

Ballyearl Arts & Leisure Centre, Newtownabbey, Co. Antrim.



Location

Ballyearl Arts & Leisure Centre is located in Newtownabbey, Co. Antrim and is one of several leisure facilities owned and operated by Newtownabbey Borough Council

Site Description

The leisure complex has an extensive range of sports facilities including a fitness suite, squash courts, dance studio, golf course, driving range and the Courtyard Theatre.

Project Summary

As part of the councils ongoing strategy to make both cost and environmental savings, Low Carbon Solutions were tasked with investigating the potential to install a wood chip heating system on the site to reduce the oil consumption and Carbon Dioxide emissions.

The wood boiler installed was a Froling Turbomatic 55kWth multifuel boiler capable of operating on wood chip or wood pellets. The system operates on wood chip supplied by Low Carbon Solutions and delivered by tractor and hi-lift trailer.

One of the existing 35 Sec Diesel boilers was removed to make room for the new wood boiler and an external wood bunker 3.0m x 3.0m x 2.8m was installed outside the boiler house to store the wood fuel.

A buffer tank was also installed with an internal coil to provide extra capacity for the boiler and to provide domestic hot water for the showers and hand washing facilities.

The thermal output from the boiler is in the form of low pressure hot water at 80 deg C which is fed directly into the common low pressure hot water return header. The boiler control strategy is configured to ensure that the wood boiler is the lead source of thermal energy, thereby minimising the amount of diesel used by the other boiler plant.

A microprocessor control system is used to operate all aspects of the boiler and ensure that the equipment operates at its optimum efficiency. The system provides all year round monitoring of any faults to allow an engineer to be despatched to site should this be necessary.

Benefits

The council were successful in receiving a grant from the Department of Finance and Personnel - Central Energy Efficiency Fund. The wood heating system will dramatically reduce the oil consumption on the site and save the consumption of 36,000 litres of heating oil annually.

Environmental Benefits

The installation annually reduces Carbon dioxide emissions by 96,000kg based on offsetting 35 Sec diesel heating oil.

Host Organisation

Newtownabbey Borough Council
Ballyearl Arts & Leisure Centre
585 Doagh Road
Newtownabbey
Co Antrim

Boiler Supplier

Powertech Ireland Ltd
40 Devesky Road
Carrickmore
Co. Tyrone
BT79 9BU

Installer

R&S Biomass Equipment
23 Strahulter Rd
Newtownstewart
Co Tyrone
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Wood Fuel Supplier

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