



Barrington Court

Two Froling P4 105 kW, Wood pellet Heating System

Scheme	Supply of heating and hot water to Barrington Court and surrounding buildings.
Boiler and plant	Combination of two Froling P4 105 boilers, giving an output of 210 kW, linked to two 2,500 litre Galu buffer tanks. Existing oil boilers were completely removed. The plant room was tailor made with minimal disturbance to the fabric of the buildings.
Fuel	The boilers are expected to use around 150 tonnes of wood pellet, producing over 525Mwh of heat per annum.
Pellet storage	Dunster designed and constructed a tailored pellet fuel store. The fuel store has a total volume 29.3 m ³ and holds up to 19 tonnes of pellet, optimising fuel delivery.
Grant / Funding	The system was funded by the National Trust as part of their Renewable Program and is accredited under the Non-Domestic Renewable Heat Incentive scheme.
Savings / Investment	Switching from oil, the property is saving on energy bills and removing 94 tonnes of CO ₂ emissions. Additionally, the income from RHI payments will pay off the capital expenditure of the system.
CO ₂ saving	Compared to oil heating, our wood pellet system reduces CO ₂ emissions by over 95%.
Commissioned	March 2016





Project overview

Barrington Court is a Grade II listed heritage house from the 16th century, once owned by the Lyle Family (Tate & Lyle sugar) but now owned by the National Trust.

This picturesque estate sought to significantly reduce its environmental impact through lowering its carbon emissions, and decreasing risks associated with potential oil spills. In order to achieve this, Dunster replaced their existing oil system with an eco-friendly, energy efficient Fröling biomass system.

Fuel supply and pellet handling

Wood pellets are supplied through the National Trust's fuel supplier, delivering through a bulk blown delivery tank directly in to the fuel store.

The bespoke pellet store is moisture protected and designed to be durable, constructed with structural timber and then internally clad with phenolic ply to assist with pellet movement. To ensure utmost safety, store walls have also been constructed with a material, which provides a one-hour fire barrier. Additionally, pellet handling is made easy by the access door, slated entry system and two viewing panels on the store.

System design and installation

The system was designed, using our in-house CAD team, to supply 100% of the estates heating and hot water needs. Each stage of the installation was carefully planned, from the construction and groundworks to customer training, ensuring reliability, longevity and fault-free operation. Dunster undertook all the pipe work, with the entire site being fully networked, ensuring that all boilers and controls can be managed remotely. All pumps and controls were upgraded to modernise the heating system and increase efficiency across the heat network.

Benefits

Compared to the previous oil heating system, the biomass scheme is much more energy efficient and cost effective, providing a cleaner, greener source of heating.



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