



Frequently Asked Questions (FAQ's)

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Popular Solar Questions

Q: Why is Buying Solar Panels Based on **Price Per Watt** the Incorrect Way to Shop for Solar?

A: Years ago we bought light bulbs based on watts. But today, with LED lights, we all know it's not the "watts" that matters, it is the light (which is measured in "lumens") that matters. The same is true for solar panels. A poorly made 300 watt solar panel, may have the same "peak performance" as a tier one 300 watt solar panel, but what matters is how many **kWh that panel produces** - not just peak watts. The tier one 300 watt panel may produce thousands more kWhs than the cheaply made panel.



Q: Isn't Solar Expensive?

A: No. No matter your income, we offer several ZERO Down Solar Programs that can fit your budget. These options include our popular \$0 down lease (no install costs and no equipment costs) and our \$0 Down finance program. So, no matter your budget, switching to solar can be as cost-free and painless as switching your cable provider. Contact us to learn more about our No Money Down options.

Q: Will the Solar Panels Affect My Roof?

A: Absolutely! Solar acts like an umbrella, extending the life of your roof. No more direct rain, snow and most importantly, sun. Sunrays are the most damaging element to a roof (ever seen those cracked and curled shingles?). Putting solar panels on your roof is like placing a protective shield on it.

Q: Do We Get Enough Sun to Make Solar Worth it? (After All, this is New England)

A: Yes. We get plenty of sun in Massachusetts. In fact, many homes and businesses get as much as 50%, 75% and even 100% of their power from their solar panels. With our high efficiency panels, customers can get more power than a conventional panel. However, even if you have only one solar panel on your roof, you will save money; two panels will double your savings, and so on. Did you know Germany has the most solar panels installed in the world (they produce a TON of solar electricity)? And most of those installations are further north than Boston. Also, the great thing about solar power is that you are always connected to the grid. That means you will always have enough power.

Q: Will Solar Affect the Value of my Home?

A: Yes! According to a nine year study by the Lawrence Berkeley National Laboratory and the National Realtors Association, homes with solar sell faster and for more money (about \$17,000 on average) than their respective neighbors. Also, in MA, there is a neat law that prevents solar from increasing your property tax.

Q: What Do I Have to Do to Go Solar?

A: We make it simple to go solar with our Turnkey and Worry-Free process. We handle the design, construction, permitting, paperwork and inspections. One day you will come home, look up, see panels on your roof and say, "That was easy – I didn't have to do a thing!"



Q: What about the Maintenance Costs?

A: All SunPower systems are covered by the industry best 25/25/25 warranty. That includes all system repair and maintenance pertaining to the function of your solar system. Basically, we take care of everything for you.

Q: How does a Home or Property Qualify for Solar?

A: Good southern orientation, limited shading, roof pitch and enough available roof space are the criteria used to qualify a property for solar. Excitingly, with advancements in technology, we can put solar panels on more roofs than ever – so don't prequalify yourself, **give us a call** and let us determine if your roof is good for solar – we are the professionals.

A: Does the Solar Panel Matter?

Q: Yes! You want to use a high-quality product with a WARRANTY you can TRUST! We use tier one solar panels like SunPower panels - the world's most efficient solar panel, with the best industry warranty. Read more on SunPower panels below.

Please ask us about the [3 Most Common Panels](#) that we suggest you **AVOID AT ALL COSTS!** It's surprising how often these are used. We tell you upfront which products are good and which to avoid. That way, if someone tells you they use any of these **blacklisted products** – buyer beware!

Financial Questions (Solar Incentives, ROI, Financing & Leasing)

Q: ROI? What is the Typical Payback Period if I Purchase the Solar Panels?

A: A solar system typically pays for itself in about **five to eight years**, depending on your home's solar access and the available solar incentives with your utility/town. Solar panels literally pay for themselves due to the lucrative solar incentives in Massachusetts.



Q: What Solar Incentives are Available if I Own the Panels?

A: When you own your solar system, you are eligible for the following solar incentives:

- 30% Federal Tax Credit (30% of Total Installed System Cost)
- \$1,000 MA State Tax Credit
- \$1,000 - \$2,500 SREC's annually: (actual amounts are based on your system size and production)
- \$500 - \$1,500 Annual Utility Savings: based on your utility rate, solar system size and production.

