

ELECTRIC AVENUE

Communities sharing power.

Pole-top battery project

'Electric Avenue' is a community battery project being rolled out across our network to power customer choices. It is creating value for both our network and the communities we serve.

This innovative project is installing 30kW (or 66kWh) community batteries on power poles across 40 sites in the United Energy footprint for a local community to share.

By installing these batteries on our network, we will help sustain 99.99% power reliability for customers, support those with rooftop solar to get the most out of their investment and enable all customers to support a cleaner energy future.

Our partners include councils, community groups, the local community, energy retailer Simply Energy, local suppliers and the Australian Renewable Energy Agency (ARENA).

This project follows the successful introduction of two pole-top community batteries into the United Energy network in 2020 in an Australian-first trial.

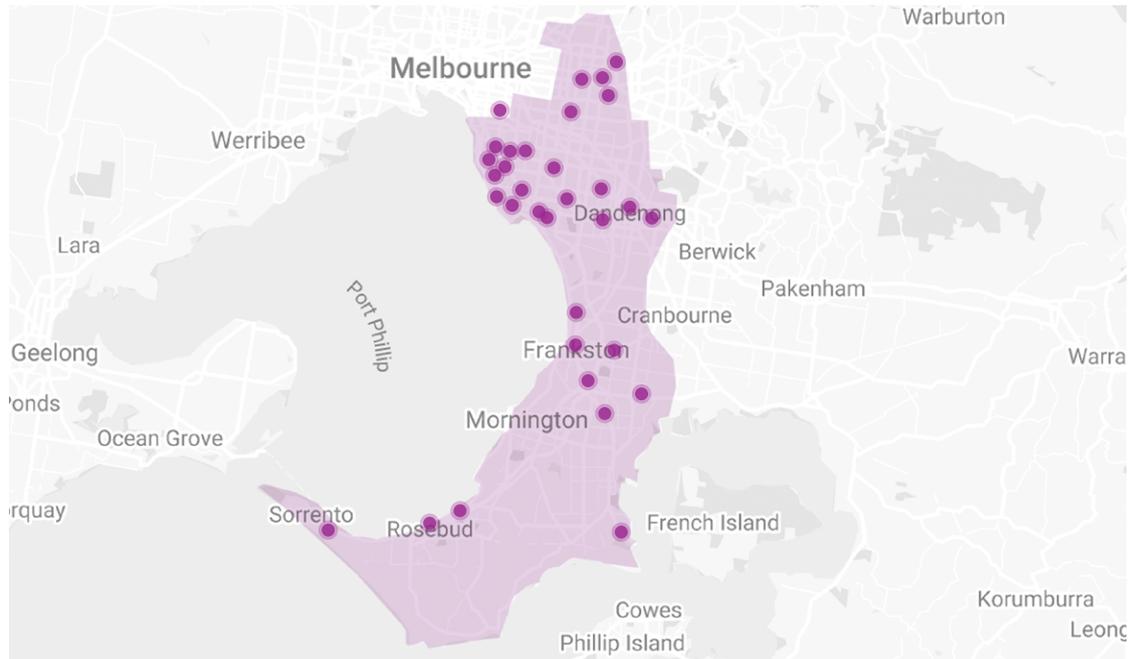
A great new asset in your community

Each pole-mounted battery on our low voltage network has been proven to support homes in the immediate vicinity with reliable, stored energy for up to 2.2 hours at a time.

Two batteries in Black Rock and Highett will now expand to 42 locations across the United Energy network in areas where there are currently constraints with the existing infrastructure. This means that on peak demand days there is a risk of outages because the network cannot physically move enough electricity to meet customer needs.

In these areas, installing batteries to provide an alternative source of electricity helps defer traditional network investment and offers additional benefits to all customers.

Essentially, a community battery is a way of storing energy that allows communities to share power and use it when it is needed and assists networks to operate more efficiently.



Electric Avenue pole-top batteries are set to rollout across the following suburbs within the United Energy network:

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|-----------------------|--------------------|------------------------|------------------------|-----------------------|--------------------|------------------------|
| <i>Bentleigh</i> | <i>Sandringham</i> | <i>Eumemmerring</i> | <i>Caulfield North</i> | <i>Parkdale</i> | <i>McCrae</i> | <i>Mitcham</i> |
| <i>Bentleigh East</i> | <i>Black Rock</i> | <i>Langwarrin</i> | <i>Keysborough</i> | <i>Edithvale</i> | <i>Crib Point</i> | <i>Forest Hill</i> |
| <i>Hampton East</i> | <i>Beaumaris</i> | <i>Seaford</i> | <i>Dandenong</i> | <i>Clarinda</i> | <i>Somerville</i> | <i>Vermont South</i> |
| <i>Hampton</i> | <i>Cheltenham</i> | <i>Frankston</i> | <i>Noble Park</i> | <i>Mordialloc</i> | <i>Dromana</i> | <i>Blackburn South</i> |
| <i>Brighton East</i> | <i>Pearcedale</i> | <i>Frankston South</i> | <i>Dingley Village</i> | <i>Mount Waverley</i> | <i>Blairgowrie</i> | |

