

RUCO's Consumer Guide to Rooftop Solar Photovoltaic (PV)



Going solar can be a great investment, but there are many factors to consider before making a decision. This guide is meant to help anyone thinking about going solar make more informed choices.

1. Important Factors to Consider

With rooftop solar, many different factors impact the investment.

Known Factors:	Unknown Factors:
Ownership structure: A system can be owned or leased, and if leased there are various types (prepaid, zero down, etc.) There are also loans.	Energy efficiency potential of the home (if no home energy audit is conducted prior to solar installation)
Solar panel maintenance including eventual inverter replacement	Lifestyle, years staying in the home, and future energy use
Number, location, and approximate output of solar panels	Future changes to electricity rates and regulations*

*Solar companies often calculate your savings assuming utility rates will increase by a certain percent per year. Over the past 25 years residential utility rates have increased 1.0% per year in Arizona, however, if you look at the last decade, the rate of increase has been over 3.0% annually and 2.5% over the last 15 years. Like many investments, history is not necessarily an indicator of future rate performance and ultimately you must feel comfortable with any assumptions you are using while knowing they cannot be guaranteed by anyone including the utility or your solar installer.

Please also keep in mind that rate increases might be on bill charges that solar PV does not reduce (e.g. fixed monthly charges). Finally, each utility has different policies regarding their pricing for solar customers- check with your electric service provider so you understand their specific rates and charges.

General Considerations

- Be a smart shopper – obtain multiple quotes and bids.
- Future changes to electricity rates and regulations can impact the benefits outlined or estimated in your contract based on current rates.
 - There is no guarantee of being 'grandfathered'
- Some providers offer a guaranteed minimum level of system production.
 - It is recommended to ask for data monitoring on your system.

Lease Related Considerations

- Some leases contain a price escalator that increases the lease payments on an annual basis. Though a low annual escalator can make sense, they also increase the risk that lease payments may be higher than a pre-solar utility bill for some period of your contract term. Make sure you understand the rate of increase in your contract and how that relates to your expected savings.
- If you own a home with leased rooftop solar panels, you may be responsible for additional property taxes incurred by the leasing company.
- Unlike a direct ownership model, the leasing company, not the homeowner, is eligible to use the federal and state tax credits. However, the tax credits are typically factored into your lease payment.

2. “Going Solar” ≠ “Off the Grid”

Even with rooftop solar panels, customers still rely on the grid 24/7. It is unlikely that at any given moment, the electricity needs of your home and the production of the PV system will be the same. The connection to the grid enables a smooth exchange of power and energy as load and production vary. For example, when your air conditioner turns on, an immediate surge of power is needed. At night and on cloudy days with limited or intermittent sunlight, solar panels are not able to produce the energy needed to run your home. Therefore, unless the solar PV system is coupled with an energy storage solution, you still need a reliable energy source to ensure comfort and safety. This need is especially true given that most solar PV systems are designed to shut down for safety reasons if grid power is lost.

3. Make Sure the Roof is Solar-ready

Before moving forward with solar, know that a typical roof's average life expectancy is 20 years. If you do not know when your roof was installed or last repaired, having a professional inspect your roof prior to installing a solar system is a good idea. You could also incur costs relating to removing and reinstalling the PV system to conduct roof work.

The orientation of your roof will impact energy production potential, but, contrary to popular belief, a roof does not need to face directly south for solar panels to work. However, if an installer proposes north facing panels, it is recommended that you request an alternative bid without those panels for comparison purposes.

4. Picking the Right Installer

Working with a certified solar installer is your best bet. Fortunately, Arizona is home to some of the most reputable companies in the business. For leased systems, the company that leases the system may not be the company that installs it. It is also important to verify that the system warranty maintains intact if the installer goes out of business or if the leasing company sells the lease to another financing company.

Things to Consider

- Be careful of large down payments before work is performed.
- Get multiple bids and read and understand the contracts beforehand. The price of systems and the terms can vary greatly among installers and leasing companies.
- The Arizona Attorney General advises consumers to be cautious of companies that solicit by phone and/or use high-pressure sales tactics.
- Inform the HOA of your rooftop solar plans. A summary of HOA rules can be found [here](#).
- If you plan to own the system, make sure you have enough tax liability to fully realize the 30% federal tax credit and other tax incentives that may be offered.
- Obtain a city permit prior to construction (this is usually done by the installer).
- Include liability guarantees in your contract to cover roof damage that may happen during construction.
- Be sure to work with both a reputable leasing company and installer.
 - Look for [PV installers](#) who are certified or have employees certified by the North American Board of Certified Energy Practitioners (NABCEP).
 - The [Arizona Solar Energy Industries Association](#) also maintains a list of solar panel installers that have obtained a Preferred Solar Installer credential.
 - Before selecting an installer, a good place to start is with referrals from friends, neighbors or associates (but make sure you know if they are being paid for the referral), then online reviews like Angie's list, ROC complaints, finally the Better Business Bureau (BBB).

5. Selling Your Home

It is possible that you may sell your home before completing the term of the 20-year solar system lease. Rooftop solar systems can be considered an asset and can increase the value of your home. Note that depending on the type of lease and the terms of your particular leasing company, payments may be considered a liability and an encumbrance may be placed on your property and/or the equipment.

Depending on your lease agreement, options for selling the house may include:

- Buying out the remainder of the lease;
- Leaving the panels behind, in which case the home buyer must qualify and agree to taking over the lease;
- Moving the panels with you, if allowed under the lease terms.

6. Get Advice

With any significant investment, it's prudent to confer with experts. Consult a tax professional, your insurance carrier, and an Eco-Broker certified real estate agent. Consulting with the local fire department regarding their ability to access the house in the event of a fire is also advisable.

7. Become More Energy Efficient

Whether or not you go solar, it's always a good idea to improve your home's energy efficiency. Utilities offer a number of energy efficiency options to save you money and to improve the safety and quality of your home environment.

Making your home as energy efficient as possible will also help ensure that your rooftop solar system is properly sized for your current and future energy use. For instance, oversized systems cost more, and any excess electricity, you produce, is paid at a low wholesale rate towards the end of the year.

Visit the following utility webpages to learn more about available energy efficiency programs and to find [energy saving tips](#):

- Arizona Public Service customers: <http://www.aps.com/en/residential/savemoneyandenergy/>
- Tucson Electric Power customers: <http://www.tep.com/efficiency/>
- Salt River Project customers: <http://www.savewithsrp.com>

Once the above considerations are followed, solar PV can be a great investment that allows you to be more than just a consumer of energy - but also a producer of clean energy.