Project Profile

Project Description:	**Biomass Boiler Installation**
Location:	Royal Hotel, Skye
Client:	Perthshire Biofuels
Project Value:	£80k
Project Duration:	April 2010
Sector:	Renewables/Commercial

Callidus Design was appointed by Perthshire Biofuels to carry out the design of a new Biomass Boiler installation at the Royal Hotel in Portree, Skye.

The design included all appropriate facilities for delivery and storage of the wood pellets used in the Biomass Boilers and the provision of appropriate thermal storage to suit both the hot water and heating load pattern within the hotel. A new low volume hot water storage calorifier complete with plate heat exchanger was also installed as part of the project. Careful consideration was given to the volume of thermal storage to ensure that the system incorporated sufficient thermal mass to avoid excessive cycling of the Biomass boilers. This ensured the boilers operate at maximum efficiency for longer periods and that the boiler operating life is maximised.

The existing multiple LPG boiler installation was retained for back-up purposes. Due to the physical space restrictions on the site which prevented the new Biomass boilers from being situated adjacent to the existing, the decision was made to segregate the original and new systems hydraulically by the introduction of a heat exchanger. This also served to minimise & almost eliminate entirely, any disruption to the hotel operations which would otherwise have been caused by extensive modifications within the existing plantroom & subsequent commissioning activities. The heat exchanger was situated adjacent to the existing boilers and connected directly into the existing flow & return pipework headers complete with appropriate automated control valve arrangements.

The new Biomass boiler installation should ordinarily service the annual heating and hot water requirements for the hotel, therefore significantly reducing the annual LPG consumption & associated costs. The hotel will also now benefit from a dual fuel source which provides greater security of heating & hot water provision for their guests.