

Nottingham BSF Renewable CHP Installation

Project Details

Client – Nottingham City Council Main Contractor – Carillion
 Installation – May 2009 School Open – Sept 2009
 Building size – 7,100m² CHP size – 150kWe

Project Overview

Launched nationally by the Government in 2004, the Building Schools for the Future (BSF) scheme was designed to improve every secondary school in the UK through renewals and rebuilds. Nottingham Council was awarded £89m for investment in BSF projects and in addition has committed to be “Carbon Neutral” by 2016. For its BSF school projects, Nottingham Council set a minimum requirement of 20% onsite renewable energy. LowC was appointed by Carillion as part of the bid process to develop a renewable energy strategy to meet the Council’s aspirations.



LowC Services

- Renewable technology feasibility, specification and procurement
- Project management of renewable energy installations
- Sustainable fuel procurement across a large number of BSF schools
- Ongoing maintenance and support for the full BSF cycle (25 years)

Results

Following a comprehensive feasibility study of appropriate renewable technologies (see table below), LowC proposed a fully integrated, renewable Combined Heat and Power (CHP) solution to deliver the schools’ energy demands onsite. Running on pure vegetable oil, the systems meet around 70% of the schools’ total energy requirements, far exceeding the Council’s targets. The CHP unit is connected to a thermal store which optimises the efficiency of the installation within the constraints of a school’s occupancy profile. The schools are also eligible to benefit from additional revenue streams through Renewable Obligation Certificates (ROCs) for every unit of electricity generated. LowC was also responsible for establishing a renewable fuel supply chain comprising local farming co-operatives to ensure the quality and sustainability of the fuel.

The energy strategy developed by LowC was crucial to the combined success of the bid. These are the first Renewable fuelled CHP units of their kind to be installed in schools. The school systems became fully operational in September 2009.

Key Achievements

- 70% onsite renewable energy
- 60% carbon reductions
- Cost savings of £25,000/yr compared to grid supply
- £400,000 of DCSF funding released, by exceeding the threshold of 60% onsite renewable energy.

For Info Contact Doug Chaplin dc@lowc.co.uk or call us on the number below.

Technology	Renewable Content	Carbon Saving
Pure plant oil CHP	Up to 75%	60%
Biomass boiler	Up to 40%	24%
Gas CHP	0%	20-25%
Ground Source Heating	30%	Approx 9%
Wind Energy	9% / turbine	12% / turbine