

DOES ROOFTOP SOLAR MAKE SENSE FOR YOU?

More Arizonans than ever are considering installing rooftop solar systems on their homes. There are many factors that should be contemplated before making a final decision and signing a contract. This guide will explain some of those factors and help you ask the right questions, so you can make a well-informed decision.

IF YOU ARE INTERESTED IN DOING MORE RESEARCH, HERE ARE SOME ADDITIONAL RESOURCES:

ARIZONA ATTORNEY GENERAL
azag.gov

ARIZONA CORPORATION COMMISSION
azcc.gov

ARIZONA SOLAR DEPLOYMENT ALLIANCE
arizonasda.org

ARIZONA SOLAR ENERGY INDUSTRIES ASSOCIATION
ariseia.org

BETTER BUSINESS BUREAU
bbb.org

ENERGY STAR BY EPA
energystar.gov

INCENTIVES FOR RENEWABLES & EFFICIENCY
dsireusa.org

PHOENIX FIRE DEPARTMENT
phoenix.gov/fire

RESIDENTIAL UTILITY CONSUMER OFFICE
ruco.az.gov

U.S. DEPARTMENT OF ENERGY
energy.gov

U.S. ENERGY INFORMATION ADMINISTRATION
eia.gov/electricity

U.S. ENVIRONMENTAL PROTECTION AGENCY
epa.gov

aps.com



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TO KNOW IF YOU'RE CONSIDERING ROOFTOP SOLAR

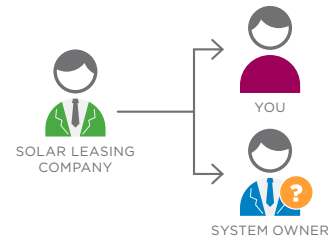


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THE SOLAR LEASING MODEL

HOW IS IT DIFFERENT?

The solar leasing model is a new, unique financial model unlike leasing a home or car. It's important to understand the details because when you lease a solar system, you get to use the system, but it isn't clear who will own it. It's common for leasing companies to package and resell leases to financial investors. Since the system is being attached to property that you own - your home - it's a good idea to know who is ultimately going to own your system, especially since the lease duration is usually 20 years.



THINGS TO CONSIDER



When leasing a rooftop solar system, incentives such as tax credits and depreciation are given to the system owner, not the homeowner.



As a homeowner, you may have a lien placed on your property if the system is leased and not owned. That could complicate things when it comes to selling your property.



What will happen with the system at the end of your lease? Will you buy it? Extend the lease? Have it removed? What costs can you expect for each scenario?



Federal and state consumer protection agencies are currently studying a number of issues related to the rooftop solar industry.

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SAVING MONEY

WHAT'S THE BOTTOM LINE?

With rooftop solar, many different factors impact savings. And the truth is, it's very difficult to know how much savings to expect. Let's take a look at some of the factors – both known and unknown – used to calculate savings.

KNOWN FACTORS:

- Size of your home
- Number, location and output of panels
- System maintenance

UNKNOWN FACTORS:

- Actual production of your system
- Future changes to electricity rates
- Weather conditions
- Energy efficiency of your home
- Lifestyle and energy use
- Future technology

REAL VERSUS ASSUMED SAVINGS

1. Solar leasing companies have told the Arizona Corporation Commission (ACC) that customers only save **\$5 – \$10** per month,¹ but have quoted much greater savings in sales materials.
2. Leasing companies have calculated customer savings assuming our rates will increase as much as **5%** per year. But on average, our rates have only increased **1.2%** per year over the past 20 years.

THINGS TO CONSIDER



When it comes to savings, remember to factor in the cost of the monthly lease payment. Focusing on only the savings on your utility bill is just half the picture.



Find out if your solar leasing company provides guaranteed savings written into the contract.



Changes to electricity rates and regulations can impact the benefits outlined or promised in your contract.



If you own a home with a leased rooftop solar system, you may need to pay additional property taxes.



Leasing companies are not regulated or governed by the ACC. It's a good idea to review your contract carefully to make sure you understand their savings claims.

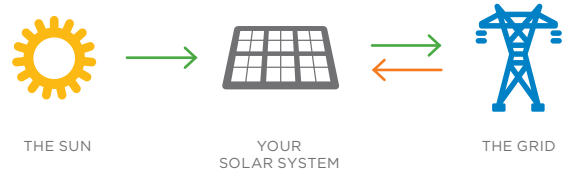
¹ Ryan Randazzo, Arizona Republic, 8/25/2014

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GOING SOLAR

DOES THAT MEAN YOU'RE "OFF THE GRID"?

ROOFTOP SOLAR NEEDS THE GRID AS MUCH AS IT NEEDS THE SUN



"The systems only produce a portion of the customer's overall electricity demand and do not produce electricity at night. Therefore, the customer must remain connected to the utility grid for the majority of their electricity needs."²

— Lyndon Rive,
SolarCity CEO

Even with rooftop solar systems, customers still rely on the grid 24/7. At night and on cloudy days with limited sunlight, solar systems aren't able to produce all of the energy needed to power your home. You also have to be connected to the grid so you can be compensated for the excess energy your home doesn't need.

THINGS TO CONSIDER



Solar systems don't generate enough power to start large appliances like your AC unit or pool pump. Even with rooftop solar, you still need a reliable energy source for your family's comfort and safety.



Even with an average of more than 300 days of sunshine a year, sudden storms during monsoon season and cloudy weather can limit the amount of energy generated by rooftop systems.



The power from solar panels is designed to shut off during power outages for safety reasons. So when there's an outage, customers with rooftop solar lose power too.

² Quote from ACC testimony, 8/24/2009

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YOUR ROOF IS IT READY FOR SOLAR PANELS?

