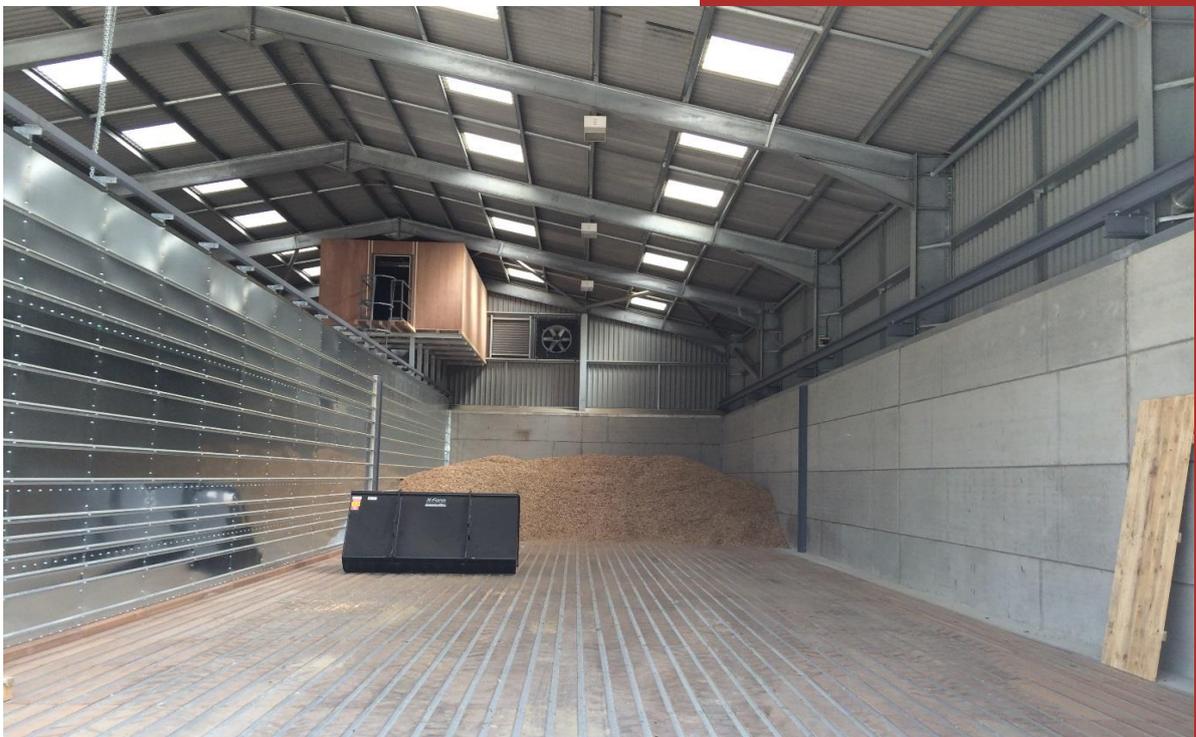


Nash Court



-  199kW Herz FireMatic
-  Wood chip biomass
-  Process heating grain drying unit
-  Agricultural sector

Douch Biomass Ltd

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The plant room and fuel storage barn



Grain drying store



Heat exchangers and fan serving the grain store

Project background

Nash Court is situated in Kent and is part of a functioning agricultural estate. The client wanted to utilise the biomass boiler to provide process heating to a highly efficient new grain store, as well as to several properties on site. The grain store construction and biomass installation was done in collaboration between Douch Biomass and Harvest Installations.

The project began in the spring of 2014, and was completely designed, installed and commissioned by August of the same year, in time for harvest.

Douch Biomass installation

Douch Biomass was appointed to supply and install a complete biomass heating system at Nash Court. This provides heat and hot water to the main farmhouse as well as a workshop, office, swimming pool and an additional cottage. The boiler also supplies hot water to a water-to-air heat exchanger in the grain store, which then heats the air drawn in from outside. This heated air is then transported via a ducting network down through the floor of the grain drying unit. This heat dries the grain, and an agitator system stirs to ensure it is dried evenly.

The plant room and wood chip store are located in a barn opposite the grain store. The barn has a modified roof and cladding which contains a high level sliding section, creating an opening for wood chip deliveries. A 5000 litre accumulator tank creates a thermal store and avoids excessive boiler cycling during periods of light load.

Douch Biomass also fitted a pre-insulated twin 50mm heat main, running from the new boiler house to the grain barn and also to the farm house and swimming pool. Electrical signalling cable was laid in same trench as the heat main. Each heating zone was provided with a thermal interface unit, in place of the pre-existing boilers. RHI compliant heat meters were then fitted to the biomass boiler, and to each interface unit. Finally, training was provided to the clients at Nash Court to ensure the boiler was managed in a way that maintains its efficiency and reliability.

Result

The new heating system provides a payback time of 8.4 years, using 96 tonnes of wood chip per year. This gives Nash Court an RHI income of 22,488 annually, with a net benefit of over £14,000 per annum after fuel and servicing costs.

Over 20 years, the new heating system installed by Douch Biomass will have created a £50,000 saving on oil. This amounts to 1447 tonnes of CO₂ saved.



The auger and biomass boiler in the plant room, with an opening to the grain store.

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