

Trelowarren Estate Cornwall



Restoration of an historic estate to very high environmental standards, including a biomass heating system using wood chip fuel from the estate

Trelowarren is one of Cornwall's most historic estates. Based on The Lizard, it is being carefully restored to balance conservation, private ownership and living history. A traditional working estate, it has been run by the same family for 600 years. When the current owner took over in 1995, the estate was dilapidated, requiring significant refurbishment. The owners decided to develop the estate to very high environmental standards in all the buildings including the inclusion of a biomass heating system designed and installed by Wood Energy Limited using wood chip fuel from the estate.

In 2006, a series of "Eco-timeshares" were built using local materials with high levels of efficiency. A district heating system was installed which is heated by a single 300kW Binder wood chip boiler.

The Binder boiler works in conjunction with 2 x 5000 litre buffer tanks, which perform three important functions. Firstly, they offer additional peaking capacity under extreme weather conditions; secondly, they allow the boiler to operate efficiently under low load conditions; and thirdly, they provide a large energy store for high instantaneous hot water demand.

The Binder boiler has a fully automatic cleaning system of the heat exchanger tubes, exhaust gas recirculation to allow the combustion temperature to be controlled to avoid clinking and an exhaust gas cyclone to remove fly ash.



Name of project	Trelowarren Estate
Location	Cornwall
Boiler type	Binder RRK/RRF 200-350
Maximum rated output	300 kW
Wood fuel specification	Wood chip fuel
Maximum moisture content	35%
Maximum particle size	G100
Fuel storage volume	60 m3
Commissioned	May 2006