

# Kogan Creek Mine

<b>Location</b>	Kogan Creek, near Chinchilla in South West Queensland
<b>Total coal resource</b>	400 million tonnes
<b>Fuel provided</b>	Approx 2.8 million tonnes of coal per year (or 8,000 tonnes per day)
<b>Workforce</b>	80 people
<b>Overburden removal</b>	7.0 Mbcmpa
<b>ROM coal production</b>	2.8 Mtpa



CS Energy is a Queensland Government owned energy provider with a unique mix of technology and an innovative approach that is powered by experienced, skilled and talented people. We strive to deliver a sustainable and commercially viable future for our organisation, our employees and the people of Queensland.

Our generating portfolio comprises the 1,630 megawatt (MW) coal-fired Callide Power Station near Biloela in Central Queensland, the 750 MW Kogan Creek Power Station near Chinchilla in South West Queensland, and the 500 MW pumped storage hydroelectric Wivenhoe Power Station near Fernvale in South East Queensland.

## Kogan Creek Mine

The Kogan Creek Mine delivers approximately 2.8 million tonnes of coal per year to CS Energy's Kogan Creek Power Station via a four kilometre overland conveyor.

The Kogan Creek Power Station has a capacity of 750 MW and operates as a baseload generator, providing electricity 24 hours a day, seven days a week. It can generate enough electricity to power up to one million homes.

CS Energy owns both the mine and power station, which commenced operations in 2007. CS Energy employees operate and maintain the power station and Queensland-based company, Golding Contractors operate the mine.

The open cut mine is located four kilometres east of the power station in the western Darling Downs, near the town of Chinchilla.

## Mining process

During the first stage of mining at Kogan Creek, the area to be mined is inspected for items of Cultural Heritage, before and after the removal and storage of topsoil. Next is the removal of overburden, which is the soil, clay and rock sitting above the coal seams.

This overburden is then removed using 250 tonne excavators that dig up to 15 cubic metres in each bucket and load 150 tonne Terex MT3300 haul trucks. These trucks move the overburden to the spoil dump via ramps. These spoil dumps progressively refill the void after the coal has been mined, allowing for the rehabilitation of the land.

The mine has a shallow overburden thickness and coal starts at approximately 12–15 metres below the surface. The three main seams of coal – M, N and O – have a total thickness of 12 metres and dip gently to the south west. The coal sits in relatively flat 0.1 metre to 3metre thick seams with parting layers of rock and clay between each coal seam. The coal is selectively mined from the parting using 12 cubic metre front end loaders and smaller 90 tonne Komatsu HD785 haul trucks which transport the coal to the Run of Mine pad, where it is loaded into the crusher and conveyed directly to the power station. The waste parting bands are hauled to the spoil dump.



## Water management

The high quality of the Kogan Creek coal eliminates the need for pre-treatment such as washing, helping to conserve local water supplies. This approach complements the operation of the power station, which is dry-cooled and uses 90 per cent less water than an equivalent sized wet-cooled power station.

## Overburden

The overburden produced at the mine is dumped as spoil and used to fill the previous pit void where coal was recently removed. These overburden spoil dumps are gradually shaped into hills about 30 metres high and revegetated with local grasses, trees and shrubs to form a natural habitat.

## Ash management

Waste ash from the power station is stored in specially designed ash cells in the spoil dumps. At the power station, waste ash is mixed with a small amount of water and pumped via steel pipeline back to the mine where it is deposited in the ash cell for permanent storage. When full, the ash cells will be capped with spoil and soil and then revegetated during the rehabilitation process.