



EVERYTHING  
YOU NEED TO JOIN  
THE RANKS OF  
SOLAR OWNERS  
CHANGING OUR  
ENERGY SYSTEM

# SOLAR 101

GO SOLAR GUIDE





Solar electricity is abundant, accessible, and increasingly affordable. As costs have fallen, more and more people are going solar. There are now over 1 million solar homes in the U.S.

**WILL YOU BE NEXT?**



“

It's a good way to save money, make the world a better place and attain peace of mind when investing in a major upgrade to your home.

TERRY ALLARD, SOLAR HOMEOWNER, WASHINGTON, D.C.

## WHY OUR MEMBERS GO SOLAR



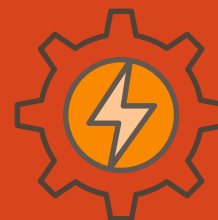
SAVE  
MONEY



PROMOTE  
ENERGY  
INDEPENDENCE



SOLAR  
CREATES  
JOBS



TAKE CONTROL  
OF YOUR  
ENERGY USE



PRODUCE  
MY OWN  
POWER  
ON MY OWN  
PROPERTY



IMPROVE  
STRENGTH  
AND  
RELIABILITY  
OF OUR  
ENERGY  
SYSTEM



REDUCE  
POLLUTION  
AND  
PROTECT  
THE  
ENVIRONMENT

# How Solar Works

1

Solar panels convert sunlight into direct current (DC) electricity

2

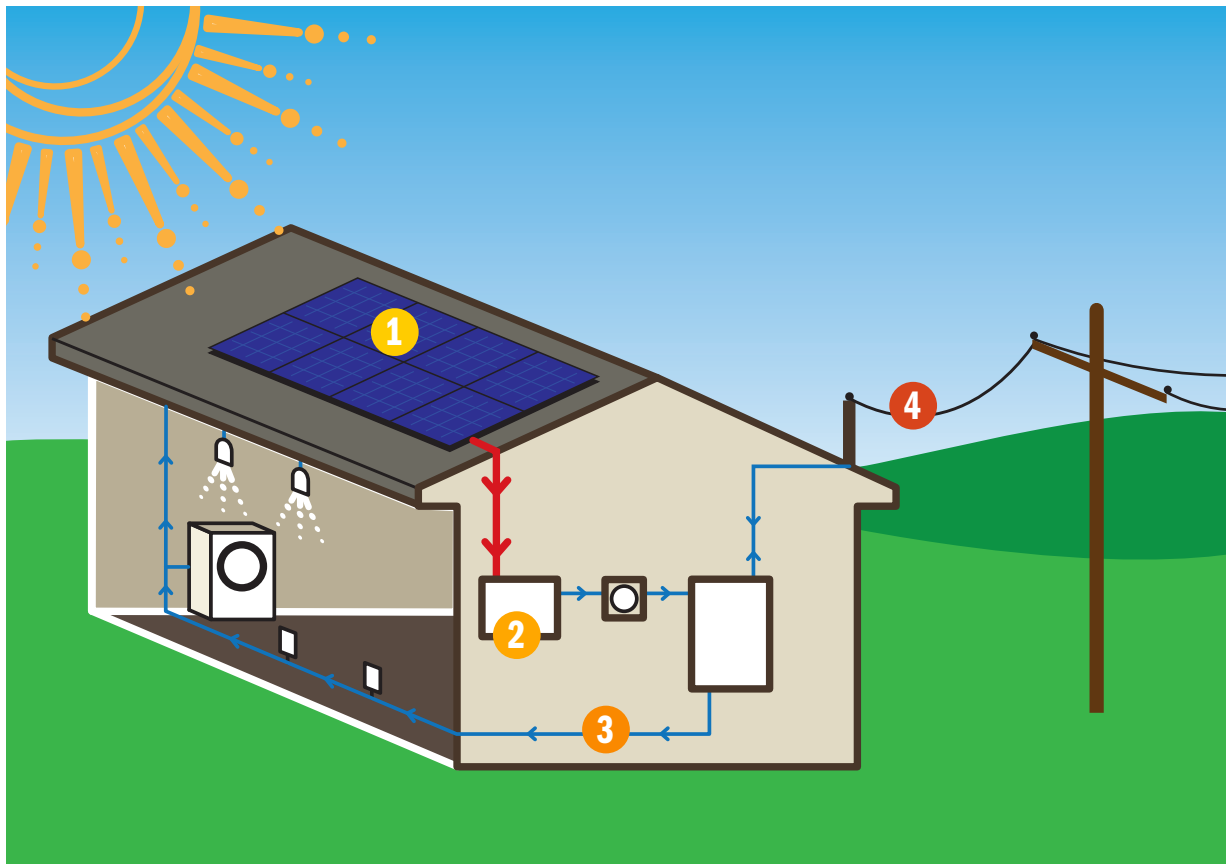
Inverter converts electricity from direct current (DC) to alternating current (AC)

