

9 STEPS FOR STRATA TO INSTALL BATTERY

1 Understand if a battery can help reduce energy costs of your common areas

A Battery can reduce reliance on the grid, optimise the use of excess solar generated by rooftop solar, reduce electricity your common areas use during peak periods reducing capacity charges, power at least some parts of the common areas (e.g. the lift) during a power outage and allow the strata scheme to enrol in emerging demand response programs e.g. Virtual Power Plants. A battery will be right for some strata buildings but not for others.

2 Futureproofing your strata scheme

Even if you are just considering installing a solar system at this point in time, check with your solar installer that the inverter which is being supplied is able to have a battery connected to it in the future. Also, you may want to install a solar system now which covers more of the available and usable roofspace, creating more feed-in over the next couple of years, on the assumption that you will add a battery in 2-3 years time.

3 Check your solar system will generate enough solar

The best way to feed your battery is with excess solar from a local rooftop solar system. While it is possible to charge up a battery from the grid during offpeak times and discharge the battery during peak times using **timeshifting**, the payback on this approach is not compelling with current battery warranties lasting 10 years. The economics around this will change as battery lifespans move to 20 years OR the current cost of batteries halves again in price. Keep in mind that the increasing demand for lithium ion batteries to be used in electric vehicles, may slow the halving of the cost of standalone batteries. For this reason, you may want to investigate batteries which are promising more charging/discharging cycles over a 20 year period at this point in time.

4 Check the metering arrangements for your strata

Most strata schemes have a separate common area or houselights meter. However, if you still have an analogue meter (or three analogue meters, one for each phase) for your common areas, then your priority project is replacing these with a smart meter. If your meterboard is not AS3000 compliant (i.e. ceramic fuses, wooden backboard etc) then your precursor project to a a battery project is to upgrade the meterboard/switchboard first so that it can safely and effectively house a smart meter for the common areas. This will have to be a bi-directional meter, which is capable of feeding-in electricity into the grid.

5 Understand your electricity tariffs and how they might change

If you do not have a solar system at present, then your common areas are not likely on an electricity tariff from your existing energy retailer which will pay you for feed-in. If you install a solar system, you will need to negotiate a feed-in tariff with your existing energy retailer or switch to an energy retailer which provides a more attractive combination of peak, offpeak, shoulder and feed-in rates. A key item to understand is how energy efficiency projects and installation of a battery may affect your total grid consumption in your strata building. Some strata buildings may be able to switch tariff bands e.g. from a large market contract, to a small market contract after energy efficiency, solar and batteries. This would allow your strata scheme to apply to the grid provider and request a change to a different class of smart meter for the common areas. For a strata scheme in Sydney's north, the possibility of switching from a large market to a small market contract opened an additional \$3,000 benefit per annum. Finally, are you planning to enrol in a demand/response program from your grid provider and how will this impact on your energy retailer's pricing model.

6 Understand what costs might be involved in getting network approval

Your strata scheme will need to get approval from the grid provider. In most areas of Sydney the grid provider is Ausgrid but it could also be Essential Energy or Endeavour Energy. The size of the battery's inverter and any solar inverters which you currently have or are planning to install in the future will determine the approval process which you need to go through. You may have to install grid protection equipment in line with your grid provider's approval process. For example, you may have to incur additional costs for hardware which would protect grid workers during a power outage.

7 Work out how to provide internet access to the battery

To maximize the economic savings from a battery it is important to be able to provide the battery (or the smart inverter which the battery is connected to) with internet connectivity via 3G/4G or wi-fi. There are challenges with 3G/4G reception in some common areas of strata buildings which may need extension antennas to be installed to provide connectivity. Wi-fi range may not reach from a facilities manager office all the way to the battery farm.

8 Determine a safe location for battery installation

Lithium Ion batteries are Type 1 Fire Hazards. For this reason, you may not be allowed to install them in internal switch rooms, or in carpark areas underneath the apartments. Can you find an external wall to house the batteries or a section of garden area, where a new concrete slab could be installed for the batteries to sit on. Try to keep batteries at least 1m away from any pedestrian walkway.

9 If you are part of an embedded network, check with your embedded network manager

Some newer strata schemes have an embedded network, where a single company manages all the meters for the apartments and common areas. If you are in one of these networks and on a 5 or 10 year agreement with an embedded network provider, you may have to check whether you have the right to connect a battery.

