

HOMEOWNER'S GUIDE TO SOLAR

2025



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SOLAR

iconsolar.com
513-396-7777



WHY YOU SHOULD CONSIDER SOLAR IN 2025

The era of solar power is shining more brightly for American households in 2025. Homeowners should look seriously into solar as a cost-effective energy solution because it is more compelling now than ever before. While solar technology isn't exactly new, the technology has advanced leaps and bounds. Panels are more efficient and aesthetically pleasing; batteries have higher capacities and last longer; and the industry has seen exponential growth meaning all the equipment is produced at a higher rate making everything necessary to construct your solar system more affordable in 2025.

However, for many homeowners, the concept of going solar raises many questions: 'Will it actually save me money?' 'Does it add or detract value to my home?' 'Are solar installation companies trustworthy?' 'Can I afford it?' These concerns are all valid and without straightforward guidance people often hold off from taking any steps towards solar.

This guide is here to demystify what it means to add solar to your home with a comprehensive overview of the state of solar in 2025. We will explore the advantages of solar power, associated costs, and the overall process involved in purchasing and installing an efficient solar power system for your residence, enabling you to tap into solar energy.

Throughout this guide, we will tackle your most pressing questions, equipping you with knowledge and confidence to make a well-informed decision about selecting solar power for your home in 2025.

As of 2024, there were about **4.2 million** single-family homes in the United States with solar panels, which is about 4.96% of all single-family homes. [1] This number is expected to increase significantly in the coming years, with projections of reaching 16.8 million homes by 2032 [2].

WHAT ARE THE BENEFITS OF SOLAR?

People are often attracted to adding solar panels to their home to contribute to the environment or as a way to gain energy independence but for many this is often down to a financial investment.

As traditional electricity costs continue to rise, homeowners are feeling the squeeze in their finances. The average American household now spends over \$2,000 annually on electricity. This monthly bill has risen by nearly 30% since 2020. [3] If this trend continues you'll be paying more every year to live in the same house, using the same electricity is not a good deal for you.

Solar power is the key strategy to keep that money in your hands. Not only can you have the \$2,000 annually back when you are generating your own power and not purchasing it from the grid any longer, but you will future-proof your home from any rate changes from the utility company.

The best part is in 2025 solar power is attainable and affordable now more than ever before. The cost to purchase and install a solar panel system and batteries has dropped 90% in the past decade and the cost of solar equipment including the cost of batteries has come down 50% within the last 2 years. [4] On top of that with Federal Tax incentives available to some and interest rates projected to be dropping, a solar power system is well within reach for most American homeowners. [5]

Better yet, by harnessing the power from the sun it makes our air cleaner, reduces carbon emissions and -if you have batteries- solar gives you the freedom to have electricity when severe weather cuts your home's power off from the grid.



2024 Survey Reveals 89.6% of Residents Are Happy With Solar Panels On Their Homes

[Click To Read Article \[6\]](#)

FORECASTING YOUR SOLAR SAVINGS

One of the most compelling reasons to go solar is the potential for significant savings on your energy bills. In 2025, these savings are more substantial than ever, thanks to improved technology and rising electricity costs.

Let's break down the potential savings:

- 1. Immediate reduction in electricity bills:** Most homeowners see a 50-90% reduction in their monthly electricity costs after installing solar panels.
- 2. Long-term savings:** Over the 25-30 year warranty period of the major components of a solar system, homeowners can save an average of \$50,000 to \$100,000 on electricity costs.
- 3. Increased home value:** Homes with solar installations typically sell faster and for 6.8% more than comparable non-solar homes.
- 4. Tax incentives:** The federal solar tax credit, extended through 2032, allows homeowners to deduct 30% of the cost of installing a solar energy system from their federal taxes.
- 5. Net metering:** Many utilities offer net metering, crediting homeowners for excess energy their systems produce.

