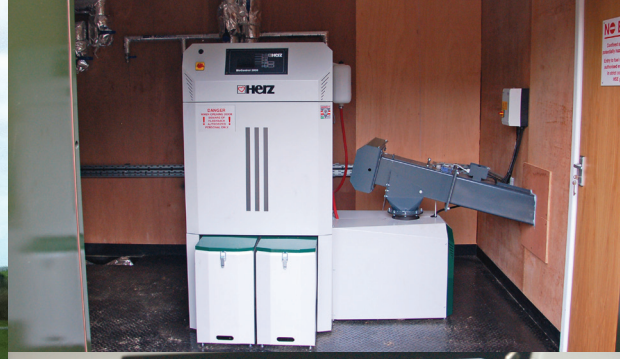

Whitford Primary School

FLINTSHIRE

Consisting of a self-contained biomass plant room and fuel store, Rural Energy's Heat Pod, supplies this Welsh primary school with renewable heating using wood chip.

Keen to trial biomass heating in a school, Flintshire County Council saw that Whitford Primary School was the ideal candidate. Being in close proximity to a local wood chip producer and with the existing heating system at the end of its life cycle and in need of replacement, the only hurdle was space.

An innovative design was required to overcome the issue of a lack of available space in the existing school building, and Rural Energy's Heat Pod was proposed as the ideal solution.

Rural Energy was appointed as Principle Contractor to provide a full turnkey package. This Design and Build project comprised the initial planning application, civils works including alteration and extension of the existing driveway, fencing, planting of trees, the new modular Heat Pod biomass solution, and finally its connection into and adaptation of the school's existing mechanical, electrical and BEMS systems.

Also included in the project's package was full on-site project management and supervision in compliance with CDM 2007.

FUEL DELIVERY SOLUTION

The limited gradient on site meant that tipped wood chip deliveries would have been problematic so Rural Energy used the unique Herz vertical elevator as an innovative solution to enable the delivery of chip into the fuel store.

The delivery lorry simply tips the wood chip into a trough which has an auger in the bottom. This then transports the chip to a vertically-placed auger screw which conveys it up and into the fuel store that is built-in to the Heat Pod.

CASE STUDY FOCUS

Providing
80kW
of renewable heating

Utilising
LOCAL
wood fuel

Reducing emissions
-30% CO_2
per annum

SYSTEM SUMMARY

Boiler Type: Herz® Firematic

Fuel Type: Wood chip

Fuel Store: Within Heat Pod

0203 189 0654 / ruralenergy.co.uk

Rural Energy
INSTALLING BIOMASS SINCE 2002

OVERCOMING THE SPACE CHALLENGE

Originally a cause for possible concern, the lack of space available in the existing school building was easily resolved by Rural Energy's designers. The Heat Pod has a small footprint and is sited outside the playground gates, negating the need for internal building space for either a plant room or a fuel store.

Rural Energy's Heat Pod is a fantastic way to benefit from biomass renewable heating where existing space is problematic to the project.

PLUG-AND-PLAY SOLUTION

The revolutionary 80kW Herz Firematic biomass boiler along with the fuel delivery system, buffer vessel and pipework were fully installed into the packaged plant room and fuel store solution off site. This meant there was no disruption to the students and staff at Whitford Primary School during the building aspect of the project.

The fully fitted-out Heat Pod and vertical elevator were delivered to site and situated near the school playground. The flue was then completed and the solution was connected up to the existing heat distribution system via a network of underground insulated pipes.

BENEFITS TO THE SCHOOL

Not only does this biomass solution provide the school with renewable heating through a sustainable source, but because a local wood chip company is used to provide the fuel it also encourages local business.

The Heat Pod installation is reducing the school's CO_2 emissions by around 30% per year, cutting the carbon footprint dramatically.

The school is now also eligible to receive payments for the kW hours of renewable heat they use through the government's Renewable Heat Incentive (RHI) scheme, giving additional financial paybacks on top of the savings on fuel.

"Rural Energy has highly competent staff who took on board site issues without question and sorted them efficiently and effectively.

Rural Energy's finished installation fits so well into both the surroundings and the existing heating system that it could have been there for years, but for the fact that everything looks new.

The finished product is a credit to all."

Will Pierce
Energy Manager, Energy Conservation Unit
Flintshire County Council

WORKING WITH

Main Contractor: Rural Energy

M&E Contractor: EGP Building Services

Consultant: Cynergin Consultants

0203 189 0654 / ruralenergy.co.uk

Rural Energy
INSTALLING BIOMASS SINCE 2002