Battery energy storage systems

Unlocking the network of the future.

At Ausgrid, we're transforming the grid to build a resilient, affordable and net zero future.

This includes planning for Battery Energy Storage Systems (BESS) connected to our distribution network, to enhance renewable energy integration and network reliability.

Ausgrid is planning for several BESS projects, located next to existing substations on existing Ausgrid property, to enhance renewable energy integration and network reliability. The largest of these will store up to 400MWh of energy – that's enough to power more than 27,000 Ausgrid households for a day.

A BESS is a group of large rechargeable batteries, connected to form one very large battery.

BESS collect energy, store it when there is a low demand, and then release it when there is high demand for electricity. These large batteries are critical to ensuring the reliability of electricity supply for households and businesses. This factsheet will outline how BESS fit into and can improve the electricity network and the benefits to connecting them to substations.

The benefits of BESS include:

- **Enabling more renewable energy**
- **Reducing the need for new transmission lines**
- **Local construction jobs**
- **Improving grid stability and reliability**
- **Enabling more affordable electricity**

You can find out more about our BESS projects at **yoursay.ausgrid.com.au**

Planning for the energy network of the future, now

The electricity network starts with electricity generation (like coal-fired, wind, solar and hydro power).

Electricity is transferred from many generation sources bythe high-voltage, very large transmission network, to zone substations.

From here, electricity is transferred via the distribution network (the poles and wires on our streets or sometimes underground) to homes, businesses and critical infrastructure like hospitals.

The BESS we are proposing will be located to next to Ausgrid substations and store electricity when there is excess electricity being produced – and electricity is low cost. When electricity is in demand, the BESS will feed it back into the network.

This will improve the reliability of electricity across the network and ensure we have a steady supply. This also addresses technical issues around the variability of renewable energy and enable more rooftop solar, and large-scale renewable energy.

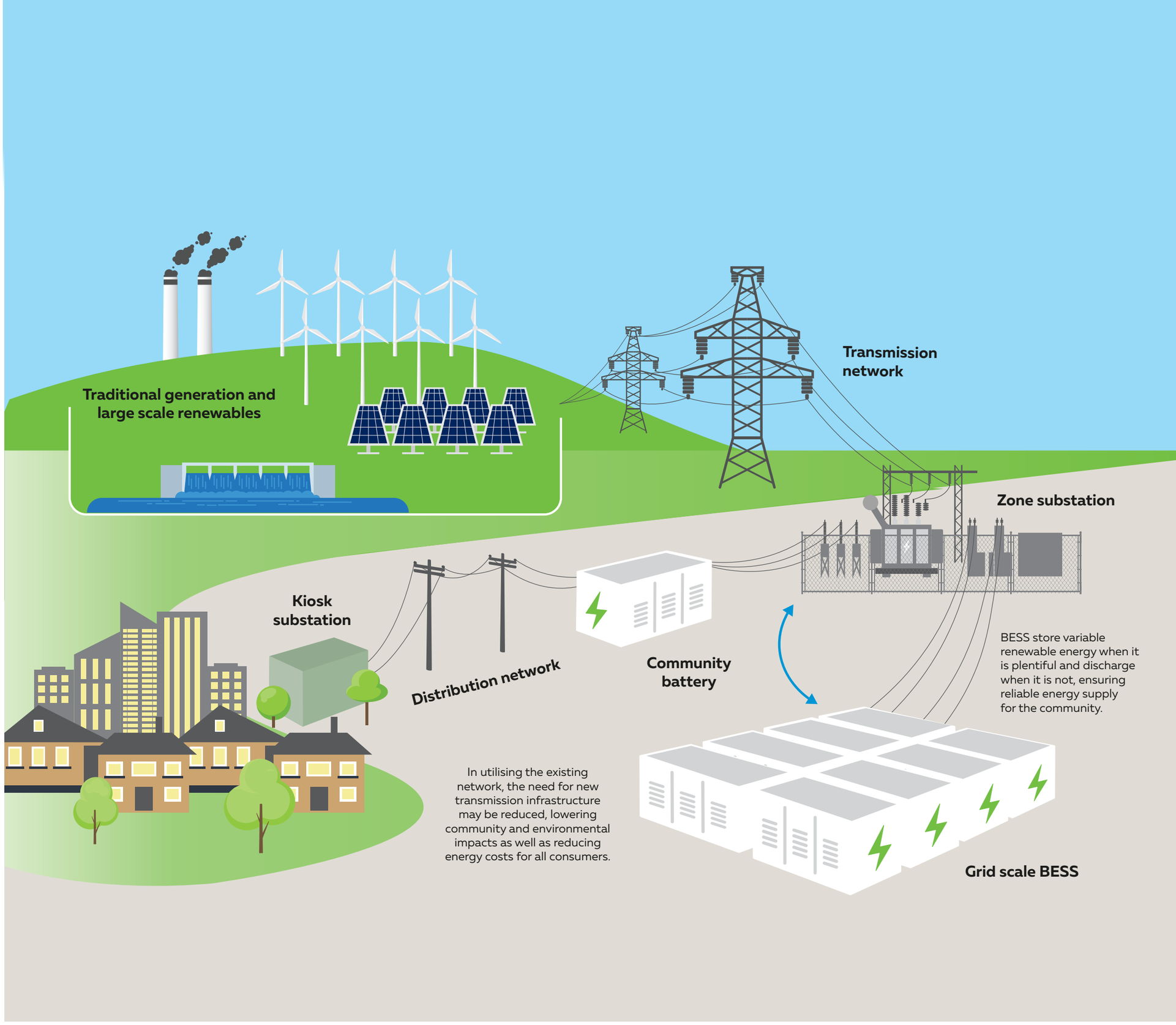
Energy storage – big and small – will play a critical role in supporting the transition to a more resilient and affordable electricity network.