To illustrate the impact of going solar, let's look at a before and after scenario for a typical household:

Before Solar:

- Monthly electricity usage: 900 kWh
- Average cost per kWh: \$0.14
- **Monthly electric bill: \$126**
- Annual electric cost: \$1,512

After Solar:

- Solar system size: 6 kW
- Monthly electricity production: 750 kWh
- Remaining electricity from grid: 150 kWh
- **New monthly electric bill: \$21**
- Annual electric cost: \$252
- Annual savings: \$1,260

In this example, the homeowner has **reduced their annual electricity costs by 83%**. Over 25 years, assuming a modest 3% annual increase in electricity rates, the **total savings would amount to over \$50,000!**

Beyond the financial benefits, this homeowner is now producing clean, renewable energy, significantly reducing their carbon footprint. A 6 kW solar system typically offsets about 5.5 metric tons of CO2 annually, equivalent to planting 90 trees each year.

WHAT IS SOLAR POWER?

Solar panels contain silicon. When the sunlight hits the silicon the electrons in the silicon break free of their atoms to move around. The flow of these electrons creates an electric current. This initial electric current is direct current (DC). In order for your home or business to use electricity, it must be converted into alternating current (AC).

The current routes to an inverter, which transforms DC into AC power. The AC power then travels to a circuit breaker in your main electric panel. The solar system produces power for you to use in your home through your existing electric panel in much of the same way your utility company feeds power into your home. If your solar system is producing more power than you are currently using, the excess power will travel out of your house through your utility meter and you will receive a credit for that power from your utility company. The amount and type of credit varies based upon your utility company, and of course you will not pay anything for the electricity produced by your solar system.



PANELS



MOUNTING



WHAT MAKES A COMPLETE SOLAR SYSTEM?

To have a complete solar system, you will need solar panels to capture sunlight, inverters to convert it into electricity, and optionally, a battery to store excess energy for use during non-sunny periods. It's also important to have a monitoring system to track energy production and consumption, ensuring optimal system performance. Finally, a mounting system that secures the panels to your roof or another suitable location, keeping them in place while maximizing exposure to sunlight.

INVERTER OR MICROINVERTERS



BATTERY (OPTIONAL)



GETTING STARTED WITH SOLAR

Is Solar Right for You?

If you already know the numerous benefits and want to take advantage of solar power, but are not sure how to evaluate if your living situation is an ideal candidate for a solar array, follow these steps to determine if you can get a system for yourself.

Here's how to assess whether your home is a suitable candidate for solar installation.

- **Evaluate Your Energy Needs:** Look at your current energy usage to understand how much electricity you consume on average. This will help you determine the size of the solar system you'll need.
- **Conduct a Home Assessment:** Study your roof or place you wish to place your solar panels. Observe which areas receive the most sunlight throughout the day.
- **Consult with a Solar Expert:** Reach out to a trusted solar consultant who can provide a detailed evaluation of your home's solar potential. They will assess factors like roof orientation, slope and they will learn about your goals to prescribe the best system configuration for your needs.
- **Explore Financing Options:** Learn about the various financing options available for solar to find the one that best suits your financial situation.
- **Research Solar Incentives:** Investigate federal, state, and local incentives that can significantly reduce the overall cost of your solar installation. These may include tax credits, rebates, and net metering programs.

TIP



You can use a tool like **Icon Solar's Instant Solar Savings Estimator** to get a general understanding of how much sun hits your house every day using satellite images of your house.

[CLICK HERE TO GO THERE](#)



1. EVALUATE YOUR ENERGY NEEDS



First, take a closer look at your electric bill and determine your energy usage.

Start by reviewing the section that details your monthly kilowatt-hour (kWh) consumption.

This represents the total amount of electricity your household uses over a billing period. Look at past bills to calculate your average monthly usage, as this will help you estimate the size of the solar system you need to meet your energy needs. Additionally, consider any seasonal fluctuations in your usage, as this can affect the system size required to maintain consistent energy generation throughout the year.

By understanding your typical energy consumption, you can more accurately design a solar system that efficiently meets your household's needs.

“We are very happy we chose Icon Solar to install our system. The electricians and installers are experienced and professional. **Our energy bill has dropped from \$300+ to below \$30.** In addition, they have provided excellent customer support anytime we have questions.”