Q: How do I get the Solar Incentives?

A: **You must own the solar panels** in order to get certain solar incentives. This includes financing programs. At Rayah Solar, we offer several programs that allow you to take advantage of the solar incentives without any upfront costs. Please note, if you choose to lease the panels you do not get these incentives.

Q: What are my Payment Options?

A: Just like going into a car dealership, you can go solar by paying cash, financing or leasing. The latter two options require \$0 money down prior to installation. Once installed, rather than buying your electricity from the utility, you are getting it right from your roof. If you lease, you will pay a reduced rate for the electricity you are already using. If you purchase the panels, you get to enjoy all the lucrative solar incentives.

Q: How Much Will I Save?

A: It depends. Savings really depend on many factors. Firstly, they depend on whether you buy the panels, finance them or lease. Then a variety of site factors will influence your savings, such as your home's orientation to south, shading and even the pitch of your roof. What we like to tell people is that if you put just one solar panel on your roof, **You Will SAVE MONEY**. If we put two panels on your roof, that's **double the savings**, and so on... We do a custom design on each property, so contact us today to find out your roof's savings potential.



Q: How Can a Solar Lease be Offered for Little or \$0 down?

A: Essentially, the leasing company becomes your solar electric company. They install their equipment (the solar panels) at no cost to you and **you buy your electricity** from them **at a reduced rate**. The solar leasor becomes your new cleaner and cheaper electric company. They own the system on your roof and receive some of the solar incentives. They are happy to have a new customer and you are happy to be **SAVING MONEY!**



Q: What if I Move?

A: Lease Customer: Each solar lease has different terms if you move, but they are all about the same. Most leases state that the system will transfer over to the new homeowner, however, some lessors require the new homeowner to pass a credit test. However, if someone has good enough credit to buy your house, they will likely qualify for the lease.

A: Purchase Customer: The new homeowner gets a house with free power. You can increase your selling price proportionally to the amount of power saved. Depending on your system size, your home value could increase between \$10,000 to \$30,000.

Q: What happens at the end of the Lease term?

A: At the end of the agreement, generally 20 or 25 years, you'll typically have 3 choices. 1) the panels will be removed at no cost to you, 2) You can purchase them at a mutually agreed upon price, 3) You can extend the life of the agreement.

Q: Will the Solar System Cause My Property Taxes to Increase?

A: No. There is a nifty MA law that says your municipality cannot increase your property taxes because of the solar panels for 20 years. You will still obviously continue to pay property taxes, but they will not go up because of the solar panels.

SunPower Questions

Q: What does it mean that the **SunPower Equinox** is the “World’s First Comprehensive System”?

A: The “SunPower Equinox” is the first solar system engineered and manufactured by the same company - that includes the solar panels, inverters, racking and monitoring. SunPower had the Equinox system tested, approved and listed as one system by the Underwriters Laboratory (UL). All other solar systems will have panels, inverters and racking all made by different companies and listed under separate UL Listings. The Equinox is literally designed to work together, from your rooftop to light switch.

Q: What is the Difference Between the SunPower 25/25/25 Warranty, and a Typical 25-year Solar Panel Warranty?

A: Other solar companies say they have a 25-year panel warranty, but that warranty only covers production. If you have an equipment issue, it's usually only covered for 10 years. And if there is any



issue, the labor is not included. Who is going to pay for that? SunPower is the only solar company to cover all three areas: Performance, Equipment and Labor for 25 years.

Q: Why does Rayah Solar use SunPower Panels?

A: After years of market research, solar installations and product tests, we have decided to use SunPower systems for our residential solar installations. SunPower stands in a class of its own - judge for yourself. **SunPower Facts:**

- US-Based Company
- Established in 1984; the only solar company to outlive its 25 year warranty
- Publicly Traded
- Best Warranty: 25 years on Performance, Product and Labor
- Warranty Security: Majority Owned by Total (the 11th largest company in the world)
- Most efficient solar panels
- Most reliable solar panels
- Best looking solar panels

Q: What Else Makes SunPower Stand Out From the Crowd?

