

CASE STUDY

COMMERCIAL / RETAIL



275 KENT STREET (WESTPAC PLACE), SYDNEY

Cogent Energy has designed and installed a state of the art trigeneration plant at 275 Kent St (Westpac Place), Sydney. This building is fully owned by Mirvac and is one of the largest office buildings in Australia, with the major tenant being Westpac - <http://www.mirvac.com/275-kent-street-sydney>. This retrofit solution formed a major part of Mirvac's energy efficiency improvement program to increase the building's NABERS rating.

BUILDING SPECIFICS

Building Owner:

Mirvac

Location:

275 Kent Street, Sydney

Building Description:

Commercial complex
– premium offices &
retail space

Building Size:

77,000 sqm Commercial

Plant Operational Date:

April 2013

PLANT CAPACITIES

Peak Electrical:

1200 kW at 0.8 power factor

Peak Cooling:

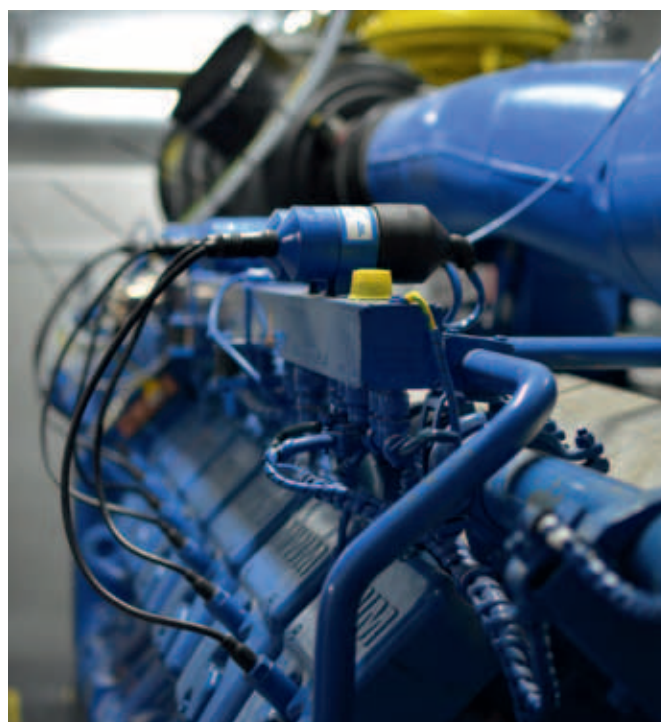
750 kW

Peak Heating:

600 kW

Energy Efficiency:

85% Overall efficiency
(estimated) compared to
using grid electricity



Trigeneration Configuration

The 275 Kent Street trigeneration plant comprises of a 1200 kW MWM TCG2020V12 natural gas engine connected in parallel to the grid. The generator is installed on Level 4 in a custom designed acoustic enclosure and sits on pneumatic air bags preventing noise and vibration to the tenancy below. The engine is coupled to a 750 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 600 kW of heating for use in 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. Cogentpower¹ is a product that allows the export of low carbon electricity across multiple switchboards to obtain the full benefit of cleaner natural gas as a fuel source. Cogent Energy is currently uniquely placed to provide this solution.

BENEFITS

Energy Efficiency:

4.0 star NABERS²

Sustainability:

Estimated savings of up to 2,380 tonnes of CO₂ per annum³

Operation:

The plant will normally operate from 6am to 8pm, Monday-Friday.

¹ Refer to www.cogentenergy.com.au/cogentpower for further information

² Refer to www.mirvac.com/275-kent-street-sydney for current published ratings

³ CO₂ 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 or
contact one of our consultants on 02 9503 5034