CHP case study

University of Liverpool

The Site:
The University of Liverpool main campus

30,000 FTE students and 4,700 members of staff

Undergoing an expansion as part of a capital development programme

Heat provided throughout the campus via existing district

Location: Liverpool
Date Operational: 2014
CHP Installed Capacity: 4.0 MWe
Investment Cost: £7.3 million
Annual Cost Saving: £1.5 million

Project Objective:
Provide heat and power to an expanding campus at the University of Liverpool in a way which would reduce the energy bill and decrease carbon emissions
The Need:
• The size of the campus is increasing leading to a higher energy demand
• The university required a solution which reduced their energy bill to offset the expansion of the estate
• University wanted to decrease their carbon emissions

Implemented Solution:
• The university had an existing 3.4MWe CHP unit in the energy centre
• 2 x 2MWe CHP units were installed in a disused Grade II listed boiler house
• The units feed into an existing district heating network which provides space heating and hot water to the campus

The Benefits:
• The scheme has projected annual cost savings of £1.5 million per year
• Lifetime savings are expected to be £22.6 million
• 4.1 year payback period for the £6.1 million loan taken out
• Carbon emissions savings are 5,730 tonnes CO₂ per year

‘Our new CHP engines have delivered fantastic financial and carbon savings for the University. Without the support and funding from Salix Finance we would have been unable to implement such a large scale project. We look forward to continuing to work with Salix on future energy efficiency projects in order to achieve the objectives in our Carbon Management Plan.’

Peter Birch
Engineering Services Manager