A: SunPower is a technology-heavy US-based solar manufacturer with more installations than any other solar company in America. Let's list just a few other reasons why the SunPower company stands atop the pack:

- Over 8 million panels installed, on over 100,000 installations
- Over 5,500 US employees (largest solar manufacturer employer in the US)
- Technology Driven: Over 450 Patents
- Solid Financially: Profitable solar manufacturer
- The Choice for companies like: Apple, Walmart, Toyota, Johnson & Johnson, Fedex, and many more.



Q: SunPower has the world's most efficient solar panels, but does that mean more savings?

A: Yes, but... let us explain. Imagine having a race car that could break the world speed record, but afterwards broke down. In that case, the faster speeds would only produce short-term benefits. Also, the benefits could easily be overshadowed by the cost to get the car running again. SunPower panels not only give you more power in the short-term, but also on a long-term basis. With their patented Maxeon cell technology, SunPower panels produce more power over longer periods of time than a conventional panel.

Q: Why do SunPower Panels “Look Better” Than Other Panels?

A: SunPower panels are made with backplate technology. Other panels have metal wires screen pressed or printed on the front of their panels. Those are the “ugly” lines you see across the solar cells. SunPower panels have no wires on the front of their panels and use the highest grade silicon. That means they are sleek and black. Other manufacturers use lower quality silicon, giving the panels a quilted appearance, rather than one consistent color.

Q: What is Maxeon Cell Technology?

A: Based on third party testing, Maxeon cells are the most efficient and durable solar cells in the industry. SunPower technology includes 450 industry patents and the best solar research and development facility in the world. Maxeon Cell technology is the patented SunPower cell.

Q: Are SunPower Panels Really the Most Efficient Solar Panels on Earth?

A: Yes, and they have been for a long time. Currently, SunPower holds the World Record for the 1st, 2nd and 3rd most efficient solar panels. With over 450 patents, there is no commercially available solar technology that comes close to their panel's efficiency. In fact, their panels are about 20% more efficient than conventional solar panels.

Q: I've Heard the Same Size KW SunPower System Will Produce More Power Than a Typical Solar Panel. Is That True?

A: Yes. In third party tests, SunPower panels produced about 21% more power per watt than a conventional solar panel.



Q: Why do SunPower Panels Maintain Their High Efficiency Longer Than Other Solar Panels?

A: SunPower panels degrade much slower than a typical panel. This is due, in fact, to the patented Maxeon cell construction. More Durable = More Power! That means 10 or 15 years from now, when other panels have dramatically reduced their power output, the SunPower panel will still be producing power at nearly the same rate as when you first bought it. Hence, more long term savings!

Q: Is it True You Can Use Less Roof Space with a SunPower Panel?

A: Yes. Because SunPower panels are more efficient, you can use less roof area to produce the same power than other panels. This is great - with fewer SunPower panels you can install the same size system as a conventional system, and have room to expand in the future. Or if you want more power now, you have the space.

Q: How Do We Really Know that SunPower Panels are the Most Durable and Reliable Panels on Earth?

A: That's easy - third party testing data. Government and nongovernment regulatory and testing agencies have run hundreds of tests on all leading solar panels. SunPower has consistently ranked as the leading performing solar panel in these tests.

Q: What do SunPower's 450 patents mean to me as a consumer?

A: The plethora of patents that Sunpower owns correspond to different panel features, designed to save you money. For example, the robust Maxeon solar cell technology comes with a full copper back sheet. This makes it better suited in four season climate regions with harsh weather environments. This technology also gives the SunPower panel an expected 40-year lifespan. A longer life means slower solar cell degradation, which means with SunPower, over time you will have more power and more savings.

Q: Why Do SunPower Systems Look like they are Floating on the Roof?

A: A SunPower system will appear to "float" on your roof with SunPower's exclusive Invisimount racking system. This patented racking has no visible clips, rails or wiring. SunPower cares a lot about the aesthetics of your home, and this system is designed to give your home the most beautiful solar system possible.