- Janice C.

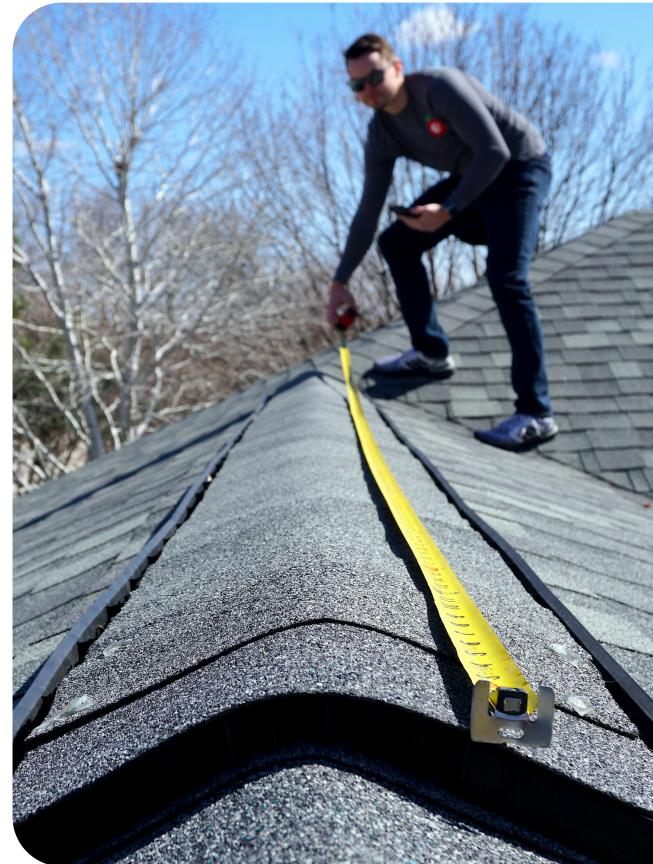
2. CONDUCT A HOME ASSESSMENT

Solar panels are designed to work in all climates; however, if you're planning to use your roof as the foundation of your solar system You'll want to evaluate your roof area and tree coverage before you proceed.

- **Roof Area:** Knowing the dimensions, shape, and pitch of your roof are important to map out to help you determine how many rooftop panels can be installed to power your home. If there are skylights, chimneys, or vents you'll want to strategically place panels around them. So when you work with your solar installer they should provide you with a layout plan before they get started..
- **Sunlight & Shading:** The more sunlight that touches your roof means the more power you will be able to generate throughout the day. If you have many trees nearby you'll want to watch and see how much shade they cast on your roof. If its significant, you may need to consider trimming trees for rooftop panels to optimally produce the most power or use another structure like a barn or a platform that receives more sunlight to get the solar results you want for your home

A seasoned solar expert will evaluate these factors for you to help you assess if your roof is a good candidate for solar. Once they look at your roof they can also calculate a more precise estimate of how much power a solar system designed for your home can produce. They will also lay out how much that system will precisely cost and in turn they will estimate how much it will save you on your electric bill every month and calculate a forecast of how much a solar system will save you over its lifetime

Once you've established the basics your solar consultant will help you determine the specific products you need in your solar system and for you to work with them on what components it will include.



3. CONSULT WITH A SOLAR EXPERT



Consulting with someone with real solar expertise is a crucial step toward securing the best solar system for your needs at the most cost-effective price. Solar professionals are well-versed in the latest and most reliable products on the market and understand how to effectively integrate them into various solar setups. Their expertise enables them to design a solar system that is tailored to your unique energy goals and home specifications. Furthermore, solar experts often have established relationships with suppliers, which can translate into better pricing and availability of high-quality components for you as the buyer. They are also adept at navigating the permitting process with your city, ensuring a smooth and compliant installation.

