

# Solar Electricity



Calculate Solar for your Home:

Estimate or find your annual electricity usage in kilowatt-hours (kWh), here is one method to estimate the size of system.

1. Determine your average monthly usage in kWh.
2. Divide this number by 30 for your daily usage.
3. Next, divide your Average Daily usage by 5 hours (which is the average daily sunlight for Memphis and the Mid-South). This is the estimated size of system you will need in kWh to provide 100% of your electricity needs.

Let's look at an example:

1. The average usage in Tennessee is 11,280 kWh per year\* or 940 kWh per month. *\*Your usage could be more or less.*
2.  $940 \text{ kWh} \div 30 = \mathbf{31.3 \text{ kWh average per day.}}$
3.  $31.3 \text{ kWh} \div 5 \text{ hours (average sunlight for West Tennessee)} = \mathbf{6.3 \text{ kW}}$  solar system needed for 100% electricity production.\*

*\*Remember this is a rough estimate for your solar needs.*

Ok, now we know the estimated size of the system for 100% production. How much will it cost? The cost is approximately \$6.00 per watt installed. So let's estimate the cost of the system.

- Convert the kilowatt to watts. There are 1000 watts in 1 kilowatt.
- Next, multiply watt-hour by the \$3.00/watt. *\*This determines the estimated cost for a 100% electricity needs system.*

Again let's look at our example:

1.  $6.3 \text{ kW} \times 1000 \text{ watt/kilowatt} = \mathbf{6300 \text{ watts.}}$
2.  $6300 \text{ watts} \times \$3.00/\text{watt} = \mathbf{\$18,900}$

To reduce the cost of a 100% system, we might think about a 50% system or a 25% system. For a 3 kW system the cost drops to approximately \$9,000 or a 2 kW system for \$6,000.\*

***\*All figures are estimates and do not include incentives or tax breaks.***

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