

Our content is free because we may earn a commission when you click or make a purchase using our site.
[Learn more.](#)

Best Solar Energy Companies Based on In-Depth Reviews

Your how-to guide to choosing a solar energy system that helps reduce your electric bill and reduce your carbon footprint.

LAST UPDATED: OCTOBER 16, 2019

200+

Hours of
research

50+

Sources
used

27

Companies
vetted

4

Features
reviewed

5

Top
Picks

CONSUMER ADVOCACY

What you need to know

- Rebates and tax credits are available
- You can buy, finance, or rent a solar energy system
- Professional installers can ensure proper setup
- Roof type and location affect panel compatibility

OUR APPROACH

HOW WE ANALYZED THE BEST SOLAR ENERGY COMPANIES

PRODUCT OFFERINGS

We looked for companies with a variety of products -- solar panels at different price points, mounting equipment, and inverters. We gave preference to companies that also offered batteries.

CUSTOMER EXPERIENCE

We considered each company's customer service and their use of technology to assist consumers. We favored easy-to-use sites with customized quotes and mobile apps that monitor consumers' systems.

FINANCING OPTIONS

We preferred companies that give consumers a variety of financing options, including equipment leasing, financing, or financial agreements such as PPAs (power purchase agreements).

52 People found this helpful.

HELPFUL

NOT HELPFUL

OUR TOP PICKS: SOLAR ENERGY COMPANIES REVIEWS

ZENERNET REVIEW




Based in Overland Park, Kansas, Zenernet is a residential solar energy startup with a mission to "accelerate energy independence for all." Despite being a relative newcomer to the solar power industry, the company appears to be positioned for success, expecting to achieve \$4 million in revenue by the end of 2019.

The Zenernet Experience

installers.


Another of the company's main selling points is their advertised "no-pressure" consultations. While other providers may haggle over prices and employ high-pressure sales tactics to close on deals, Zenernet presents itself as merely offering detailed information about their products and services, allowing customers to make their own decisions regarding whether or not to go solar.

Prospective customers can schedule a consultation over the phone, customize their plans, and get a rate quote up-front, all commitment-free.




NO-PRESSURE CONSULTATION

Our solar consultation is centered on education – not just selling. We want to equip you with all the knowledge you need to make an informed decision on going solar.




UP-FRONT PRICING

We quote the best price we can offer, on every system, every time. This means we don't haggle on pricing, or run temporary, high-pressure deals.



TIER ONE HARDWARE

We use only the best solar panels and hardware available. Zenernet systems are built to perform, and look great doing it. We use sleek, black-on-black panels and take extra steps to build a system you can be proud to have on your roof.



BEST WARRANTIES AVAILABLE

Our warranties cover every aspect of your system and your roof for 25 years. With Zenernet, you can be confident that your system will perform as advertised, and your roof will be in good hands.

Screenshot Zenernet.com, August 5, 2019.

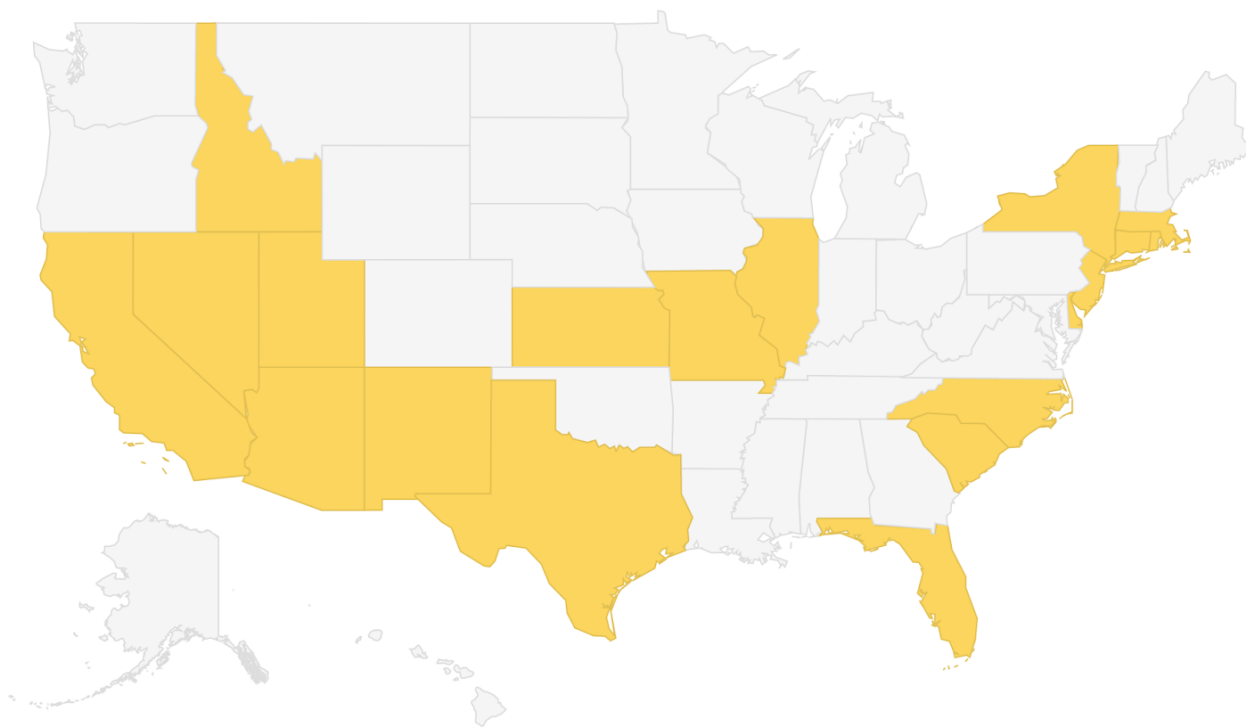
Products & Services

Besides their Tier One solar panels, Zenernet also sells Quick Mount PV mounting hardware that prevents leaks, along with what they call "the most efficient inverters on the market" from companies like Enphase and Solaredge.

In addition, the company offers 25-year warranties that cover both systems and components as well as any damage to the roof during the installation process. They have also partnered with Sense to include smart home monitoring technology with their installations. That means customers can monitor their electricity usage by device and appliance, and receive alerts every time a device or appliance is in use.

Zenernet highlights the benefits of owning a solar power system as opposed to leasing it, so they also extend financing options from several partners, including Sungage Financial, LoanPal, Mosaic, and Dividend.

Select your state to learn more about going solar with Zenernet.



Screenshot Zenernet.com, August 5, 2019.

Consumer Education

While they make accessing this information easier than other competitors, we feel Zenernet could do more to provide details about their products and services, and about the benefits of renewable energy.

Consumers interested in doing business with this company should also be aware that it only services 17 states, including Arizona, California, Connecticut, Delaware, Florida, Idaho, Illinois, Kansas, Massachusetts, Missouri, Nevada, New Jersey, New Mexico, New York, North Carolina, South Carolina, Rhode Island, Texas, and Utah.





[Read Full Review !\[\]\(0aff635c4179ba9e710b00f4b01d3b20_img.jpg\)](#)[VISIT SITE !\[\]\(830769b31eeeaca920791081939ff8ba_img.jpg\)](#)

SUNRUN REVIEW



Self-described as the #1 residential solar company in the US, SunRun services over 240,000 residential customers across 22 states, the District of Columbia, and Puerto Rico. Founded in 2007 by Edward Fenster and Lynn Jurich, SunRun is a pioneer in accessible residential solar energy by developing the first solar power purchase agreement (PPA).

fact, we'll customize your agreement based on your individual needs.

