Design and Access Statement

John Munroe Independent Hospital

A Biomass System *from* A SHADE GREENER

Contents

1.0 Background

The UK Government has made legally binding international commitments to cut greenhouse gas emissions. The Climate Change Act 2008 sets out a requirement to cut emissions of greenhouse gases by 80% below 1990 levels, by 2050.

To help drive this reduction, the Government has recently introduced the Renewable Heat Incentive (RHI) scheme. The scheme makes payments to businesses that switch to low carbon heat generation technologies, such as Biomass, thereby reducing CO_2 emissions.

To help businesses overcome the high capital cost of installing Biomass systems, **A Shade Greener** has introduced a unique scheme. We purchase a Biomass system for the customer, install it and then service and maintain it for an agreed time period. By claiming the Government RHI payments over the agreed period of the scheme, we recover our investment over several years.

We also provide the customer with the high energy Biomass wood pellets required to fuel the boiler. Because we have preferential purchasing contracts for the pellets, we guarantee to provide them to the customer at a price that will reduce your displaced heating costs by a minimum of 50%.

2.0 Introduction

The Design and Access Statement is submitted in support of the application for planning permission to install a containerised biomass boiler system within the grounds of John Munroe Independent Hospital to provide a renewable energy supply for heating and hot water to the hospital.

Site

The application site is located approximately 3 miles north west of Leek centre. The site comprises of an independent mental health hospital with associated facilities. The main entrance to the site is from Cross Street. The proposed siting of the containerised biomass boilers are shown on the aerial photograph in Fig 1. Figs 2 & 3 show the proposed location.

Figure 1 - Proposed biomass boiler location.

The proposed siting of the boiler is adjacent to an existing wall to the north west of the main building. The area is screened by trees and the existing wall as you drive into the site; it is situated next to the entrance road into the hospital to allow for ease of delivery and not to interfere with any traffic into the site. Although visible from the entrance to the building there are no main windows overlooking the proposed location. There is limited space within the site to locate the biomass boiler due to parking and access requirements for emergency vehicles. The Managing Director chose the location for the above reasons.

The noise generated by the boiler is minimal and will not be heard from outside the site or within the building. Details of noise and emissions are contained within the Froling boiler specification submitted with the application.

Fig 2 – Proposed location of the boiler

Fig 3 – Proposed location of the boiler

Appearance

The biomass boiler is housed within a steel container which is timber clad to screen the steel appearance of the unit and assimilate it within the surrounding landscape, providing a

similar appearance to that of a bin store. The Planning Statement provides more information regarding the development of the unit. Figure 6 shows the unit prior to installation, the signage will be removed. The unit will not be visible from outside the site.

Fig 6 – Containerised biomass boiler

Scale

The biomass boiler unit is approximately 2.6m high by 2.5m wide and 9.3m in length. The container will be set on a concrete plinth if necessary. The unit operates with a low noise disturbance and will not be heard from any surrounding properties. Details of the noise generation are contained within the Froling specification manually submitted with the application along with a noise monitoring report.

Access

Access is required for the delivery of the boiler; this can be done via the existing vehicular entrance to the site. The wood pellets used for the boiler will be required to be delivered approximately 8-9 times annually to meet the needs of a building of this size.

3.0 Renewable Energy

Heat produced by a biomass boiler is 'carbon neutral' as the wood chip used to generate the heat is from a sustainable source. The burning of wood pellets releases CO2 into the atmosphere that was captured during the growth of the plant.

An analysis of grams of CO2 produced per kWh from a range of fuel sources is shown in the table above. Locally sourced wood pellets give an 82% reduction in CO2 emissions per kWh compared with that of mains gas and an 88% reduction in CO2 emissions per kWh against gas oil.

The table below provides a comparison of the different fuel sources and their CO2 emissions and a % reduction of emissions against gas and oil.