Attempting to install solar panels as a DIY project is not advisable. The complexity of solar technology, the need for precise electrical work, and the risk of voiding product warranties are significant concerns. Moreover, an improperly installed system can lead to inefficiencies, higher costs, or even safety hazards. Relying on a seasoned professional ensures that your investment in solar power is both safe and optimized for maximum benefits.

HOW TO FIND & EVALUATE A REPUTABLE SOLAR INSTALLER

It is vital to work with reputable solar experts that will help you every step of the way. Buyers need to be aware with the booming solar industry has come an influx of new companies, some with more integrity than others and some that are straight up scams.

It's crucial to choose a trustworthy, experienced installer to ensure a smooth transition to solar power. You can often expect better service and reliability from a local company with a good history of installations in your area over a national brand that may tout expertise and volume - but they actually sell their "deals" to 3rd party installers who will pay them the most money to take the job.

Remember, the cheapest option isn't always the best. A quality installation by a reputable company that will work with you from start to finish can save you money and headaches in the long run. Most people going solar have a positive experience. But like other fast-growing industries, the rampant expansion of solar energy has opened the door to a small subset of bad actors.

Energy.gov's [Smart Shopping Tips for Solar](#) [7] outlines a few ways to identify bad actors in the solar market:

Red Flags

- Pushy sales tactics
- An ad for solar panels without any branding or business affiliation
- Offers claiming to provide free solar panels - If it sounds too good to be true- it definitely is.
- Wants to cut corners and speed through install.
- Ghosts and is not responsive to you once solar is installed.

Green Flags

- Proud display of certifications - Look for North American Board of Certified Energy Practitioners (NABCEP) any product specific licenses or certifications etc.
- Shares proven track record and years of experience in your local area.
- Has both positive online reviews and share references from past clients.
- Offers warranties, backup solar insurance & ongoing maintenance services.
- Will listen and proactively suggest customized solutions to give you the best looking or most efficient system possible.
- Offers different financing approaches to help you pay for your solar while decreasing your bill.

4. EXPLORE FINANCING OPTIONS

Financing makes it possible for homeowners to go solar with little to no money down which for some is ideal so they don't have to wait to save money to start saving more money.

By choosing a loan, you can replace your traditional electric bill with a predictable monthly payment for your solar system, often at a lower cost than your previous energy expenses. This type of financing method allows you to gradually pay off your solar investment while enjoying the benefits of clean, renewable energy.

Once your system is fully paid off, the monthly payment disappears, leaving you with virtually free electricity for the remaining lifespan of your solar panels. This not only provides financial relief but also ensures long-term energy independence.

Ask your solar expert what type of financing options they can provide to you but also be aware that some non-reputable solar companies may make enticing offers that sound too good to be true. Don't be fooled by false claims that "The government will pay for your solar" and be on guard if they want to proceed without checking your credit as they are not likely to be offering you a proper loan.



5. RESEARCH SOLAR INCENTIVES

Using federal, state, and local incentives can greatly diminish the overall cost of installing a solar system.

Homeowners in 2025 can take advantage of the federal solar tax credit, which is currently equal to 30% of the cost of installing a solar energy system. The tax credit directly reduces the amount of income tax you would typically owe that year, serving as a dollar-for-dollar deduction; it is not a rebate or a government payment.

More Information on the **Federal Solar Tax Credit** can be found here. [5]

Additionally, various states offer their own tax incentives, rebates, and grants, which can further reduce expenses. Local programs, such as net-metering, enable homeowners to earn credits for excess energy their solar systems generate, effectively lowering their electricity bills. By taking a little extra time to apply these incentives you can reduce the initial cost of your solar panel install. Be sure to talk with your solar consultant about what is available to you in your area and how they recommend you take advantage of this.

To find policies and incentives near you use the Database of State Incentives for Renewables & Efficiency which can be found here. [8]





TURNING ON YOUR SOLAR POWER

Once you have selected your solar installer and have agreed upon a design, products and goal date to install your solar system it is now in your installers hands to get the lights on with your new system.

