

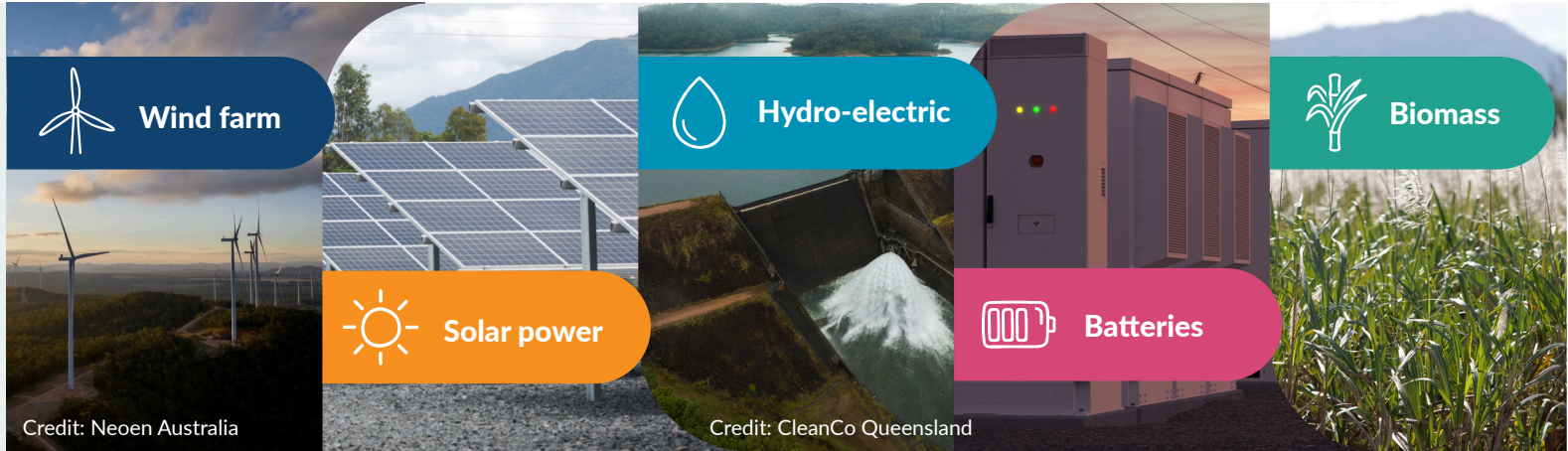
# What is renewable energy?

Find out more about what Council can do for schools  
[www.cairns.qld.gov.au/sustainability](http://www.cairns.qld.gov.au/sustainability)

Renewable energy comes from natural sources like sun, wind, and flowing water that are naturally replaced over time. It produces power with far less environmental impact, supporting a healthier planet.

## Types of renewable energy in Far North Queensland

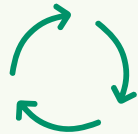
Cairns and Far North Queensland are blessed with ample wind, water, land and solar resources, making our region ideal for harnessing renewable energy. In addition, agricultural activities generate byproducts that can be effectively used as a source of low-carbon energy.



## Why is renewable energy important?



**Better for the planet**  
lower CO2 emissions  
compared to fossil fuel



**Doesn't run out**  
sun, wind and water  
keep coming back



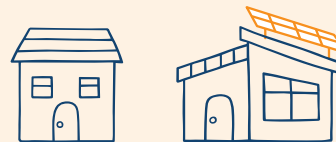
**Keeps people healthier**  
cleaner air means  
fewer illnesses



**Helps power the future**  
there will be energy for  
the next generations

## Cairns loves solar!

Cairns has a natural advantage in generating solar power. Our region's solar generation comes from small scale roof-top solar systems as well as large-scale solar farms.



**52.5%** of houses in Cairns  
have solar systems

as at December 2025, Clean Energy Regulator

For the latest figures, visit the Australian PV Institute website  
at [pv-map.apvi.org.au/historical#12](http://pv-map.apvi.org.au/historical#12)

## What is Council doing?

Our installed solar is made up of **37 rooftop systems** on Council facilities as well as 4 ground-mounted systems.

