7 Insider Tips

Every Houstonian Should Know Before Going Solar

There are very good reasons so many people are going solar in Houston

Thanks to innovation and widespread adoption, solar energy has become cheaper to generate than fossil fuel. There's also no question that it's much cleaner and more sustainable as an energy source. Having your own photovoltaic system lets you effectively own your energy generation, rather than paying monthly for everything you use, for the rest of your life.

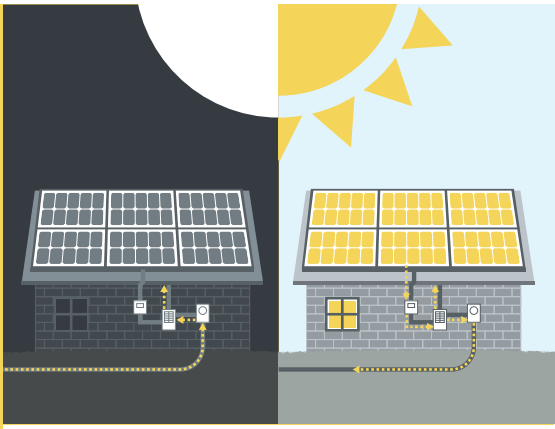
Solar isn't necessarily the right option for everyone

In a new industry where progress is fast and most folks haven't done a lot of research, there's no shortage of shady characters pushing solar on anyone who will buy it. The truth is, conditions around a home need to be right in order for solar to make sense, and selling photovoltaics in sub-par conditions requires a fair amount deceit, or at the very least, misinformation.

This quick guide lays out seven things you're going to want to know before deciding to go solar, and just as importantly, deciding who to hire to help you do it.

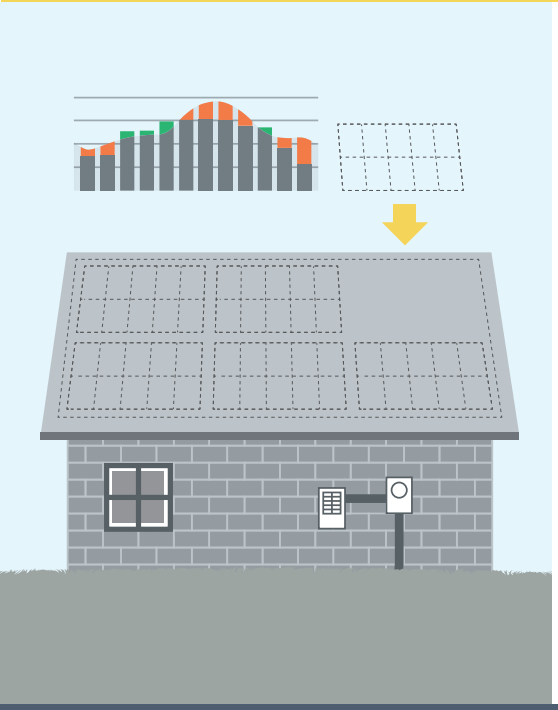
1 BE SURE YOU QUALIFY FOR A SOLAR ENERGY BUYBACK PROGRAM

When the weather is nice, your solar panels will be working a lot harder than your air conditioner. This means you'll have extra energy you're pushing back to the power grid. Any utility worth its salt will have a smart meter on your home, and they'll tally up the kilowatt-hours you're giving them. What they do with this tally, however, will determine how much you should buy, and in some cases, the answer will be "none". If your energy provider isn't crediting you for your extra generation, you shouldn't give them any!



Your home will typically stay connected to the power grid after you go solar. At night, you'll draw energy from your utility like you always have. During the day, extra power you generate is pushed back to the grid, and your meter will actually run backward A net metewring plan guarantees you'll get credit for the energy you sell back to your provider.

The Houston area is home to a number of utilities. The smaller, regulated co-ops you generally find in rural areas tend to have 1:1 net metering, which means they credit you the same amount per kWh as they charge you for usage. Some utilities, on the other hand, give solar homes the shaft, offering considerably less on solar buyback than they charge for grid usage. Most Houstonians are on Centerpoint's grid, which is deregulated. That means Centerpoint owns and manages the lines and meters, while independent, for-profit companies called Retail Energy Providers (REPs) buy the power from generators and sell it to residents. A number of Houston area REPs offer 1:1 net metering, but most don't. A good solar consultant will help you understand solar buyback in your area, and if you have a choice of energy plans, will help you select the best one for your situation.



2 DETERMINE THE RIGHT SIZE SYSTEM FOR YOUR ENERGY NEEDS

Even if your utility offers 1:1 net metering, they probably won't write you a check for sending them extra energy month-over-month. You might send excess energy back to the utility in the springtime, and use up those credits in the hot summer, but you'll want to make sure that you use as much as you produce over the course of a year. In short, don't buy more PV than you need.

