Energy Efficiency Summary

1. Energy usage

Energy source	Use
Electricity from National Grid	Fans, computer controlled ventilation systems, feed delivery equipment, lighting, water pumps, pressure washers, etc in the poultry houses and other buildings.
Electricity from photovoltaic solar panels	
Liquid petroleum gas	Space heating in poultry houses
Red diesel	Standby generator

2. Heating

The correct environment for the birds is maintained through a combination of ventilation with high velocity fans located along the roof ridge of the poultry houses and PG space heaters located in the side walls.
Each pair of houses will be monitored by a computer system, which automatically controls and records the humidity and temperature.
Space heaters are equally distributed through 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 stock level.
Ventilation rates will be computer controlled to minimise, as far as the indoor requirements allow heat losses from the houses.
Fans will be fitted with back draft shutters to reduce heat loss.
Houses will be maintained in good condition, cracks and open seams will be repaired.
Houses will be fully insulated with a U-value of approximately 0.4 $W/m^2/^oC$ to reduce condensation and heat loss.
Houses will be constructed to ensure litter is dry and friable and reduce the need to heat the houses to keep the litter dry.
Concrete flooring will be maintained and cracks will be repaired.
Each house will have s damp proof courses.
Nipple drinking system reduces water spillages.

Use planned preventive maintenance for equipment in accordance with manufacturer's instructions by staff and professional contractors to ensure operating efficiently.

Energy Efficiency Summary

3. Electricity

The ventilation fans have been selected so that they are the appropriate power and size for the houses.
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^3 of air.
The fans are regularly maintained and cleared of debris.
Low energy LED or fluorescent lights will be used in the poultry houses, control/vestibule areas, admin and service crew buildings and transfer building.

4. Fuel oil

The standby generator is regularly maintained by professional contractors in accordance with the manufacturer's instructions to ensure it operates efficiently.

Energy Efficiency Summary

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 MWh	**Energy consumption Primary MWh**	**% of total**
Electricity from Grid		
Liquid petroleum gas		
Diesel		
Other (Operators to specify) Electricity from photovoltaic solar panels		
Exported energy	**MWh**	**Source**
	N/a	N/a