Source	Grams of CO2 Produced per kWh	Annual Grams of CO2 @ 200,000kWh	Annual Tonnes of CO2 Produced	% Emission Reduction Against Mains Gas	% Emission Reduction Against Oil
Local Wood Pellets	35	7,000,000	7,000	83%	88%
Imported Wood Pellets	52	10,400,000	10,400	75%	83%
Local Wood Chip	64	12,800,000	12,800	70%	79%
Ground Source Heat Pumps	123	24,600,000	24,600	42%	60%
Coal	290	58,000,000	58,000	-37%	5%
Gas	211	42,200,000	42,200	-	31%
Oil	304	60,800,000	60,800	31%	-
Electricity	433	86,600,000	86,600	-105%	-42%

Table 1: Emissions comparison

4.0 Flood Risk

The site is not located within an identified Environment Agency Flood Risk area for river and sea, reservoir or surface water and as such there are no issues in this respect.

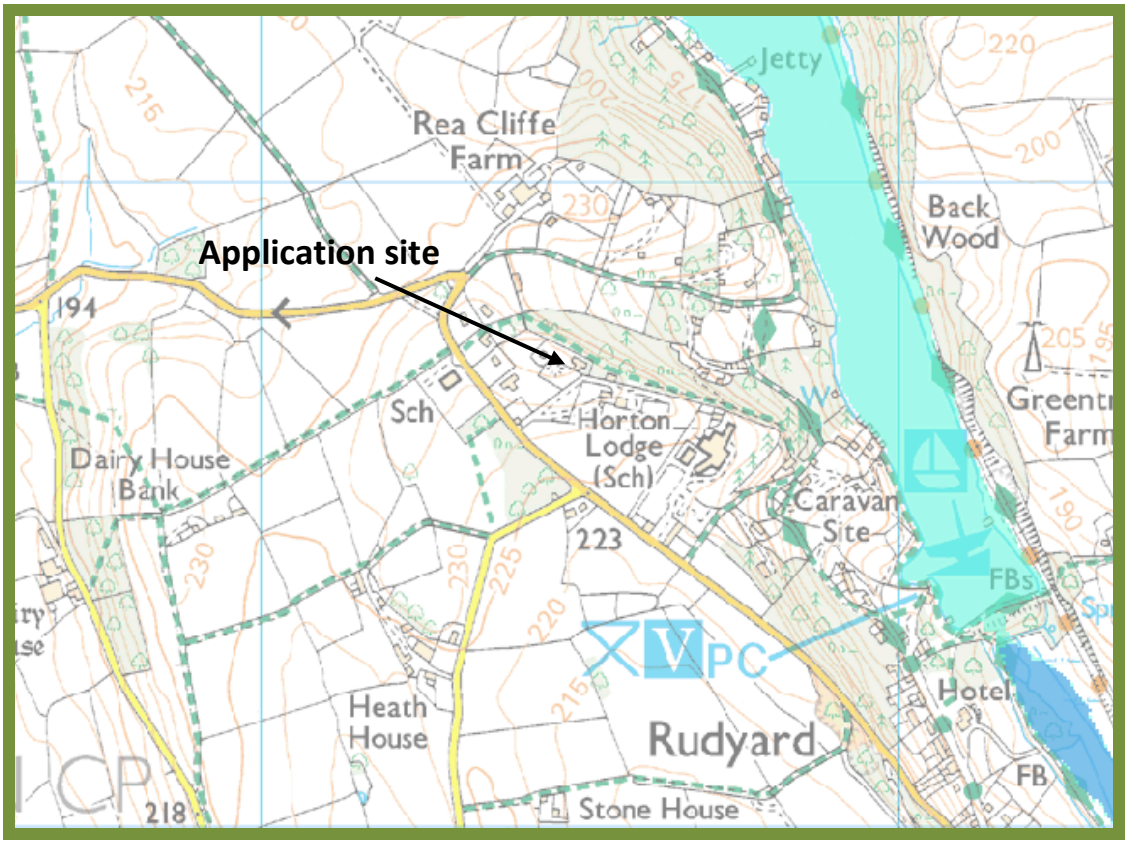

Figure 7 - Environment Agency Flood Risk Map

5.0 Conclusion

The proposed biomass boiler will be making a significant contribution to a low carbon future. A Shade Greener are looking to install a number of these boilers across the UK to assist in meeting the Governments renewable energy targets. This application is submitted after giving extensive consideration to the impact on the amenities of the site and environment balanced against the benefits of this renewable energy provision. The proposed location has minimal impact on the wider area and will sit comfortably within the site.

In summary, it is considered that the application is fully consistent with National and Local Policy and all the benefits highlighted above constitute an acceptable proposal.