

Appendix 15: Energy Efficiency Plan

Energy usage at White House Farm

Energy source	Use
Electricity	Lighting, ventilation, computer control systems, feed augers, water pumps
Kerosene	Heating sheds (back-up system only for sheds 4,5,6,7)
Diesel	Standby generator, Back up Boiler sheds 6,7,8,9
Wood Pellets	Heating for sheds 4+5
Straw	Heating for shed 6,7,8,9

Heating

The correct environment for the birds is maintained in the sheds through a combination of Biomass Heaters located in the roof space and ventilation fans located in the roof in both sheds.

Each shed will be monitored by a computer system, which automatically controls and records the humidity and the temperature.

Heaters will be equally distributed though the houses to prevent cold spots and sensors triggering and activating the heaters unnecessarily.

Control sensors will be checked regularly and kept clean so they are able to detect the temperature at the stock level.

Ventilation rates will be computer controlled to minimise, as far as the indoor requirements allow heat losses from the sheds.

Fans will be fitted with back draft shutters to reduce heat loss. Fans located in the gable end of the shed will have extra, insulated covers when not in use through the winter months.

The sheds will be maintained in good condition, cracks and open seams are repaired. The sheds will be fully insulated with a U-Value of approximately 0.4 W/m²/°C to reduce condensation and heat lost.

The sheds will be constructed to ensure litter is dry and friable and reduce the need to heat the sheds to keep the litter dry.

The concrete flooring will be maintained and cracks will be repaired.

Each shed will have a damp proof course.

Nipple drinking system with drip cups reduces spillage of water.

The use of Kerosene or Red Diesel as a heat source will only be required as a back up if there is a failure with the biomass heat system.

Electricity

The ventilation fans in both the new and existing shed have been selected so that they are appropriate power and size for the sheds.

The computer control systems control the ventilation for maximum efficiency ie one fan operating at full capacity rather than two operating on half their capacity.

The fans are low energy per m³ of air.

The fans are regularly maintained, and cleared of debris.

Low energy light bulbs will be used in the control/vestibule areas, the office and stores.

Fluorescent lights will be used in the sheds.

We operate a variable lighting period during the crop cycle.

The farm electric is predominantly supplied from the adjacent wind turbine meaning most of the electric we use is from a renewable source.

Fuel Oil

The Standby Generator is regularly maintained in accordance with the manufacturers instructions to insure it operates efficiently.

A breakdown of energy consumption per crop of chickens through each shed will be recorded and provided to the Environment Agency if requested.