	Recommended			
				
	Monthly Lease	Full Amount Lease	Purchase System	Monthly Loan
	GET A QUOTE »	GET A QUOTE »	GET A QUOTE »	GET A QUOTE »
Summary	Lowest upfront cost	Pay more upfront and save more	Own your system	Own your system and finance it through a loan
System Ownership	Sunrun	Sunrun	Homeowner	Homeowner
Upfront Payment	\$0 to little down	Up to 25 years of energy cost	Full system cost	\$0 down
Monthly Payment	To Sunrun	✘	✘	To loan provider
Rate Increase Protection ¹	✓	✓	✓	✓
Workmanship Warranty	✓	✓	✓	✓
Full Service	✓	✓	With Protection Plus	With Protection Plus

Screenshot Sunrun.com, July 25, 2019.

Different Ways of Paying for Power

SunRun offers four distinct plans that cover different payment and ownership options:

For customers who wish to lease the equipment, SunRun offers their BrightSave Monthly (monthly lease) and BrightSave Prepaid (full amount lease) plans. For those who wish to purchase the system outright, there's BrightBuy (lump sum payment) and Bright Advantage (financing with monthly payments). SunRun also provides workmanship guarantees for all four plans.

BrightSave Monthly: Lease the full solar energy system at a predetermined monthly rate for as little as a \$0 upfront payment. Although SunRun retains ownership of the system (and therefore receives any applicable tax credits), they claim to roll the savings into “low, predictable monthly rates that buffer you from rising energy costs.”

The company provides installation (either directly by SunRun or one of its local partners), monitoring, and system maintenance, as well as roof insurance for up to 10 years. SunRun also takes care of all the required permits and paperwork.

However, you're not paying for the panels with this initial payment, but rather for the power generated by them. Per their website, "The amount you pay is based on a per kilowatt-hour rate for the electricity produced by your solar panels and is usually lower than what the local utility charges for electricity." To better understand the nuances of this type of agreement, customers should consult with one of SunRun's solar advisors.

BrightBuy: A payment for the full system cost means the homeowner buys the panels and related equipment and it's theirs to own. This requires the most upfront capital, but releases the owner from any monthly payments or complicated lease agreement. The plan includes installation and paperwork as well as workmanship, equipment, and roof warranties. For an additional amount, customers can hire SunRun to fulfill routine maintenance.

As the owner, any tax credit or incentive passes directly to you, which can help you save from the total amount paid (the current federal solar tax credit is for 30% of the solar panel cost).


Bright Advantage: This is another purchase option, made for those who don't have the available cash for a large upfront payment. SunRun partners with loan providers so that customers can pay for their equipment in fixed monthly amounts. Since it's still an ownership plan, customers can receive any tax breaks or rebates directly, thereby lowering the product's cost. Furthermore, owning a solar energy system adds value to a home and raises its equity, an attractive option for many homeowners.

These customizable options provide flexibility so shoppers can choose what best fits their needs, as there is no one-size-fits-all plan. Nonetheless, we encourage potential customers to compare the different options and read the fine print, particularly for leases, as this means entering into a contract that can extend up to 25 years and costs several thousands of dollars.




Equipment

SunRun is partnered with LG which offers its high-efficiency NeON2 panels as part of SunRun's product line. LG's panels can range between 18.4% to 21.7% efficiency rating, an above-average rating compared to other companies' panels.

available to new customers in Arizona, California, Florida, Hawaii, Massachusetts, New York, and Puerto Rico.



Sunrun partners with LG Chem to build out the Brightbox battery, bringing you premium home battery storage. Here's a Quick Rundown of the Battery:

-  Best-in-class Lithium-ion RESU Battery
-  Stores 9.3 kWh of usable energy & charges/discharges 5kW at maximum power
-  10-Year Warranty
-  Winner of the EES Award at Intersolar Europe

Screenshot Sunrun.com, July 30, 2019.

Free quote and appraisal

Figuring out if your home is suitable for a solar energy system is as simple as filling out SunRun's free online quote generator. Customers must provide their phone number and zip code, and agree to be contacted by the company.

In addition to the free quote, SunRun's Automated Site Modeling tool allows the company to design a residential solar energy system based on your roof's specific dimensions and layout. They take into account factors such as shade, sun exposure, pitch, and others to make sure the system works to the fullest.

Take Control of your Electricity. See if you Qualify now.

Now is the time to gain freedom from your utility and receive predictable rates for years to come.

There's a reason solar energy companies are so hot right now. Imagine locking in low electricity rates. Sounds pretty great, right? No wonder every six minutes someone installs a Sunrun solar energy system. That means hundreds of thousands of happy customers benefiting from clean energy and lifetime support. Together, we're creating a planet run by the sun. Now's the time to go solar!

Zip Code	First Name	Last Name
<input type="text"/>	<input type="text"/>	<input type="text"/>
Email	Phone	Electric Bill
<input type="text"/>	<input type="text" value="(555) 555-5555"/>	<input type="text" value="-Select Average Monthly Bill-"/>
<input type="checkbox"/> I'm interested in Brightbox Solar Battery Storage <input type="checkbox"/> I was referred to Sunrun by a friend or family member		

[REQUEST A FREE QUOTE](#)

Thanks for your interest in Sunrun! To help you go solar, we need your approval to contact you. By clicking above, you agree that Sunrun may call & text you about Sunrun products at the phone number you entered above, using pre-recorded messages or an autodialer, even if your number is on a "Do Not Call" list. Msg & data rates may apply to text messages. Consent for calls & texts is optional. You can opt out anytime.

Screenshot Sunrun.com, July 30, 2019.

Website and service area

SunRun's website includes a solar education section with articles, FAQs, and videos. They also manage a mobile app that monitors a home's energy production, storage, and use.

SunRun is available in the following states and territories: Arizona, California, Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Maryland, Massachusetts, Nevada, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont, Wisconsin, Washington DC, and Puerto Rico.

[Read Full Review](#)

[VISIT SITE](#)

VIVINT SOLAR REVIEW

Already an established home automation and security company, the Utah-based Vivint started its solar division in 2011 and now provides residential solar energy systems to customers across 23 states. Vivint Solar takes care of the materials, installation, and support needed to go solar over a five-step process: consultation, design, permitting services, installation, and activation.

The initial consultation is free of charge and determines how much you can save compared to your regular energy bill, and how much solar you'll need to meet your energy needs.

For the design, Vivint professionals conduct an on-site inspection to assess the roof's condition, its area, and how much sun it receives. The design team then uses that information to come up with a custom plan to fit your needs.

Meanwhile, you'll be assigned a "personal Customer Success Manager" that takes care of all the paperwork required for permits and construction.

Vivint also establishes on its website that the installation phase takes between four to eight hours. During this time, their installers will also explain how the system works and how to manage it.