The solar installation process should be a streamlined and hassle-free experience for you. Your experienced installer should handle all the necessary steps to get the permits and paperwork with the local authorities and be efficient at installing your system quickly. Here are the touch points you can expect:

Installation Process

- 1. Site assessment:** A solar professional will evaluate your roof's condition, orientation, and shading to determine the optimal system design.
- 2. System design:** Based on the assessment and your energy needs, a custom solar system will be designed for your home.
- 3. Permitting and Interconnection:** Your installer will handle the necessary permits and paperwork with local authorities, which usually takes two to six weeks.
- 4. Installation:** The actual installation typically takes 1-3 days, depending on the system size and complexity.
- 5. Inspection and activation:** After installation, local authorities will inspect the system. Once approved, your utility company will update your meter.

Most solar systems have monitoring apps which allow you to see if your system is meeting or exceeding your current energy consumption. Your solar provider should show you how to access and monitor the data from your system's power output.

LIVING WITH YOUR SOLAR POWER

Is solar safe?

Yes! All solar panels comply with international inspection and testing standards, and a qualified installer will ensure they are set up according to local building, fire, and electrical regulations.

Do I need a battery?

Batteries are not required to enjoy the benefits of solar but they can greatly enhance your energy consumption experience. A battery will store your excess electricity produced by your solar panels and on days where the sun is not shining as brightly instead of pulling power from the grid -which you would pay for- your system will use the power stored in your batteries first. Many people are drawn to batteries because they can provide power when power outages occur and they help reduce any draw on the utility company during the evening hours or stormy days when the sun isn't shining.

When will I see savings from my solar system?

The savings you can achieve with solar energy are influenced by several factors, including your electricity consumption, the size of your solar energy system, and the system's ability to generate power based on your roof's orientation and sunlight exposure.

Additionally, your savings will be affected by the electricity rates established by your utility and how much the utility pays you for any surplus solar energy you return to the grid.

Protecting your solar investment.

Modern solar panels are built to last, with most manufacturers offering 25-30 year warranties. Before agreeing to purchase a solar system go over the warranty and ask about secondary insurance, such as Solar Insure, which serves to further protect your investment in case of unforeseen manufacturer issues. With proper care, your system can continue producing clean energy for decades, and insurance guarantees that.



“My usual electric bill was \$45 in May, but after solar, my bill was \$7. I’m extremely pleased; it’s better than a 15% return on investment.”

- Malcolm S., Indiana

ADDITIONAL BENEFITS OF SOLAR POWER

Beyond the significant financial savings, solar power offers homeowners several other compelling advantages, especially in 2025.

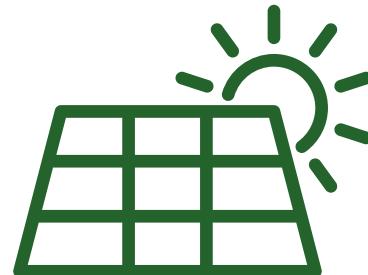


WHEN THE GRID GOES DOWN YOUR LIGHTS CAN STAY ON

Solar is the best way to ensure you have energy security. When natural disasters or system failures, your solar system keeps your lights on and essential appliances running if paired with a battery storage solution.

ENERGY INDEPENDENCE AND SUSTAINABILITY

By reducing your reliance on fossil fuels solar power helps you contribute positively to the environment. By generating your own power for your residence you do not need to purchase power derived from carbon emitting plants that power the grid thus promoting cleaner air quality and reducing demand for coal and natural gas.



RENEWABLE ENERGY INCREASES YOUR HOME'S WORTH

Using renewable energy can also increase your home's appeal and market value. According to Zillow in a 2024 study, homes with solar sell for 6.8% more than similar homes in the same neighborhoods with no solar. [9]

SOLAR POWER OFFERS HOMEOWNERS AN UNPRECEDENTED OPPORTUNITY TO TAKE CONTROL OF THEIR ENERGY COSTS WHILE CONTRIBUTING TO A SUSTAINABLE FUTURE.

By going solar, you're not just making a smart financial decision; you're investing in energy independence, increasing your home's value, and transforming your home to be an energy producer rather than an energy consumer.

