



## Cogent Energy Case Study – Blackmores HQ, Sydney

Cogent Energy has designed and will soon commence installation of a state of the art cogeneration plant at the new Blackmores' head office site in Warriewood on Sydney's northern beaches. The site will be the headquarters for Blackmores' Australian and international business and comprise commercial office space, warehouse and production facility. Project details include:

<b>Building Owner:</b>	Blackmores
<b>Location:</b>	Warriewood, NSW
<b>Building Description:</b>	Commercial complex - offices, warehouse and production facility
<b>Building Size:</b>	14,000 sqm
<b>Plant In-service Date:</b>	1 March 2008

### Cogeneration Configuration

The Blackmores campus cogeneration plant comprises 2 x 386 kW MTU 400 series cogeneration 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 double effect exhaust & engine jacket chiller. Plate heat exchanges provide 625 kW of heating capacity for 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.

### Plant Capacities

<b>Peak Electrical:</b>	772 kW at 0.8 power factor
<b>Peak Cooling:</b>	753 kW
<b>Peak Heating:</b>	625 kW
<b>Energy Efficiency:</b>	80% (estimated)

### Benefits

<b>Energy cost savings:</b>	20%
<b>Reliability:</b>	Highly reliable parallel cogen solution with grid parallel import
<b>Energy Efficiency:</b>	5 star ABGR
<b>Sustainability:</b>	Saving of approximately 2,500 tonnes of CO <sub>2</sub> per annum.