

## Choosing a home solar battery

*Getting the right home solar battery for you depends on things like your energy needs, your budget and the size of your roof.*

This fact sheet lists some of the things you will need to consider when choosing a battery and some practical examples. More information is provided in the **NSW Home Solar Battery Guide**.

### How much do you want to spend?

In 2017 the average lithium-ion home battery costs around \$800 to \$1,100 per kilowatt hour (kWh) for the battery only. The costs of other battery technologies vary. You will need to assess what kWh capacity you need and you will also have to pay for an inverter, software and installation so get at least two quotes. More information is available in the 'Will a battery save me money?' fact sheet.

### How much energy do you want to store?



#### To make the most of your solar:

- Calculate your excess solar energy per day.
- Decide whether to store all excess solar or just enough for the evening peak.



#### To power your house overnight:

- Calculate your sunlight hours and overnight energy use.
- Size your solar and battery so that the battery can be fully charged during the day, and discharged at night.



#### To have backup for multiple days:

- Design your system more like an offgrid setup, with a special inverter and isolation switch.
- Plan for a larger system with higher costs and less efficient battery utilisation.

### Some tips for choosing a battery

- Decide on inverter coupling based on whether you already have solar and the age and performance of your existing solar inverter. Specifically request backup functionality if you want it.
- Get battery software that lets you control the system and check its performance, but is also easy to use.
- Match the battery's maximum discharge rate to the power usage of all appliances you want to use at the same time.
- Check whether the warranty refers to years, cycles and other limitations like ambient temperature.



## Where can I find comparable examples?

The **NSW Home Solar Battery Guide** includes practical examples that illustrate what battery size and savings to expect. These are summarised in the table below.

The first three lines show the person’s motivation, their power usage and whether they already have solar. In the lower section you can see what their decision might be, including new or extended solar, battery capacity and what that means in terms of costs and savings.

	Isabella	Ali	Wei	Scott
SUMMARY	Having solar already, she and her husband want to save money but find the battery payback is too long. They do some energy efficiency instead.	For environmental reasons he wants to use mostly his own renewable power, but the price matters.	Because of bad experiences with his retailer he wants to rely less on the grid but going completely offgrid is too expensive.	He wants to become more self-sufficient, but also needs backup for his home office during power outages. Cost is secondary.
DAILY CONSUMPTION	10 kWh	10 kWh	25 kWh	20 kWh
EXISTING SOLAR	2 kW	–	5 kW	4 kW

### Their investment

NEW SOLAR	None—energy efficiency instead	4 kW	5 kW	–
NEW BATTERY		2 kWh	14 kWh	14 kWh
SYSTEM COST	\$2,800	\$9,100	\$24,000	\$18,000
ANNUAL SAVINGS	\$520	\$840	\$1,500	\$480
PAYBACK	5 years	9 years	17 years	37 years

