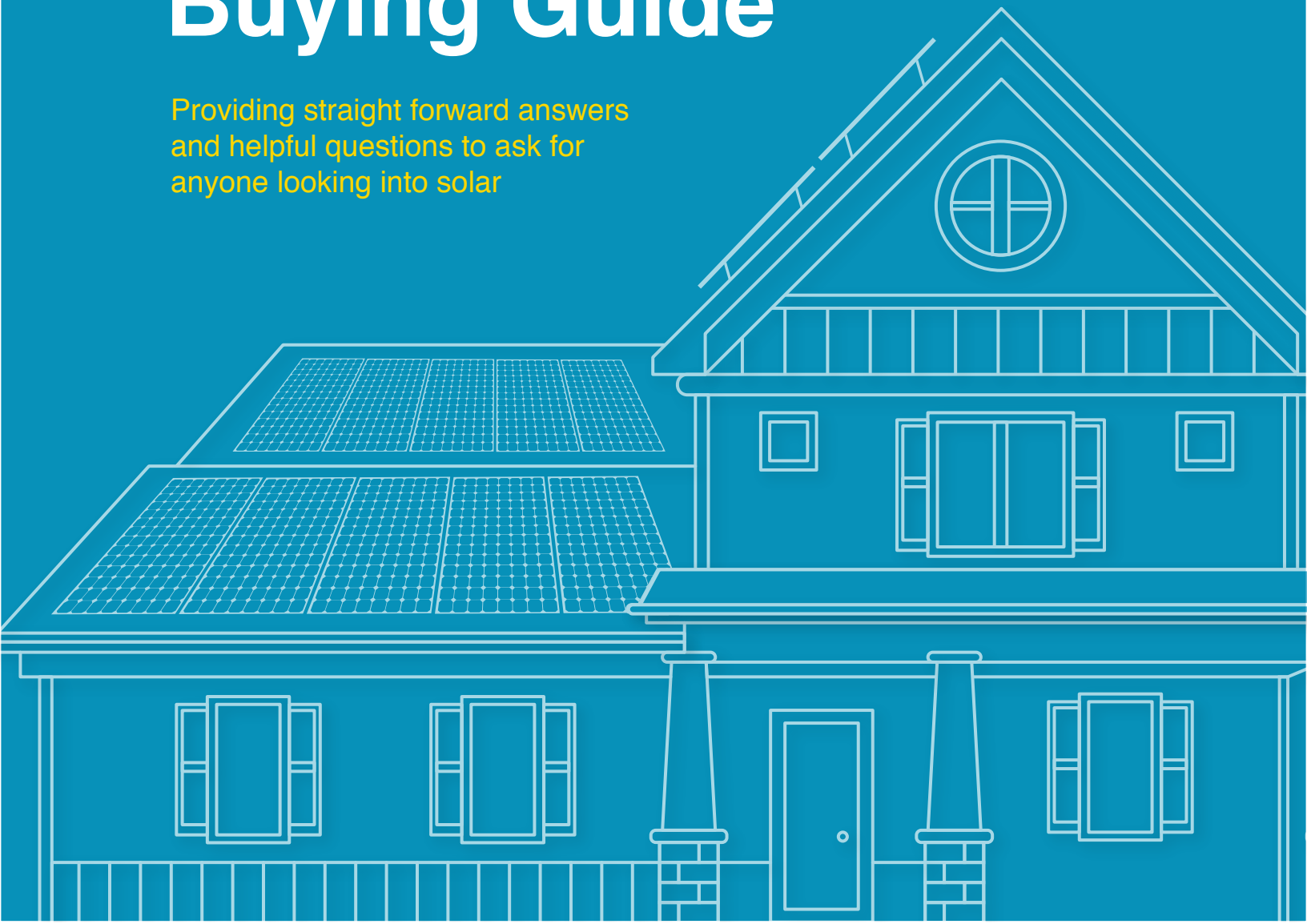
Your Complete

Home Solar Buying Guide

Providing straight forward answers and helpful questions to ask for anyone looking into solar



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SOLAR 101

How does solar work?

First, let's stop to think about the source of energy that fuels your solar panel system. Every morning the sun rises and rays of sunlight travel nearly 93 million miles from the sun to your solar panel system where this clean, reliable energy is converted into safe, and usable energy for you to power your home.

So how do we take rays of light and convert them into usable power for your home? Glad you asked.
Your solar panel system is made up of many positively and negatively charged silicon cells. Each of these cells is sandwiched between conductive material. When sunlight hits a positively charge silicon cell it knocks an electron loose. The positive and negative charge of the layers causes these loose electrons to move through the conductive layers, creating a direct current (DC).