Technology Questions

Q: Why is it That Solar Panels with the Same Watt Ratings Can Produce Different Amounts of Power?

A: The KW rating on a solar panel is only a measure of maximum power output of that solar panel under ideal conditions. However, it is not a measure of how much power that solar panel will produce over time, that is measured in kilowatt hours. Think of it like this, years ago we bought light bulbs based on watts. But today, with LED lights, we all know it's not the "watts" that matter, but the light, which is measured in "lumens." The same is true for solar panels. A poorly made 300 watt solar panel, may have the same "peak performance" as a tier one 300 watt solar panel, but its ability to achieve and maintain those 300 watts over time makes all the difference.

Q: What are the Three Major Equipment Components of a Solar Installation?

A: The solar panel, the inverter and the racking. Usually, all three components are made by different manufacturers and our designers determine which combination of panels, inverters and racking would work best for your unique home. The only exception to this is with the SunPower Equinox, where SunPower manufactures all three components, and has one comprehensive warranty.

Q: What are the Common Technological Differences Between Solar Panels?

A: The major difference in solar panels include silicon type, solar cell construction, front plate and backplate technology, panel efficiency, panel wattage, panel durability, frame type, frame color, and backsheet color. The following is a brief breakdown of each.

- **Silicon Type:** The two common types of silicon manufacturing in solar are monocrystalline (mono) and polycrystalline (poly). Monocrystalline usually has a more consistent and dark blue look, while poly usually looks like hundreds of variations of blue. Mono is also more durable than poly. Typically, most residential installation are done with mono, and commercial done with poly. This is especially true on utility scale jobs. However, there is a growing industry trend to use mono on commercial and even some utility scale jobs. Years ago, polycrystalline was a lot cheaper than monocrystalline, but with prices very similar these days, it's hard to justify the use of polycrystalline.
- **Solar Cell Construction:** When electricity is produced from the sun, most solar panels use a screen-pressed thin metal line as conductors for that electricity to travel. The connection points between cells is one of the most common reasons for efficiency loss. Different manufacturers deploy varying techniques to complete this process. *Exception - SunPower's



Maxeon cells does this differently, utilizing a full copper backplate with triplicate expansion joints between cells.

- **Front Plate vs. Backplate Technology:** Most solar panels use front plate technology with metal lines on top of the active solar surface. SunPower and LG (just LG R-Series) offer backplate technology, which means the metal conductors are on the back of the active solar surface. That means no shading from those metal conductors, increasing cell efficiency. It also gives the panels a sleeker cohesive look.
- **Panel Efficiency:** The most efficient solar panels in the world are converting light between 20% to 25%. Less efficient panels produce between 15%-19%.
- **Panel Wattage:** Panels are rated by wattage, but power production is not the same thing as panel watts. For example, Silfab and SunPower may both offer a 360 watt panel, but the Silfab panel is about 2 feet longer (in physical size) in order to reach the same power output as the SunPower panel.
- **Panel Durability:** All manufacturers publish their degradation rates. These range from .15% to as low as .025%. We try to use panels with a UL Listed degradation rate of less than .05%. That means that your solar panel will continue to produce its published power amounts for years to come with very slow efficiency losses.
- **Frame Type:** There are two common frame types for panels; framed and frameless. Most brands on the market today come with frames.
- **Frame Color:** Solar panel frames are usually either silver or anodized black. On residential solar systems, most east coast companies sell all black frames. Interestingly enough, silver frames are more common in California and out west.
- **Backsheet Color:** Panels typically come with a white or black backsheet. There are benefits for both. Black backsheets give the solar panel a uniform all black look. This is particularly popular for people that want solar panels on the front of their home. White backsheets actually add a slight efficiency boost, as the white backsheet is reflective. Since the cost/watt is usually the same from black to white, this question comes down to your personal preference of aesthetics vs. a slight efficiency boost.

*Another interesting fact is panel defect rate. Unfortunately, few manufacturers actually publish their defect rates with the exception of **SunPower, with a published defect rate of 21 in 1 Million, a rate of of .000000021%.**



Q: What is a Solar Inverter?

A: A solar inverter converts solar power from direct current (DC) electricity produced by the solar panels to alternating current (AC), which is what powers your home.

