Application for Environmental Permit EPB3.5 (Version 4)

Buckles Farm, Kaber, Kirkby Stephen. Cumbria

Pre Application Ref.EPR/GP3001LP/A001

BF 1.2 (Qu 5c) Non- Technical Summary

The proposal to add a further 32,000 bird unit to the farm, following the original 32,000 bird unit built in 2013, represents a continuation of the partnership objectives to create a farm that remains viable into the future for the family and increases environmental performance through reduction in emissions and an increase in key habitats and species.

Prior to purchase in 2010 the farm had held a small sheep flock of approx. 100 to 120 and a beef herd of approx. 120.

 Since then the sheep flock has increased and the beef herd replaced by a variable herd of beef cows housed over the winter for a neighbouring farm (approx. 30 to 50 No.), from around September to May. ( Ie. overwintering B&B.) More recently this arrangement has been replaced by buying in hiefers at around autumn time and keeping them until the following autumn.

Ideally the partnership would like to expand the poultry side by building a 32,000 bird unit and terminating the beef options described above.

 That stability of income would allow for the existing buildings to be rationalised; replacing where necessary, and creating sheep facilities to meet modern standards. That re-development of the existing site would include separation of clean and dirty water and their future management. No problems with water pollution have ever been identified but the proposals would significantly reduce the risk against the potential for that happening.

 Both sheep and beef activities are out-with the poultry (PPC) site but are integral to the longer term farm betterment.

If granted, the new poultry side of the business would include 4 No units of 16,000 birds, duplicating the present number. The 2 new buildings (2 units) would be to modern standards and provided with gable end fans for managing ventilation which exhaust to the west, away from the R. Belah SSSI and directed onto the ground and low level where swales and trees would intercept and metabolise and residual ammonia.

Pullets will be introduced at 16 weeks old and retained for approx. 55 to 60 weeks before the flock is ‘depleted’. Once the houses are cleared of birds they are thoroughly cleaned physically, washed down and then disinfected before the introduction of the next flock.

The proposed site will operate on an ‘aviary system’ with ‘wide belts under nest boxes, feeders watering points and perches to maximise the capture and management of manure.

Construction

 The concrete floors will be protected from water ingress by the placement of an impermeable damp-course (DPM). All walls and roofs will be insulated to retain heat but also minimise condensation.

The 2 houses will be served by manure belt that collects from under the perches, drinking and feeding locations and nest boxes which is the majority of the surface area within the houses. These will provide capture for the majority of manure / dropping within the buildings although a small area remains at the periphery of each house where manure becomes part of the ‘litter’.

Sensors around each individual house record climatic conditions which are fed into the unit computer system and this determines operation of fans to create optimal conditions for the hens and keeps litter dry, but not dusty. Target level is 60-65% dry matter.

No food mixing occurs on site. Most feed is produced off site but on the main farmstead. The farm produces significant quantities of barley which forms the mainstay of the feed and along with essential additives, robust crumb feed is produced consistent with commercially produced feedstuffs for every stage of their cycle. Feed composition is adjusted to provide the perfect diet and also minimises waste and especially minimises Nitrogen and Phosphorus loss to the environment. In particular, minimum nitrogen loss means ammonia production is also reduced.

The mains water supplies from the site borehole which following treatment is fed to the sheds and stored in storage tanks in the Central Services area from where it ‘gravity feeds the drinking system. Links to the main computer system identifies and alarms any failure.

Inside the houses, heat recovery and additional heat will be applied to manure belts ensuring manure is removed regularly from the houses so that ammonia cannot be generated. The new unit will also be provided with solar panels as a supplementary source of electrical energy.

Mortalities are attended to immediately and carcases collected during the day, kept in sealed bags and transferred to a freezer in the Central services area. Final collection and removal is by an appropriately licenced company (disposal probably rendering.)on agreed times and dates and dead stock transferred to disposal bin outside of perimeter (biologically secure) fence

Site cleaning.

At the end of campaigns, the birds will be removed and the houses cleaned physically of manure / litter before being washed, sterilised and recommissioned. As demand outstrips production no stockpiling takes place.

