

### Background

The picturesque and historic village of Castle Ashby, Northamptonshire, is set on a 10,000 acre estate and dates back to 1306. Many of the residents suffered from high energy bills from using a mixture of electric heaters, oil boilers and inefficient domestic gas boilers for heating and hot water. Lord Compton, the owner of the Castle Ashby estate, sought to reduce the carbon footprint of the village and lower fuel bills for the residents. He championed a sustainable District Heating (DH) network as a way of removing the reliance on fossil fuels.



Castle Ashby House

### The Clearpower Solution

A biomass fuelled system was the obvious choice for Castle Ashby, due to the availability of good quality hardwood fuel from the estate woodlands. Clearpower supplied and installed a 400kW and a 540kW Viessmann (KOB) Pyrot wood chip boiler, thermal stores (2 x 10,000L), and all associated equipment and works within the boiler house. The scope also included the supply and installation of a 100m<sup>3</sup> top loader fuel store and two free standing stainless steel flues next to the boiler house. The boiler house itself is a converted, disused milking parlour and is situated in the main farmyard. To facilitate the distribution of heat around the village Clearpower installed an underground DH pipe network with three independent circuits radiating outward from the boiler house. This delivers heat to 73 commercial and residential properties via circa 2.5km of preinsulated Calpex pipework and Heat Interface Units (HIUs). Installation commenced in September 2013 and was completed in May 2014. Once operational, scheduled maintenance services were provided by Clearpower.

### Benefits

- The installation was approved for support via the Renewable Heat Incentive (RHI). This means it will benefit from guaranteed payments for all the renewable heat it generates over a 20 year period.
- Overall the DH system delivers over 2,500,000kWh of heat per year for the village, resulting in a saving of 625 tonnes of CO<sub>2</sub> per annum. This significant reduction in emissions points the way for sustainable villages across the UK.
- The fuel supply is local, sustainable and offers substantial fuel savings.
- The 73 buildings served by the DH network had all previously been heated by a mixture of electric heaters, oil and domestic gas boilers. Changing over to the DH network means that there is less of a maintenance liability, less point sources of emissions and less pollution risk from individual oil tanks.