

## Energy Efficiency

Energy usage at Newlands Farm	Use
Energy source	
Electricity	Lighting, ventilation, computer control systems, feed augers, water pumps
LPG Heaters	Heating sheds
Biomass	Heating sheds
Heat exchangers	Ventilation / Heating
CHP unit	Providing electric
Diesel	Standby generator.

The correct environment for the birds is maintained in the sheds through a combination of Hot water heaters located in the roof space and ventilation fans located in roofs of all poultry houses.

LPG back up heaters.

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

Hot water heaters will be equally distributed though the housing 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.

The sheds will be maintained in good condition, cracks and open seams will be repaired.

The sheds will be fully insulated with a U-Value of approximately 0.4 W/m<sup>2</sup>/°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.

Heat Exchangers provide ventilation and reduce the heating.

Nipple drinking system reduces spillage of water.

### Electricity

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

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

The fans are low energy per m<sup>3</sup> 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.

CHP is used to generate electric

### Fuel Oil

The standby generator is regularly maintained in accordance with the manufacturers' instructions to ensure it operates efficiently.

A breakdown of delivered and primary energy consumption will be recorded and provided to the Environment Agency annually in the following format

Energy Source Delivered	Energy Consumption Units	% of Total
Electricity	Kwh	
Gas Oil	Litres	
LPG	Litres	
Wood chip	Tonnes	