Energy Efficiency

14/01/26

New IPPC Permit: Ellerdine Grange Farm Poultry unit

Prepared for E Agri Ltd

Ellerdine Grange Farm, Ellerdine, Telford, Shropshire, TF6 6QR

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Energy usage at Oaklands Eggs, Ellerdine Grange Energy source	Use
Electricity	Lighting, ventilation, computer control systems, feed augers, water pumps

Heating

The correct environment for the birds is maintained in the sheds through a combination of ventilation fans located in the gable end of each building.

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

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.

Ventilation is based on fans located in the gable end of the buildings and ventilate the building through an air scrubbing system. Heat is recovered by a heat pump which preheats incoming fresh air.

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/m2/°C to reduce condensation and heat lost.

The sheds will be constructed to ensure litter is dry and friable.

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

Each shed will have a damp proof course.

Nipple drinking system reduces spillage of water.

Solar power is the primary energy source for the sheds, with mains electricity serving as a backup. In the unlikely event that both systems fail, natural ventilation will be utilised to maintain adequate airflow for bird welfare.

Electricity

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

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.

Solar Pannels

Externally, the Northern elevation of the proposed building is glass. The South elevation is profile sheeting for the walls, and the entire South facing roof of the building is made up of 1,032 solar panels which will generate sufficient electricity to power 200 homes. The East and West elevations of the building are clad in profile sheeting.

Any excess power generated by the solar panels will be used in the rest of the farm and farmhouse or will be sold to the National Grid.

Contingency Ventilation

In the event of a solar and mains electrical supply failure, the sheds will rely on natural ventilation. This approach is effective due to the low stocking density, which ensures adequate airflow and maintains bird welfare without mechanical assistance.

Fuel Oil

There will be no fuel oil stored on site.

A breakdown of delivered and primary energy consumption will be recorded and provided to Natural England annually in the following format.

Energy Source Delivered	Energy Consumption Units	% of Total
Electricity	Kwh	
Other: Solar	Kwh	
Exported Energy	MWh	Source
Solar		