

# CASE STUDY COMMERCIAL



## 8 CHIFLEY SQUARE, SYDNEY

Cogent Energy has designed and installed a state of the art trigeneration plant at Mirvac's new 6 star Green Star office development at 8 Chifley Square, Sydney. The trigeneration plant contributes to the high quality benchmarks for a premium grade building (in accordance with the grading system of the Property Council of Australia (PCA))<sup>1</sup>

### BUILDING SPECIFICS

**Building Owner:**

Mirvac

**Location:**

8 Chifley Square, Sydney

**Building Description:**

Commercial complex  
– premium offices &  
retail space

**Building Size:**

19,000 sqm Commercial

**Plant Operational Date:**

August 2013

### PLANT CAPACITIES

**Peak Electrical:**

400kW at 0.8 power factor

**Peak Cooling:**

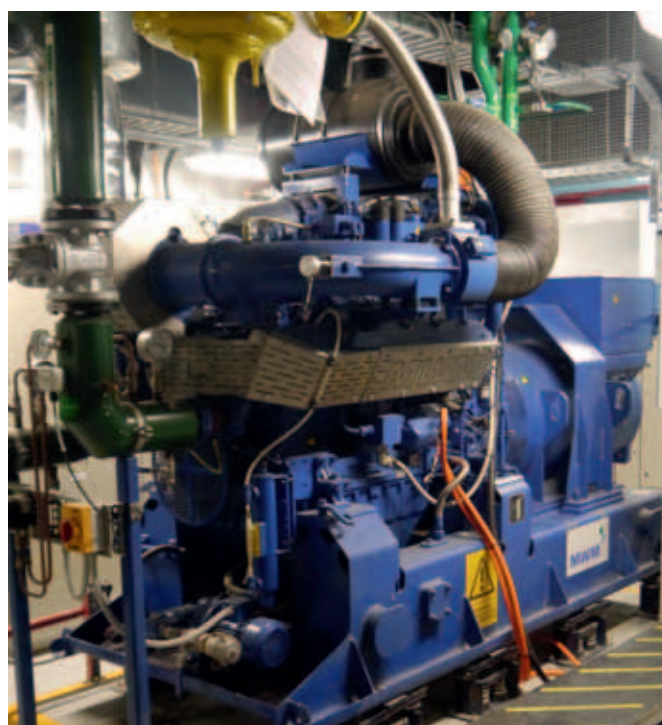
255 kW

**Peak Heating:**

212 kW

**Energy Efficiency:**

87% Overall Efficiency  
(estimated) compared to using  
grid electricity



### Trigeneration Configuration

The 8 Chifley Square trigeneration plant comprises of a 400 kW MWM TCG 2016 V8 natural gas engine connected in parallel to the grid. The engine is coupled to a 255 kW Broad exhaust fired absorption chiller. The absorption chiller is fully integrated into the building's air conditioning, chilled and condenser water systems. Additionally, the trigeneration plant provides 212 kW of heating for use by the building's HVAC systems.

The plant is set up to operate in grid parallel import/export mode and operates automatically during the peak and shoulder demand. Cogent's *cogentpower*<sup>2</sup> product is utilised to distribute any excess energy to another Mirvac building at No.1 Castlereagh St which will also benefit from the lower emission generated power.

### BENEFITS

**Energy Efficiency:**

Increase in building energy efficiency and rating scheme improvements

**Redundancy:**

Provides back up power to electric chiller assisting Premium Grade requirements

**Sustainability:**

Estimated savings of up to 705 tonnes of CO<sub>2</sub> per annum<sup>3</sup>

<sup>1</sup> Please refer to [www.8chifley.com](http://www.8chifley.com) for further information

<sup>2</sup> Refer to [www.cogentenergy.com.au/cogentpower](http://www.cogentenergy.com.au/cogentpower) for further information

<sup>3</sup> CO<sub>2</sub> savings estimations are calculated based on information from the Australian Government's National Greenhouse Accounts Factors (June 2013). Calculation methodology externally reviewed by PAE Holmes.

## FOR MORE INFORMATION

For more information about Cogent Energy  
go to [www.cogentenergy.com.au](http://www.cogentenergy.com.au) or  
contact one of our consultants on 02 9503 5034