



Is **Going Solar** The Right Choice?





Here in our sunny part of the USA, we have an amazing opportunity to tap in to the vast wealth of energy our sun produces every day with **Harmon Solar**. Arizona is host to several of the sunniest cities in the United States and can average 300 sunny days a year. This is the recipe that makes solar power extremely practical for Arizona Families. Under these conditions, solar is very reliable and the cost remains low. It is also healthier for the entire community as it's a non-polluting means of energy production.

Having your own personal power station that creates clean energy, cheaply, should have obvious value and advantages to traditional means of providing electricity to your home or business.

Add value and desirability to your home



Pay significantly less



Have a say in the energy market



Help create a cleaner, healthier world



With our Arizona desert environment producing so much free power, now you can turn the hot dry air and limited cloud cover to your advantage. In 2008, former Arizona Governor Janet Napolitano said that the state could be “the Persian Gulf of solar power” by 2025, in reference to the countries that surround the gulf being large scale petroleum producers -- one of the resources that is used in traditional means of electricity production.

Fossil Fuels, like petroleum (known commonly as oil), and coal are not clean burning and have huge impacts on our natural world, our physical and environmental health and are completely unsustainable. Since these resources, unlike photovoltaic light that solar panels use, are exhaustible, more cannot be made and thus in the future to come, will have to be replaced as a means of energy production. Arizona embracing solar can allow us to take the lead in the national or even international energy markets. If your motivations are purely financial in nature, do not fret — the beauty of the necessity of this resource is that it is extraordinarily cheap to maintain and operate compared to traditional energy sources.

Before you decide on whether you will pursue a solar panel system outright purchase or a leasing option, we need to break down some of the essential points about solar energy so you are equipped to make an educated choice that works best for you.

There is no one size fits all approach to solar power. Every home and business is unique and it is important your system is tailored to your situation so that it can produce properly to meet your energy needs. It is also important that you examine what rates your utility offers that could determine the design of different aspects of your solar power system. This will help you get the best possible value out of your panels. The better the optimization of the design, the better your results will be over time. It's important to keep in mind that you need to identify obstacles of sunlight that are intended for the panel array as this will interfere with your system's energy production. If doable, a large tree casting shadows may be more cost effective to remove for the benefit of the system if the long term savings outweigh the cost of removal. If this is simply not an option, ground mounting is also possible if space and a suitable area are available for such a system.

The industry of solar installers has grown significantly in the past decade. Within this industry, there are many types of companies that specialize in specific areas of solar energy. With any big investment, it is always wise to research, compare and contrast, and recognize that the cheapest option does not mean that it is the best choice. Look into manufacturers that make the equipment for the installer/retailer as well as the warranties that accompany them. You want to take this leap into a new power source with partners you can trust to help you in the long term operation of your solar panels. If all goes well, your panels will be producing for you for decades!

