YDCW CPRW Brycheiniog a Maesyfed Brecon & Radnorshire

27th October 2023

BRECON AND RADNOR BRANCH OF THE CAMPAIGN FOR THE PROTECTION OF RURAL WALES
OBJECTION to Planning Application P222728/N
The erection of and the construction of an anaerobic digestion (AD) plant with associated facilities, including feedstock storage clamps; tanks; lagoons and wetland filtration system; and connection to the national gas grid, together with the installation of photovoltaic panels on buildings, a grain store and dryer and the construction of anew vehicular access to the A417.

The Brecon and Radnor Branch of the Campaign for the Protection of Rural Wales has a legitimate interest in the reversal of the ecological decline of the Wye and has made a major contribution to transparent statistics about the intensive poultry industry growth. Both the Wye catchment and the expansion of the local intensive poultry industry cross the England/Wales border. Solutions for poultry manure disposal impact the entire cross border catchment. Our response is restricted to these aspects of the application.

BRB-CPRW has reviewed the new material submitted for P222728/N

Given that this is EIA development and new material was submitted as late as 28/9/23, we assume that our comments will be accepted in spite of the consultation period being closed.

All environmental organisations should be committed to a solution of the excess manure problem, however this is by no means the only environmental problem associated with the concentration of intensive poultry development in the Welsh border country, particularly in Herefordshire, Shropshire and Powys. We would not like to see any planning consent resulting in more intensive poultry capacity in this area.

Other significant problems are:

- Ammonia from rearing sheds and outdoor ranges is a major risk for UK biodiversity.
- Import of soy-based feedstuff is a major cause of habitat-destruction abroad.
- Resources for poultry feed crops would be better devoted to plants suitable for human consumption.
- Intensive livestock production relies heavily on use of biocides/pharmaceuticals
- Intensive livestock production is a risk for pandemics.

Background to this proposal

Until recently control of nutrient-spreading (nitrogen and phosphorus for the purposes of our response) has been governed by the fiction that LPAs monitor the Manure Management Plans submitted with applications for IPUs and enforce against breach. The plans have been based on a simple calculation of nitrogen content of total manure produced and the available hectares for nitrogen spreading at the maximum permitted rate. Until roughly 3 years ago, Phosphorus has been ignored in spite of phosphate levels being the headline criterion for SAC health and poultry manure having a high P:N ratio. We are not aware of any single case where there has been either monitoring or enforcement of a planning condition requiring adherence to a manure management plan by an LPA.

Although the Farming Rules for Water (England) and the Water Regulations for Agricultural Pollution (Wales) have now brought nutrient-spreading into the realm of law, rather than unenforceable “best practice”, enforcement is rarely, if ever, happening.

There is supposed to be a Wye Nutrient Management Plan. In 2014, a Board was established to ensure this but, nearly 10 years later, there is still neither a plan nor even an agreement as to which nutrients the plan should cover.

While the EA and NE have regulatory roles it is not at all clear to the public whether any promises about import or export of nutrients can be effectively audited or whether any undertakings about sources of manure or destinations for fertiliser and digestate can be legally and effectively controlled or regulated by either LPAs or EA or NE.

Given the critical ecological decline of the Wye catchment, we believe a proposal such as this brings up crucial questions:

- Is this project the best way of reducing ongoing pollution in the Wye catchment?
- Can the LPA and Regulators be sure that the project will turn out to have the environmental benefits promised?
- Would the LPA and Regulators have any control over the source of digester feed and destination of digester products?

We know of at least two major AD applications in the Herefordshire planning pipeline which are also designed to take poultry manure in the Wye Catchment. There are almost certainly others.

We understand how the planning regime operates but we are facing an ecological crisis. We question whether a first-come first-served protocol is the best way of deciding the fitness of these projects to protect the water, soils and air in the Wye Catchment. Each of these projects is modelled around the same supply of poultry manure, a great deal of which comes from units contracted to Avara Foods. We know full well that Avara is an expected source for Whitwick (the name has been redacted in some documents but left in others) just as it is for other projects. From Avara's own evidence, it looks as though contracts with Gamber will already cover a large proportion of the manure from Avara-contracted sites.

This suggests to us that supply contracts will be readily changed and all parties will be subject to fluctuating market forces of supply and demand for AD feed and AD products. Large broiler and egg-producers will wield at least some of the power.

We need clarity about whether the source of digester feed and destination of digester products in terms of location or purchasing company can be controlled by either Herefordshire Council or the EA and, if so, exactly how the mechanisms will actually work (Planning Conditions, 106 agreements, Environmental Permit control).

