

Assisting the NT
in meeting its 50%
by 2030 renewable
energy target

INTYALHEME
CENTRE FOR FUTURE ENERGY

Solving challenges
in one of our most
complex & isolated
power systems



Battery Energy Storage System (BESS)

The Alice Springs Battery Energy Storage System, or BESS, is a grid-connected lithium iron phosphate battery, owned by Territory Generation. In relation to the size of the Alice Springs grid, it has a capacity significantly greater than other battery systems in Australia.

Alice Springs is a natural location for solar photovoltaic power generation, thanks to 300 sunny days per year, on average. However, even under the usually clear skies of Central Australia, solar intermittency puts pressure on grid stability. Cloud cover can cause swings in solar generation, so conventional 'spinning reserve' is required to be online, ready to service the load that can't be met through solar at that moment. Even with spinning reserve, swings in solar generation can be so fast, conventional generation cannot react quickly enough to take over seamlessly. Swings cause frequency fluctuations and instability on the power grid, which can ultimately cause load shedding (partial blackouts).

The BESS is optimised to provide frequency stability and voltage support to the grid. It reduces the impact of solar generation power swings, potentially allowing further penetration of solar on to the grid. Grid-connected battery energy storage systems are relatively new, and the technology is still being developed.

The BESS is located at Territory Generation's Sadadeen Valley site, alongside Ron Goodin power station. It is remotely monitored and can be operated from Darwin, but usually operates autonomously.

Quick facts

The BESS can deliver 8MW for 6 seconds, 7.5MW for 54 seconds and 5MW for 40 minutes.

It is comprised of 816 individual batteries.

Future expansion is possible, as the BESS is modular.

It can deliver up to 10% of the region's highest recorded load.



The Intyalheme Centre for Future Energy is helping to identify and coordinate the removal of barriers to further renewable energy penetration in the Alice Springs power system.

More details: intyalheme.dka.com.au

a flagship project of