Because your home is set up to run on alternating currents (AC), the energy produced by your panels has to move through an inverter first which converts the DC power into usable AC energy for your home. Meanwhile, those same electrons that were knocked loose return to fill in any spaces in the silicon layers, which means nothing is lost in the process.

Because there are no moving parts, beside the steady flow of electrons, solar panels are low maintenance and long lasting. Good for you, your wallet and the environment.

Okay, but how long do solar panels really last?

Because of their incredible durability and ability to stay highly efficient for long periods of time, solar panels are a simple and cost effective way to power your home.
With most manufacturers offering a 25-year warranty on their panels, they make sure to put their panels through rigorous testing. Solar panels are exposed to extreme conditions, like temperature (both hot and cold), humidity, strong wind forces, collisions similar to hail stones or golf balls, and simulated loads to represent snow.

DID YOU KNOW?
SunPower panels are the only panels available that provide 25 year bumper to bumper warranties on panels & inverters? Plus, labor and shipping are included. How's that for long-term savings?

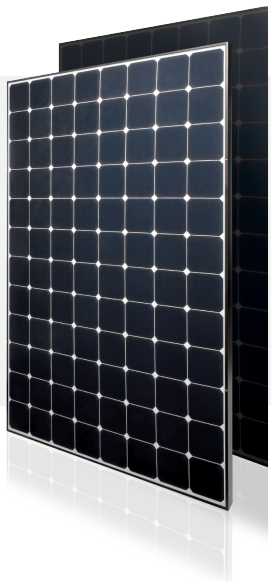
SOLAR 101

What is NET metering and how does it benefit me?

It works like this; When your solar panels produce excess energy, that excess energy is sent back to your utility company for others to use. Because your are producing more energy than your home needs, your electric meter spins backwards and credits you for the energy you feed back to the grid. When it's night time and your home needs power, you will pull energy from the grid and spin your electric meter forward. With net metering, you are only billed for your net energy usage for the month.

Did you know?

The manufacturing of SunPower direct current (DC) solar panels garners the solar industry's only Cradle to Cradle Certified ™ Silver designation for sustainable practices.



WILL SOLAR WORK FOR ME?

How many solar panels will I need?

It depends. The answer is a combination of your current and future state energy use along with factors involving your roof line and shading. When you receive a quote for a home solar panel installation, it will include a measurement in size of your system listed in kilowatts (kW). The size of your system is determined by multiplying total number of panels by how many watts (1,000 watts = 1 kilowatt) each panel is rated.

What this means is that two systems with the same number of panels can produce a completely different amount of energy to power a home.

WILL SOLAR WORK FOR ME?

How many panels will I need? (Continued)

For example if you install 21 panels using 305-watt solar panels, the system size would be 6.4 kW. Whereas the same number of panels using 360-watt solar panels would equal a 7.56 kW sized system.

How much energy any sized system produces is a function of roof angles relative to the sun, your location in the country, and shading. So even if two homes have the similar monthly energy bills, they may need differently sized systems when these factors are taken into account.

Another factor to consider is your future energy usage. Are you planning on purchasing an electric vehicle, or having kids? Did you just get a pool or spa installed and are looking to offset that additional energy use as well? By sitting with a trained energy consultant, they are able to this scenarios into account and build a perfect size system for your home and your lifestyle.

What if I'm planning to sell my house?

As solar proliferates more roof tops, there has been plenty of debate on how solar impacts home values and the ease of which you are able to sell to your home. Intuitively the ability to generate your own electricity and the resulting savings would be something a buyer would pay more for, but what does the data say?

DID YOU KNOW?
Homebuyers are willing to pay an additional $15,000 for a home with a solar panel system installed.

A 2015 study, sponsored by the Department of Energy and conducted by the Lawrence Berkeley National Laboratory, looked at data from the sale of over 22,000 homes across eight states between 2002 and 2013. Of those homes, roughly 4,000 had solar panels.

The research confirmed what many had thought to be true: Homebuyers are willing to pay more for houses with solar panels.

In addition, California's mandate for all new home construction to have solar panels installed is creating an expectation with potential home buyers when they are home shopping and looking for savings.

CAN I AFFORD SOLAR?

How much does it cost to go solar?

When determining the price of solar the greatest factor is the size of the system, which is measured in kilowatts (kW). Remember each home is unique when determining system size and actual costs could be higher or lower depending on several variables such as panel type, mounting hardware, financing options, energy usage and more. A system that has been sized properly will help maximize your return on investment (ROI). The only way to find out how much you can start saving with solar is to get a custom quote from a reputable local solar installer who will account for this factors.

