



CASE STUDY
MOOR FARM, NORFOLK

System Summary:

Boiler:	Gilles HPK-RA 145kW
Output:	145kW
Fuel:	G50, W30 woodchip, locally sourced
Fuel Storage Capacity:	40m ³ , 8 tonnes
Annual Heat Load:	305 MWh per year
Annual Fuel Requirement:	87 tonnes per year
CO ₂ Saving:	81 tonnes per year
Boiler Features:	Automatic ignition, heat exchanger cleaning, ash removal
System Features:	Mini district heating system, plate heat exchangers, return temperature limiters.

Situated approximately 20 miles from the Norfolk Broads and North Norfolk Coast, Moor Farm is a working farm that has diversified its business to offer 5 holiday cottages and 11 barn conversions, complete with a swimming pool on site. The farm previously had a complicated heating system, comprised of 4 separate oil boilers ranging from 15 to 90kW. But with the rising cost of oil, the owner was looking for an alternative heating system that would also be more straight forward in terms of installation and maintenance. A Gilles 145kW automated woodfuel boiler provided by Energy Innovations seemed a solid choice, providing cost effective heating solutions for the future.





Suitability of a Gilles System

The Gilles HPK-RA range is ideally suited to Moor Farm's heating and hot water requirements.

The boiler can be plumbed directly into a single property, or in this case a series of underground district heating pipes carries the heat to each separate area; the swimming pool, Moor farm cottages, and the barn conversions. This is a

very efficient way to provide heat, and makes annual maintenance a much simpler and more cost effective task in comparison to the previous oil set up. Heat exchangers are used at each termination to link into the existing system.

The Gilles system is fully automated and the fuel store has been sized to provide around three weeks to one month storage during winter. The boiler modulates efficiently down to 30% output and through the advanced combustion technology, is easily able to cope with the variable demand of the district heating system. Automatic fuel feed, ignition deactivating and heat exchanger mean that very little attention is required of the owner.



The Fuel store

Whilst the boiler room was converted from an existing outside car port, the adjacent fuel store was purpose built for the task. It consists of a steel frame, clad with armaclad, with a hydraulic lid for easy loading with the farm's JCB.

Carbon savings

The previous 4 oil-fired boilers emitted around 81 tonnes of CO₂ per year. This has been largely displaced by the installation of the low carbon woodchip system.

Grant

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