

# Community Profile

## Stanage Bay

Photo credit: [www.southerngreatbarrierreef.com.au](http://www.southerngreatbarrierreef.com.au)

## Community Microgrid Feasibility Study

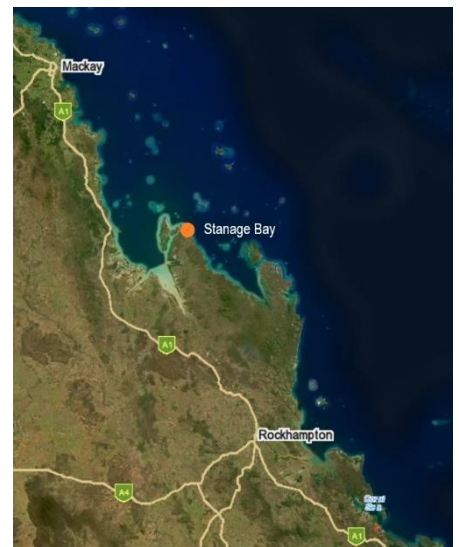
### Stanage Bay Community Profile

#### About the Stanage Bay community

Stanage Bay is a coastal rural town on the Capricorn Coast, 150 kilometre north of Rockhampton, mid-way between Rockhampton and Mackay. The community is located on the tip of the Torilla Peninsula, between Broad Sound and Shoalwater Bay in the Coral Sea. The town is part of the Livingstone Shire Council local government area, in the state electorate of Mirani.

Stanage Bay is the traditionally the home of the Kuinmabra Clan, one of the clan groups of the Darumbal nation. Traditional Darumbal society dictated living in harmony with their country. They continue to have a strong continuous connection to the land and sea.

A popular recreational destination for boating, camping, and fishing activities, with several holiday rental accommodation options, Stanage Bay's regular population of around 80 residents, grows substantially during peak tourist seasons. Stanage Bay is a picture of paradise, surrounded by an abundance of birds and wildlife. It's easy to see why this small community is such a draw card to visitors.



#### The electricity network at Stanage Bay

Stanage Bay's electricity is supplied by Ergon's 'Northern' feeder, a 22,000 volt or 22kV powerline which is fed from the Pandoin Substation, located around 200 kilometres south in the northern suburbs of Rockhampton.

With a backbone approximately 200 kilometres in length and a total line length of just over 1,000 kilometres, the powerline is primarily timber pole in construction, comprising of three-phase construction with Single Wire Earth Return, or SWER networks, that feeds the Stanage Bay community and the surrounding rural properties.

The network in Stanage Bay currently services 112 residential and holiday accommodation properties and four local business. A further 24 residential and pastoral properties are distributed along the 100 kilometres SWER line that supplies the area. Total maximum demand for the peninsular is estimated at approximately 250kVA and a predicted annual consumption of 876,000kWh.

The Stanage Bay electricity load is concentrated at the end of the SWER feeder with most of the population at the township at Stanage Bay. The load is also highly seasonal with loads peaking during the December/January and March/April holiday periods due to the outdoor recreational nature of the community. Ergon currently has one power quality meter in the Stanage Bay area, which has shown voltage drop issues can occur during the peak holiday seasons. Loading on the transformer that supplies the SWER network is also at its limits.

Those things that make Stanage Bay an ideal spot for visitors – it's remote coastal location, fresh sea air and an abundance of wildlife – present several challenges to Ergon in maintaining a reliable power supply. The length and design of the powerline, atmospheric conditions, variable landscapes the powerline traverses, access, and the abundance of wildlife and birdlife, all contribute to a supply reliability standard that is significantly lower than townships located more centrally to the network's backbone infrastructure.

However, emerging intelligent grid technologies and distributed renewable energy resources, like solar and battery storage, may provide an opportunity to improve the reliability and resilience of the electricity supply to regional and remote communities like Stanage Bay.

## About the Community Microgrid Feasibility Study

With a view to overcoming some of these network challenges, we are investigating innovative solutions to energise Queensland's regional and remote communities in our Community Microgrid Feasibility Study.

With funding from the Federal Government's Regional and Remote Communities Reliability Fund (RRCRF), we will conduct a Community Microgrid Feasibility Study to investigate how innovative technology solutions, using solar energy, battery storage integrated with smart communications devices, can improve the reliability of electricity supply to remote and regional communities at the fringe of Queensland's electricity network.

The study will allow us to test different technology options, determine the feasibility of establishing microgrids to improve network reliability and resilience, and identify the best solutions to energise Queensland's communities.

The Central Queensland coastal towns of Clairview and Stanage Bay are the focus of this exciting Community Microgrid Feasibility Study.

The design of the Northern feeder, incorporating both three-phase and Single Wire Earth Return (SWER) construction in a fringe of grid location, makes these two communities ideal for our feasibility study, allowing us to see how microgrid technologies can be applied in different sections of the network.

## The focus of our feasibility study in Stanage Bay

Stanage Bay will provide a case study of a remote community at the end of a SWER network in the Community Microgrid Feasibility Study.

Building on Ergon's experience in isolated microgrids, our research will investigate the options, using intelligent grid and renewable energy technologies, to improve Stanage Bay's electricity reliability and resilience. The quality of supply to the Stanage Bay township will be investigated in detail.

It is anticipated that solutions identified for Stanage Bay may also be applied to other remote communities on Queensland's SWER networks.



## Get in touch with us

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