

A simple and practical guide to solar panel maintenance



Solar panel maintenance is crucial for ensuring that the installed photovoltaic (PV) system remains in great working condition, both now and in the future. Many problems with solar panels can go unnoticed for some time and may end up being quite costly to fix. There are a few ways you can ensure you're taking good care of your solar panels. This guide breaks down each of the care methods into easy-to-follow steps.



Why do solar panels need to be maintained?

Looking after your solar panels is critical to ensure they continue generating electricity as efficiently as possible throughout their lifecycle.

Solar panels are static installations, and zero moving parts means that very little input is actually required to ensure they're looked after. Of course, solar panels are subject to the weather conditions of whatever region you or your business resides in. So, while they have no

moving parts, they'll still require at least some kind of maintenance over the years.

How can the condition of solar panels be monitored?

Sometimes you may not know there's an issue with your panels, since any dip in generation is usually substituted with power from the electric grid. Fortunately, there are several ways that you can easily monitor the condition of your solar panels.

The simplest way to check whether your solar panels are functioning correctly is by checking the color of the lights on the control box during daylight hours. This is when your solar panels are supposed to be generating electricity, and if this is the case, you should see a green light on your inverter. If you notice a red or orange light during the daytime, this means there's some kind of fault with your solar panel system, and you should call a professional immediately. However, it's important to note that not all



faults will show up on a string inverter display, so you should still be manually checking your panels where possible.

Another easy way to monitor the health of your solar panels is simply to have a look at them from time to time. Generally, issues occur in solar panels due to either panel damage or obstructions like shade, dust, or bird droppings. Microinverters feature module-level monitoring, which means they are able to detect damage, shade, dust and droppings by analyzing data from each panel. However, string inverters can only detect some instances of damage, and are unable to detect issues like shade, dust, or droppings. If you have a string inverter system, you'll want to keep an eye on your panels all year round to ensure that there's no damage, dirt, shade, or droppings stopping the panels from picking up the sun's rays.

Keeping track of a drop in electricity generation may help you monitor how well your solar panels are performing. While digital screens were once a popular method of monitoring solar panel performance, they've become less so in recent years due to their typically short lifespans. Now, it's more common for users to have access to all the information they need on a mobile app.

How to maintain solar panels

Step one: Keep your panels out of the shade

It sounds like common sense, but perhaps the solar panels were installed many years ago and the area has since become built up with greenery. If you begin to notice greenery is gaining on your solar panels' surface area at any point in the day, you should take action as soon as possible. Make sure the panels are unobscured and get that fresh Vitamin D during daylight hours.

Step two: check your inverters

The most common point of failure for any solar panel system is the inverter. This is the device that converts the direct current (DC) energy from your panels into usable alternating current (AC) power for your household. If the inverter fails, your solar panels may not work as they are supposed to. As mentioned above, checking the light on your inverter is an easy way to monitor the health of your solar panels.

Green is good, anything else, like orange, red or flashing red, is an indication that something has gone wrong. This could be anything from an energy overload to component damage from the environment. If you notice that your inverter no longer shows a green light during daylight hours, you should get in touch with your installation company or a qualified professional as soon as possible.

Step three: remove any debris

Over time, debris from the surrounding area will no doubt begin to build up on your solar panels. It's unavoidable. We'll talk you through how to properly clean your panels in the next section. But if you're living somewhere that's predisposed to high winds or tornadoes, sometimes larger items such as branches might collect on or under your panels. These must be removed before they cause bigger issues like dislodged components or damaged panels. Even if your region doesn't experience windy weather, you should make sure to inspect your solar panel system regularly, just in case.

Step four: record solar panel performance

You can monitor the health of your solar panels by logging on to your online account or viewing performance data on the digital device that comes with your installation. But how do you know when to call for help? You should keep a record of readings on a regular basis, rather than just glancing over at the figures once or twice a year. Most inverters offer accessible data about the system's energy production. Keeping an up-to-date record of your solar energy readings can help you identify dips in performance very quickly. And acting quickly is critical for ensuring that small issues don't grow into big problems.

How to clean your solar panels

Despite the fact that solar panels are often located on the roof of a property, they are surprisingly easy to clean. Cleaning your PV system is crucial for maintenance, and you should avoid waiting until you identify a potential problem to clean them. We advise that you clean your panels regularly, at least a few times a year, to ensure that you're maintaining their optimal working condition.

You can clean the solar panels yourself with products that you probably already have at home. The challenging part of doing it yourself is actually reaching the roof, and the surface of each panel can be cleaned with warm water and dish soap.

If you're unable to safely reach your solar panels, then you may want to call in a professional. Your panel provider or installation company should be able to recommend a cleaner to you and may do so during the installation.

How often should you maintain solar panels?

The installation is just one step of the process. The lifetime of a solar panel is around 25 years with good and proper care, and your solar panels need to be maintained throughout each of those 25 years. You can follow the steps above to ensure that you're doing what you can to keep your investment in good working order.

You can monitor the health of your PV system by checking that the light on your inverter displays green during the day and keeping an eye on the panels to ensure they don't look dirty or obstructed. You should be following these steps every couple of weeks at least, to ensure you're spotting any issues as soon as possible.

Aside from those simple steps you can take to monitor your panels, you can also record their performance. We would recommend noting down any important data from your online account or the digital device in your home at least monthly, in order to quickly detect any changes in electricity generation.

How much does it cost to maintain solar panels?

Most people are aware that the upfront cost of installing solar panels can be quite high, but many are seldom sure of the solar panel maintenance costs involved. Luckily, the maintenance on solar panels is relatively inexpensive given their longevity. Many users will only have to pay for a regular professional cleaner, or for a visit from a technician if any issues arise. However, if you find yourself needing a repair, this can cost you as much as \$200-300 per panel, so it's definitely good practice to keep on top of maintenance.

Are solar panels worth the investment?

Despite the relatively high installation costs, solar panels can help you realize significant cost reductions on your energy bills, and they often pay themselves off in electricity generated over the course of their lifespan. Additionally, the cost of maintaining PV systems is typically low when you follow all the steps outlined in this guide. As long as you're keeping an eye on dirt build-up, checking your inverter is fully functioning and recording solar panel performance, you shouldn't end up paying out lots of money on replacement panels.

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