

Country Manor House
West Midlands

Case Study



This ten-bedroom country manor house has undergone major refurbishment of its interior and exterior, restoring it to its true Georgian grandeur.

The owners had always taken a considerable interest in renewable energy and no longer wanted to use oil for their heating. They chose to have a wood chip boiler installed and were attracted by the fact that the fuel supplied by MWF is sustainable and locally sourced.

Project Type: Domestic Living

- 100 kW Wood Chip Boiler
- 180,000 kWh delivered per annum
- Sole heat source – no back up
- Fuel is blown into store and supplied by MWF

Feasibility, Design, Procurement and Project Management by MWF

Case Study Economics @ Spring 2011

Wood fuel boiler output	100	kW
Total installed cost of wood fuel system	£50,000	
Assumed seasonal efficiency	80.0%	
Annual maintenance costs	£800	/annum
Wood fuel costs delivered	£110	per tonne @30% moisture
Full load equivalent hours operation	1,800	hours/annum
Wood fuel consumption/annum	65.3	tonnes
Wood fuel costs/annum	£7,180	
RHI rebate	£10,910	
Net wood fuel costs/annum	-£3,730	
Carbon emissions	4,500	kg/yr - whole life cycle

RHI Rebate Calculations

** see note bottom of page

131,400	Kwh	@ 7.6 p	£9,986
48,600	Kwh	@ 1.9 p	£923
Total			£10,910

Verses Gas

Gas cost per KWh	3.20	p/kWh
Total gas cost/annum	£7,901	
Annual saving with wood fuel	£11,631	
Simple payback on net capital	4.3	years
Carbon emissions	48,600	kg/yr
Carbon saving	44,100	kg/yr

Verses Oil

Oil cost per KWh	5.71	based on	50	p/litre
Total oil cost/annum	£11,429			
Annual saving with wood fuel	£15,158			
Simple payback on net capital	3.3	years		
Carbon emissions	63,000			
Carbon Savings	58,500	kg/yr		



**Froling Turbomatic
Chip Boiler**

**** RHI rebates for pure domestic properties yet to be confirmed by government. Please discuss with the MWF team for more information.**