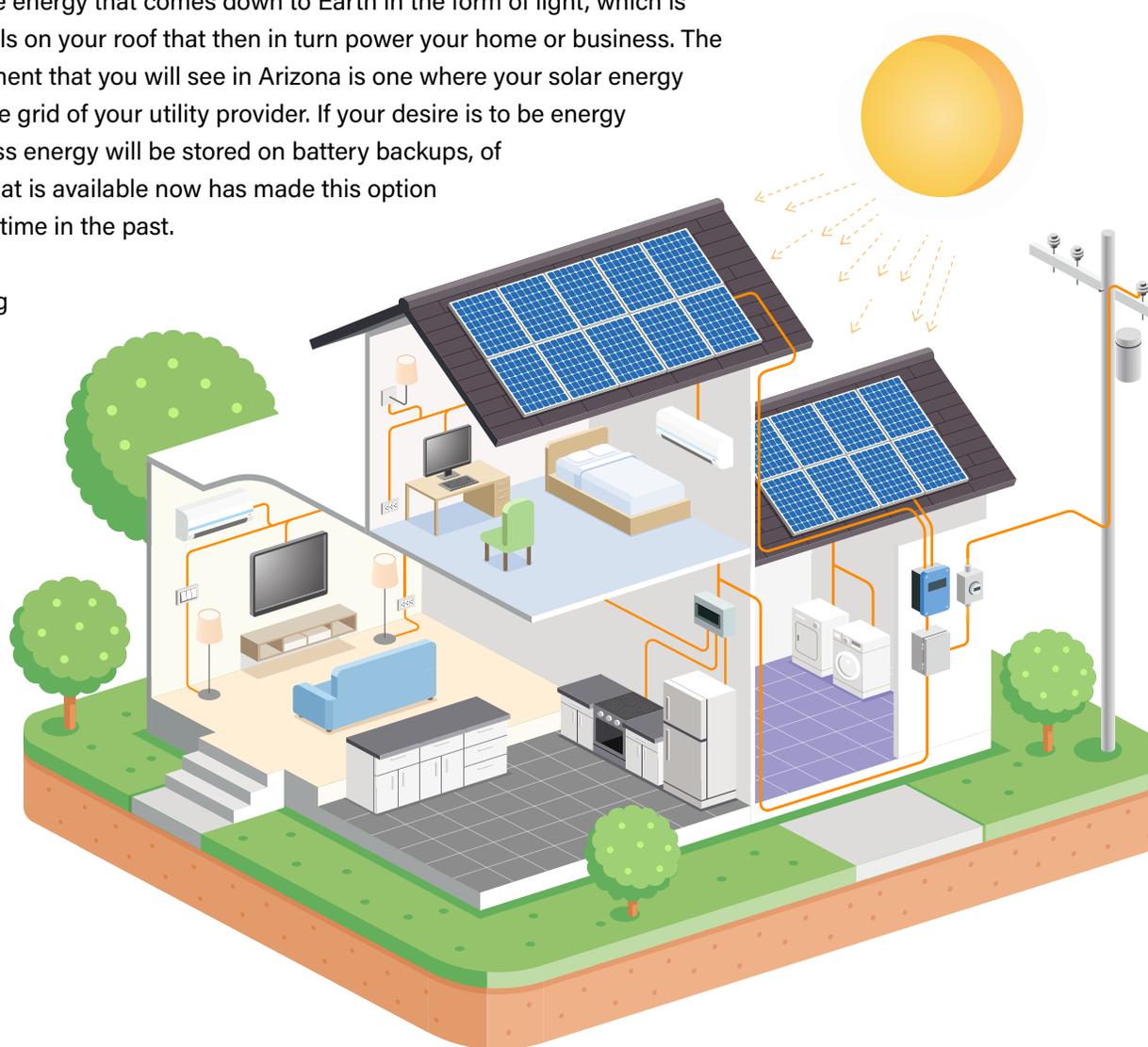


The Basics of Solar

To best navigate making the right call, it would be a good idea to learn the basics of how solar panel systems work in relation to you and all other parties involved, such as your installer or local utility company.

The sun creates massive energy that comes down to Earth in the form of light, which is harvested by solar panels on your roof that then in turn power your home or business. The most common arrangement that you will see in Arizona is one where your solar energy system is attached to the grid of your utility provider. If your desire is to be energy independent, your excess energy will be stored on battery backups, of which the technology that is available now has made this option more viable than at any time in the past.

These designs are among the more premium and pricey ways to power your home or business. Both of these methods will ensure you never risk being without power. In some off grid configurations, this does become an issue, as if your panels or batteries fail, there is nothing you are connected to to bail you out.



Identifying Your Needs

What got your attention in the first place? Whether you are trying to increase the value of your home, have personal environmental motivations, or suffer oppressive monthly utility bills, it is an excellent time to join the clean energy movement. With the wide range of the available technologies, it is possible to find exactly what you are looking for dependent on your motivating factors. Find out what obstacles you might encounter like the composition of your roof's building materials, or objects that cast a lot of shade for long periods of the day time. Due to our position on the Northern Hemisphere of the planet, and Earth's slight tilt on its axis, a roof facing true south will be the most productive, but an east/west roof is fine and can also produce efficiently. Weigh this into your final decision.

Why Is The Cost Low?

At the beginning of this paper, we outlined that in the near future, switching to alternative energy will be a necessity given the flaws with our current systems for providing electricity. Because of this reality, there are federal and state tax incentives for pursuing solar energy. The clock, however, is ticking on these incentives. For example, the Solar Investment Tax Credit will offset the cost of your solar panel system on a home or business by 26% on installations prior to December 31st 2020. This drops to 22% in 2021 and is completely unavailable for homes as of 2022.