Take the first step towards a cleaner, more affordable energy future:

1. Research reputable solar installers in your area.
2. Schedule a solar assessment for your home.
3. Review your customized solar proposal and potential savings.
4. Make an informed decision about going solar.

Remember, every day you wait is another day of missed savings, unnecessary carbon emissions and the abundant free energy of the sunshine going unused.

Don't let another year of high electricity bills and fossil fuel dependence pass you by.

Take the first step to creating a brighter tomorrow!





You Can Trust Icon Solar To Save You Thousands

In 2009, the founders of Icon Solar began delivering environmentally and economically-friendly energy to Ohio, Kentucky and Indiana. Our experts are committed to comprehensive customer service and are passionate about saving our customers' money.

Icon Solar is one of the largest residential installers in the TriState region and stands at the forefront of solar technology. Our team handles every detail of installation, from permit to grid hook-up, so you know you're working with the best solar partner.

“Everything from scheduling, installation, and post-install support has been fantastic. They have done an excellent job.”

- Theodore G., Ohio.

What Sets Icon Solar Apart

- **A Complete Turnkey Solution** - From start to finish and beyond Icon Solar works directly with you on your solar journey.
- **State of the Art Equipment** - High-quality product offerings at competitive prices.
- **Exclusive Warranty Options** - Protect your investment better with Icon Solar.
- **Expert Installation** - You won't find installers with more successful experience in the Ohio, Kentucky, or Indiana regions.
- **High Standard of Excellence** - We put in the extra effort to keep you informed, to stay on schedule and deliver a complete solar system you'll be excited to show off to your friends.
- **Integrity & Reliability** - We will continue to be loyal and provide excellent service after the sale.

Ready to start your solar savings journey?

THE ICON SOLAR TEAM IS READY TO HELP YOU!

Set an appointment today!

+513-369-7777
info@iconsolar.com
iconsolar.com



REFERENCES

[1] As of 2024, there were about 4.2 million single-family homes in the United States with solar panels, which is about 4.96% of all single-family homes.

<https://www.solarinsure.com/how-many-americans-have-solar-panels#:~:text=As%20of%202024%20the%20United,energy%20independence%20among%20American%20households>

[2] Solar Adoption is expected to increase significantly in the coming years, with projections of reaching 16.8 million homes by 2032.

<https://www.statista.com/statistics/1422486/residential-solar-penetration-share-forecast-united-states/#:~:text=Published%20by%20Luc%C3%A9Fern%C3%A1ndez%2C%20Jun,by%20solar%20in%20that%20year>

[3] The cost of electricity has increased from \$0.14 per kilowatt hour in 2019 to \$0.18 per kilowatt hour in 2024 — a change of more than 28.5%. The average American is now paying nearly \$300 a month just in utilities.

<https://www.cbsnews.com/news/electricity-prices-rising-inflation-climate-change-clean-energy/>

[4] The cost to purchase and install a solar panel system and batteries has dropped 90% in the past decade and the cost of solar equipment including the cost of batteries has come down 50% within the last 2 years:

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[5] Current information on the Federal Tax incentives or Solar.

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[6] 2024 Survey Reveals 89.6% of Residents Are Happy With Solar Panels On Their Homes. <https://www.forbes.com/home-improvement/solar/solar-survey-americans-happy-with-panels#:~:text=89.6%2525%2520of%2520Residents%2520Are%2520Satisfied%2520With%2520Their%2520Solar%2520Panels&text=This%2520number%2520is%2520encouraging%2520and,contemplating%2520switching%2520to%2520renewable%2520energy>

[7] Energy.gov's Smart Shopping Tips for Solar outlines a few ways to identify bad actors as you go solar.

<https://www.energy.gov/eere/solar/articles/smart-shopping-tips-solar>

[8] To find policies and incentives near you use the Database of State Incentives for Renewables & Efficiency: <https://www.dsireusa.org>

[9] According to Zillow in a 2024 study, homes with solar sell for 6.8% more than similar homes in the same neighborhoods with no solar.

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