Finally, the activation occurs when the system is finally connected with the larger energy grid, so you can either use energy when needed or, in certain types of agreements, sell the utility company the solar energy you produce.

see immediate monthly savings on your power bill	affordable monthly payment	and only pay for the power you produce	money down and get guaranteed† solar production
System Owner You	System Owner You	System Owner Vivint Solar	System Owner Vivint Solar
Purchase Details	Loan Details	PPA Details	Lease Details
<ul style="list-style-type: none"> ✓ No monthly payment to Vivint Solar ✓ Maintenance options available ✓ Product & workmanship warranty** ✓ Benefit from tax credits and incentives 	<ul style="list-style-type: none"> ✓ Low monthly payment to financing partner ✓ Maintenance options available ✓ Product & workmanship warranty** ✓ No upfront cost, benefit from tax credits and incentives 	<ul style="list-style-type: none"> ✓ Low monthly payment to Vivint Solar ✓ Maintenance included ✓ Product & workmanship warranty** ✓ No upfront cost, potential to save on your utility rate 	<ul style="list-style-type: none"> ✓ Low monthly payment to Vivint Solar ✓ Maintenance included ✓ Product & workmanship warranty** ✓ No upfront cost, potential to save on your utility rate

Screenshot Vivintsolar.com, July 30, 2019.

Solar Power Plans

Vivint offers four distinct solar energy plans that can adjust to each customer's particular needs, either through ownership, leasing, or PPAs.

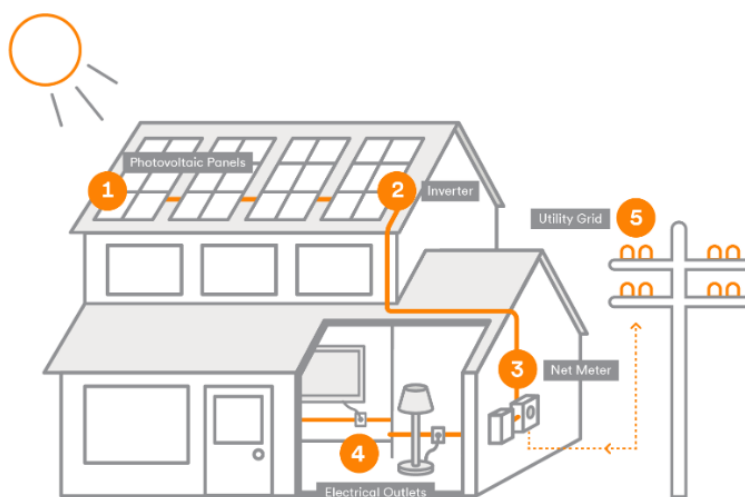
The Solar Purchase and Solar Loan options give full ownership of the panels and energy system to the customer. This means that they'll receive any tax benefits and incentives provided by federal or state governments. If the Solar Purchase option is out of reach because of its hefty upfront payment, customers should consider the Solar Loan alternative.

Both of these options require separate maintenance contracts, though they do have product and workmanship guarantees.

For those not ready to own, Vivint offers two choices in which they retain proprietary rights on the equipment, which includes full-service guarantees and maintenance. With the Solar PPA, the customer pays for the energy they produce with the newly installed system. Most solar energy companies advertise PPAs as a money-saving venture. While this may hold true in the abstract, it's not always the case. To avoid any type of confusion, it's wise to read through the agreement and settle any doubts regarding pricing before signing the contract.

It's important to mention that not all types of plans are available in all the states that Vivint services. Customers should refer to their website or speak to a representative to receive information regarding plan availability.

Solar panels produce power for you



Solar panels installed on your roof, or placed on mounts, can harness the sun's energy so your solar energy system's inverter can generate clean solar power in the form of watts that you can then use to power your home. Excess watts of energy are sent to your electric utility's power grid, and a net meter device installed in your home tracks how much energy you draw from and send to the grid. You can then receive energy credits for the solar panel energy you sent, and those save you money on your electric bill. You could even **store these excess watts in a home battery** to use later. Talk about a bright idea!

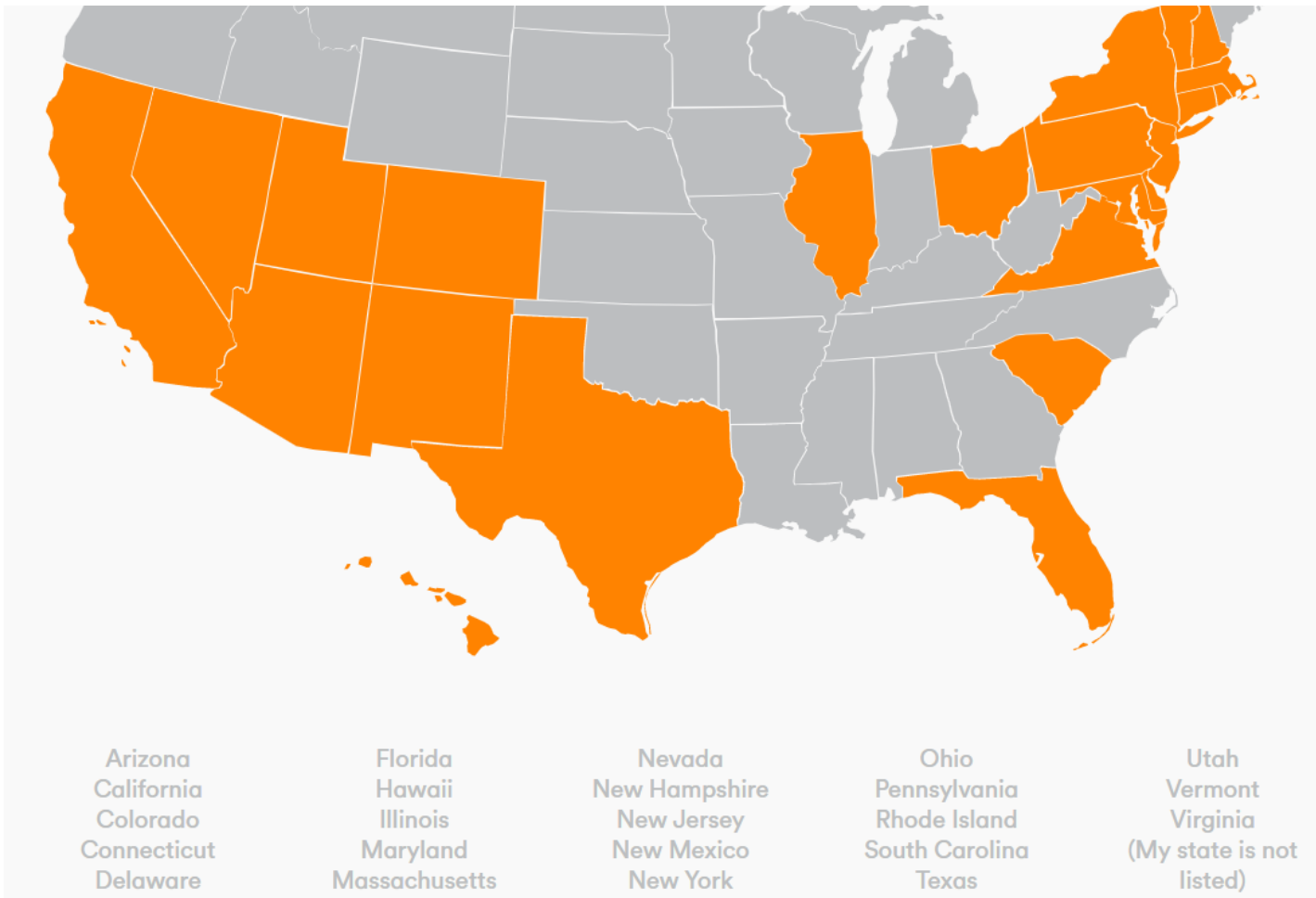
Not only that, but there are **different types of solar panels** that fit different types of budgets. There are polycrystalline panels for those looking to save money. Polycrystalline panels are the bluer solar cells that look like they have a shiny confetti in them. And there are monocrystalline panels for those willing to spend more for greater efficiency. These monocrystalline solar panels are the black panels that have the corners cut off their cells.

