

**Application Number:** DM/2022/00815

**Proposal:** Installation of bio-mass boiler unit (990kW heat) and ancillary equipment, fuel (bio-mass) storage area, replacement of underground heating pipes, installation of 500mm. dia. flue pipe, together with cladding of previously open NE elevation of building with colour coated steel sheets to match existing. The installation is currently being undertaken and will be required solely to provide heat for the farm's poultry unit. The bio-mass boiler is to replace an existing LPG (fossil fuel) heating plant

**Address:** Trostrey Court Farm Barns, Clytha Road, Trostrey Common, Gwehelog, Monmouthshire

**Applicant:** Alkana Corporation Ltd

**Plans:** Site Plan 0088/22/01 - , All Existing Plans 0088/16/03 - , All Proposed Plans 0088/22/03 - , Photography PHOTO1 - , Photography PHOTO2 - , Location Plan 0088/22/00 - , Other Air Quality Assessment by Sol Environment - Feb 2023, Other LSO 220710 TIDY PLANET USK RHI REPORT V1 Stack Emissions Monitoring Report

**RECOMMENDATION: Approve**

Case Officer: Ms Kate Bingham  
Date Valid: 27.06.2022

**This application is presented to Planning Committee due to the number of objections**

**1.0 APPLICATION DETAILS**

1.1 Site Description

This application site is part of a larger complex of buildings formerly used as a Combined Heat and Power Plant (CHP Plant), and forms part of a substantial range of modern farm buildings near the main farmhouse Trostrey Court. Existing poultry houses and former dairy farm buildings lie to the north of the site while to the south, east and west is adjacent open farmland. A County Class 3 highway runs immediately adjacent to the farm, although a private farm access road allows direct access from the farm's fields to the main Usk to Abergavenny Road.

The site is within the Phosphorous Sensitive Catchment Area of the River Usk Special Area of Conservation (SAC). The site is not within any other designations.

1.2 Background

Trostrey Court is an existing enterprise of 500 acres. Until recently the farm had a large dairy enterprise but that has now ceased, however the adjacent large poultry unit continues to operate - an operation that consumes a considerable amount of heat and electricity. In 2007 permission was granted to build a power generation plant to provide heat and power for the farm, with surplus electricity being sold to the grid. Over the years this grew to a larger plant (CHP Plant) that was fuelled by gasifying wood chip/bio-mass for the generation of low carbon/renewable heat and power as a direct replacement to fossil fuels - in this case gas. However due to technical difficulties the plant was not able to operate to its full operational capacity and has since been decommissioned. This decommissioning included the removal of various flues/vents from the roof of the existing building, as well as an external gas tank, coolers and a flare stack.

### 1.3 Value Added

Air Quality Assessment provided.

### 1.4 Proposal Description

This application seeks planning permission for the installation of a non-fossil fuel heating system within part of the existing redundant CHP Plant building to serve the adjoining farm poultry unit at Trostrey Court Farm. Part (approx. 20%) of the redundant building will house the bio-mass boiler and associated fuel store. The previously open north-east elevation of the building has been enclosed and clad with colour coated steel sheeting to match the existing. Except for a section of the boiler flue exhausting one metre above the ridge of the building and the replacement and upgrading of existing underground flow and return heating pipes that run between the application building and the adjacent poultry sheds, all the scheme's installation works are within the existing building's footprint. The installation work is currently being undertaken but the plant is not yet operational.

The proposed boiler unit comprises a 990 kW (heat) unit designed to use waste bio-mass material (wood chip) at a maximum of 330 kg/hour at full output, but would modulate during the day / night / season and reduce to around 66% of that quantity.

The biomass boiler proposed, would be fuelled by virgin wood and 'Grade A – Clean Recycled Waste Wood' only, and provide energy for hot water for heating of the existing chicken sheds on the farm. Grade A wood is clean and untreated pre-consumer waste wood and untreated wooden packaging derived virgin wood.

The definition of 'clean' waste wood is established under British Standard PAS111:2012 adopted by the Wood Recyclers' Association as the industry standard for grading used woods. This type of wood is commonly used as a fuel in domestic biomass installations and is typically made up of solid softwood and hardwood, packaging waste, scrap pallets, packing cases, cable drums, process off-cuts from the manufacture of virgin/sawn timber and untreated board products. The aim of PAS 111 is to provide a specification for individuals and organisations recovering and processing post-industrial and post-consumer waste wood into wood products such that potential customers will be assured that they are procuring a material of consistent and verifiable quality. If the minimum specification is met or exceeded then the material is PAS 111 compliant; if the minimum requirements are not met, then the material is non-compliant.