Q: Does it Matter What Type of Inverter I Use? And What's the Difference?

A: Yes, it matters. There are three types of inverters; 1) String Inverters 2) Microinverters 3) Hybrid String inverters with Optimizers. Here's a breakdown:

- **String Inverter:** Remember on old Christmas tree lights, if you lost one bulb, you lost the entire string? That is how a string inverter works. A small bird dropping could knock out half your solar system. This is because a string of 10 solar panels will produce power at its lowest common denominator. So if one panel is covered with snow, tree shading or even a passing cloud, the entire string will operate at the diminished level.
- **Microinverter:** These clever devices are installed directly behind each solar panel. That means each panel operates independently, so issues of shading on one panel will not affect the other solar panels in the array. You may hear about AC Modules, which are solar panels with built-in micro inverters. Several manufactures such as LG and SunPower now offer AC solar panels.
- **Hybrid String Inverters with Optimizers:** These are a cross between a string inverter and a microinverter. Each panel has a power optimizer, which means shading on one panel will not affect the other panels (similar to microinverters). The power on the roof is still direct current (DC) and the inverter converts it to alternating current (AC).

Q: What are the Common Technological Differences Between Racking Manufacturers?

A: Racking is meant to secure the solar panels to your home for twenty years. They are meant to be waterproof, windproof and rustproof. Most of the major brands will perform these functions adequately. One very important racking consideration is heat and air flow. Ideally, you want your panels a minimum of 4 inches from the roof with space between the panels. Additionally, you may want to ask your solar professional if your system was designed for maximum convection airflow. Systems with a panel skirt may dramatically reduce airflow and conversely lower your solar panels efficiency.



Q: Why Do Solar Panels Produce Less Power On a Hot Day?

A: Contrary to popular belief, PV solar panels produce power from light, not heat. In fact, heat is the enemy. Ask any electrical contractor and they will tell you about “resistance.” For the layperson, the hotter it gets, the less efficient electricity becomes. So with all other factors the same, a solar panel on a 40 degree day will produce a lot more power than on a 80 degree day.

Q: Does electrical pipe have to be exposed on my house?

A: It depends. You may have seen some really ugly solar installations with silver metal conduit littering the rooftop, but that is not always necessary. At Rayah Solar, we go to great lengths to hide and/or minimize exposed pipe and junction boxes on the roof. With some DC systems it may be possible to run the metal conduit within your attic, but that is not always possible. With an AC microinverter system, we can run wire through the attic, and if there is a chase, all the way down to your main service electric panel. We have many installations with no exposed rooftop pipes!

Q: What is the Difference Between KW DC, KW AC and kWh?

A: In solar, you will see all sorts of regulatory requirements, solar proposals and design specifications using the terms KW DC, KW AC and kWh. Each of these are different. Here is a brief overview:

- **KW DC:** This is the simplest one, and directly refers to the watt rating of the solar panel times the number of solar panels. For example, twenty 300 Watt solar panels would be $20 \times 300 = 6,000$ watts, or 6.0 KW DC.
- **KW AC:** This refers to the inverter rating of your solar system. In other words, at any point in time, how much AC power can that inverter produce.
- **kWh:** Kilowatt Hours (kWh), is a measure of electricity over time. For example, a 6 KW DC solar system might produce 20 kWh of electricity in a day.



Q: How Often Does Solar Technology Change and How Should that Affect My Decision to Go Solar?

A: Solar technology changes incrementally. For example, last year, the most efficient residential solar panel in the world was the SunPower's X-Series panel that peaked at 360 watts. This year, that same panels peaks at 370 watts. There are always stories about some technological breakthrough, but they are almost always theoretical or in a laboratory or simply preventively expensive. At the current rate of technological change, your solar system will likely pay for itself before that new technology even finishes testing, let alone hits the open market. If that changes, we at Rayah Solar hope to be the first to offer you any new and tested technologies, but for now, solar is the most readily available and cost effective solution for your power needs.

Comparing Solar Options

Q: Is it Better to go Solar Now or Later?