Screenshot Vivintsolar.com, July 30, 2019.

Vivint's Solar Panels and Battery

Generally speaking, there are three types of mass-produced solar panels available through a solar energy company: monocrystalline, polycrystalline, and thin film. Vivint Solar uses monocrystalline silicon **PERC solar panels**, a more efficient solar panel than the standard solar panels on the market and one of the newest types of panel technology.

As for energy storage, Vivint Solar offers the LG Chem RESU10H battery backed by a 10-year performance warranty. Its noiseless operation and compact design allow for its installation both outside or inside the home.



Screenshot Vivintsolar.com, July 30, 2019.

[Read Full Review](#) 

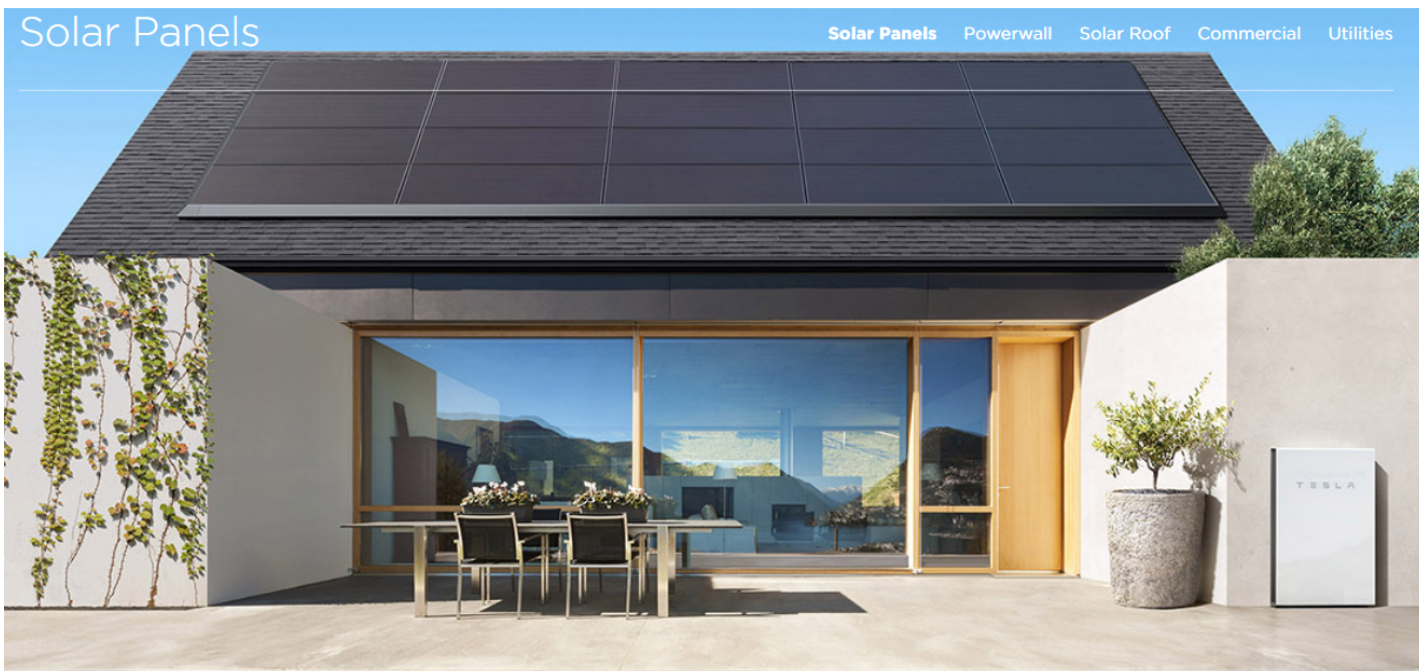
[VISIT SITE](#) 

TESLA REVIEW



The offspring of a 2016 merger between SolarCity and Tesla, Inc.'s solar panel division, Tesla combines its namesake's alternative energy innovation with SolarCity's extensive solar installation network. Although solar installations by the company have decreased during the last couple of years, the

SolarCity is now part of Tesla. If you are an existing customer you can [sign into your solar account](#) or contact us at 888.765.2489.



Solar Panels

Solar Panels Powerwall Solar Roof Commercial Utilities

ORDER NOW

Produce Your Own Clean Energy

Screenshot Tesla.com, August 6, 2019.

Proprietary Equipment

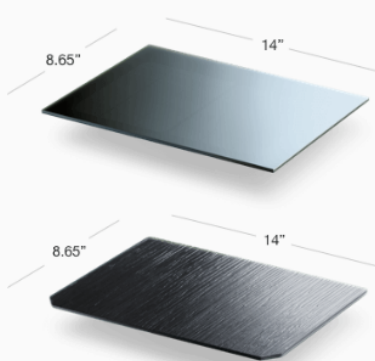
It's difficult to know if Tesla is currently producing its own solar panels. Their website states that they are constantly evaluating available panels that meet their standards and that their "engineers are designing systems using all-black, high-efficiency panels" that are 315 Watt and can withstand high temperatures with minimal degradation.

Tesla also advertises their [Solar Roof product](#), which aims to produce solar energy by employing a type of solar glass that looks just like normal roofing shingles. The product, however, is expected to cost significantly more than a regular solar panel system and information regarding its efficiency is hard to come by.

As far as the mounting equipment utilized, Tesla employs proprietary hardware that minimizes roof anchor points (30% fewer than traditional mounting, according to their website) and secures them closer to the structure, maintaining a low-profile.

This last fact underlines one of Tesla’s focused selling points: that their equipment looks sleek and cutting edge, and works hand in hand with other Tesla products, such as their PowerWall battery and electric vehicles. This makes it optimal for customers who are already participating in or want to integrate into the Tesla ecosystem.

Warranty and Specs



Tile warranty
Infinity, or the lifetime of your house, whichever comes first

Power warranty
30 years

Weatherization warranty
30 years

Roof Pitch
3:12 to vertical

Hail rating
Class 4 ANSI FM 4473 (best hail rating)

Wind rating
Class F ASTM D3161 (best wind rating)

Fire rating
Class A UL 790 (best fire rating)

RESERVE
REQUEST A CALL

Questions about [reserving a Solar Roof?](#)

Interested in learning about [traditional solar panels?](#)

Screenshot Tesla.com, August 6, 2019.

Financing Options for Going Solar with Tesla

Even though they do not offer a PPA option, Tesla provides three basic financing options: two for ownership (cash and loan) and one for leasing. Choosing which financing method works best for you, of course, depends on your financial health and your energy needs. As always, calculating the return on

system has been inspected. Tesla's website states that the average solar panel system with installation costs between \$10,000 and \$25,000.

Loans are obtained through a third-party lender that partners with Tesla. Customers go through the lending process as they would for a car loan or mortgage, with a credit check and financial requirements. Tax incentives and rebates can bring the price down for both of the purchase options.

For customers who wish to go solar but do not live in areas where incentives exist, it might be better to consider leasing the solar energy system. This way, you pay a fixed monthly fee with \$0 down.