Although this project is presented as a solution to the ecological predicament of the Wye, the inclusion of a large grain-store, use of digestate from Court Farm and lack of clarity about the destination of AD products, leaves it open to speculation about how much the "solution" to excess manure spreading in the Wye is an end or simply a means to business expansion. This makes it all the more important to look carefully at inputs, process details and disposal of the products and how these will be guaranteed and regulated. In theory, phosphate-stripping and volume reduction for easier transport should help careful matching of nutrients to crop requirements and avoiding sensitive catchments. But will it in practice? What are the risks?

Query about the proportion of liquid feed from Court Farm and from "other processes"

The Planning statement sets out:

- 100,000 tonnes/annum of poultry manure from local farming operations;
- 16,000 tonnes/annum of apple pomace.
- 25,000 tonnes/annum of liquid digestate from anaerobic digestion (the applicant's AD on nearby Court Farm);
- 35,000 tonnes/annum of liquid feedstocks from agricultural or food manufacturing processes.

We note that in the Traffic statement the last two quantities are reversed:

3.2 It is anticipated that the AD plant will process the following amounts of feedstock:

Type of Feedstock	Tonnes
Poultry Manure	100,000
Pommace	16,000
Digestate liquid for treatment	35,000
Extra liquids required	25,000
Total	176,000

The application for the Court Farm AD (**CE092394/N** ES 817295) says that the AD utilises 10,000 T green energy crops. Later this is described as 7,000T plant-feed with 2,000T mixed manure-feed. We can estimate the weight of digestate produced: Court Farm is in an NVZ: thus, using the figures presented, 170Kg/Ha on 589Ha at 6kg Tonne/Ha allows spreading of 16,688T which is said to be about half of the Court Farm digestate product. The total product would be in excess of 33,000T which would fit with the Traffic weight of 35,000T. However, the Court Farm ES Appx 1.p23 shows that the end-product has a liquid and solid element. We presume that only the liquid digestate element is imported from Court Farm.

We do not know the proportions of each either produced or spread at Court Farm nor exactly what happens to the other half which is not spread.

Why does the distribution of input feed matter?

- the statement in the revised ES at 2.5.1.1. that "*the process will remove nutrients that would otherwise be spread on land at Court Farm*" cannot be evaluated.
- if the inputs are not either subject to Planning Condition or Environmental Permit, the supposed contribution to Wye ecology is not assured.
- the lack of consistency reflects on the care with which the project has been planned.

One or the other statement about liquid inputs should be rectified.

Queries about Transport

A clear transport analysis should have better details. In particular, inward and outward journeys should be clearly separated.

Queries about the Whitwick process

We have set out the process (our numbers) in order to clarify how much information is given.

1. **Pre-digestion nitrogen-stripping:** 346,000 Tpa of feed reduced by 100,000 Tpa
2. **Anaerobic digestion** of 246,000 Tpa containing 1,658,093Kf Phosphate
3. **First Centrifuge** of digestate gives 35,000 Tpa **40% solid SOIL IMPROVER** containing (approx.)858,000Kg of (slow release) Phosphate.
4. **Struvite recovery with Magnesium Hydroxide of "90% of remaining soluble phosphate"** 216,000 Tpa containing 177,934Kg Phosphate produces **MAGNESIUM AMMONIUM PHOSPHATE** and **AMMONIACAL NITROGEN**
   This leaves 588,627Kg Phosphate (so about 70% of phosphate must be in soluble form) in unknown weight of digestate.
5. **Second "Whitwick Process" Centrifuge:** yields 1,300 Tpa of **FERTILIZER "SOLIDS"** containing 537,455Kg Phosphate and unknown weight of liquid digestate containing 51,172Kg Phosphate.
6. **Reed Beds** remove organic matter
7. **Phosphate Filter Series:** removes 99.97% of remaining Phosphate to leave 10.5 Kg Phosphate or 4.515Kg Phosphorus using a media developed and tested by the EA.
8. **Release to local surface water.**

This process is significantly different from that originally submitted. The supposed planning merit derives from the details of the process itself but the applicant has not updated the Reed Bed appendix nor the Mass Balance appendix in line with the new submissions. This calls into question how carefully integration of the project has been considered.

No evidence is given that stage 4 "*not usually deployed at AD plants*" has been trialled with digestate in a system comparable to that proposed.

Trial of stage 5 was in the AD at Court Farm under the applicant's ownership. No details are given of the experiment or substrate subjected to centrifuge. What was the composition of the substrate? Can a trial in a unit designed for a 9,000T input AD be extrapolated to a system with nearly 20 times the input?