To understand how your specific energy demands, your solar consultant should look at a full year of energy bills if you have them. They should then use a non-biased, third-party data source to calculate how much solar you'll need to generate that much energy. To get the numbers right, they should consider the orientation and pitch of your roof, shade from nearby trees and other buildings, and even the local climate in your area. The National Oceanic and Atmospheric Administration offers a free, highly accurate service called PV Watts for easily forecasting a PV system's production, so there's not much excuse for not giving an impartial projection.

3 WATCH OUT FOR FUZZY MATH

While projecting solar generation is made easy by really good software that is reasily avaiable, there are still a lot of variables in the calculation. Fudging a single one of these can skew the values drastically, and it probably won't be in your favor. Few homeowners will feel like taking the time to userstand all the math, so trust is important. But there are also hard, fast rules that will let you know for yourself whether you're getting a fair shake.

Total system wattage

Sometimes called "system capacity" or "system size"–is the generating capacity of all the panels combined. A single panel in 2020 might be run from 300 to 350 watts. Twenty of these will make for a 6 to 7 kW (a kilowatt is 1,000 watts) PV system, which is smallish-to-average for a Houston area residential PV system. 20 kW systems aren't unheard of for large homes that use a lot of energy.

Price per watt

When comparing quotes from competing solar consultants, you can get a solid, apples-to-apples comparision just by looking at this rate. Simply divide the total system price by the total system wattage, and you'll have a meaningful rate you can take to the bank. Bear in mind that this rule only applies to the PV portion of the project. If there are extras like batteries, roof replacement, etc., the calculation gets a bit more complicated.

Total Cost vs. Effective Cost

In the United States in this day and age, there are incentives for going solar. At the very least, the Federal Solar Investment Tax Credit will give you back 26% of the cost of your solar on your next tax return. You'll want to know whether the prices you've been quoted are treating these "deferred savings" the same way.

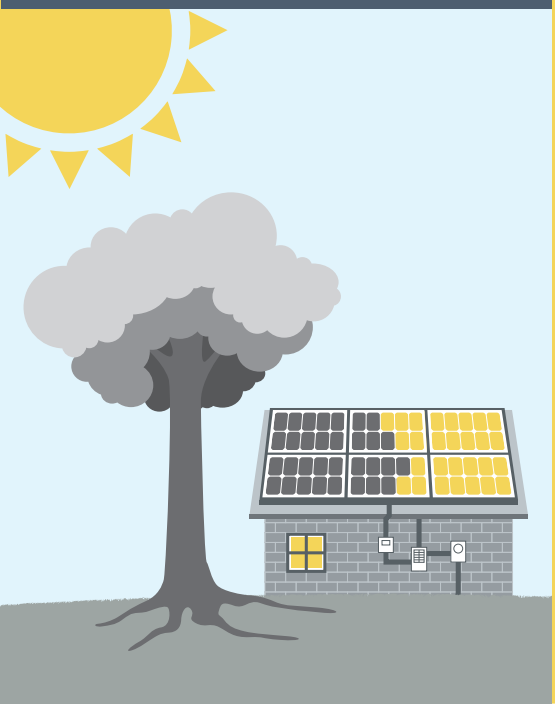
For example:

Example

$23,680

With a **$8,320** tax credit!

Fine print: your installer is charging you $32,000. It may still be a great price–just make sure you know what's what.



4 UNDERSTAND HOW SHADE WILL AFFECT SOLAR PERFORMANCE

The Houston area is home to lots of big trees. While unscrupulous or untrained sales people will downplay the effect of shade on your solar, you will need to understand–unequivocally–that trees may be lovely to look at and are excellent squirrel habitat, but can slash your potential solar output to the bone.

Partial shade from a chimney, a neighbor's house, or a nearby tree won't necessarily be a dealbreaker, but your consultant should consider the effect of shade when discussing your home's solar potential. A good consultant will have a variety of tools for accurately assessing the impact. This might be an optical tool like a Suneye, or a design application like Aurora, and they might not be able to offer a super-dialed-in value until you've engaged them to design your system. But they should be willing and able to discuss it openly, and they should absolutely have the salt to let you know if solar doesn't look like a very good option. Most relevantly, you as an informed consumer have the common sense to say "seems pretty *shady* to me!"

If you're weighing the environmental ramifications of trimming trees to increase your solar production, you can rest easy knowing that a typical residential PV system offsets as much carbon as a small forest, easily several hundred mature oaks! On the flipside, carbon offset isn't the only benefit trees provide, and you may just need to choose one over the other.

5 DON'T GET PRESSURED INTO MAKING A RUSH DECISION

This may seem like Buying Stuff 101, but every salesperson in America can get their manager to offer you a deal that supposedly ended yesterday. With that in mind, you should never feel like you need to sign today because tomorrow it will be too late. A lot of salespeople in the PV business can take advantage of the fact that they're the first person you've talked to about solar, and they'll try to get you to sign before you've done your research.

