

Blackmores Campus, Sydney

Cogent Energy has designed and installed a state of the art trigeneration plant at the new Blackmores' head office site in Warriewood on Sydney's northern beaches. The site is the headquarters for Blackmores' Australian and international business and comprises of commercial office space, warehouse and production facilities.

Building Owner:	Blackmores
Location:	Warriewood, Sydney
Building Description:	Light Industrial, warehouse/production facility
Building Size:	14,000 sqm
Plant Operational Date:	1 September 2008

Plant Capacities

Peak Electrical:
772 kW at 0.8 power factor

Peak Cooling:
600 kW

Peak Heating:
460 kW

Energy Efficiency:
80% Overall Efficiency (estimated) when compared to grid electricity

Tri-generation Configuration

The Blackmores campus trigeneration plant comprises of 2 x 386 kW MTU Series 400 engines that are connected in parallel to the grid. One engine is coupled to 292 kW Thermax exhaust absorption chiller, while the other engine is coupled to a 461 kW Thermax single-double effect exhaust & engine jacket chiller. Plate heat exchangers provide 460 kW of heating capacity for the building space, lap pool and production heating. The absorption chillers and heat exchangers are fully integrated into the building heating, chilled and condenser water systems.

The plant is set up to operate in grid parallel import and island mode and operates automatically during the peak and shoulder demand periods or during grid outages for emergency backup.

Benefits

Energy Efficiency:
5 star NABERS for commercial office space

Backup:
Provides emergency backup if grid connection fails

Sustainability:
Estimate savings of up to 2,200 tonnes of CO₂ per annumⁱ



ⁱ CO₂ savings estimations are calculated based on information from the Australian Government's National Greenhouse Accounts Factors (June 2009). Calculation methodology externally reviewed by PAE Holmes.