A: Now. You may expect this answer from a solar provider, but it is the truth. Solar incentives are going down (with scheduled decreases Federally and from the State) and equipment prices are starting to rise. It is definitely better to go solar now rather than later. When you sign up for solar it is like a snapshot in time, so you get to take advantage of the current incentives.

Q: Is it Better to Lease or Own?

A: This really comes down to a matter of preference. For some, the prospect of getting solar panels on their house, for no money down, with a lease, and paying a lower electric bill, is simply a **No Brainer**. For others, the idea of owning the panels (with a cash purchase or through an equity line or bank financing), collecting the solar incentives, and having only a 5-7 year payback **Just Makes Sense**. We can walk you through the benefits of both options and you can decide for yourself which option is better for you.

Environmental Questions:

Q: How Does Solar Affect my Carbon Footprint?

A: On average, solar reduces the carbon footprint of a home by approximately 50,100 tons of CO₂ emissions. That is equal to planting 100 trees every year or not driving for the next 10 years. You would have to recycle for the next 500 years to equal the carbon footprint offset of solar panels on your roof.



Q: Can Solar Panels be Recycled?

A: Yes. Almost all components of a solar panel can be recycled or can be used to generate energy through biomass combustion.

Q: Are Some Solar Panels Better for the Environment than Others?

A: Yes. In general, cheaper products are not designed and/or tested to be recycled.

Solar 101 - The Basics

Q: How Much of the Power Produced will Belong to my Home?

A: 100%, We install a net meter that keeps track of all the power produced. So whatever you don't use, you get a credit for. That means you get to utilize 100% of your power; day or night! Note, however, that certain net metering regulations regarding system size and and compensation.

Q: Will My Solar Panels Keep Producing Electricity During a Power Outage?

A: No. The solar electricity is wired separately into your electrical panel, and for safety reasons, is designed to automatically disconnect in the event of a power outage. When grid power is restored, the system will automatically reconnect and synchronize to the grid and your solar electricity will come back on.

Q: Will Solar Work on Cloudy, Rainy or Snowy Days?

A: Yes. The same way you can get a sunburn on a hazy day, solar panels produce electricity on cloudy, rainy, and snowy days. Solar panels will produce electricity with a couple of inches of snow on the panels. Sweet!

Q: Do Solar Panels Work Best on Hot Days?

A: No. In fact, solar panels work best in cooler environments. This is because solar electricity is produced from the light, not heat. Extreme heat or humidity causes the solar panels to lose efficiency. This is one of the reasons Massachusetts is an ideal place for solar.



Q: Will the Solar Panels Produce More or Less Power Depending on the Season?

A: Solar works how you would expect, with more production in the Spring, Summer and Fall months and less in the winter.

Q: I have Some Shade on my House, Will Solar Still Work or be Worth It?

A: Generally, yes. Solar panels will work with some shading, although it takes a proper solar site evaluation to determine your roof's actual solar efficiency.

Q: How is the Annual Production of a Solar System Determined?

A: We use special solar diagnostic tools such as high resolution imagery with laser LIDAR. With LIDAR we know the exact dimension of your roof, its height, distance from trees or other obstacles. Lidar also allows us to see how those obstacles will cast shadows as the sun travels through the sky 365 days a year. Years ago, and in instances where LIDAR is not available, we use a tool called a Solmetric Suneye. This is a digital camera with a compass, level and GPS built into it. This is not a timelapse, but rather, a camera with a panoramic lens that tracks the sun's path through the sky every minute of every day of the year. These photos are aggregated and plugged into a database that includes over a hundred years of weather patterns, including rainy and cloudy days and several weeks of snow every winter.



Q: How Does Solar Interact with the Grid?

A: A Net Meter is installed on every solar facility, eliminating the need for batteries. A net meter is identical to a regular meter, except it spins both forwards and backwards. This means that any power produced, that is not used, will go through the net meter, spinning it backwards into the utility grid, giving a credit to the facility. Essentially, it's like a solar electric bank account. This credit will appear as a cash credit on your utility bill and roll over day-to-day, month-to-month, and year-to-year.

Q: Will My Utility Company Cut Me a Check?