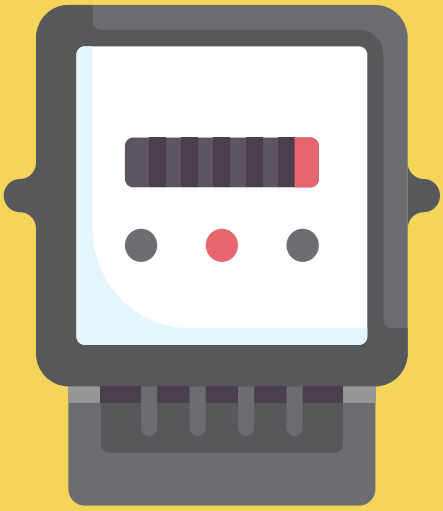
Buying immediately from someone you like and trust isn't necessarily a bad thing...solar really is a no-brainer for the majority of Houston homes, and you won't go wrong engaging a trustworthy company. But if you feel unsure about something, or it doesn't all make sense, don't take a gamble on rushing yourself to get in on some sweet savings. It will still be there once you've taken the time to wrap your head around it.

6 IF YOU CAN PAY CASH, NEGOTIATE A DISCOUNT

Solar loans allow folks to go solar without coming out of pocket to the tune of a new car. They typically come with low interest rates, no liens, no prepayment penalties, and they're intelligently structured to optimize your tax credit money to keep your monthly payment low. However, like most good things in life, all those great benefits come at a cost. Solar loans have underwriting fees charged by the lender; these fees represent a sizeable portion of the cost of the system–as much as 10% or even more! It's a bit like "buying points" on your mortgage, and while the fees are unavoidable, the loans are still very much worthwhile in spite of them. But for some folks with the right financial situation, there might be a better way.

If you're hemming and hawing about just paying cash, you probably should. Unlike with buying a car, cutting out the solar lender saves your installer a chunk of cash, and they should be glad to pass the savings on to you. Whether you decide to finance or pay cash, you are *owning* your power rather than *renting* it.

7 HAVE A CONSUMPTION METER INSTALLED



Modern PV systems come with highly sophisitcated inverters which record how much energy the panels generate. Generation is perpetually being recorded, and homeowners can log in with a cool little smartphone app and see both real-time and historical production for each panel, and for the entire system. At the same time, there's a smart meter on your property that tracks how much energy moves back and forth between your electrical system and the utility. With simple arithmetic, you can figure out how much energy you used in your home in any given time period. If you feel like your solar isn't reducing your energy bill as expected, you can run a little analysis to find out whether the system is underperforming, or if your energy consumption has just increased. Higher rates, lifestyle change, atypical weather, aging appliances, and new loads like swimming pools can drive your energy expense up significantly.

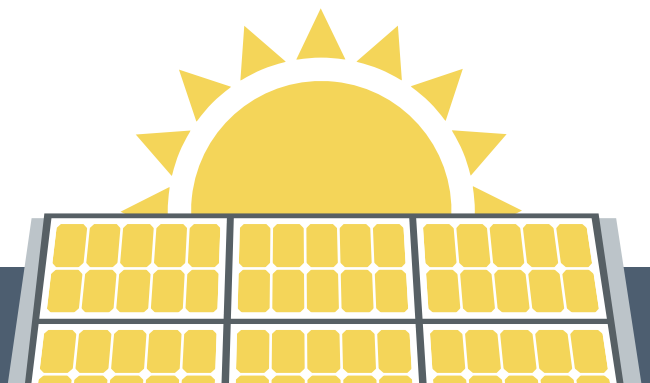
However, it's tedious to be crunching numbers on a regular basis to know how you're using energy. Fortunately, there's a tool for that–a relatively inexpensive component called a consumption meter–which ties into your electrical system to log how much juice flows through your home's circuits. This provides the missing piece of the puzzle with no effort on your part, and also serves as an additional data point to confirm what would otherwise just be a pretty good assumption about your usage. Compare your consumption data going forward with your pre-solar energy bills, and you'll know whether your solar is doing what you expected it to do. Your installer should have the ability to provide a consumption meter at minimal cost, and should also be of a mind to empower you with as much insight to your solar as you can get.

BE A SAVVY SOLAR BUYER

After decades as essentially "future tech", only practical on niche applications like satellites and remote, off-grid loads, photovoltaic solar has reached "grid parity" in Texas in recent years. This is the point where the cost of solar energy has officially become lower than the average cost of grid energy, almost all of which has historically been generated from burning fossil fuels. Environmental concerns aside, most Houston residents will save substantial money, or at least break even, by installing solar on their homes. Not everyone is a candidate, however, and those who are should be able to discern the very best options for their situation. As proponents of our industry who have a vested interest in good business practices, we at KW Solar believe an educated customer is a good customer. And a customer who got burned will–quite understandably–influence numerous others to steer clear of solar in order to avoid making similar mistakes.

We hope that with this information, you'll feel confident taking the next steps toward investing in your own clean, renewable energy. If you're ready to put your knowledge to use, we'd be honored to be the solar installer who accompanies you on this journey. Feel free to reach out to one of our solar consultants for a candid, noncommittal conversation or check out our website for substantially more information.

www.kw.solar



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