3

Your home consumes the electricity produced by your solar array

4

Solar array connects to the local grid, allowing you to receive electricity even when the solar panels aren't producing any



## QUICK GLOSSARY

- **SOLAR ARRAY** – Multiple solar panels wired together. Panels produce electricity when sunlight hits them. They can be mounted to the roof or on the ground.
- **INVERTER** – Device that converts the electricity produced by your solar panels from direct current (DC) to alternating current (AC), which can be used by your home
- **kW** – Kilowatt is a measurement of the size of your system. 1 kW is 1,000 W (watts). Most residential systems are 4 – 8kW in size.
- **kWh**: Kilowatt-hour is a measurement of the electricity produced by your system. The amount of kilowatt-hours produced by one kW of solar varies from location to location. Every kWh of electricity you produce from solar is one less kWh you have to purchase from your utility.



**NET METERING** – The policy that allows you to export any excess solar electricity back onto the electric grid and get compensated for that electricity. Net metering ensures you receive credit for all the solar electricity you produce, whether it is consumed immediately in your home or exported to the grid.

## IS MY ROOF GOOD FOR SOLAR?

Your home needs to receive direct sunlight on its roof without shading. Southern exposure is the best, however east and west facing roofs also work for solar. Solar panels work best when grouped together, so you'll want to install on a large, uninterrupted portion of roof.



## WHAT IF MY HOUSE ISN'T GOOD FOR SOLAR?

If solar won't work on your roof, consider mounting it on the ground if you have space on your property. Additionally, we're working to expand community solar options. Community solar refers to an off-site solar array from which customers purchase a portion of its electric output. Several states have developed community solar pilots. Visit our community solar webpage to [learn more](#).



## HOW MUCH DOES SOLAR COST?

Costs vary based on the type and size of your system. Solar is priced by the watt. Nationally, costs for installation hover around \$3.00/watt. The size of the average residential system falls between 4 kW (4,000W) and 8 kW (8,000W). Given the national installation cost of \$3.00/watt, those systems will cost roughly \$12,000 and \$24,000, respectively. (Note: this is before applying the 30% federal tax credit or state incentives)

NATIONAL  
INSTALLATION  
AVERAGE OF **\$3.00/W** BEFORE  
APPLYING THE **30%** FEDERAL  
TAX CREDIT

## WHAT FINANCING OPTIONS ARE AVAILABLE?

**LOAN** - Modern financing mechanisms have made solar more affordable and available to anyone interested. When going solar there are both unsecured and secured loans available. While you will incur interest payments over the loan's term, they can be the best way (short of buying with cash) to maximize your savings over the life of your solar system.

**PPA\*** - Power Purchase Agreements (PPA) agreements allow the installer to own and operate the solar panels on your roof, while you purchase the energy the panels produce each month at a rate that is typically lower than what you pay your utility. In turn, the installer takes advantage of the federal tax credit and any additional incentives. While PPAs typically provide savings from day one, solar customers will not generate nearly as much income over the life of the system.

**LEASE\*** - Leases are similar to PPAs in that the installer will own, operate, and maintain the solar system. However, in a lease agreement the solar customer will pay a fixed monthly rate for the panels as opposed to a variable rate dependent on monthly solar production.

\*PPAs and Leases are only available in certain states

## HOW MUCH MONEY CAN I SAVE WITH SOLAR?

Solar saves you money by reducing your monthly electric bills. Thanks to net metering, every unit of solar electricity you produce is one less unit you have to purchase from your electric utility. Over time, the cumulative total of your electricity bill savings will pay off the upfront cost of your system. The payback period for a typical residential solar array is anywhere from 4 - 12 years, depending on market conditions and system performance. Solar is a long term investment and panels are warranted to last 25-30 years. So regardless of your exact payback period, your system will pay for itself.

