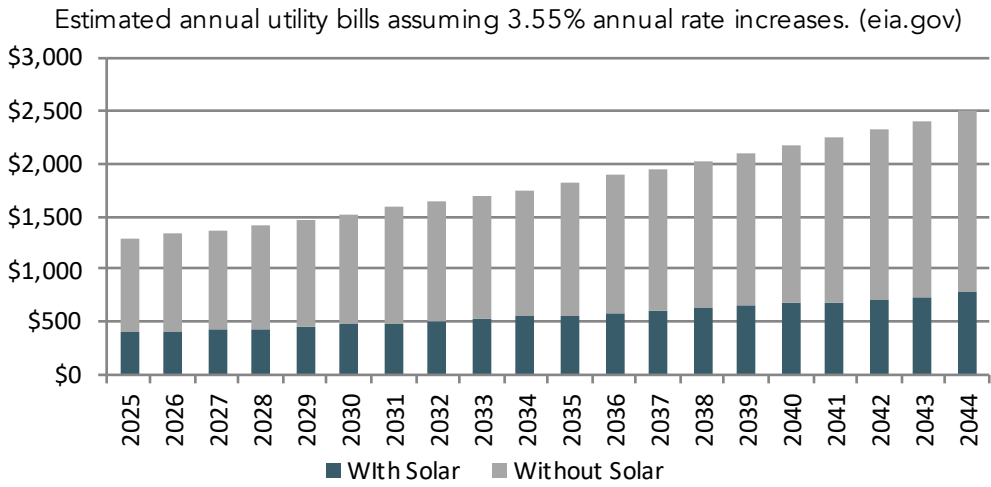
With Solar

Average monthly electric bill: \$33 (\$399 per year)



² Solar surplus is the energy that the solar system produces but is not used in the home. This energy is credited to your utility bill.

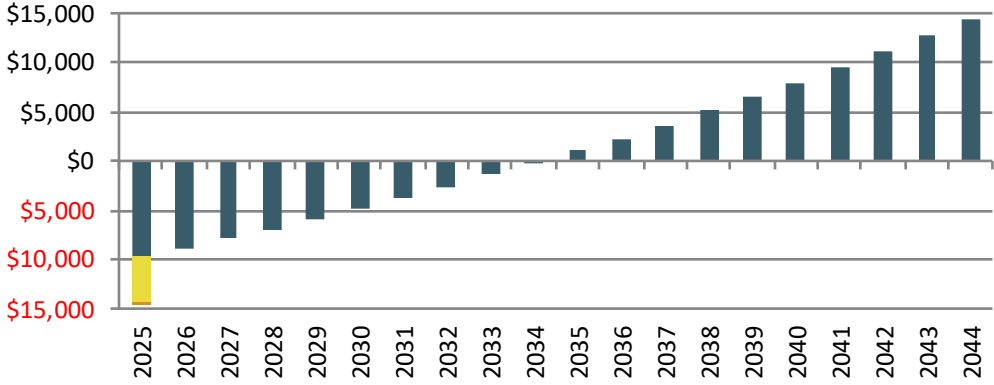
20-Year Cost Difference



Cumulative Cash Flow with Solar

Within 10 to 11 years, the money you save on your electricity bill will exceed the original cost of the system (\$10,654).

- The yellow bar in the first year denotes the federal tax credit.
- The orange bar denotes the state rebate.



Federal Tax Credit

Your tax credit amount is \$4,566



The federal tax credit is 30% of the price of the system in 2025. You may claim the credit on your federal income tax return (IRS Form 5695) in the year that the system is installed and commissioned by the electric utility. A tax credit is not a rebate of monies paid for the system, but rather a reduction in your federal income tax liability.

State Rebate

Your rebate amount is \$300



The 2025 Focus on Energy state rebate is \$300, with a \$300 bonus for certain rural zipcodes. It is available for solar arrays within 135 degrees of due South and with 15% or less shading. Payment arrives in the mail approximately 8-12 weeks after your system installation is complete. Focus on Energy may change the rebate amount available per project at any point in 2025.

