Education Case Study: University College Dublin (UCD)

Background

The Energy Centre at UCD was built in the 1960's. It was originally designed to fire on peat brikeens and distribute heat to the buildings via a medium temperature hot water distribution system. The solid fuel elements of the energy centre were subsequently decommissioned and all of the boilers were converted to run on heavy fuel oil. In the 1980's the boilers were converted to dual fuel with the capability to run on both natural gas and oil.

University College Dublin (UCD)

In 1997, the University was the first 3rd level institution in Ireland to install 2 no. 1MW Combined Heat and Power plants. The "free heat" from these CHP's supplies the campus district heating network.

In 2006, UCD Buildings and Services decided to assess the potential of biomass as an alternative sustainable fuel source for the University. The outcome of this assessment was to install a medium sized wood pellet plant on the campus district heating system.

The Clearpower Solution

Clearpower successfully tendered and a Viessmann (KOB) 950kW Pyrtec wood pellet boiler was chosen as the most suitable boiler for the installation. The boiler was successfully installed and commissioned in April 2008. It is supplied with pellets from a 74m^3 pellet silo. A Kamstrup heat meter was installed which permits the energy output to be analysed against the fuel input to give the boiler operating efficiency.

Wood pellets are sourced from a local wood pellet supplier. Scheduled maintenance services are provided by Clearpower. During scheduled maintenance the boiler is thoroughly cleaned and parameters are adjusted to ensure the boiler operates at maximum efficiency.

Viessmann (KOB) Pyrtec 950kW boiler

Benefits

- Annual CO_2 savings of circa 760 tonnes
- Assists UCD in meeting carbon reduction targets
- Sustainable, indigenous fuel supply
- Stable fuel price
- Reduces dependency on gas by providing fuel diversity
- Short payback on investment

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Clearpower's vision is to be Ireland's leading renewable energy solutions provider, delivered to the highest possible standards.

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