Solar energy also remains significantly cheaper because of the high cost of operation of other forms of energy. Nuclear power stations and coal fire plants are gargantuan tasks to keep running. The amount of material they require does not come cheap and also must be extracted from the earth, whereas solar energy need only be plucked from the sky by the PV (photovoltaic) panels on your roof. This cuts out several expensive parts of the process of creating electricity. With our blazing local sun here in the desert, it is easy to reduce your utility bill significantly, and with some solar configurations you could completely erase it!



The old school burning plants that still make up nearly 35% of the United States energy consumption will not be able to keep up with a competitive rate for long. Nuclear power plants are extremely expensive to build and maintain, but, alarmingly, their biggest drawback is their lethal potential for catastrophe to strike if the reactor melts down from human error or when the plant becomes decrepitly old. The waste product from nuclear energy is also a huge drawback. Radioactive waste is extremely difficult to dispose of and contain, and can impact the environment massively if it is mishandled or the proper care and respect isn't given to its volatility. Solar is cheap, clean and produces no dangerous waste!



Part Of A Bigger Picture

If when coming into this journey, your primary motivation is saving more money, you will want to maximize your efforts by addressing other factors that might drive your bill up unnecessarily.



Assess whether your home is efficiently holding the cool air from your air conditioning unit. In Arizona, we all know how important this can be on a 115 degree summer day, but it may be costing you a fortune if the building is not thermal efficient. Taking a look at thermal efficient windows, updating weak points in the construction and other home improvements can save you real money on your bills.



Do research on the appliances you use and make sure that one of them isn't a real energy guzzler. There are more energy efficient appliances available for all purposes if you discover that one of yours is shooting your energy consumption way up.



It can be as simple as remembering to turn off lights or closing doors. Turn off appliances that we sometimes leave running when not in use like a television or a computer. These simple lifestyle changes add up to a lot of money overtime.

