

# CASE STUDY:

## Lynhales Nursing Home Hereford



**Wye  
Valley  
Energy**

In partnership with Treco Ltd



## BIOMASS BOILER SYSTEM REPLACES 7 OIL BOILERS, SAVES 40% FUEL COSTS & REDUCES CO<sub>2</sub> By 96%

### SUMMARY OF PROJECT:

- 2 x 99kW Lindner & Sommerauer biomass boilers and 1 x 150kW biomass boiler.
- Distribution pipework including all internal connections to existing heating systems.
- Runs on wood pellets.

### KEY OUTCOMES:

- **Biomass Fuel Cost Reduction;** 20 - 40% over oil.
- **CO<sub>2</sub> Reduction;** 96% (Source Biomass Energy Centre).
- **RHI Accreditation;** Soon to be RHI accredited and will generate additional revenue stream for the nursing home.

### FINANCIAL BENEFIT:

- RHI payments and fuel cost savings will make the project both sustainable and financially viable.

### ABOUT US

**Wye Valley Energy** is a regionally based business covering Wales and the Midlands and is a Treco partner.

We design, supply, install and maintain a wide range of complete biomass boiler heating systems that will burn logs, wood chips, wood pellets, grain or miscanthus.

### BIOMASS BOILERS HELP

- Reduce fuel costs by up to 80%.
- Reduce CO<sub>2</sub> emissions by 96%.
- Gain Renewable Heat Incentive (RHI) compliance.



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To Discuss Your Biomass Project

## KEY FACTS\*

### PROJECT INCLUDED

2 x Lindner & Sommerauer 99kW boilers in cascade and a 150kW biomass boiler system. Flue system, thermal store and distribution pipework including internal connections to heat exchangers also included.

### FUEL CONSUMPTION

104 tonnes of wood pellets, per annum.

### FUEL COST SAVING

Wood pellets 20-40% vs oil. This would be approximately £8,000 per annum (Source; Biomass Energy Centre).

### CO<sub>2</sub> SAVING

Up to 98% or 154 tonnes vs heating oil (Source; Biomass Energy Centre).

### RHI PAYMENTS

A project of this size would gain approximately £38,140 every year for 20 years, index linked to inflation.

### TOTAL PROJECT PRICE

£225,000

### PAYBACK PERIOD

5-6 years (combining RHI income & fuel cost saving).

\*Financial information not specific to this project – figures are based on an average of several typical projects of this size. Current information on RHI payments for guidance only, not to be considered a guarantee.

## BACKGROUND

Lynhales Hall Nursing Home is set in seven acres of wood and parkland with ornamental lakes.

The Manor House, now refurbished, was built in circa 1588 and extended in the Georgian Period.

The Main House comprises two floors of single and shared rooms, the majority of which have en-suite facilities providing accommodation for 53 residents.

## THE REQUIREMENT

The driver for the customer was the reduction of a large annual oil bill to heat the nursing homes and offices.

The system would need to replace 7 ageing and inefficient oil boilers.

## COMPLETE BIOMASS DISTRICT HEATING PACKAGE

Wye Valley Energy carried out a turnkey project including all ground works, trenching, primary and secondary connections, erecting buildings and civils

We also organised and oversaw the construction of a new building to house the biomass boilers and fuel store.

## THE RENEWABLE HEAT INCENTIVE

As well as fuel cost savings of 20-40%, the installation will soon be accredited into the Renewable Heat Incentive.

Once approved, the client will start to receive quarterly RHI payments.

The RHI payments and the fuel cost saving will ensure that the project is sustainable and financially viable.

## BIOMASS HEATING SUMMARY

Wye Valley Energy built the boiler house and wood pellet store.

We installed & commissioned the biomass boiler, and carried out the connections to the current heating system.



The district heating scheme included;

- 2 x 99kW biomass boilers in cascade and 1 x 150kW biomass boiler.
- 3 x 4m pellet delivery augers
- 1 x 4,000 ltr and 1 x 5,000 ltr buffer.
- 2 Heat exchangers and 4 x class 2 RHI eligible ultrasonic heat meters complete with certification.
- Biomass boiler linked to existing heating and hot water system.
- Fully automated fuel delivery system.
- High efficiency, low energy main system pump.
- Full assistance with RHI application including schematic drawings.
- Commissioning, programming and end user training.



**CONTACT US TO DISCUSS  
YOUR BIOMASS PROJECT  
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