



esmart **SOLAR**

Buying solar batteries



Seven battery storage opinions debunked



E-Smart Solar



I'm **Dean Edmonds**, and I founded E-Smart company in 2011 with the aim of offering traditional electrical services alongside energy-saving solar solutions. Today, we proudly focus solely on solar, battery, EV charger installations and associated services, operating right from foot of the Blue Mountains and extending our reach to Penrith and Hawkesbury areas.

What sets us apart is our unique ability to seamlessly merge our expertise in both electrical and solar arenas, offering a comprehensive, hassle-free service. We're committed to providing top-quality solar products, long after-sales service, specialised Level 2 electrical metering, and a smooth customer experience that exceeds expectations. Our many 5 star Google reviews attest to this claim.

Beyond being a business, E-Smart Solar is a community-centric entity, actively promoting renewable energy and community education. We're proactive in the industry, ensuring we adhere to the latest training and highest standards in both the solar and electrical fields.

Thank you for considering E-Smart Solar, where we believe that every action—big or small—towards renewable energy counts. We're excited to help you transition towards a more sustainable, energy-efficient future, putting a lid on cost of living pressures.

A stylized, handwritten signature in black ink, appearing to read "DE" followed by a long horizontal flourish.

Dean Edmonds - E-Smart Solar

What are some of the biggest misconceptions about solar battery storage?

Solar power, enhanced with battery storage, offers substantial energy bill savings and self-sufficiency in Australia. Batteries improve utilisation of the generated solar power and provide energy security during blackouts. They also help with EV charging. However, some misconceptions surround home storage batteries. Let's address these here:

Misconception 1

Home batteries are not useful

Modern battery storage technologies are dependable, durable, and come with extended warranties of ten years or more, assuring long-term service and value. Lithium battery technology has significantly improved, thanks to innovators like Tesla, enhancing lifespan, energy density, and long-term reliability. They also have become more affordable.



Misconception 2

Home storage battery technology is not mature

Battery technology has improved significantly over the last 10 years and is quite mature, stable and reliable in its present form. Batteries now come with long warranties as standard, with an increasing number of brands offering 10 and up to 15 years of warranty with stable performance over that period (as long as specific installation and usage conditions are met).

While there is still constant development within the technology regarding energy density (kWh of storage per kg of weight), the fundamental technical aspects of modern batteries have been settled for now. Also, while software management, monitoring details, and other features are still being improved, this is the same as other modern technologies like cars, computers and mobile phones.





Misconception 3

Lithium-ion batteries are not safe, says the fire brigade

Lithium-Ion batteries are the most common battery technologies used in EVs and solar. While it is true that Lithium-ion batteries have caused fires, often, the battery with an issue was of the low-cost variety in scooters and other small devices.

The issue usually occurs when the wrong non-original charger is used to charge the batteries and the charger does not communicate with the battery management system.

With poor-quality batteries and wrong chargers, there is an increased risk of thermal runaway, where a fault within the battery cell generates excessive heat and can cause the battery to catch fire. However, quality batteries are very safe and reliable when installed by a qualified solar and battery installer, and quality battery products are used.



Misconception 4

Home storage batteries are bad for our environment

While the production of batteries does have some environmental impact from the perspective that it is CO₂ intensive in its manufacture, the use of battery storage systems can help to reduce greenhouse gas emissions long term.

When you don't have a battery, any of the excess solar that is produced is exported to the grid, it offsets the use of fossil fuels from being used, so it has a direct benefit in reducing CO₂. Unfortunately, nowadays, some solar systems have been limited in the export of their renewable energy due to grid constraints.

By storing renewable energy in a home storage battery and using it when needed, battery storage systems can help to reduce our reliance on fossil fuels further.

The use of battery storage can help to smooth out fluctuations in renewable energy production, including solar, making solar more reliable and allowing for greater penetration of solar energy on the grid. From this perspective, using batteries will further reduce the burning of fossil fuels for electricity than using solar on its own will.

With correct sizing of the battery for daily use within a home, the energy payback period, whereby the amount of energy used by the battery offsets the CO₂ from production of the battery, is often less than 2 years.





Misconception 5

New home batteries are incompatible with your existing solar system

Every grid-connected solar system can have a battery added to using an AC-coupled battery, such as Tesla's Powerwall, Enphase and Sonnen and many more. An AC-coupled battery can be installed separately next to the meter board without affecting the solar generating process.

The critical determinant on whether you can add batteries to an existing solar system will be how much electricity the existing solar system can produce that is being exported and can otherwise be used to charge the battery.

In some cases, additional solar system capacity may need to be added to provide additional power to charge the battery consistently.

Misconception 6

Storage batteries are not helpful for most homes

While battery storage systems may not be suitable for everyone, they can be a valuable tool for many homeowners, businesses, and utilities looking to increase their use of solar energy and reduce their reliance on the grid.

In addition, battery storage systems can provide backup power during blackouts /outages and help improve the electricity grid's stability and reliability. They also will become increasingly important to store solar power generated during the day for EV charging at night.

Of course, in certain situations like off-grid batteries make even more sense, With the current battery and solar pricing, solar battery storage makes sense if purchased in a solar & battery combo. In many cases, payback comes to around 6 - 7 years, and less if the generated electricity is used to power an electric vehicle.





Misconception 7

I cannot afford battery storage because it is expensive

Electricity prices continue to increase with price increases of over 20% from June 2023 and are expected to increase even further over the coming years.

As such, the savings that can be realised from batteries is increasing. With the increasing application of time-of-use rates for electricity, premium rates are charged in the peak demand periods in the evenings.

Battery owners love the ability to charge a battery from solar panels to be used in the house during the evening peak, where charges can be between an eye-watering 50 to 60c per kWh. In these cases, it makes far more sense to store the excess solar power in a battery. This is a much better financial outcome than selling the power into the grid at a low feed-in tariff.

Should I get a solar battery?

It depends on a number of factors, such as your energy needs, the size of your solar panel system, and your location. A solar and battery combo is a good idea. Generally, a solar battery can be a smart investment if you are thinking of going solar or having a decent size solar panel system already (6kW and over).

The battery will allow you to store the excess energy that your panels generate for use when your panels are not producing enough energy (e.g. at night or on cloudy days).

Please carefully consider the costs and potential benefits before deciding. We would recommend consulting with a solar energy professional or undertaking further research to determine whether a solar & battery combo is right for you.



Contact us for free advice or an obligation free quote

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