

Powering communities with neighbourhood batteries

In Victoria, most of our energy still comes from coal. This is rapidly changing as Victoria transitions towards its target of 95% renewable energy by 2035.

A key challenge of this transition is that renewable energy, such as solar and wind, isn't always produced at the time we need to use it. This means we must work out how to store this energy. Neighbourhood batteries are a new way to help solve the storage problem. Different approaches are being trialled across the country to learn how they can help.

What is a neighbourhood battery?



They absorb power when there is a lot available, such as when the sun is shining, and release it back into the grid when it is most needed.



Generally installed in public spaces or in and around buildings close to where electricity is used or generated.



Can store between 100kW and 5MW. A 200kW battery is similar in size to four single door fridges, and can provide power to between 100 and 300 homes.

Why are neighbourhood batteries an important part of our energy transition?

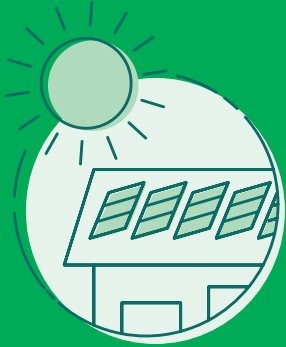
Neighbourhood batteries can address a range of problems that currently impact our community and energy network.

Problem	Solar waste and export limiting. Households are increasingly producing excess energy from their solar panels and can be limited in how much they can export to the network. When this energy can't be stored for later use, it is wasted.	Energy inequity. Not everyone can: • Install solar • Access renewable and affordable energy • Benefit from renewable energy • Engage with the energy system	Energy affordability. Increasing electricity prices make it harder for many already vulnerable people and households to pay their bills.
Solution	Batteries can capture excess solar energy, charge up during the day, and then release it at night when it is needed. Batteries could also help to remove restrictions on homes that want to export solar energy to the grid.	Batteries can help to redistribute renewable energy across the community. All homes within the local network, not just homes with solar panels, can consume electricity with a higher renewable energy content than the grid.	Neighbourhood batteries can avoid costly upgrades to the grid, which puts downward pressure on energy prices. However, any changes to your energy bill depend on how the battery is operated.

Selecting the right neighbourhood battery model

The first step in determining the right battery model for any neighbourhood is understanding local priorities through community engagement and technical assessment. This input can then be considered in decisions such as where the battery is installed, how it operates, who operates it, and what it looks like.

There are four overarching types of operating models, each with overlapping benefits and opportunities.



Solar sponge

Prioritises solar uptake and emissions reduction by absorbing excess solar produced during the day and releasing the stored energy into the network at scheduled times. This helps support the uptake and sharing of local renewable energy.



Financially focussed

Operated to release energy to the grid when it is most profitable, with the financial value returned to the community via retail energy plans, dividends, community funds, or similar. This can help reduce energy costs for the community and deliver benefits to the wider energy system.



Services-based

Prioritises providing resilience to the network, residents and businesses. This helps avoid the need for costly network upgrades, reducing network charges for all energy users.



Community support services

May include a diversity of services, depending on the objective, such as enhanced energy security, electric vehicle charging, and community resilience.

What are the different ways a community can get involved?

Neighbourhood batteries are a new technology in Australia and are being piloted in a variety of ways. Different operating models could provide different opportunities for community involvement. Some of these different ways could include:

- Switch your electricity plan to a neighbourhood battery plan to get access to its renewable energy
- Export your rooftop solar to the battery
- Own or invest in a share of a neighbourhood battery
- Charge your electric vehicle at a neighbourhood battery charge point
- Benefit from subsidies or grants from a community benefit fund from the revenue associated with the battery

You can also just support a neighbourhood battery without getting involved at all. Some models automatically soak up and distribute energy without requiring any participation from residents.

Want to get involved in a current neighbourhood battery project?

City of Melbourne, City of Port Phillip and City of Yarra are teaming up to deliver the 'Fast-tracking Neighbourhood Batteries' Project.

The Victorian Government has funded the three councils through the Metropolitan Partnerships Development Fund Program. The funding provides for the councils to undertake community engagement, an assessment of the electrical

network, and design work to fast-track the rollout of neighbourhood batteries across these three municipalities. The councils are exploring various options and want to hear from the community about their preferences and priorities.

Funding for the installation of batteries is not included in this project and will be sought once feasible locations are determined.