Benefits to all customers

Community batteries offer benefits for local customers whether they have solar on the roof or not. They can:

- provide everyone in the community with access to renewable energy
- help customers get the benefits of having a battery to draw down on for extra power without having to spend the money for one in their home
- improve the reliability of electricity supplied in the community, particularly during peak demand times when everyone is using power
- increase the network capacity to allow more homes to connect and export from rooftop solar systems
- improve the quality of electricity supplied by our distribution network
- help reduce network charges for customers by avoiding traditional network upgrades that might otherwise be required.

Careful design

Network constraints are just one of the factors taken into consideration in planning for the location of our pole-top batteries. A range of other criteria are also considered including:

- the density of housing around the area – because they need to be installed close to where they can support the right level of household demand
- the potential for visual amenity impacts – how visible the batteries will be on the poles and whether this obstructs any views
- whether the low-level noise that comes from the battery could impact anyone around it.

As a result, the batteries are carefully designed to blend into the urban landscape.

The batteries are contained in a cabinet which measures around two metres high and one metre wide and contains all the equipment needed to safely operate. Safety in design has been built into the planning for the batteries as well as advanced information technology so they can communicate with our network operations and planning teams. United Energy will operate the batteries.

The batteries will be installed at least 3.6 metres above ground on standard power poles. In some cases, the power poles the batteries will be mounted on will need to be replaced or strengthened to ensure they can hold the weight of the battery unit and its bracket.

This design complies with all Australian and state standards for environmental protection and safety.



This is one of the first pole-top battery installations in Highett. While the design for the new batteries has changed slightly as a result of learnings from the first two, the concept of the pole-mounted unit is the same.

Energy on demand

The batteries will charge at times of the day when there is low electricity demand or when local rooftop solar systems are exporting into our network.

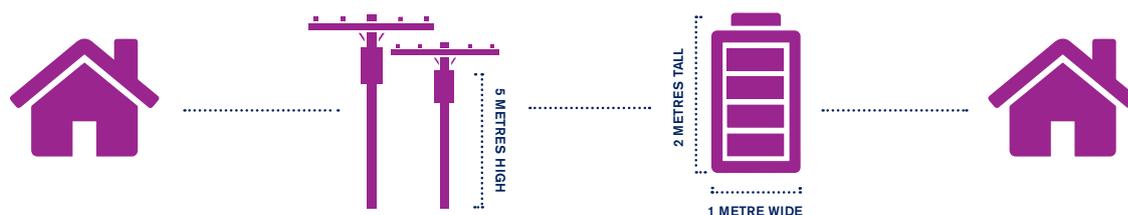
Power from the batteries can then be used later in the day when demand is high and solar systems are no longer generating. The peak times when most people are using power from our network are between 3.00pm and 9.00pm, Monday to Friday.

Simply Energy is our energy retailer partner on this project. Customers living in the streets

supported by the batteries can expect to receive information directly from Simply Energy about how they can become more involved. Simply Energy will release more information on this in 2022.

From a network perspective, we'll be managing the batteries to provide extra power capacity on extreme heat days when high temperatures encourage everyone to rely on their air conditioning.

Customers will not notice any difference in their electricity supply when the battery is operating.



We're installing backup batteries on powerlines to harness excess energy from solar panels and the network.

The batteries are cleverly designed to be as unobtrusive as possible.

In the early evening, during peak demand, the battery can support houses without using the network.

Project plan

The roll out of the pole-top batteries under the Electric Avenue project commences in late 2021.

They are locally made by manufacturer, Thycon in their factory in Coburg North.

The batteries will be installed and commissioned by a UE accredited service provider.

The batteries have an expected life of around 15 years and will help support customers in the area for a long time to come.

Electric Avenue - sharing power in your community

Electric Avenue is our name for an exciting group of new projects that are helping customers share power by making batteries available for local communities. There are essentially two sizes – pole-top batteries which can support an average of 125 homes, and larger batteries installed on the ground and which can support up to 300 customers.

The opportunity for community batteries is being driven by our customers who are changing the way they use, store and sell electricity. They are particularly relevant as we all work together towards a clean energy future.

We expect the number of customers with rooftop solar to continue to increase at a rapid rate in the coming years while the take up of household batteries and electric vehicles also rises. Using battery technology, particularly in association with rooftop solar, is becoming more common in Victorian homes. However, the cost is not yet affordable for most people.

Electric Avenue makes battery technology available to all customers within the reach of the network the battery is supporting. This program is also assisting United Energy in building the capacity to enable customer choices in the future.

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