

## ‘Wood to Warmth’

### Stanstead Park Estate - An example of best practice

Stanstead Park in West Sussex is a 1750 acre estate bequeathed to the nation by Lord Bessborough and managed since 1983 as a charitable trust. The estate manager James Cooper and forester Michael Prior are continually exploring new markets for their woodland produce and three years ago decided to heat Stanstead House, which is let as office suites and used for functions, with wood (mainly lower quality sweet chestnut coppice) sourced from estate woodlands.

The system they installed provides an excellent example of how estates and farmers can use their own woods and equipment to supply their heating needs.

*Woodfuelled boilers work most efficiently when running at peak load, hence the heating load is balanced by using a large ‘accumulator tank’ (a large and highly insulated hot water tank) . At night the boiler feeds hot water to the accumulator tank and during the day property heating needs are supplied from the accumulator and boiler in tandem.*



*This allows a smaller capacity woodchip boiler (250kW) to be run at maximum efficiency.*

#### **A bespoke barn housing fuel store and boiler:**

- Height of barn kept low (3m eaves) to minimise landscape impact and ease screening with existing trees in listed parkland;
- Galvanised steel frame to cope with inevitable condensation;
- Large size of barn (chip store) accommodates a whole years supply of woodchips and minimises costs of chipping (chipper hired in for just two days per year);
- Polished concrete floor to allow farm tractor to push chips over boiler feed system (a practical alternative to an expensive walking floor);
- Chip feed sunk in 0.5m pit below level of floor in corner of chip store makes easy ‘pushing up’ of chips with tractor
- Boiler housing sunk 0.5m below chip feed allowing horizontal auger run (reducing chances of jams and energy consumption).



*Space for seasoning wood in the open drying yard, adjacent to the barn, minimises handling and allows wood to be chipped directly into the barn. The wood dries much better here than it does when stacked in the woodlands*

*Wood sourced from estate woods allowing traditional coppice woods to be brought back into management*



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