Financing Options

There are three financing options available:

- **Cash:** Purchase your system outright and own your energy from day one.
- **Loan:** Finance your solar purchase through Tesla's financial partners and pay in monthly installments.
- **Lease:** Have Tesla own and install your system and benefit from low fixed monthly payments with no money upfront.

While cash and loan are the most common and financially advantageous choices, a lease may be a better fit if you would not benefit from a tax credit.

The best solar financing option for you depends on your goals:

	Cash	Loan	Lease
\$0 down	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
System Ownership	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Tax Incentives	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Monthly Cost	<input type="radio"/>	fixed	fixed

Screenshot Tesla.com, August 6, 2019.

In terms of warranties, Tesla's website states that a solar panel warranty "includes at least 12 years for workmanship and a guarantee of at least 80% nameplate power capacity after 25 years." The warranty for inverters comes from the manufacturer and covers any defect found for up to 10 years. Similarly, Tesla guarantees their installation practices for up to 20 years, and roof leaks for 10 years.

[Read Full Review !\[\]\(4f6bf54ae7e4144a72d78316053e412d_img.jpg\)](#)
[VISIT SITE !\[\]\(3342c215b2a8b663596a81468d5dc314_img.jpg\)](#)

SUNPOWER REVIEW

With over 30 years in the industry, SunPower bills itself as a leading global solar innovator. Unlike many other solar companies, SunPower manufactures its own panels, as well as provides installation services from certified dealers in states across the U.S. They've also been recognized on for their environmental and sustainability practices.



SunPower® A-Series

The world's first 400W residential solar panels

Set a record of your own with the world's first 400-watt residential solar panels, providing more power than ever before from fewer panels on your roof.

[EXPLORE SUNPOWER® A-SERIES SOLAR PANELS](#)

Screenshot us.sunpower.com, August 9, 2019.

Manufacturing Solar Panels

SunPower's A-Series home solar panels are billed as the highest-wattage home panels available at 400-watts, delivering up to 22.3% efficiency. They come with integrated microinverters that help increase energy production at the source. Aside from the A-Series, SunPower also offers diverse solar panel types (X-Series, E-Series, and P-Series), each with their own price points and characteristics for specific projects— the P-Series, for instance, is optimized for large commercial projects. Because of this variety, there are few other companies that can match SunPower's solar panel offerings.

The basic building block for these panels is the Maxeon solar cell, a patented cell designed with a copper back to “reinforce cell strength, resist corrosion and produce more electricity over time.”

Complete Systems

The SunPower Equinox is a complete rooftop home solar system that integrates all necessary components into a seamless unit. The company prides itself in its space-saving minimalist design that still maintains efficiency and high-grade energy production.

As for storage solutions, SunPower does not manufacture batteries and does not offer these as part of their solar energy systems. However, customers that wish to store any excess energy (for nighttime use or in the event of a blackout) can pair their SunPower systems with Sonnen and Tesla batteries.

Aside from the residential rooftop solar energy systems, SunPower provides products for commercial projects (SunPower Helix systems), home builders (SunPower Zero In) and power plants (SunPower Oasis).

Unlike most solar companies, we design, engineer and manufacture every system that bears the SunPower name. Feel great knowing you've chosen the most efficient and reliable solar backed by an industry-leading warranty.

60%
more energy*
for greater savings

#1
in durability*
for peace of mind

25 Year
industry-leading
complete system warranty*

SunPower® Equinox™ Home Solar

Screenshot us.sunpower.com, August 9, 2019.

Financing options

Sunpower's financing choices are inline with industry standards. They offer three options:

- **Purchase** - You buy the system outright by paying the total cost. You can keep any federal or state solar tax credits and incentives to lessen the system's cost.
- **Loan** - For those who can't put up large down payments, SunPower helps secure a loan with terms and conditions suitable for your situation.



..... ,
contract, particularly so with a lease.

Unlike other solar providers, however, they do not offer PPAs, which can limit some consumers' options.



Purchase

You own the system and the energy it produces.

- You purchase your SunPower® system directly.
- A home equity loan can be used and may be tax-deductible.
- You can keep any solar tax credits and/or state and local incentives for which you may be eligible.*
- Purchasing your SunPower system directly can maximize your savings. Over time, your system can pay for itself through your utility bill savings.*



Loan

You own your solar system, and pay for it with a loan.

- Various loan payment terms and conditions available (including optional full prepayment without penalty).
- You can keep any solar tax credits and/or state and local incentives for which you may be eligible.*
- For many customers, the combination of the loan payment and the remaining power bill is less than their previous electric bill.



Lease

SunPower owns the system on your roof.*

- You pay a monthly amount to "rent" the system and use the energy you produce
- For many customers, their lease and remaining utility bill are lower than their previous electric bill
- System production is guaranteed for 20 years. If something breaks, we'll fix it.*
- When you sell your home, you can assign the lease to the new homeowner, subject to credit approval. SunPower facilitates this process.

[GET A QUOTE](#)

Unlike most solar companies, we design, engineer and manufacture every system that bears the SunPower name. Feel great knowing you've chosen the most efficient and reliable solar backed by an industry-leading warranty.

60%
more energy*
for greater savings

#1
in durability*
for peace of mind

25 Year
industry-leading
complete system warranty*

SunPower® Equinox™ Home Solar

Screenshot us.sunpower.com, August 9, 2019.

Warranty and Customer Service

SunPower also offers a 25-year product warranty that includes servicing for the complete solar energy system, including removal of defective parts and installation of new ones, as well as shipping. Although many companies offer service and product warranties, SunPower combines everything into one

The company website includes substantive informational material including blog posts, videos, and articles. They offer free online quotes and even have a virtual chat assistant that can help you with any solar questions. The website also includes a solar calculator so you can estimate your energy usage and potential savings.

[Read Full Review !\[\]\(74d4806277d7e73349d8e8c0897931e9_img.jpg\)](#)[VISIT SITE !\[\]\(0aff635c4179ba9e710b00f4b01d3b20_img.jpg\)](#)

AGGREGATORS AND MARKETPLACES

Besides looking at individual companies that service your area, you can also visit aggregator or marketplace websites. By providing basic information like their zip code, customers are matched with multiple providers, whether material suppliers or installers. Using these websites allows customers to compare services and costs across national and local companies, as well as possibly save some time.

Nevertheless, it's important to research the individual companies and installers these websites match you with. It may seem like a lot of work, but comparison shopping is a worthwhile task, particularly if it means hundreds of dollars worth of savings.

Examples of aggregators and marketplaces include:

[EnergySage](#)

[Home Advisor](#)

[Solar America](#)

[Modernize](#)

[TopSolar](#)



OUR RESEARCH

When we started looking into solar companies, we focused our reviews on larger companies that service multiple states and territories. During the course of our research, however, we realized that there are a multitude of smaller local companies that can provide the same types of services, sometimes even at lower costs. A comprehensive survey of these would be next to impossible, but we cannot recommend enough that consumers take the time to research their local companies and compare their offers with those of nation-level enterprises to determine which will better serve their solar energy needs. Online marketplaces and aggregators can be a useful tool for this purpose.

PRODUCT OFFERINGS

Since not all panels are built the same, it's important to research the types of panels each company offers. Learn the difference between high- and low-efficiency panels, what each one is made of, and where they are produced. It can have an impact on the efficiency of your solar energy system.