The limited scale of the proposal means that it falls under the threshold that would require an Environmental Impact Assessment (EIA). Being under 1MW, the proposed unit will also be under the thermal output level for a non-waste wood fuel boiler and so will not need to be regulated by Natural Resources Wales as a Medium Combustion Plant. Furthermore, the proposed bio-mass boiler will not require a Permit under Part B from the Local Authority (Environmental Health) as it is below the 20MW threshold for a boiler burning virgin or Grade A wood.

## **2.0 RELEVANT PLANNING HISTORY (if any)**

<b>Reference Number</b>	<b>Description</b>	<b>Decision</b>	<b>Decision Date</b>
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DM/2018/01641	Erection of fuel storage building to replace existing open storage compound, relocation of 2 no. portable office buildings together with parking provision and internal diversion of nine existing engine exhaust flues to new single 17m flue stack (in lieu of buildings and 17m flue stack previously approved under application DC/2016/01465).	Withdrawn	29.04.2021
DC/2010/00437	Proposed extensions to agricultural generator building	Approved	22.07.2010
DC/2011/00373	Proposed extension to agricultural generator building - for storage and processing/drying of straw, etc.	Acceptable	17.05.2011
DC/2007/01200	Erection of agricultural building for storage and standby electrical generation with new access way.	Approved	01.11.2007
DC/2017/01078	Alterations and extensions of existing combined heat and power plant.	Withdrawn	03.09.2018
DM/2021/01812	The proposed use as a bio-mass heating facility to provide heat for the farm's poultry unit within an existing agricultural building, will be an agricultural use and within the ambit of the existing agricultural consent.	Withdrawn	30.06.2022
DC/2008/00833	Proposed construction of weighbridge and ancillary building.	Approved	26.09.2008
DC/2017/01125	Dairy cow housing.	Approved	24.11.2017
DC/2008/01424	Retention of variations and amendments to previously approved scheme (LB Application No: M/10606) for conversion to three dwelling units.	Approved	24.04.2009

DC/2009/00208	Conversion of former stables and cider mill to three dwelling units (retention of changes from approved scheme M/10599, including alterations to fenestration).	Approved	22.04.2009
DC/2012/00882	Proposed straw storage barn	Approved	18.02.2013
DC/2008/00835	Retention of agricultural building to house electrical generating unit, fuel tanks, switch gear and ancillary accommodation, concrete apron, gas tanks and access.	Approved	17.07.2009
DC/2009/00665	Proposed Construction of Roof over part of existing silage bay	Approved	11.08.2009
DC/2006/00947	Alterations and conversion, including rebuilding of collapsed/unsafe areas and re-roofing	Approved	11.07.2007
DC/2008/00834	Retention of siting of portable building to provide staff facilities for poultry farm.	Approved	09.09.2008
DC/2008/00570	Proposed change of use and alterations to former workshop building to provide office/workshop units (class B1).	Approved	09.07.2008
DC/2008/00229	New private drive with parking areas to serve Trostrey Court and Trostrey Court Cottages.	Approved	05.08.2008
DC/2016/01465	Alterations, efficiency and safety improvements and extensions to existing wood powered electrical generating plant (a Combine Heat and Power Plant - 7.2MWe/hr. wood fuel powered) to better screen and improve existing bio-mass fuel storage compound, provide a feedstock (wood) fuel storage area, chipping building, char storage building, 3 no. feedstock (woodchip) storage silos, dryer plant with flue, emergency by-pass flare stack, and associated plant and works.	Approved	01.03.2017

### **3.0 LOCAL DEVELOPMENT PLAN POLICIES**

#### **Strategic Policies**

S10 LDP Rural Enterprise  
S12 LDP Efficient Resource Use and Flood Risk  
S13 LDP Landscape, Green Infrastructure and the Natural Environment  
S17 LDP Place Making and Design

#### **Development Management Policies**

SD1 LDP Renewable Energy  
LC1 LDP New Built Development in the Open Countryside  
LC5 LDP Protection and Enhancement of Landscape Character  
DES1 LDP General Design Considerations  
EP1 LDP Amenity and Environmental Protection  
NE1 LDP Nature Conservation and Development

### **4.0 NATIONAL PLANNING POLICY**

#### **Future Wales - the national plan 2040**

Future Wales is the national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities. Future Wales - the national plan 2040 is the national development framework and it is the highest tier plan, setting the direction for development in Wales to 2040. It is a framework which will be built on by Strategic Development Plans at a regional level and Local Development Plans. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.

#### **Planning Policy Wales (PPW) Edition 11**

The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Socio-economic Duty.

A well-functioning planning system is fundamental for sustainable development and achieving sustainable places. PPW promotes action at all levels of the planning process which is conducive to maximising its contribution to the well-being of Wales and its communities.