What is the Federal Tax Credit (FTIC)?

The full 30% federal tax credit for solar is still in place until the end of 2019. It will change to a 26% credit in 2020 and 22% through 2021 before the credit expires in 2022 for homeowners. This credit provides a significant discount on the total cost of your system installation so if you're thinking of going solar, don't miss the opportunity to take advantage of these federal savings.

How will I pay for it?

Everyone wants savings, but maybe you're concerned about the upfront costs. The good news is that there are a variety of ways to get solar for your home and benefit from the savings it generates.

Cash Purchase

Take advantage of the 30% Federal Tax Credit, and gain all the benefits of solar as soon as your system is turned on.

You purchase a solar panel system outright and can begin installation as soon as you're ready. If you have the tax appetite to absob tax credits and the available capital you may find a direct purchase via cash or loan to be the best option.

Solar Loan

With zero-down options available and low fixed rates your loan payment is usually less than your current monthly electric bills. Just like a cash purchase, a loan offers complete access to the 30% Federal Tax Credit

If you can afford your current electricity bill, you can afford a loan to purchase a solar electric system and benefit from immediate monthly savings.

Leasing

A lease allows you to get all the power your panels generate plus the benefit of free repairs and monitoring.

With fixed lease payments averaging less than your current utility charges, you benefit immediately. Leases also provide increased savings over time as traditional energy costs rise. At the end of the lease you an purchase the system at a reduced cost, get the system removed, or renew the lease.

CAN I AFFORD SOLAR?

When will the system pay for itself?

If you live in the Central Valley and you've purchased your system you'll likely see a payback period between 2-4 years on average. For some people it's sooner, others later – it all depends on your current energy usage and utility rates. You'll experience faster payback if your household has high electricity use and higher utility rates.

Once the savings from your reduced or eliminated electricity bill have paid off the original cost of your system, you'll enjoy pure savings. How many other home improvement projects pay for themselves and provide a net gain in the end?

As soon as your solar panels are installed and your system is turned on, you are producing your very own clean and reliable electricity for your home. The electricity that you generate will off set some or all of your electricity bill. Whether you purchased your system or opted for a lease, your electricity cost is locked in at a much lower rate.

According to the U.S. Energy Information Administration, residential energy prices increased by 21% between 2007 and 2017. This upward trend is likely to continue, but with your own source of electricity production, your solar panel system gives you independence from rising and unpredictable energy costs while saving you money over time.

Is solar a good investment?

Consider that a typical payback period for home solar of around 6 years is roughly the equivalent of an 16.67% annual return on investment. This compares favorably to returns on other common investments like core bond funds, which at the time of this writing are yielding around 2.9%, or the S&P 500 index, which is a risker and more volatile investment. Add this on top of the other benefits of solar, and the case for solar as a smart investment looks even better.

Note: *We are solar advisors, not financial advisors. Even though we're pretty good with numbers, you should still meet with your financial advisor when planning your investment portfolio.*

I'm ready, now what?

Contact your local solar company for a free quote.

The initial phone consultation will cover solar basics for your home.

Schedule a home visit to finalize your proposal and answer any questions.

Your local installer will take it from there with permitting, installation, and activation!

YOUR NEXT STEPS CHECKLIST

Ready to learn about your home's solar savings potential? It all starts with a quote from your local installer. Your quote will include a solar panel design for your home, your personalized savings report, and your estimated return on investment.

Use this checklist to guide you through the next steps and be able to ask all the right questions:

Research your local solar installers and consider the following criteria:

- ☐ Is the company locally owned?
- ☐ How long have they been installing solar in your area?
- ☐ Does the company conduct business in a way you can feel good about?

Call or go online to request a free quote. Be sure to ask these questions when assessing the installer:

- ☐ How long have you been designing home solar systems in my area?
- ☐ Does your company sub-contract any part of the installation or electrical work?
- ☐ Do you hold NABCEP and electrician certifications?

Once you receive a quote, here's what to look for:

- ☐ What is the total annual production compared to your current usage?
- ☐ Does the production take shade from trees into account?
- ☐ What type of solar panels and equipment are used in the proposed design and why?
- ☐ What is the total cost of the installed system per kilowatt (kW)?
- ☐ What is the workmanship warranty and what does it cover?
- ☐ What is the manufacturer warranty and what does it cover?
- ☐ Will I be able to monitor system production? If so, how?

Request a free quote

Do you have additional questions? Please don't hesitate to contact us at 559.747.0111 or email us freequote@airsunsolar.com.