Farm Strategy Programme - in connection with a proposed Solar Farm at Bake Farm.

1. Introduction

This farm strategy programme sets out the current agricultural operations at Bake Farm, before then considering the likely impact of the solar farm proposed by British Solar Renewables, and the measures that can be undertaken to ensure that the overall productivity of the farm is maintained and increased.

2. Current Farming System

Bake Farm is a predominantly arable unit; the soil is generally Clay Cap with large flints in many areas.

The crops grown are Oilseed Rape (for feed / biodiesel), Wheat (for feed / ethanol) and Barley (for feed / beer).

There is also a soft fruit enterprise, which is made possible due to an electric powered irrigation system, most of the fruit is sold through a 'pick your own' enterprise but a considerable quantity is picked for local shops and this is kept fresh in a cold store.

Bake Farm is run in conjunction with other owned/rented land where more arable crops are grown, there is also an organic sheep enterprise and there are many conservation projects. The agricultural unit comprises approximately 690 acres (279 ha) of which 370 acres (149 ha) is in arable production.

The development area of the proposed solar farm is approximately 10ha which is equivalent to just 3.5% of the total farm area, and just 6.7% of the total arable land. Even when the larger 12.6 ha 'fenced area' of the proposed solar farm is taken into account the proportions are 4.5% and 8.5% respectively. This is a small proportion of the available arable land.

A recent independent Agricultural Land Classification report (Brooks Development, January 2015) has confirmed the following with regards to the agricultural land quality of those fields proposed for solar development.

> *'Following the application of the survey criteria set out by the former Ministry of Agriculture, Fisheries and Food guidelines for agricultural land classification (MAFF, 1988) relating to climate, site, soil, and interaction factors the most limiting factor was soil stoniness, resulting in an ALC grade limitation of 3a for the site.....'High stone content can limit the versatility of agricultural land by limiting the choice of cultivation technique, accelerating wear on cultivators and interfering with crop development'.*

3. Impacts of the Solar Proposal

A. Cultivated Area within the solar farm boundary

The proposed solar farm development would result in the temporary loss of 10 ha of arable land during the proposed operational period of 25 years. During this period livestock grazing would be undertaken within the fenced area of the solar farm. The temporarily lost area of arable land equates to 8.5% of the total arable land holding.

The dominant feature of the solar development, in terms of footprint, is the Solar PV panel and mounting frame. Other elements include fencing, cabling, security cameras and switchgear housings (inverters and substations). As the mounting frame sits atop the agricultural land surface, its deployment, operation and decommissioning will not result in the sterilisation of any agricultural land. The independent land classification report confirms that there will be no permanent effect on the agricultural land resource, and the grazing is a reduced intensity operation that will allow the land time to rest, recycle nutrients naturally, and potentially reduce the quantity of artificial fertilisers and pesticides accumulating in local soil and water resources.

B. Sheep grazing within the solar farm boundary

The owners of Bake Farm already have an organic sheep enterprise based at Broadchalke. Should the proposed solar farm be approved, the fenced area of the solar farm would also be grazed by this flock, enabling significant expansion in flock numbers and lamb output. The youngstock would be grazed on the grassland around the panels, and as there has been no livestock on this ground for over 30 years there will be very few worms and parasites allowing them to grow well before joining the breeding flock. In effect the area of grazing available to the farm would increase by 15% as a result of the solar farm, in turn allowing 12% extra lambs to be produced.

C. Ecological and biodiversity benefits

In addition to farm productivity considerations, the new planting of native hedgerows will result in biodiversity improvements, creating increased habitat for plants, vertebrates and invertebrates. This is confirmed in the submitted landscape and mitigation plan.

4. Proposed Measures to ensure continued farm productivity over the 25 year operational period

An amount of £20,000 would be made available to the farmer by BSR for measures to improve farm productivity, diversification and soil husbandry over the operational period of the solar farm.

These funds will be spent on measures similar to the following:

- Remaining land in arable scheme will be more efficiently fertilized due to funding of 'N-Sensor' (tractor mounted tool to apply optimal rate of nitrogen fertilizer at each individual part of the field) by BSR (Raising yield 5% (56t / yr.) and saving fertilizer).

- Investigation of whether the de-stoning of the worst flinty areas would be desirable. This could potentially improve the agricultural land classification, increase yield/productivity and reduce fuel usage. An initial focus would be the area under the solar farm, and the adjoining land within the planning application 'red line'.

- A Farm PV scheme could be implemented on farm buildings (subject to planning consent) to power irrigation and refrigeration, thereby allowing the expansion, increased efficiency and therefore retention of the current fruit enterprise.

- Introduction of organic matter into the remaining land. Again this could focus on either the solar farm or the planning application 'red line' area.

- Investment into electronic scales and electronic tag reading equipment for the sheep flock. This would enable more regular monitoring of flock and give early indication of any health issues that can be addressed before they become a problem; thus boosting flock welfare, output and efficiency.

Overall the productivity of the farm would be maintained and enhanced during the operational period of the proposed solar farm.