Washings are collected in a sealed tank and muck / manure / litter retained dry for removal off site and used as part of the farm nutrient budgeting plan.

Manure from both the existing and new houses (can) will be stored under cover in a new , covered store and become the primary source of nutrients for fields on the farm but also outside of the PPC permitted area on neighbouring farms. The replacement of uncontrolled slurry at local farms historically will be replaced by proper nutrient management over that wider area. (Former milk farms)

Future manure will be dryer and new storage will allow for better timing of application and the reduction of application of inorganic NPK. It will also reduce overall ammonia emissions compared with former uncontrolled storage on other farms. There will be a significant reduction of haulage costs associated with the import of inorganic fertiliser and a contribution towards recycling specifically of phosphorus.

Significant tree planting both on and around the range will provide additional tree shelter belt for the protection of the R. Belah SSSI but will also provide additional habitat and enhanced river corridor for the movement of species where this is important. The additional generation of dry poultry manure which is already established as being of optimal composition for fertilising fields in this area (agronomist analysis) coincides with several dairy enterprises having closed in recent years and where continued silage production needs an alternative nutrient source.

Rain water treatment

Roof water, drainage from the concrete pads around the site and drainage from under the scratch area will drain to a series of *swales* for treatment. Their design aims for organic matter to be absorbed and treated / digested on the grass whilst treated / purified water passes slowly through the base and banks. Only high rainfall events will incur an overflow to the local watercourse. Monitoring of this system will be undertaken routinely and visual monitoring of the final discharge from the site will be undertaken in times of storm event.

 To date, the land being considered for free range, extending to 32 Ha, has been used for grazing. Historically, all of these activities will have incurred routine application of inorganic fertilisers whereas future use as *free-range* will not require such application. Instant fertilisation by ranging hens will be the only nutrient addition, and this utilised by grass cover and plantation.

Beyond the scratch area, the free range land will be planted with trees / bushes for birds to spend the daylight hours in. These increase health and animal husbandry as well as reducing loss from predation. During months when trees are in leaf, transpiration will contribute to maintaining a dry habitat for the flock. When mature and the tree canopy is closed, the cover will also act to support other plantations aimed at absorbing particulates and ammonia.

Over the past two years the Centre for Ecology and Hydrology, in partnership with Forestry Research, (Forestry Commission) have worked on the production of guidelines for tree planting around farms to increase the amount of ammonia that is captured on the farmstead and reduce its release beyond the farm boundary into the general environment and particularly, looking at reducing the quantity of Nitrogen added to ‘background’ . Not only does this encourage the reduction of ammonia from adding to already high background levels in the air and manage it within the site, but it also increases the production of local biomass (nitrogen conversion) and generates an environment which is positive for bird welfare. (See [www.farmtreestoair.ceh.ac.uk](http://www.farmtreestoair.ceh.ac.uk) ) Tree planting is actively sought as a government initiative and the planting proposal will seek to contribute to the national need for greater cover.

Environmental Overview

Buckles Partnership seek to reduce their carbon footprint through conservation of energy, capturing energy and harnessing it and using natural and other resources wisely.

Analysis of advantage / benefit of site tree planting

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| **Site** | **Benefits to Farm business** | **Benefits to environment (general)** | **Dis-benefits** |
| Tree planting Woods | Potential timber for fuel or other purposes (continuous cover)  | (i)Ammonia absorption and conversion to biomass. (ii)Renewable energy source. (iii)River flow buffering capacity during storm events.(iv)Biodiversity increase | None.  |
| Shelter belts at gable ends | Prevention of odour and particulates migrating from site. Additional cover for birds ranging. | (i)Removal of particulates and ammonia derived from extraction fans. (ii)Reduction of residual ammonia (released from sheds) adding to general air quality deterioration. (background) | None All designed to maximise benefits established though *farmtreestoair* modelling |
| Area of range planted up  | Flock welfare and egg production.Biomass for fuel when mature and require thinning and re-planting. (sustainable tree cover and wood supply.) | Absorption of ammonia by foliage.Absorption of N as NO3 and conversion into tree biomass from droppings on range. (less washed out to surface waters. Some enhanced biodiversity.  | None. All designed to maximise benefits though *farmtreestoair* modelling |