Before purchasing or signing a 20-year lease on a rooftop solar system, you should verify the condition of your roof. A typical roof's life expectancy is 20 years on average.³ If you don't know when your roof was installed or last repaired, it's a good idea to have a professional inspect it prior to installing a solar system.

As for the orientation of your roof, contrary to popular belief, it does not need to face south in order for solar panels to work. Any direction is doable, but orientation to sunlight will impact the potential energy production of your system.

THINGS TO CONSIDER



Have the condition of your roof checked thoroughly. It's better to identify and repair roofing problems before any solar installation.



Get an estimate of how many years are left on your existing roof before it needs to be replaced.



What happens if you need to repair your roof? Consider who is responsible and the costs associated with taking down your panels and reinstalling them.

³ Life expectancy on an average roof depends on many factors such as the quality of materials and construction. National Association of Home Builders.

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SOLAR PANEL INSTALLATION AND MAINTENANCE

HOW CAN YOU FIND
A REPUTABLE COMPANY?



Working with a certified installer is your best bet. Fortunately, Arizona is home to some of the most reputable companies in the business, so consider getting multiple bids. Also, keep in mind that the company you lease your system from is not necessarily the company that installs it. Make sure your system warranty remains intact if your lease is sold and ask what happens if the installer goes out of business. It's important to determine what maintenance will be needed to protect your investment. To find a certified installer, please visit:

*ARIZONA SOLAR
DEPLOYMENT ALLIANCE*
arizonasda.org

*ARIZONA SOLAR ENERGY
INDUSTRIES ASSOCIATION*
ariseia.org

THINGS TO CONSIDER



Check with your HOA to make sure your rooftop plan meets your association's guidelines. Be sure to obtain a city permit for the construction.



Roof damage can happen during installation, including leaks or roof instability. Protect yourself by getting liability guarantees in your contract.



Working with a reputable leasing company is just as important as choosing a reputable installer. Make sure both are credible in the industry.



The Arizona Attorney General advises consumers to be cautious of companies that solicit by phone and/or use high-pressure sales tactics.



It's important to stay in control of the interconnection process. Don't share your aps.com username and password with your leasing company or installer.

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SELLING YOUR HOME

WHAT DO YOU NEED TO KNOW?

What's the possibility of you selling your home in the next 20 years? If you sell your home and have purchased your solar system, that system will be considered an asset that will most likely increase the value of your home. On the other hand, if the system is leased, the debt may be considered a liability. Depending on your lease agreement, your options prior to selling may include:

- Paying off the remainder of your lease
- Leaving the system behind, in which case the buyer must qualify to take over the lease
- Paying the leasing company or installer to move the system with you

THINGS TO CONSIDER



Research shows that the average Arizona homeowner stays in a home for approximately 15 years - five years less than the term of the lease.⁴



If a new homebuyer wants to keep the leased system, a good credit rating will be needed to take over the lease.



If you move the system with you, hire a professional to remove and reinstall the system at your new property.



As a homeowner, you may have a lien placed on your property if the system is leased and not owned. That could complicate things when it comes to selling your property.

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GET ADVICE

WHICH EXPERTS SHOULD YOU TALK TO?



With any significant investment, it's a good idea to hear what the experts have to say. That starts with consulting your tax professional and your insurance and real estate agents. You should even ask questions of your local fire department concerning solar systems.

THINGS TO CONSIDER

ASK YOUR TAX PROFESSIONAL

- What tax incentives, if any, will you qualify for?
- If you sell excess solar power to your utility, will you be required to report the proceeds as taxable income?
- If your rooftop solar system is leased, will you have to pay any additional property taxes?



ASK YOUR INSURANCE AGENT

- Does your policy cover damage related to rooftop solar?
- Will having rooftop solar impact your policy amount?



ASK YOUR REAL ESTATE AGENT

- Will rooftop solar increase your home's value?
- Will leasing a solar system make it easier or harder to sell your home?



ASK YOUR LOCAL FIRE DEPARTMENT

- Does rooftop solar impact home fire safety?
- Will having a rooftop solar system affect how fire departments would fight fires at your home?



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BEING MORE ENERGY EFFICIENT

WHAT ARE SOME EASY OPTIONS?



Whether or not you go solar, it's always a good idea to improve your home's energy efficiency to save money. Most of these options are very simple and don't require the investment of a rooftop solar system. You could try switching to CFL or LED bulbs, increasing or decreasing your thermostat a few degrees, or replacing your air filters more often. Using the Energy Analyzer tool at aps.com/ea is a great way to identify potential savings.

THINGS TO CONSIDER



Have you installed new energy-efficient doors and windows on your home? Contact a contractor for prices and rebate offers.



How old is the insulation in your attic? Maybe you need to upgrade its insulation rating.



Are your air ducts and vents properly sealed? Fixing them can result in significant heating and cooling savings.



Making your home as efficient as possible will ensure you don't get a solar system that's oversized for your energy usage.



For more home energy-efficiency tips, please visit aps.com.



OUR COMMITMENT TO SOLAR

Since 1954, we have led the advancement of solar energy in Arizona. We believe solar energy should, and will, play a growing role in Arizona's energy future. As technologies advance, we will continue to add solar-generated power to our energy mix, which will allow all of our customers to share in the benefits of clean solar energy. We know how important solar energy is to our customers and to our state. That's why we will continue to invest in solar technology to power homes across Arizona.

THE PROOF IS IN THE NUMBERS

- Arizona is ranked No. 1 in solar electricity capacity per resident.⁵
- We're investing nearly \$1 billion in solar energy projects across the state.
- We have enough solar capacity to power 200,000 Arizona homes.
- More than 300 schools participate in APS programs designed to help schools go solar.

⁵ Environment America Research and Policy Center, 2013