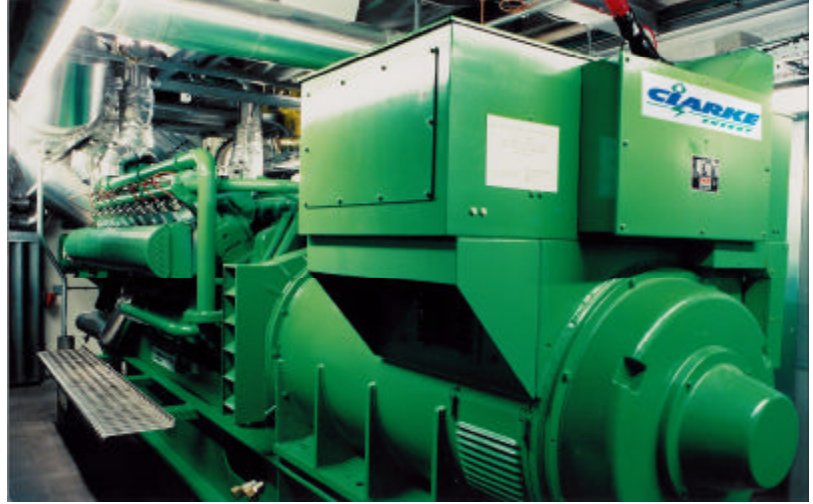


# Case Study



## Dundee University CHP



Client	Capacity	Location	Operational
Dundee University Estates	3MWe & 3MWt	Dundee, Scotland	1996

Manufacturer	Packager	Type	Primary fuel
GE Jenbacher	Clarke Energy Ltd, UK	3 x 1MWe JMS 320 GS-N.L	Natural Gas

### SITE DESCRIPTION

Dundee University is one of Britain's leading teaching and research institutions featuring a city centre campus comprising over 130,000 sq. metres of buildings used for teaching, research, student residencies, recreation and sports facilities.

The CHP plant is fully integrated into the University's energy network, the district heating system operates all year round and requires some 50,000 MW hours of energy. The three GE Jenbacher engines provide roughly 50% of this requirement whilst generating some 98% of the electrical needs of the site. The load varies dramatically as peak day demand exceeds 3 MW, but overnight and at weekends 1.2 - 1.4 MW is needed. Even in the summertime, a daytime load of 2.5 MW ensures that all three engines are still required. However, with close attention to detail and management of the thermal network, very little energy is ever wasted; this is evidenced by the fact that only 3% of the available high grade heat is ever taken to dump.

In forecasting the economic benefit to the University of CHP, care was taken to recognise growth in demand resulting from developments to the estate. The £12 million Wellcome Trust building represents the leading edge of life sciences research, is connected to the central energy networks. This energy-intensive building, which operates 24 hours a day, relies heavily for its cost-effectiveness upon the supply of energy, which is provided entirely by the CHP system.

Peter Copeland, the Director of Estates & Buildings, has been very proactive in the installation and subsequent operation of the cogeneration plant and all its support systems and has been delighted with the success of the project, "Having finally taken the decision to commit to this environmentally friendly combined heat and power system, the University is achieving rewards in line with predicted performance. Since going live, the plant has run continuously, the triple engine configuration ensuring output is always available as required even whilst servicing takes place. As important as the quality of build is the support received from Clarke Energy and GE Jenbacher, both of whom have contributed to the success which is apparent to all concerned.



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