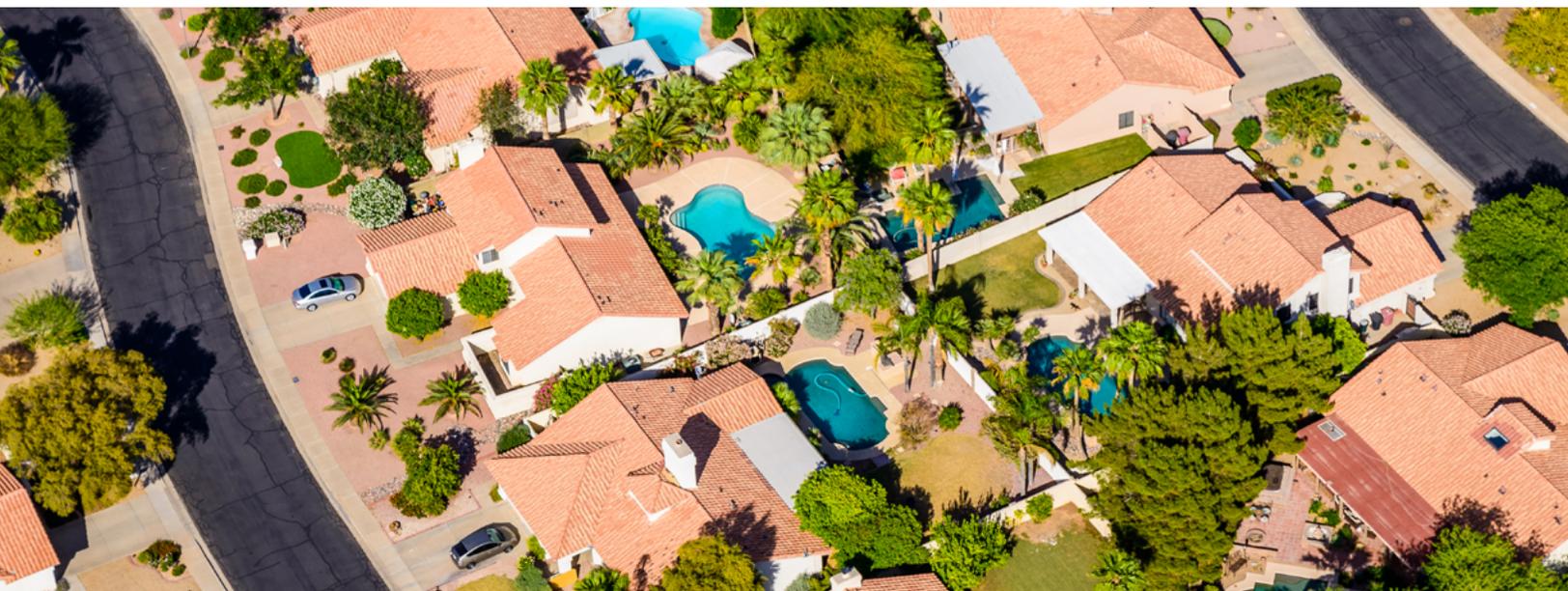
Calculating Savings Over Time

With all the factors we have discussed thus far, what really matters when considering going solar is determining just what differences in costs over time are going to be when it's all said and done. It comes down to this: how much are you going to spend on your system after tax incentives and how did you choose to acquire it? Purchasing a system outright will give you the best results over time, but this option is front-heavy and may not be financially possible. Discuss with the installer what they can do in the structure of your financing if it is the only option to make a long term plan. These aspects are sometimes negotiable and it is worth trying to get the best deal. Do not count out the added value to your property in your equation. Solar is an extremely attractive improvement to make for potential buyers. Aside from the money factor, many people take immense pride in powering their home with solar. You too can be a leader in your community and mark the path for your whole neighborhood to see that you care about the future.



Is My Home A Good Candidate?

Before you ever get into the minutia of finances, you might want to take a moment to make sure solar is a viable option for the structure you would like to use for it. Certain roofing materials may not be conducive to the mounting of a solar array due to fragility, shape, or other variables. Orientation is also important as an east/west facing roof will not produce as well as north/south facing roofs. If the roof is small, it might not have enough room to hold a system large enough to meet your energy needs. Every 100 square feet of solar panels is roughly equal to 1 kW of energy produced in that space. A typical size for a solar panel system in Arizona would be about 5 kW or 500 square feet. Consider cutting large trees that cast shade over the area of the roof where you would like your solar panels. It is best for the installation that the roof be newer, because if a replacement roof is needed at some point down the line, the cost will be compounded by having to reinstall the solar array.



Purchase Outright or Lease



Leasing

If what you are looking for is low cost upfront or if purchase is simply not an option, this is a very popular method to go solar on a budget. These agreements are usually constructed so that you switch seamlessly from your old utility bill to your new cheaper one. If you have a good credit rating, these payments can be spread out as far as 25 years.



Purchasing

If you have the capital upfront, a purchase of a solar power system is the quickest way to feel the benefits of solar energy. Whether you are configuring an on or off grid system, owning your panels is the best way to achieve energy independence and will result in the most savings over time.



Zero down

Go solar for zero dollars down.



Loan options

The middle ground between these two is securing a loan to purchase your solar panels. Loans can cover partial or all of the money needed to get going. It is a good idea to finance only the portion of the net cost still needed after all other rebates and tax credits are considered.

Now Is The Time

Solar power is here to stay for the long haul. It will only become more common as time goes by, so if you are on the fence or considering solar panels but are thinking about waiting, you are missing the opportunity to get the federal tax credits if you don't act quickly. As stated above, you have until the end of 2021 — then they are gone permanently. Waiting for it to get cheaper would be foolish as the industry is established and thriving, so you would only be costing yourself more money by putting off this home improvement. Plus, every month you wait is a month you pay an inflated outrageous utility bill. If you waited 5 more years, those electricity bills are going to add up to a lot of money that could have been saved with swift action today.



Not Just About Money

With a particularly large system, the solar panels can add shade to your roof. In our local weather, relief from the sun is going to pay off in the form of possibly extending the lifespan of the roofing, but also keeping your house cooler in the brutal summer heat. Now that your roof is producing its own power, with system monitoring, you are in the driver's seat and will have all the data available to you to make quality decisions about how to budget your energy consumption.

It is important that fossil fuels are phased out of use in the first half of this century, as if we do not, the damage we have done to our environment will be irreparable. Forms of alternative energy like wind and solar, if implemented on a wide scale, could cover our energy uses as a society while not harming the natural world we rely on. As real people are now feeling the

negative effects of climate change, the air we breathe in is deteriorating in quality, and the very land we live on is disappearing before our eyes. These truths have never felt more pressing and apparent. Going solar and cutting down your carbon footprint isn't just cheap and practical for Arizona families, it is an actual gift to your community and your neighbors. Switching to solar energy is a move you can take great pride in.

In conclusion, when choosing a solar installer you want a company that is professional, experienced, and tailors their product to you individually. Harmon works with only top of the line equipment and materials at a reasonable price. What are you waiting for? Go solar with Harmon Solar today!