Providing more sustainable, reliable and affordable electricity

As we switch to renewable sources like solar and wind power, we need more energy storage to make sure we have power when the sun isn't shining and the wind isn't blowing.

To support the energy transition, NSW needs six times more energy storage than we currently have by 2030.

Ausgrid's BESS Program can enable more energy storage faster and at lower cost. This will mean we can provide our customers with more sustainable, more reliable and more affordable electricity.



Connecting BESS to the distribution network

Typically, BESS are built and connected to electricity generation projects, such as solar or wind farms on the high voltage transmission network.

Connecting BESS to our existing substations and integrating them into the distribution network has many benefits:

- Reducing the loss of electricity as it doesn't have as far to travel from where it is stored to where it is used.
- Helping defer expensive upgrades to the wider network, making electricity more affordable
- Improving the resilience of the network during more frequent and extreme weather events
- Speeding up the energy transition by using existing assets.

By locating BESS next to existing substations, we are also reducing the impact on local communities and the environment.

BESS connected to an existing substation reduces the need to build larger transmission and distribution lines, which helps reduce costs across the network and makes electricity more affordable.

Ausgrid is also connecting community batteries to our network infrastructure. Community batteries use the same technology at a smaller scale and help manage local energy from rooftop solar.

BESS support the clean energy transition and make the energy network more:

Reliable

BESS enable more renewable energy to come online by storing energy when there is more than we need and releasing it when it's required. This keeps the power supply steady, even when the sun isn't shining or the wind isn't blowing, providing a more resilient and reliable electricity network.

Affordable

BESS connected to Ausgrid's current network better utilizes existing infrastructure, reducing the need for additional investment. This makes the cost of electricity cheaper over time.

Sustainable

BESS enable more renewable energy like wind and solar to connect to the energy network. By connecting to our existing substations, it avoids the need for new transmission lines, reducing the environmental and community impacts of large infrastructure projects.

Engaging with the community

As part of the project's assessment and approval as a State Significant Development, Ausgrid is consulting with stakeholders, the local community and our neighbours to:

- Inform those impacted or interested in the project
- Receive feedback on the proposed BESS project
- Understand the potential social, economic or environmental risks of the project
- Work with the community to mitigate potential impacts.

We want to hear from the local community and answer any questions you might have. The feedback we get from this early consultation will help shape the design of the project.

1800 574 044
Monday to Friday 9am to 4:30pm

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If you need an interpreter, please call the Translating and Interpreting Service on **131 450** and ask them to call the project team on **1800 574 044**. The interpreter will then help you with translation.

Ausgrid