



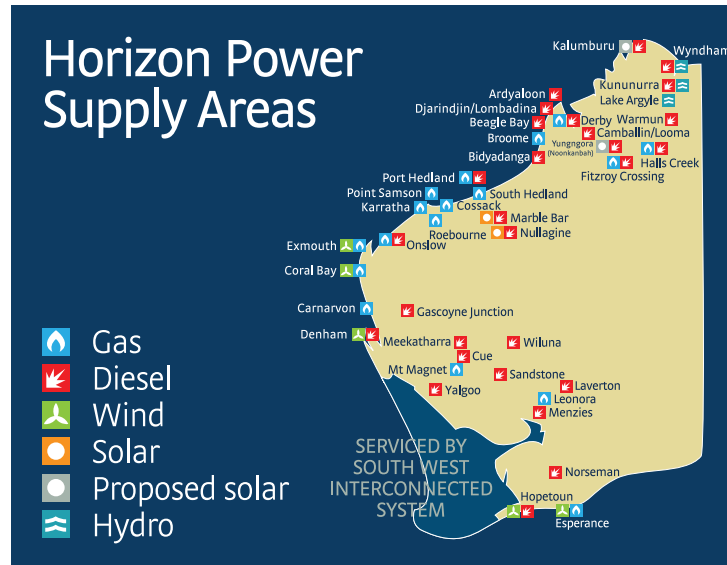
# POWER STATIONS

Horizon Power currently delivers electricity to 43,000 homes and businesses. This means we supply electricity to more than 100,000 residents of regional towns and remote communities and more than 9,000 businesses.

Your home is one of them.

The areas we operate in are:

- Kimberley
- Pilbara
- Gascoyne
- Mid West
- Southern Goldfields



## Types

Horizon Power delivers electricity to your home through a variety of ways. In some towns we own and operate power stations and in other towns we purchase the electricity from other businesses, known as independent providers.

We use different delivery methods to make sure all homes have electricity.

- In the Pilbara there is 460km of powerlines connecting towns all across the region including Karratha and Port Hedland. This is called the North West Interconnected System (NWIS).
- In the Kimberley there is 265km of powerlines connecting towns to the Ord Hydro electricity power station. This is called the Kununurra and Wyndham Network.
- All our other towns are supplied by their own power stations and network systems. Horizon Power also collects electricity from eight renewable energy power stations around regional and remote Western Australia.

We use different resources to fuel our power stations (see Renewable and Non-renewable sections). The fuel is used to generate between 11,000 – 16,000 volts of electricity. This electricity then needs to travel along powerlines over long distances throughout our service area. To make sure this happens, we increase the voltage of electricity to a higher amount to push it out to the furthest home on the powerlines.

# GENERATORS

Power stations use machines called generators to generate electricity. It is the job of a generator to convert mechanical energy into electrical energy.

So how do they work?

Electrical generators are operated by massive turbines to create electricity. We use both renewable and non renewable energy sources to spin these turbines.

A generator contains two main parts: the rotor and the stator.

The rotor is the part which rotates, due to the spinning of a turbine and has a huge magnet inside of it. The stator is the part which is covered in copper wires.

The electrical current is created when the rotor spins around the copper wire on the stator. The spinning magnets excite the electrons in the copper wire, producing an electric current.