High-efficiency panels more adequately convert sunshine into energy and are generally costlier than low-efficiency panels, but that's not the only factor customers should consider. The slope of a roof may require a certain type of panel to function properly, or a customer might prefer the look of thin film cells instead of high-efficiency panels. Whatever the case may be, it's always important to compare and gauge the dollars-per-watt cost.

Likewise, the types of energy storage products (batteries), inverters, and mounting racks that are needed to complete a solar energy system also come in various forms. It behooves the customer to discuss with their installer which equipment is used and for what purpose.

SERVICES OFFERED

Is installation included? Does the company guarantee its workmanship? Will the company provide maintenance over the life of the product? With a lease, it's a given that companies provide continuous maintenance, since the equipment still belongs to them. But when you buy, you might need to purchase additional maintenance plans so that the company provides routine check-ups and replaces damaged equipment. It will cost you extra but it's usually worth it. If not, you'd have to take care of the maintenance yourself, a heavy task for the uninitiated or for people who don't want to worry about monitoring their systems.

Companies that provide online quotes help customers save time by not having to set up an initial visit for an estimate. With some basic information, such as home address and monthly energy expenditures, along with satellite imagery that analyzes the size and slope of the roof to assess how many panels are

CUSTOMER EXPERIENCE

When evaluating the consumer experience, we looked at service features such as customer representative availability (phone, chat, email), whether or not the company has an app to monitor solar energy creation and consumption, and the functionality of their web page, including how much helpful information they provide (videos, blogs, manuals, how-tos).

FINANCING OPTIONS

A good solar energy company provides multiple financing options for leasing or owning. Although ownership is generally best, the large down payments or monthly loan installments (that come with additional interests) are an obstacle to many homeowners. In this sense, leases or power purchase agreements (PPAs) could be the only options available for customers who wish to go solar and are unable to make a large, upfront payment.

HELPFUL INFORMATION ABOUT SOLAR ENERGY

WHO IS SOLAR ENERGY GOOD FOR?

It's an ugly truth that the planet is [descending into a climate catastrophe](#). We find ourselves wondering what can be done to stave off or, at the very least, minimize drastic climate change. Unfortunately, sometimes it's out of our hands. But there are options we can take that, as consumers and citizens, make us feel involved and empowered.

Nowadays, it seems like everybody and their mother has gotten solar panels. What we once saw as a technology of the far-flung future is now all around us, delivering on the promise of a cleaner and more efficient energy grid. But is it accessible to everyone?

The short answer is yes, but circumstances and context determine its feasibility.

- Check your home's energy efficiency
- Investigate the potential solar energy you could generate
- Evaluate the different solar options available in your area
- Contact installers to obtain quotes and estimates
- Analyze the types of financing options, incentives, and tax breaks available
- Work directly with your installer and your local utility company

Truth be told, there has never been a better time for homeowners to install a rooftop solar energy system. Several large national companies offer installation services across many states with varied financing options, and each year more and more local companies pop up, offering the same types of services. Renewable energy sector [jobs are on the rise](#) across the country, and local and state incentives further stimulate the implementation of clean energy production.

However, there are still many states and utility companies that obstruct or prevent solar energy from gaining a foothold in their market. Because of this, homeowners in those locations may find it difficult to adopt renewable energy technology and don't receive financial stimulus to invest in a rooftop solar energy system.

Speaking on this, Warren Leon, Executive Director of the [Clean Energy States Alliance \(CESA\)](#), a national nonprofit coalition of public agencies and organizations, told us that determining who benefits from going solar will depend on their state and three variables:

- The electricity rates in their location. In areas where there are higher electricity rates, the more beneficial going solar will be
- The amount of sunlight received
- If the state or utility offers any special incentives or tax credits that make it attractive

With this in mind, to answer the initial question "Who is solar energy good for?" we focused on the following factors: geographical location, home condition, and available financial incentives.

does not mean that perpetually overcast cities, say London or Seattle, are bad for solar energy. In fact, because most solar panels on the market operate most effectively in moderate temperatures, cities like these are great candidates for solar energy systems.

A solar panel in Seattle may receive less sunshine than one in Phoenix, and that would mean that it produces a certain percent less energy. However, extremely high temperatures in Phoenix mean that the solar panel loses significant efficiency as well.

Science!

HOME CONDITIONS (ROOF/SHADE)

The first step before even considering rooftop solar is checking your roof's warranty or [homeowners insurance policy](#) to confirm if mounting the system is covered or if it will void any future claim.

To maximize their efficiency, solar panels are typically installed on south-facing roofs. However, this might not always be an option. In cases where roofs do not face south, installers use a variety of tools and systems to determine the best possible placement. Other roof characteristics (e.g., sturdiness and slant) are also determinant factors.

We interviewed Jason Carney, a [solar energy advocate](#) and owner of the [Tennessee-based company Energy Electives](#), who stated that, to assess whether the roof is viable for sustaining solar panels, consumers should first consult a professional roofer. Based on that assessment, and taking into consideration the age and condition of the roof, they discuss with the customer whether to go ahead with the project or wait until roof repairs have been made (if needed).

Carney says that they use "whatever the most convenient tool is [for the project]. Our initial look is a directional look [to see] how much south-facing the roof is. [We basically] do an audit of the roof." This could mean using equipment and applications to determine sun shading, such as [Google's Project Sunroof](#) or the [Suneye shade measurement tool](#), to get an idea what part of the roof is getting the most sunshine. An assessment of nearby trees and obstructions is also necessary.

Once the initial work is completed, the roof is determined to be compliant, and the optimal placement has been determined, installation can proceed.

whether to install rooftop solar are two other types of climates: the political and the economic.

Leon, from the Clean Energy States Alliance (CESA), told us: “Clean energy is in society's interest, in terms of reducing environmental damage and the threat of climate change, and it can also lead to good domestic local jobs.” He went on to say that “it’s in the interest of government at both the state and federal level to promote clean energy technologies, and to make it possible to implement them more rapidly to replace dirtier technologies.”

Among the many policies that can be implemented to incentivize solar energy production, Leon mentioned three in particular:

- [Renewable portfolio standards](#) that require energy suppliers to get a share of their energy from renewable sources (wind, solar, hydroelectric, etc.)
- [Net metering](#) so customers who produce excess energy using rooftop solar systems can get credit for that production.
- Programs for low- and moderate-income households, so as to ensure that all segments of society, not just the well-to-do, are benefiting from solar.

Although there is no federal mandate or goal for solar energy production and use, the Federal Solar credit has incentivized customers for more than 10 years. However, it’s local and state legislation that can have the biggest impact in moving consumers towards adopting solar energy systems. In this sense, tax breaks and credits are the most attractive options customers have.

Tyler Fitch, Southeast Regulatory Manager for [VoteSolar](#), a nonprofit organization that advocates for clean energy policies, emphasizes the importance of citizens conducting research and using resources that could help them go solar. Fitch mentions [DSIRE](#), the online solar incentive database from the North Carolina Clean Energy Technology Center, as well as contacting state energy offices. By seeking out this help, he says, consumers are setting themselves up for success.

ECONOMIC IMPACT: WILL SOLAR PANELS LOWER MY BILLS?

installing solar panels makes economic sense, you need to first do some studying.

