

Location

Wolverhampton

Client

Wolverhampton City Council



Project at a glance

Form 2 Control Panels

Trend 963 Server

IQ3 Web Enabled Controllers

ecoDriver Energy Monitoring

Remotely Monitored via WCC
Secure VPN

St Lukes Primary School in Blakenhall, Wolverhampton is a state of the art, highly sustainable, all timber construction for the future.

At the fulcrum of Blakenhall's regeneration scheme, 'A New Deal for Communities' the local community now has an educational facility of which it can be truly proud.

Further affirmation of this is the fact that the school has been awarded a BREEAM rating of 'Excellent,' making it the first primary school in Britain to achieve this accolade. St Lukes is also hotly tipped to scoop a number of construction and sustainability awards in 2010.

Behind the success of this energy efficient structure, the Building Management System plays a pivotal role in minimising the energy usage of the building whilst providing a comfortable and harmonious learning environment for the children.

Building Technology Systems Ltd, who were engaged by HPI Ltd to provide the BEMS, worked closely on this project with architects, Architype and consulting engineers, Ernest Griffiths to maximize the performance of the building and building services plant. This has continued well beyond handover and the system has been continuously monitored seasonally, and fine tuned remotely to improve on the efficiency and reliability of the BMS monitoring system. The main contractor was Thomas Vale Construction PLC and the structural engineers and sustainability consultants were Price & Myers.

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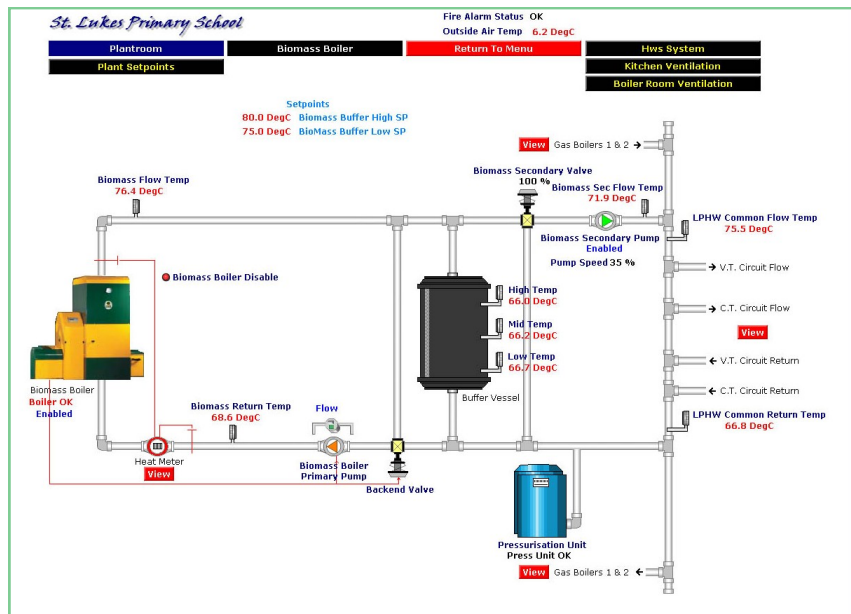
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Control System Overview

Heating

A biomass boiler provides the base load for the main LPHW heating system. A secondary variable temperature compensated circuit, supplies an underfloor heating network which serves both levels of the school.

2 modular gas fired condensing boilers provide top up and back up for the biomass boiler in periods of high heating demand. In periods of light load the biomass boiler is capable of satisfying demand from the underfloor heating and hot water systems without calling for the condensing boilers. Gas usage in spring and summer months is therefore reduced substantially.



Natural Ventilation

A third party natural ventilation system cools the school in the summer months, controlling carefully orientated automated clerestory windows. Manually operated windows at low level further improve cross ventilation in learning areas as and when required.

The natural ventilation system can be fully interrogated and monitored via the BMS front end computer web browser.

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Mechanical Ventilation

A number of locally situated heat recovery units and extract fans boost ventilation provided by passive systems. These fans are enabled via PIR sensors to ensure mechanical ventilation systems only run when areas are occupied to minimise energy usage.



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