



# Cogeneration Power Plant Installation

RACECOURSE MILL, QUEENSLAND

## PROJECT OVERVIEW

**CLIENT:** Mackay Sugar Limited  
**DURATION:** August 2011 - June 2012  
**ENVIRONMENT:** Brownfields

The 38MW Cogeneration Plant at Racecourse Mill produces enough renewable energy to power approximately 30% of Mackay and reduces greenhouse gas emissions by 200,000T equivalent carbon dioxide (CO<sub>2</sub>e) each year.

G&S was engaged to undertake the structural, mechanical, piping, electrical and instrumentation (SMP&E) erection of the high pressure, high efficiency boiler and power plant equipment capable of operating on both bagasse and coal fuels. The installation included supplying all construction equipment, crange, supervision and labour required for the project including commissioning support labour.

The construction took place in an operation brownfield plant with very restricted space available for construction. This required an innovative and strategically sequenced build by G&S.

The scope of works involved the assembly and installation of:

- Field erected bagasse-coal fired boiler
- Steam turbine generator
- Condensing and extraction equipment
- Interconnecting high pressure and low pressure piping and valving, piping support steelwork, and pipe racks
- Modifications to existing structure to form a turbine and equipment house
- Auxiliary cooling system
- Steam transformer and various feed heater plant
- Ash and dust handling plant and pipe work
- Additional water treatment plant and chemical dosing equipment
- Cooling water piping and associated plant
- Transformers and switch rooms, and
- Control system and instrumentation.