MG&E Rates

\$0.59671 per day
 \$0.18408 per kWh (retail rate)
 \$0.06000 per kWh (excess buy-back rate)

Utility Price Increases

Utility rates increase almost every year. With solar panels, you can avoid most of the effect of these increases for many years to come. The average annual rate increase for WI residential electricity in the last 20 years is:

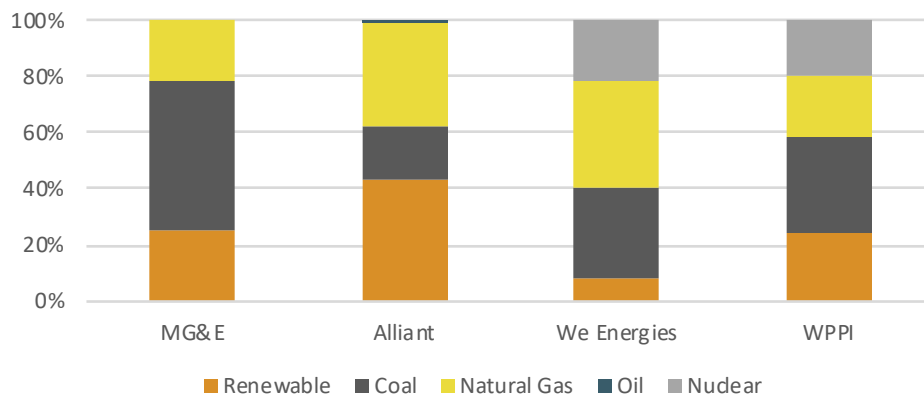
3.55%

Net Metering

Madison Gas and Electric meters solar customers on a monthly basis. That means that at the end of each month, any excess energy production is credited to your account at the full 'retail rate' (\$0.18408 per kWh) in the form of dollars, to be rolled over to later months. This is wonderful for solar customers because excess energy produced during the warmer months can be rolled over to the lower-producing winter months. MG&E does have one special caveat: at the end of each monthly billing cycle, if a customer has produced more electricity than they used over the previous twelve months, MG&E automatically switches that customer to a different "net seller" rate structure. As a "net seller," for any excess energy you produced over what your household used during the month, that excess will be bought back by the utility at their wholesale rate, typically \$0.03 - \$0.07 per kWh. If in any future month you revert back to a "net producer" status, you will once again be compensated at the full retail rate for all

Energy Mix



Most small municipal utilities purchase their power through WPPI Energy.



Sources: mge.com (2023); we-energies.com (2022); alliantenergy.com (2023); wppienergy.com (2022)

Inverter Comparison (Addendum to Page 3)

Inverter selection can be a daunting task for a solar customer but this comparison graph should help. Keep in mind that you will be happy with any major inverter brand, but when choosing between the two most common offerings in America - SolarEdge and Enphase - there are some important differences.

		
	Hybrid Inverter	Micro-Inverter
1) Major Brand	Yes	Yes
2) For Roof-top Installations	Yes	Yes
3) Typical DC/AC Ratio	1.00 to 1.15	1.20 to 1.40
4) Installed Environment	Cool	Hot
5) Maintenance Access	Easy	Difficult
6) Individualizes Each Panel	Yes	Yes
7) Reliability	Very Good	Very Good
8) Compatible with previous generations	Yes	No
9) Monitoring 100% Free	Yes	No

Footnotes

- 1) We only recommend the two most established and popular brands of inverter - SolarEdge and Enphase.
- 2) Due to national electrical code standards, traditional string inverters are not allowed on roof-top installations.
- 3) The higher the DC/AC ratio, the higher the chance of "clipping", when the solar panels produce more electricity than the inverter can convert to usable energy for your home. Clipping is most likely to occur with south-facing panels on a cool, sunny day when the wattage of the inverter(s) is significantly lower than the wattage of the solar panel(s). For south-facing panels a ratio above 1.15 will typically introduce clipping losses.
Example: Enphase IQ 8+ used with REC 405 yields a ratio of 405 watts / 290 watts = 1.40. The effects of clipping are less pronounced when a significant portion of the solar panels are facing east or west. Clipping will sometimes have little effect on your bill if Alliant or WE Energies is your utility.

The DC/AC ratio of the system included in this Estimate is: 0.97

- 4) SolarEdge is installed in the basement. Enphase is installed on the roof which may have affects on its long-term reliability.
- 5) SolarEdge is easily accessible in the basement, which can significantly reduce future maintenance costs.
- 6) Allows all panels to optimize their production without being affected by shading on adjacent panels.
- 7) SolarEdge and Enphase have both had brief struggles with reliability 5 to 10 years ago but have very good track records in more recent years.
- 8) If adding more panels to your system in the future, it will be important that the new equipment be compatible with the existing equipment.
- 9) The additional cost to see panel-level monitoring with Enphase is \$10 monthly or a one-time fee of \$250.

Notes

Page 2: The average amount of shade on the solar array, taking into account the time of day and the season. Most good locations for solar have less than 10% shade.

Page 2: As estimated by PVWatts, a solar estimator provided by the US Dep. of Energy (pvwatts.nrel.gov). Actual production might vary +/- 10% depending on weather. This annual kWh yield includes a reduction in solar production of 30% in Dec and 70% in Jan and Feb due to snow cover on the solar panels.

Page 7: Utility rates typically change once per year. Please refer to your utility's website for the most up-to-date rates.