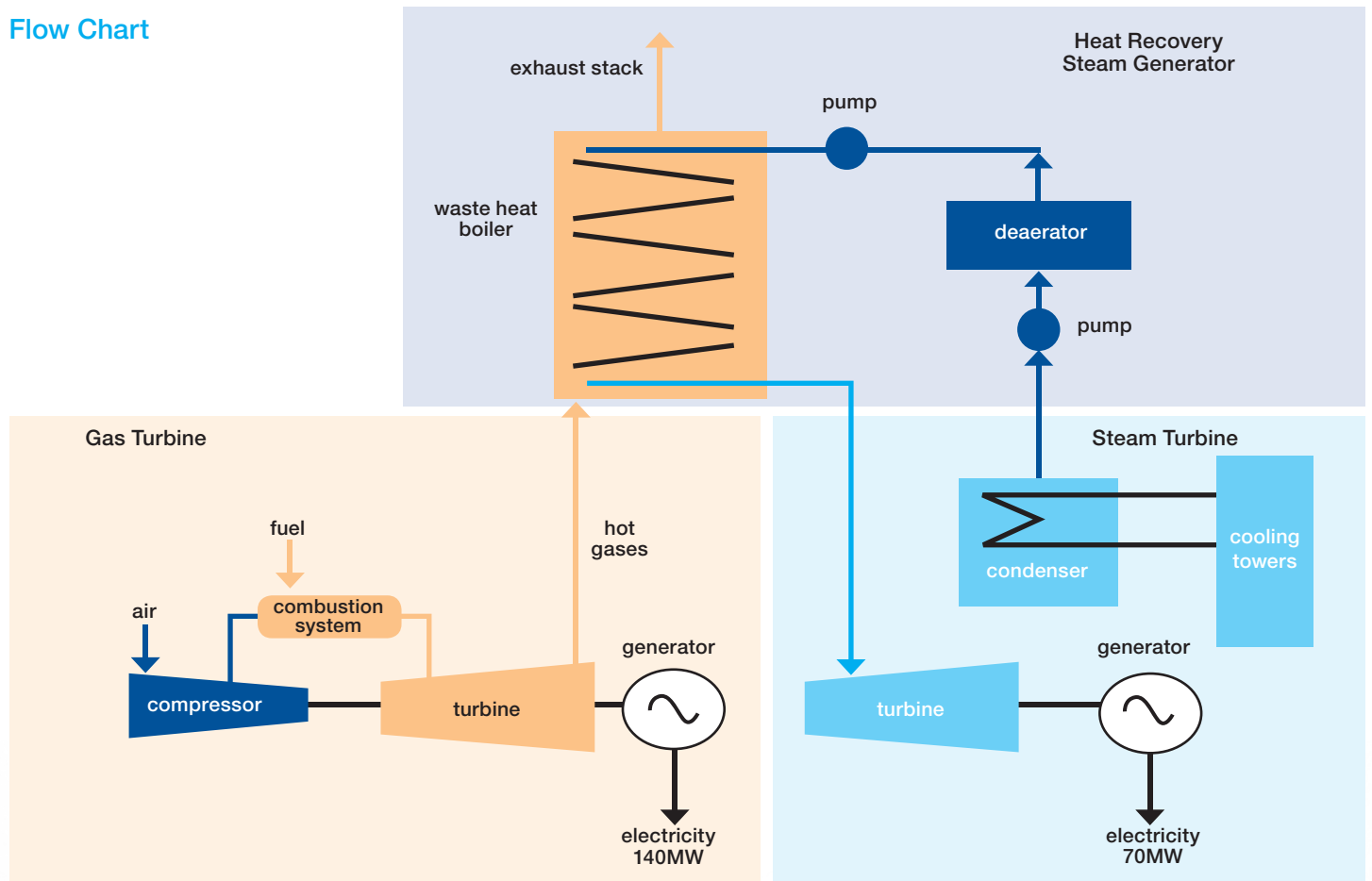


TAMAR VALLEY POWER STATION

How it works

Flow Chart



The Tamar Valley Power Station uses low emission, efficient gas turbine technology to produce approximately 390 Megawatts (MW) of electricity.

It features one 210 MW combined cycle gas turbine and a back-up combination of four open cycle gas turbines, totalling another 180 MW.

Generators

Combined cycle power plants are among the most modern and efficient electricity generators.

They convert more than 50 per cent of the natural gas into electrical energy, compared to about 30 per cent efficiency for the recently shut down Bell Bay thermal power station.

Fuel

The Tamar Valley Power Station uses natural gas sourced from the Tasmanian Gas Pipeline, thereby reducing the State's reliance on hydro-electricity and helps minimise the stress on water storage levels.

The Technology

In conventional open cycle gas turbines, air is compressed and mixed with natural gas in a combustion process. The resultant hot gas expands through turbine blades, which forces the shaft of the gas turbine to rotate and drive the electrical generator. Exhaust gases are released into the atmosphere.

In combined cycle power plants the exhaust gases are used to heat water-filled tubes to produce steam. The resulting high pressure, super-heated steam passes through a steam turbine, driving the turbine rotor connected to a second electrical generator.

Exhaust steam from the steam turbine is condensed back to water and returned to the heat recovery steam generator in a continuous cycle. A separate cooling water circuit delivers water from a cooling tower to the condenser in order to condense the steam.