### **5.0 REPRESENTATIONS**

#### **5.1 Consultation Replies**

**Llanarth Community Council** - The Council objects to the application because it lacks the clarity and detail required to make an informed decision:

- the applicant proposes to use wood chips/fines as fuel, but the boiler manufacturer states this model runs on solid fuel waste including Refuse Derived Fuel (RDF).
- if the boiler uses wood chips, will this include waste wood which may contain contaminants?

- there are no verifiable emissions data supplied as part of the application, which we know is a concern for local residents.
- it is not clear if the 330kg per hour figure is an estimate of potential use or the maximum capacity of the proposed plant.
- we understand that an application to NRW for a permit under the Environmental Permitting Regulations has not been made (at 25th July 2022); will this plant require instead a Small Waste Incinerator Plant permit (SWIP) from MCC, and if so, has an application to Environmental Health been made?
- We note the plant is described as being in the process of installation. Please confirm that it is not yet operating (without planning permission or a permit).

**Natural Resources Wales (NRW)** - No objections. As noted in our previous response dated 9th September 2022 (ref: CAS-192670-X8V2), the application site is within 650m of the River Usk Site of Special Scientific Interest (SSSI). A number of notified features of the SSSI are sensitive to nitrogen, and therefore we previously requested further information on the emissions from the proposed flue.

We have reviewed the submitted Air Quality Assessment (AQA) prepared by Sol Environment dated February 2023. We are satisfied with the conclusions set out in the report. All process contributions are shown to be below the recommended guidance threshold (<1% of critical level/load) and can therefore be screened out as not significant in terms of impacts on sensitive ecological receptors. We therefore consider that the proposed development is not likely to damage the features for which the River Usk SSSI is notified and have no further comments to make.

The proposed application site lies in a landscape that has records of bats and dormice, European Protected Species. We recommend you seek the advice of your in-house ecologist to determine if there is a reasonable likelihood of European Protected Species' being present within the application site.

**MCC Environmental Health (Noise)** - No objections:

03/03/2023 - From a noise and nuisance perspective, our department has no objections to the above proposal.

15/05/2023 – I visited Trostrey Court Friday 12th May 23 while the biomass boiler was in operation. I have been advised that a baffle cowl was fitted to the stack on Wednesday 10th May 23, which I have been told, has made a difference in reducing the sound levels emitted from the biomass boiler.

There are also no sirens/alarms as part of a warning system anymore, they are now remote alarms/alerts sent to mobile phones.

While on site, I visited the closest sensitive receptor (point 20 in the noise report) and the sound levels from the biomass boiler were not above background sound levels.

I continue with my original response, advising no objections in relation to noise nuisance.

12/06/23 - The "Occupational and Environmental Noise Survey" dated 29/03/23 was not adequate and did not meet the standard (BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound) which would be expected for this sort of development, if noise was suspected to be a concern. This particular report was not requested by EH. The methodology of the Survey was not correct for this sort of development and it was also undertaken during poor weather conditions so the reported sound levels would not be representative. BS 8233, also referred to, is for new residential developments and therefore again would not be appropriate to this planning application.

Since the Survey the applicant has installed sound mitigation. I visited the area on 12/05/2023, when the background sound levels were typical for what I would expect and the bio-mass boiler was in use. I did not experience any significant noise in the vicinity of the nearest dwelling and therefore do not object to this application.

**MCC Environmental Health (Air Quality)** – No objection:

18/07/2023 - The original SOL Air Quality Impact Assessment (AQIA) assumed worst case emissions i.e., the emission limit values in the Medium Combustion Plant Directive (MCPD) for a bio-mass boiler large enough to require an Environmental Permit under the MCPD. This facility is not large enough to require a MCPD permit, and as it will use virgin/clean recycled wood, rather than waste wood, would not require an Environmental Permitting Regulations Permit.

The AQIA used the ADMS 5.2 dispersion model to predict the stack emissions at a number of nearby receptors and compared the results to the assessment of significance tables in the Institute of Air Quality Management Planning Guidance, concluding that the impact would be negligible and not significant. The applicant then commissioned stack emission monitoring to determine actual emission levels, rather than assuming MCPD emission limit values, and that report identified that emissions would be below those values. As such the AQIA's conclusions remain valid.

Therefore I have no further comments with regard to air quality.

22/03/2023 - The proposed bio-mass boiler is just under 1MW, and therefore would not be regulated by NRW as a Medium Combustion Plant, however to derive the modelling data the consultant used the emission limit values given in the MCP Directive to give a prediction as to the worst case emissions from the bio-mass boiler. In some ways the modelling was conservative, assuming a maximum level of emissions allowable by the MCPD, and assuming all dust emissions are fine particles (PM10 and PM2.5), with the plant operating at full load continually.

Further information requested:

1. I would prefer to see actual emission data from the specific bio-mass boiler, based on actual monitored emissions, using the exact fuel stock that will be used at the farm, rather than assumed worst case data.