CALCULATE THE PAYBACK PERIOD

Unless you have money to spare, it makes no financial sense to spend thousands of dollars on something that will not provide a benefit to you. **When you buy a house**, you're making an investment in your future as well as acquiring stability. But before proceeding with other types of big-ticket purchases like solar panels, you need to first consider how long it will take to recoup that investment. **That's the payback period**, and you should figure it out before agreeing to anything else.

In simple terms, the payback period is how much time it takes for the savings to match the costs. These vary by state, but **the range is between 6 and 12 years**.

You need to calculate the total cost for the system, the amount of energy you use, the cost of electricity in your area, the rebates and incentives (if applicable), and the solar production of your system.

Leon advises customers to "proceed carefully, get several bids from reputable installers, get recommendations from friends or others and really look at the numbers carefully." Looking at the numbers is the key part, because it will tell you the impact installing a solar energy system can have on your finances. "It can be a good or bad financial decision," he said, "it all has to do with the deal and analyzing it." This goes for your short- and long-term goals for the system.

CONSIDER EVERY OPTION

A solar installer can offer a variety of plans and agreements. It's up to you to decide which one best fits your financial and energy needs.

Loans

People who want to own their solar energy system but can't fork over \$10k+ in an instant (i.e. most of us), might find that financing is the best possible option. Although the monthly loan payments include interest, many solar companies are partnered with financing entities that provide fair rates.

Moreover, since the customer retains ownership of the system, they can take advantage of tax breaks and incentives to minimize the costs associated with going solar.

prohibitive for almost everybody. With solar prices currently much more accessible, and with the now readily available option of financing to own, leases have been overshadowed by other options.

There are occasions when leasing still works well for a customer, particularly for those who don't have the upfront cash to buy a system and who live in areas where financing isn't available. Homeowners who live in states with high electricity rates can also benefit by having a fixed monthly payment that will probably be lower than what they'd pay their utility company.

However, leases are usually long-term contracts for 20 or 25 years, and their major selling point, the purported savings, are sometimes based on debatable energy cost evaluations (that is, the installer leasing the system speculates that electricity prices will soar and advertises your savings based on that assumption, which may not happen).

At the end of the day, you shouldn't automatically dismiss leasing as an option, but if you decide to go with it, one thing's for sure: READ THE FINE PRINT.

Solar system DIY

It's tempting, we know. You've seen a dozen Youtube videos, you've read several online manuals, you even know somebody whose cousin set up a solar energy system in their house and now they live completely off the grid. It's a dream come true, man. But it's much tougher than it seems.

With experience from both sides of the installation process, Carney warns that "you always need a certain professional [because there are] so many skills needed...I would not encourage any homeowner [unless] they're a professional in electricity, roofing, or solar energy itself."

And even in these cases, Carney suggests seeking an installer's help. "Grab a book, get as knowledgeable as you can... then start talking with a professional and let them guide you." By doing this, even if you're hiring an installer, you have enough basic information to ask the correct questions and understand each step of the process.

While we don't want to dishearten anybody with the technical know-how and adequate training from giving DIY solar a shot, it's most certainly NOT for everybody. We would encourage those who want to attempt DIY to carefully consider the costs, workload, maintenance, and time needed to complete such a major project.

There are also many online resources that can help you decipher everything you would need and want to know about going solar, such as CESA's [Homeowner's Guide to Solar Financing](#) and their gallery of [solar consumer protection informative videos](#).

"We the people...exercise power, [we can] petition elected officials to make residential rooftop [accessible], it's a great time to get involved [and] express desire to have their own rooftop interconnected to the grid and advocate for incentives," said Carney. "Education is important [in] how we look at energy and who should benefit from it".

THE FEDERAL INVESTMENT TAX CREDIT (ITC)

The Federal Investment Tax Credit (ITC), also called the solar tax credit, has been hailed as "[one of the most successful clean energy policies in history](#)," according to the Solar Energy Industries Association (SEIA). It provides up to a 30% tax credit for the solar energy system's cost, applicable to residential and commercial properties. Customers can even roll the tax credit over to the following year if not used.

This tax credit, in place since 2005, has greatly impacted solar costs, driving down prices as more and more people go solar. Because of this, our experts agree that rooftop solar has passed a threshold and that its adoption will keep growing.

The ITC is set to decrease from 30% to 26% in 2020 and 22% in 2021 before disappearing in 2022. However, Fitch does not see the step down or eventual elimination of the ITC as a big shock on the industry or even an existential threat to rooftop solar. Leon echoes this sentiment by stating that "even though it's conceivable that there will be fewer [solar panel] installations in 2022, there will be ups and downs, and the industry will continue to grow."

Still, [lawmakers can find ways to extend](#) or come up with new federal solar incentives to stimulate growth in the industry, which is something worth keeping an eye on.

TIPS FOR MAKING YOUR HOME MORE ENERGY EFFICIENT

consume less electricity, for the benefit of your wallet and Mother Earth.

Energy-efficient light bulbs such as halogen, LEDs, and CFLs can drastically reduce the amount of energy consumption used for lighting. Although they might cost a bit more than regular light bulbs, the savings will add up quickly and, as a bonus, *they'll last up to 25 times longer* than regular incandescent bulbs.

Energy Star appliances are touted as “independently certified to save energy, save money and protect the climate.” That’s because saving energy in your day-to-day tasks (using the dishwasher, opening the fridge, drying your laundry) can make a huge difference when you add it all up.

Regulate the temperature in your home by fixing any problems with insulation, windows, or doors. A drafty room can make your heater work overtime and an unsealed window can let cool air from the A/C out. Sometimes something as simple as caulk can seal a leak and dramatically change the temperature control in a home.

Cut down on phantom load (devices consuming energy when not in use). Home entertainment systems, stereos, computers, and other electronics can continue using electricity if they’re plugged in, even when not turned on. By disconnecting these systems or using ‘smart strips’ or power regulators, you’ll discover just how much the standby power consumes in electricity.

Wash clothes in cold water. Among the many things you can do to save money while doing laundry, washing clothes in cold water instead of hot can make a major difference. Heating consumes the most electricity, and raising water’s temperature is no small task. Count the number of loads of laundry you wash in a month and then think about all the hot water you’re using. Consider using it only for when the types of clothes you’re washing demands it.

A SOLAR POWER PRIMER

When we talk about solar energy, we’re referring to the process of capturing sunlight using photovoltaic (PV) systems. Here are the basic components of a rooftop solar energy system.

SOLAR PANELS

This electricity is then converted into usable energy for your home.

There are three major types: monocrystalline, polycrystalline, and thin film.

Monocrystalline (monos) and polycrystalline (polys) panels are both made out of silicon. But whereas monos have cells composed of a single silicon crystal, polys are composed of several silicon crystals melted together. This difference in production makes monos more efficient in energy creation, but also makes them a bit more expensive than polys.

Thin film panels are another option that have grown in popularity by being the most inexpensive of the three options. At the same time, they're also the least efficient. Nevertheless, great advances in solar panel technology are continuing, with ever more efficient and cheaper alternatives arising.

When deciding which type of panel to use, calculate each one's cost versus what your energy needs and space limitations are. Less efficient panels are cheaper but you'll need more of them to generate a specific amount of energy.

INVERTERS

Solar panels alone can't produce the form of electricity we use in our everyday lives. Inverters turn the direct current (DC) electricity that photovoltaic cells produce into alternating current (AC) electricity that our home needs. As such, they are an indispensable part of the solar energy system.