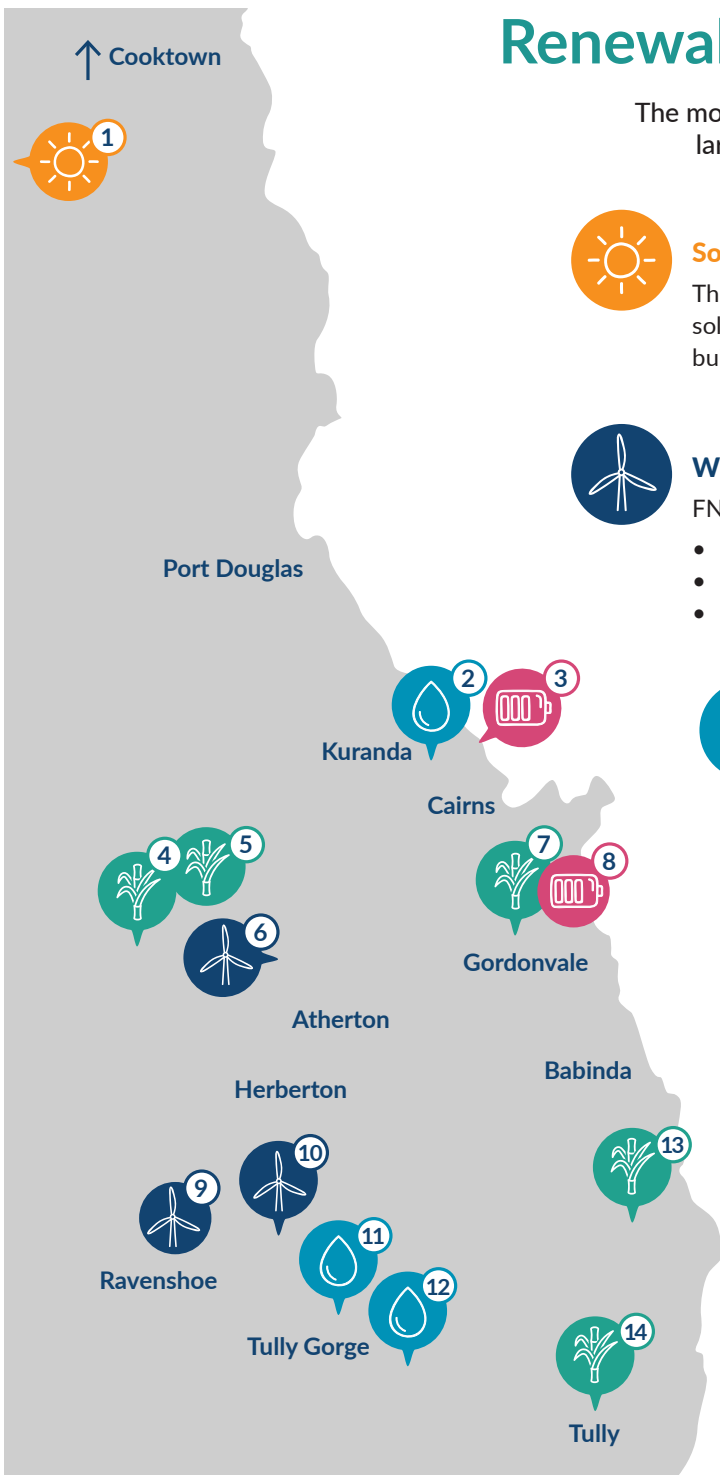
The solar systems range in size from **1kW to 601kW**, totalling in over 3MW of electricity. This helps to power Council buildings including libraries, community halls and public pools.

Around  
**10%** of Council's electricity is  
supplied from solar!



# Renewable energy in Far North Queensland

The most common forms of renewable energy in our region are roof-top solar, large-scale solar farms, wind farms and hydro-electric power plants.



## Solar power

The Lakeland Solar Farm ① is a large-scale, grid-connected solar photovoltaic (PV) and battery storage facility. It was built in 2017 and has a capacity of 10.8MW.



## Wind farm

FNQ is home to three wind farms.

- Windy Hill ⑩ - built 2000, capacity 12MW
- Mt Emerald ⑥ - built 2018, capacity 180MW
- Kaban ⑨ - built 2022, capacity 157MW



## Hydro-electric

FNQ is home to three hydro-electric power stations. River water flows through powerful generators to produce clean energy.

- Kareeya ⑪ - built in 1957, capacity 88MW
- Barron Gorge ② - built in 1963, capacity 66MW
- Koombaloomba ⑫ - built in 2001, capacity 7MW



## Batteries

Large-scale battery storage substations are installed at Kewarra ③ and Gordonvale ⑧. A battery storage facility is also approved for construction at Kaban wind farm.



## Biomass

Bagasse is used to generate power at the sugar mills on the Atherton Tablelands ④⑤, Gordonvale ⑦, South Johnstone ⑬ and Tully ⑭.

### Did you know?

Solar farms can co-exist on the same piece of land with other agricultural activities like grazing and cropping, providing more jobs for the local community and another income for farmers.

### Did you know?

The turbines at Kaban are 226m tall and each generates 5.6MW of power. The Windy Hill turbines stand at 44m tall and each generate 0.6MW of power. Mt Emerald mostly generates at night, making it a perfect complement to solar generation during the day.

### Did you know?

The original Barron Gorge Hydro opened in 1932. It was the first underground power station in Australia and the first hydro-electric station in Queensland. The current facility was commissioned in 1963.

### Did you know?

Large-scale batteries are charged during periods where energy supply in the network is much higher than demand. Stored electricity is then released into the grid when demand is high, which typically occurs when Queenslanders are returning home for the day.

### Did you know?

Bagasse is the fibre by-product from crushing sugarcane. It is burned in boilers at temperatures of more than 800°C. This produces steam which drives turbines to generate electricity for the mill. Surplus electricity is fed into the Queensland grid.