Stage 7: Phosphate to Phosphorus conversion is wrong. **Phosphorus** is 31/95 as a fraction of the **Phosphate** anion. The shorthand conversion is to divide by 3. This mistake (which does not even favour the developer!) does nothing to encourage confidence that robust scientific method has been applied to the technological design and Phosphate figures provided.

Since the applicant's argument depends upon Phosphate removal, there should be certainty about whether these stages will work in practice as proposed.

There is insufficient detail on ammonia control. Ammonia emissions pose an unacceptable risk to local habitats in an area where background ammonia is already in excess of the critical level for Ancient Woodland at 2.3mcg/cu.m. (Apis: consulted 25/10/23). Transfer of many loads/day into a covered store and presumably subsequent loading into the pre-digestion tanks would release ammonia. Any potential ammonia emissions associated with the liquid feed from digestate and other sources are not mentioned. The nitrogen deposition data are derived solely from the flare, 2 CHP units and 2 backup boilers and utilise the contentious contribution allowance of 100% of the critical load to ancient woodland and local priority habitats and nature reserves.

There is insufficient detail about the ammonia-scrubbing process and the need for maintaining and renewing the equipment for this. We note that emissions calculations are usually based on manufacturer data for new, perfectly operating systems and do not take wear and tear or operator inefficiency into account.

Information about the pre-digestion nitrogen-stripping process (1) in the original ES 3.3.3.3. says 55% of nitrogen is removed and in the Mass balance analysis (Appx vii) where another 55% nitrogen extraction occurs in the secondary digesters however the Mass balance analysis refers to a process which has been changed in the later submissions.

CPRW considers that the Nitrogen and Phosphate content of the products at stages 3 and 5 should be given with clear proportions . The nitrogen content the of the water discharged to the reed beds and then to the river system should be given. A single mention of Potassium removal (ES 3.3.3.5) should be explained. The Phosphate Mitigation Plan says that stripping of nutrients allows discharge of clean water and "*removes the requirement to spread digestate to land as an agricultural fertiliser*". But there is no "*requirement to spread digestate*". Any advantage will come from comparison of the nutrient composition of the products and where they are applied.

There should be full discussion of other potential contaminants including heavy metals. We do not know the risks associated with the different feed-stuffs – particularly those from "*agricultural and food manufacturing processes*" This is an ill-defined category which could cover a multitude of significant environmental risks.

Will the project as described operate safely?

CPRW is disappointed to see that the nature of the work is described (Planning Statement) as "*agricultural in nature and low-skilled*" for four staff. We believe that activities such as the technical decisions for mixing feed-stuffs, managing potentially explosive gases, maintaining tanks, machinery etc. and testing discharge liquids (described in Phosphate Mitigation) should not be left to low-skilled workers. The public is well aware of the history at Much Fawley and Great Porthamel. The safe operation of the process and keeping polluting discharges within agreed limits must require at least one highly skilled experienced manager with cover for holidays and sickness. Why do the authors not understand this?

Absence of a technical management post, of proper evidence for the efficacy of untried processes and of any consideration of maintenance over the life time of the project must pose an unacceptable environmental risk .
We would like to see all these risks assessed by independent experts in this highly specialised field.

Will the project decrease spreading of excess nutrients in the Wye Catchment?

The proposed Unilateral Undertaking (106 Agreement) puts the onus on the developer to verify the destination soil status for any product applied within the Wye Catchment. All the products could be spread in the Wye Catchment and, to the extent that products are applied within the Wye Catchment, the nutrient load within the whole catchment would remain unchanged. Any benefit of the project would depend on correct matching of nutrient to crop needs and, even then, we know that we need extra measures to reduce reserves of legacy Phosphate.

The developer is assuming the EA Regulator's role in ensuring the observance of regulations on third party land but the developer is not the Regulator. The developer's role with respect to third parties is subject to a legal agreement with the Planning Authority but the Planning Authority is not the Regulator either. Nor could Planning Authority possibly guarantee that it has either resources or expertise sufficient to monitor or enforce compliance with the proposed 106 Agreement.

Nothing about this is right.

Unless or until there is legal clarity about the separate duties of the EA and the LPA in safe-guarding the Wye Catchment from nutrient excess, all undertakings about import, export or spreading of manure and manure products for Planning Consent purposes must be regarded as unsound.

CPRW wants to make a positive contribution to finding solutions for the Wye and we agree that possible solutions include Anaerobic Digestion. We believe this application should be put in the wider context of Wye restoration for which we urgently need Government commitment and a coherent strategy from the statutory agencies.

On the basis of the evidence provided, we urge Herefordshire Council to REFUSE this application.
As the application stands, this is untried technology operated by unskilled workers, with possible significant environmental risks and no sound statutory guarantees to ensure that it will benefit the ecological status of the Wye Catchment.

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