A: No. This is a common misconception, but your utility company will not cut you a check. If however, at the end of the month they owe you money (via Net Metering), that money will appear as a cash credit and be applied toward future bills. It's kind of like a department store credit.

Q: What Should I Know About the Actual Solar Installation?

A: Solar panels are generally mounted on the roof or a ground mount structure. An average residential rooftop system has between 20-40 panels and requires around 400 square feet of available roof space. Solar panels are usually about three feet by five feet (give or take) and weigh 3.8 lbs per square foot on the roof (or about the weight of a small cat). Panels are attached to a roof using aluminum racking somewhat similar in design to a metal bed frame. The racking is bolted directly to the rafters of the roof and sealed with waterproof metal flashing (similar to a roof vent).

Sometimes solar panels are mounted on the ground or on carport canopies. Carport installations are usually best suited on commercial properties with limited roof space.

Q: What are the Requirements for a Ground Mounted Installation?

A: Ground mounted installations provide greater solar flexibility for your site. Because the ground mount is located closer to the ground, you usually need more set back from trees than a roof mounted installation. Also, we need to keep in mind conservation/wetland restrictions.



Q: What are the Requirements for a Roof Mounted Installation?

A: The roof should be in good condition and be structurally able to accommodate the additional load of the solar panels. If your roof is older than 15 years, shows noticeable deterioration, or needs additional structural support, these conditions will need to be addressed before installing solar panels. But don't worry about that, we are the experts and will give you a comprehensive analysis of these factors. While it is possible to replace a roof after solar panels are installed, having the solar system removed will be an additional cost to the roof replacement cost. Most solar electric systems last around 30 years, so take that into account.

Solar panels are typically **not installed on a slate roof**, but you could replace the section of the south facing slate roof where you want to install solar panels – ask us for details.

Q: What are the effects of a panel skirt to my solar installation?

A: Panel skirts are primarily installed for aesthetic reasons. While some studies show that the majority of homeowners do not like the way they look, some people may still choose to install them. At Rayah Solar, we typically do not use panel skirts because of the potential negative effects on the system. Panel skirts restrict airflow, which thereby increases the heat of the panels. Panels perform less efficiently in higher temperatures. Also, panel skirts are known for attracting critters. A family of squirrels can chew through the wire on your solar system; if this happens, it can cost you thousands in equipment and labor costs.

Q: What if I Have a Backup Generator?

A: Generally, solar panels and generators serve different purposes. The solar panels are a primary source of power, while generators are a backup source of power. Solar electricity is wired separately into your main electric panel than your generator. Typically, backup generators operate off a disconnect or transfer switch, so while in operation, they will have no contact with your main breakers or solar panels.

Q: Is a Solar Installation Complicated?

A: No. Our installations are completely Turnkey and Worry-Free: With turnkey installation, service, maintenance and monitoring included at no additional costs. It is a completely worry-free process. Most of the installation is done outside of the house and completed within two to four days.



Battery Backup and Energy Storage Questions

Q: Do you recommend battery backup solutions?

A: Yes, kinda...maybe. We offer a variety of energy storage and battery backup solutions, but we only recommend them if it is a good fit for your situation. Solely as a backup source of power, batteries are expensive. However, in some residential, commercial or utility scale applications, energy storage maybe a great solution.

Q: What is the Difference Between a Battery Backup and Energy Storage?

A: Imagine an engine, perhaps you could use it to power an automobile or a piece of machinery. Similarly, a battery system can be used for different purposes. If the batteries are primarily used as a source of backup power during a power outage, then it is a battery backup. However, you could use that same battery system for other purposes. For instance, you might want to have solar panels provide power to your home and charge your batteries during the day and at night, run off the stored battery power. This would be called an energy storage system because the batteries are providing primary power to the home.

Q: Will the New SMART Program Offer a Battery Incentive?

A: Yes, the SMART program will offer a battery incentive. Currently that program is not being offered. Prior to actual program deployment, we will provide program details.

Additional Information

The **Rayah Blog** is neatly organized with lots of blogs and articles diving deep into many of the topics discussed in this FAQ. Please feel free to browse our Rayah Blogs and search for a blog that piques your interests.