Inverters, like solar panels, come in a variety of forms, with different functions for specific system needs. String inverters are the most common: the strings are connected to numerous panels and transfer the electricity for conversion. String inverters function only as well as the least productive panel.

Depending on the solar panels installed and the energy production from them, power optimizers can be added to each individual panel so that they improve the voltage and raise efficiency.

Similarly, microinverters are installed in each individual solar panel. These newer types of inverters, however, convert energy at the source and don't require attachment to a string inverter.

ENERGY STORAGE

Essentially just a fancy name for batteries, these parts store any excess energy produced by solar panels. Although not technically needed for a home that runs on solar, batteries help offset the need to receive energy from the grid during periods where solar production is diminished, such as at night or on overcast days. They also provide energy during blackouts.

The main types of batteries are either lead acid or lithium ion, though there are many other varieties on the market and the technology continues to evolve with each passing year.

NET METERING

Net metering is a solar incentive in which the utility company buys back any extra solar energy that a customer created but didn't use. The utility company then applies that credit to the next electricity bill.

Solar incentives of this sort are popular because they encourage homeowners who might be on the fence about purchasing solar energy systems to finally take the plunge. The initial investment costs can be offset by the additional credits generated by energy creation.

Critics of net metering, mainly utility companies, decry it as a lost revenue opportunity. However, the majority of U.S. states and territories have some sort of mandatory net metering rules already in place, to the benefit of consumers nationwide.

POWER PURCHASE AGREEMENTS (PPAS)

A solar power PPA is a financial agreement between a solar company and a customer, in which the company retains ownership of the system and the customer pays for the energy it produces. This type of agreement is similar to a lease but differs in what the customer pays.

In solar PPAs, just like in a lease, the company installs, maintains, and owns the solar energy system. However, instead of paying for the rights to use the system, the customer pays for the energy it produces. The energy cost is a set price of kWh, generally lower than energy costs from your utility.

systems and reap the rewards of tax breaks and incentives.

Nonetheless, as with leases, PPAs could still be a worthwhile option for those wishing to go solar but who don't have cash available for a large down payment, and live in areas where ownership loans are not available.

WHAT TO WATCH OUT FOR

SHOP AROUND - THREE IS A MAGIC NUMBER

Comparing prices among providers is a tried-and-true strategy that produces results, not only for solar energy systems but for most types of products and services. Companies typically offer similar types of financing options, products, and guarantees, but even the smallest difference between their offers can save you money.

As we've mentioned, aggregator websites and online marketplaces can assist in this task by matching you with installers, whether they're large companies that serve multiple states or local ones that only serve your immediate area.

BIGGER IS NOT ALWAYS BETTER

It might seem logical that larger companies would offer lower prices, due to their increased production and reduced costs. This, however, does not generally hold true for solar energy systems.

Surprisingly, according to a [2017 report from the National Renewable Energy Laboratory \(NREL\)](#), larger companies charge higher prices for solar energy systems and installations than smaller, local companies.

Additionally, some national companies have come under fire for deceptive business practices. The Puerto Rico Energy Bureau, for one, found that [one company committed consumer's rights violations in the U.S. territory](#).

Likewise, [solar company bankruptcies have caused confusion](#) among customers and solar leases have raised concerns because of their [dubious claims regarding savings on energy bills](#).

companies are better for a particular type of installation depending on the size [of the project], the financing [method], and the location.”

ASK QUESTIONS AND LISTEN TO YOUR INSTALLER

What makes for a good installer then? The obvious answer would be a company that offers the best products and services at the best prices. But it goes deeper than that.

Speaking as a customer, Carney said that “when someone almost sounds like they’re discouraging you [from going solar], those are the best professionals...because they’re really more concerned about your satisfaction and safety [and it’s more important] than making a deal or making a sale.”

Having forthright conversations are key to a mutually beneficial partnership and the customer can only have this if they ask questions and seek out advice from multiple professionals. Carney also told us that when installers openly and honestly discuss long-term plans and possible pitfalls, that’s when customers should feel at ease, because they’re prepared for future situations where there aren’t going to be any gotcha moments.

This applies not only to the installation process, but for long-term contracts such as leases and PPAs.

ROOFS MATTER

Aside from the energy system as such, the most important part of rooftop solar is, well, the roof. The roof supports the mounting gear which in turn supports the solar panels that generate electricity. A large enough solar energy system can weigh hundreds of pounds. Even spread across a larger area, a roof that’s not in good shape won’t be able to bear the system’s load.

Generally speaking, **wooden roofs are built to last around 30 years**. Solar panels, on the other hand, are usually expected to remain in place for at least 20 or 25 years.

If you have any doubt whether your roof can support solar, you should contact a professional roofer to inspect the viability of the roof. If the roof is more than 15 years old, you should consider postponing rooftop solar until you’ve redone the roof or you’ve consulted a professional. Installing solar panels

FAQS ABOUT SOLAR ENERGY COMPANIES

What is community solar?

A growing trend in solar energy production and consumption is community solar. Instead of each individual maintaining a solar energy system in their home, community solar aims to set up a shared system where multiple participants can utilize the energy created. It can be especially advantageous for communities with limited resources or for tenants who do not own their homes. As Leon puts it “community solar is on the rise as more and more states are allowing it... [it has] good potential to serve the needs of low-income households but depends on how the program is set up.” It’s not just important to have community solar accessible to residents, it’s also “important to make sure there are consumer protection measures. Can a low-income household get out of their contract or are they locked down for many years?” In Fitch’s experience, “wherever there is already a project going it's easier [to continue the work]. If there's not a community solar project, we’re seeing that customers are interested in solar playing a role.” Fitch suggests that people interested in solar but who don’t have the means to go it alone should talk to neighbors, building owners, and managers. The experience in solar unites neighbors and communities. If this is something that interests you, helpful resources can be found at energy.gov, seia.org, and energysage.com.

How do I know what batteries my company uses?

First off, not all solar companies offer batteries, only inverters (which do not store energy), so you should ask your installer if you can buy a battery from another company and use it with your system. The companies that do use batteries will normally make direct reference to manufacturers such as LG, though some of them will not be so open and you will have to do further research. Other companies, like Tesla, market themselves as manufacturers, but in reality they work together with long-time

What are the best battery and panel manufacturing companies?

Although this will depend greatly on the use of the batteries and the location of your home, there are some reputable companies that manufacture high-quality panels and batteries. These include LG, Panasonic, Solaria, and Canadian Solar, whereas other companies manufacture their own panels, like SunPower and maybe Tesla (as we said, it's difficult to know).

WHO WE ARE

[About Us](#)

[Contact](#)

[Careers](#)

[Feature Articles](#)

[The Advocacy Blog](#)

[Privacy Policy](#)

[Terms & Conditions](#)

[Sitemap](#)

POPULAR CATEGORIES

[Car Insurance](#)

[Home Security](#)

[Home Warranties](#)

[Life Insurance](#)

[Medical Alerts](#)

[Mortgage Rates](#)

[Mortgage Refinance](#)

[Personal Loans](#)

[Pet Insurance](#)

[Reverse Mortgages](#)

[Tax Relief](#)



Physical address:

Ad Practitioners, LLC
Lots 81-82 Street C
Dorado, PR 00646

Mailing address:

Ad Practitioners, LLC
Metro Office Park 7 calle 1 Suite 204
Guaynabo, PR 00968



2019 © All Rights Reserved