**4-12  
YEARS**  
TO EARN BACK  
THE COST OF  
YOUR SOLAR  
SYSTEM



What kind of warranties come with my system?

How long will my system last?

How much maintenance does it require?

If you're asking yourself these questions,  
you're not alone.

Luckily, we've put together a detailed FAQ  
covering everything you need to know



[SOLARUNITEDNEIGHBORS.ORG/GO-SOLAR/FAQS](https://solarunitedneighbors.org/go-solar/faqs)

## WHO IS SOLAR UNITED NEIGHBORS?

We're a nonprofit dedicated to empowering people to go solar, join together, and fight for their energy rights.

Solar is great, but we know it can still be daunting to install it on your home or business.

We're here to help you get started and support you along the way.

[solarunitedneighbors.org/about-us](https://solarunitedneighbors.org/about-us)



# Getting Solar Installed

## What to Know Before, During, And After

Opportunities to go solar are stronger and more accessible than they've ever been. Here are few things to keep in mind when considering installing solar on your home or business:

**SOLAR UNITED  
NEIGHBORS  
HELPS MEMBERS  
SOLICIT AND REVIEW  
PROPOSALS FROM  
INSTALLERS.**

**NOT SURE  
IF THINGS ARE  
WORKING WELL?**  
SOLAR UNITED NEIGHBORS  
RUNS A SOLAR HELP DESK  
FOR MEMBERS TO GET  
ANSWERS TO QUESTIONS  
ABOUT THEIR SYSTEMS.

- Finding a solar installer is the first step in the process. Searching online for solar installers in your area and ask friends and family for referrals. To ensure you get the best deal, solicit proposals from at least 3 different installers. Important things to consider when comparing proposals: cost, equipment, warranties, and the installer's work history.

## 2-4 MONTHS THE AVERAGE TIME IT TAKES TO GO SOLAR

- Going solar takes an average of 2-4 months. First, your solar installer will work with you to design a customized system for your home. Once you sign a contract for that system, the installer will order equipment, apply for permits, and schedule the installation. Actual installation only takes 1-2 days. Once your system is installed, it will be inspected by your local government and the installer will request permission to interconnect it to your utility's electric grid. After that, it's ready to start producing electricity!
- Once your system is up and running, there's not much ongoing maintenance. Most installers offer online monitoring, allowing you to track your solar electricity production in real time. Being able to see production estimates can help alert you to any potential problems with your system, which are then usually covered by labor or manufacturer warranties.

## GOING SOLAR CHECKLIST

- DONE* ☒ Learn about solar. Get familiar with the technology, economics, and installation of solar
- ☐ Research solar installers in your area
- ☐ Solicit a custom solar proposal from at least three installers
- ☐ Compare proposals between installers
- ☐ Select the installer that offers the proposal the best meets your needs (considering price, component materials, warranties, business history, etc.)
- ☐ Sign a contract with the installer
- ☐ Get installed (this process entails permitting, installing, and connecting your system into the electric grid, all of which will be handled by your installer)
- ☐ Start producing your own solar electricity!

**BECOME A MEMBER OF SOLAR UNITED NEIGHBORS  
and receive real-time assistance from  
our trained staff**





## Want more help going solar?

Solar United Neighbors is a nonprofit (not a solar company) that's installer-neutral, so we are first and foremost dedicated to consumer protection! We have two programs that make it easy to go solar:

### GO SOLAR IN A GROUP

Our solar co-ops allow groups of homeowners to save money by going solar together. We help you leverage the power of bulk negotiation to get a discount and ensure you get the right system for your home, a strong warranty and quality installation.

[learn more](#)

### GO SOLAR INDIVIDUALLY

Our members-only Solar Help Desk provides you one-on-one support every step of the process, from learning the basics of solar equipment to choosing an installer and getting interconnected to the utility.

[learn more](#)



**“The benefits of sharing information with experts or Co-op members who are not trying to sell you the product itself are enormous”**

KAREN SMAGALA  
SOLAR HOMEOWNER IN VA





GET IN TOUCH VIA EMAIL  
[info@solarunitedneighbors.org](mailto:info@solarunitedneighbors.org)

FIND OUT MORE ONLINE  
[solarunitedneighbors.org](http://solarunitedneighbors.org)

