

BAYSIDE BATTERY PROJECT

Why are you installing batteries on the network?

We are developing a flexible network to make sure we can power customer choices.

Customers are changing the way they use, store and sell electricity. In particular, we expect the number of customers with rooftop solar to more than double in the next five years.

The two pole-mounted batteries will be for the local community to share. This initiative will help sustain our 99.99% reliability for customers.

How does the battery work?

This shared infrastructure will help power between 50 and 75 homes at peak times of the day. This is usually between 4pm and 8pm.

The batteries will charge at times of the day when there is low demand or rooftop solar systems are exporting to the grid. Power from the batteries will be used later in the day when demand spikes on the local network and solar systems are no longer generating.

Why has the battery been installed there?

The two locations were selected based on a number of criteria. First is because they are in an area where there are currently constraints on the network which means, on peak demand days, there is a risk of outages because the network cannot physically move enough electricity to meet customer needs.

Then we consulted with Bayside Council and a number of stakeholders that have informed the project's design. The two locations in Black Rock and Highett met all the criteria for customer and network needs with minimal impact.

The batteries are carefully designed to blend into the urban landscape with no impact on residents.

I have concern about electromagnetic fields. How safe is the battery?

The batteries are safe for use in residential areas. At 75kWh, the battery is significantly smaller than the one you'll find in a Tesla electric vehicle of 100kWh.

Like any battery, they emit an electromagnetic field. However, the batteries selected comply with the Australian standards for safety (Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and Radiocommunications (Electromagnetic Radiation — Human Exposure) Standard 2014.)

The level of electromagnetic fields emitted is similar to that from a standard-size household battery which is commonly used to support rooftop solar in homes now.

Will I experience a power outage while these batteries are installed?

Our teams need to turn off the power to work safely on powerlines.

Some customers in the immediate vicinity of the batteries may therefore experience a power outage during business hours while the batteries are being installed.

If you are going to be affected, we will let you know at least four business days before the outage, in the same way we normally notify of a planned interruption.

Where has this been done before?

This is an Australian first for using batteries on the low voltage network to supply homes and businesses. Importantly though, it is using battery technology that is well developed but not yet available at an affordable cost to households.

This is the first time batteries have been mounted on poles as an alternative electricity source for a local community.

The only initiative similar was a battery trial in Canada which was conducted to power water pumping stations and sewage systems.

How often will the batteries be used?

This is one of the key factors we'll be monitoring during this trial.

At the moment we envisage they will just be used during peak demand periods between 4pm and 8pm when household demand is highest and solar systems are no longer generating. We also expect they'll be valuable for extra capacity on extreme heat days during summer.

How long will this battery power the houses it's connected to?

Each battery has the capacity to run at full capacity for up to 2.5 hours when needed. It depends on the demands of the local network at the peak period but the batteries will assist to supply additional electricity during the busy evening period between 4pm – 8pm.

How many houses are connected to the battery?

Each battery will support a local community of between 50 and 75 customers.

Will the battery remain in operation at the end of the trial?

We'll be installing and commissioning the batteries in early February 2020. We will monitor the batteries and how they operate and report on findings in June 2020. If the trial is successful, we'll keep operating the batteries.

What is the life expectancy of this battery?

The batteries have a life expectancy of between 10 and 12 years.

Who pays for the battery trial?

The cost is being funded by the Australian Energy Regulator's Demand Management Innovation Allowance (DMIA) and United Energy. The DMIA provides funding to encourage distributors to conduct research into innovative techniques for managing peak demand.

The project will cost approximately \$500,000.

For us, it is an investment in developing a flexible network to power customer choices.

Will installing batteries be business as usual instead of upgrading the network?

No. We are still investing in upgrades to the network and asset replacements every year as part of a program of works.

We expect this project will prove batteries can be considered as another way to defer higher cost spending on the network and help keep prices low for customers.

United Energy spends about \$4 million a year to replace and upgrade overloaded distribution substations in order to maintain 99.99% reliability of electricity supplies to customers.

In order to keep costs low for customers though, we take a conservative approach. This means we look at all low cost options first before deciding to invest. The use of batteries is expected to become another way we can defer higher cost spending on the network.

Will the use of the battery reduce my electricity bill?

United Energy distribution charges are already amongst the lowest in the National Electricity Market at around \$326 per annum for a typical household customer.

As this is the first time in the world batteries have been installed on a low voltage network and shared amongst a community, the financial benefits will be one of the areas we'll monitor.

The main benefit at this stage will be in reliability of electricity supplies to the customers involved.

Our expectation though is that batteries will be another way to defer higher cost spending on the network and therefore help keep prices low for customers.

Can you pay people to install batteries at their house instead?

We've done other trials before that have involved both rooftop solar systems and batteries. These did not generate the network and customer benefits expected.

The Victorian Government has a program offering solar battery rebates. Visit <https://www.solar.vic.gov.au/solar-battery-rebate> to look at the current rebate period.

This can be an option for any customer interested in their own household battery.

Can I still be part of this if I have solar?

Yes you can. The batteries will be charged by a number of measures - either by using excess solar that is exported to the network during the day or directly from the network.

Customers that currently have solar will still be paid their feed in tariff for excess solar exported to the network. In the evening when rooftop solar is no longer providing power, customers will still receive electricity as they do now.

Do I have to be with a specific retailer to benefit?

No, all customers that are connected to the part of the network where the batteries will be located will benefit.

Once the battery is installed, can you guarantee that I won't have a power outage?

The battery will be a new source of electricity for homes and businesses in the area. You won't see any difference in your electricity supply when the battery power kicks in.

The purpose of this shared infrastructure is to help sustain 99.99% reliability for customers and removing capacity constraints on the network.

On average, UE customers are without power for around 44 minutes per year due to outages.

These outages can occur for a variety of reasons including trees and animals on powerlines, or cars into poles, often that are outside our control. The battery will not help in these situations.

What can I expect from the battery when it's operating?

The batteries have been carefully designed to blend into the urban landscape with no impact on residents.

The battery cabinet is lined with noise reducing foam to minimise any noise while the battery and equipment is operating ensuring we meet the Environment Protection Authority (EPA) guidelines.

Who was engaged about the project?

We have already spoken with Bayside Council and other community leaders about the initiative and consulted about the locations, size, colour and noise considerations.

Bayside Council supports the project as it will help contribute to their carbon emissions reduction objectives.

Information is available online and through United Energy on 1300 301 101.

Is this being trialled to add more power to the system?

No. This is about developing a flexible network to make sure we can power customer choices.

The local batteries will be a new source of electricity for homes and businesses but does not replace other forms of generation.

How big are the batteries?

The batteries have been carefully designed to blend into the urban landscape with no impact on residents. The cabinet that will be installed on the poles measures 2m x 1m and contains all the equipment needed to safely operate the battery. The cabinet will be mounted to wrap around the pole and will protrude by approximately 0.5m either side of the pole.

Will you be rolling out batteries right across the network?

Not right now. This is the first time batteries have been used on low voltage network to power homes and businesses so we need to assess the benefits for customers and our network.

Our expectation though is that batteries will be another way to defer higher cost spending on the network and therefore help keep prices low for customers.