



Upgrading your solar system

Tips for households

The decision to upgrade your solar system is not always a simple one. It can be tempting to assume that a bigger solar system means lower bills, but that won't always be the case. There are a number of steps you can take to check that any additional investment in solar is worthwhile.

1. Test your system

Solar systems, like any piece of working equipment, need upkeep. The performance of your system could be being impacted by a range of factors including shading conditions; a build up of dust and debris; moisture seepage; and vermin, hail, or wind damage. All of these factors can contribute to deterioration of your system output.

To test how well your system is running, on a clear day, check the inverter data logger or the respective solar inverter app (usually an online account connected to your inverter) to see how much power the system is generating. You can then compare this to the estimated output provided when you purchased the system (likely to be in the owner's manual). There can be some adjustments needed for weather, timing and panel orientation, but if the actual output and the estimate are similar, you can have reasonable confidence that your system is operating at capacity.

If you find there are large differences between the estimated and actual output, keep reviewing the results over a few days. If you find the system is consistently underperforming, a service may be beneficial before you look at upgrading.

Following the maintenance schedule provided by your solar retailer or installer can assist in the early detection or reduced impact of damage or changed conditions. It is recommended that solar panel systems should only be inspected and maintained by a licenced electrical contractor.

2. Review your power use

Once you are confident in the output of your system, take the time to understand how much power you use and when you use it. There are a number of tools available to help you work this out. Local governments often loan home energy audit kits with power monitors that gauge the power use of devices. Other monitoring tools and apps are available online. You can also look at your power bill for your total use – but remember this doesn't include the solar power you used in your home.

One way of checking how much power you are using is by adding up the power use for all of your devices. Look at the label on the electrical device which indicates the number of watts the device uses. If necessary convert watts to kW (the unit of power used on your bill) by dividing by 1,000. Multiply that by the number of hours it runs in a day to get an indication of the total power used. It is also important to track when you are using the devices.

Once you have an understanding of when and how much power your household uses, you can compare that against the power generated by your solar system.



3. Shift your power use

If the solar power generated during the day is more than the power you use during the day, there is an opportunity to consider changing the way you use your electricity to make sure you are making the most of your system.

Maximising your use of energy from the sun can be done by scheduling high energy use activities, such as running the washing machine, dishwasher or pool pump, in the middle of the day.

If your power use is more than what your solar system generates, you can look at the devices being used at any one time and consider spreading their use out to make the most of the power over the hours of sunshine.

4. Consider future energy options

After considering what is already happening in your home, it is then time to think forward and consider what your future energy use might look like.

Ask yourself some questions; is the size of the household expanding or are you changing how often you are at home during the day? Are you considering battery storage or is an electric vehicle something you are interested in? Any of these factors can change the amount and timing of power use in your home, changing your optimum solar power supply arrangements. The Clean Energy Council provides useful information on [battery storage options](#), and to compare electric vehicle power use, visit the [GreenVehicleGuide](#).

It can also be worth assessing the efficiency of appliances in your home to identify any devices that are higher energy users than may be commonly available today. Upgrading these items to more efficient appliances may have a greater up-front cost but have the potential to reduce your energy use over their lifetime, reducing the demand for solar or power from the grid. One of the easiest options can be to check the lights in your home and change all globes to the lowest wattage globes that are available.

5. Assess what has changed

Once you have decided that you can make the most of a larger solar power system, it is worth considering some of the likely limitations when making changes.

Standards for panel systems change over time, so part of the assessment that your installer will have to make is to determine if your system should be replaced or if it can be extended. If repairs are required, there may be challenges in sourcing replacement panels or parts. There are also other technical considerations that you will also need to consider such as matching solar panel capacity to inverter capacity. The electrical configuration of your system can be important also.

A larger system may mean that different parts of your roof need to be used to host the panels, capturing the optimum levels of sun at different times to your current panels. This can change the power available at different times and may also mean that you don't reach full output of the panels at any time.

Over time, the rates paid for power fed back into the grid have also changed. It is typical that existing feed-in payments will cease to apply to systems that are upgraded. Consider how the current feed-in tariff arrangement might impact your investment decision – but remember that you can make the most of solar by using it yourself and avoiding charges for purchasing power from the grid. Find out about the current feed-in tariff and buyback rates on the [Household renewable energy overview](#) page.



6. Choose the right installer

When considering any solar system or battery, researching your options and installers is important before making any purchase commitment.

Consumer Protection provides [detailed information](#) to assist in the purchasing of solar panel systems.

When upgrading, it is also important to check that:

- your installer is experienced in making upgrades;
- the estimated predicted output of your system is what you are expecting;
- any required upgrades to your existing system equipment to meet current standards have been included; and
- you have been able to make an informed choice about what is right for your individual circumstances and household.

It is also advisable to approach more than one supplier to be able to compare quotes, but it is important to identify what products have been quoted, so you are able to compare the quotes on a like for like basis.

Third parties, such as the [Clean Energy Council](#), independent to individual suppliers can also help you understand the installation process, provide advice as to matters to be aware of and in some cases provide a list of accredited providers.

For more information contact:

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