*Response: Monitoring of the bio-mass boiler was carried out at the end of January 2023 utilising the proposed non-waste bio-mass. A summary of the NOx and total particulate matter emissions are compared to the assumed levels for the assessment have been provided. It should be noted that the reference conditions assumed for the assessment were at 6% oxygen. The monitoring report presents results at 10% oxygen. Therefore, the monitored results are recalculated at 6% oxygen to allow a direct comparison with the assumed values. Measured NO concentrations were 30% lower than assumed for the assessment and are well below the emission limit values (EL) used within the report. TPM concentrations are less than half that assumed for the assessment. Therefore, it is concluded that the assessment provided is representative of the worst-case and the plant will easily meet the ELVs used in the report.*

2. The type of fuel to be used will impact on the emissions, and so should also be taken into account. Furthermore the background Air Pollution maps used would not take into account human derived emissions in the area. I appreciate that these should be low, as it is in a rural area, however activities like poultry farming can create emissions, as can vehicle use. As such I would like to see the assessment take this into consideration.

*Response: The Defra background mapped data does take into account human derived emissions, including the impact of vehicle emissions on local roads. To provide a worst-case background concentration, the nine 1 km<sup>2</sup> grids around the site were considered and the highest concentration adopted as the background. For example, for NO<sub>2</sub>, concentrations ranged between 4.5 and 5.4 ug/m<sup>2</sup>. The grid for the site location had a mapped concentration of 4.9 ug/m<sup>3</sup>, 0.5 ug/m lower than was assumed for the assessment. It is understood that the poultry sheds generate up to 3 heavy duty vehicles (HDs) per day (6 HDV movements). This is well below the IAQM criterion for requiring a detailed air quality assessment (100 HDV movements). Therefore, it is concluded that the vehicle movements associated with the poultry sheds would have a negligible impact on local air quality. Combined with the worst-case background and the low number of HD movements, it is concluded that the cumulative impact of the bio-mass boiler and poultry shed traffic is more than adequately covered by the assessment provided.*

3. I would appreciate some consideration as to the change in local air quality based on the current method of heating the poultry sheds.

*Response: It is understood that the poultry sheds are currently heated by LPG and this will contribute to local air quality. Offsetting the existing emissions against the proposed emissions was not provided in the assessment so as to provide a worst-case analysis. Furthermore, the LPG heaters will be retained for emergency use should the bio-mass boiler be unavailable. It should be noted that there would be no circumstances where the LPG heaters and bio-mass facility would operate at the same time. The emissions from the bio-mass facility are acceptable when they are considered alone. The overall impact would be less had account been taken of the significantly reduced operation of the LPG heaters.*

**MCC Landscape/GI** - Based on the information provided the proposed development is acceptable from a landscape and GI perspective based on the information provided and will not have an unacceptable visual impact on the character and appearance of the valued Upper Usk Valley landscape and its setting, provisions of Planning Policy Wales (Edition 11) February 2021 and policies S13, NE1 and LC5 of the adopted LDP.

**SEWBRc Search Results** – Bats and Dormice recorded within the vicinity of the site.

## 5.2 Neighbour Notification

Representations from four neighbouring households received objecting on the following grounds:

- I am concerned that there appears to be too many unanswered issues with this application which might turn out to be entirely unsuitable, particularly with reference to the previous attempts on the same site for an incinerator:
  - i. The application itself contains very little information about emissions control and how this will be monitored and managed on a long term basis.
  - ii. What fuel stock will be used? Wood chips, fines and solid waste are all mentioned.
  - iii. The reference to two lorries per week does not specifically say that this is the capacity of the plant.
  - iv. It is possible that the developer could ramp up generation in future - by how much? How would that be controlled and or enforced?
- The documentation submitted suggests that this is a small incineration plant. I am extremely concerned about the pollution and traffic issues that would result.
- Local knowledge can evidence that in cold and still anticyclonic weather conditions, or in the evening when there is less background noise, it is a near certainty that the bio-mass boiler noise will be a highly intrusive and disturbing noise source that will adversely affect neighbouring amenity, and the amenity of walkers using Potters Road.
- The Noise Survey needs to be redone, and to be undertaken during still weather conditions when the lower atmosphere is layered and temperature inversion can reflect rising sounds back down, a commonplace occurrence in the Usk Valley.

## 5.3 Other Representations

Two further objections and one supporting statement received:

### **Avara Foods** (Support):

Avara Foods are a joint venture between Freemans of Newent (formerly Cargill Meats Europe) and Faccenda Foods Ltd. I confirm that the company has a long-standing relationship with the Morgan family, who are a valued member of our Herefordshire broiler grower base and have operated this broiler farm for many years for Cargill and now Avara Foods. Over the duration of the relationship the family have made significant investments at the site resulting in the operation of a highly efficient poultry unit. Avara Foods have set a science based target to be net zero by 2040. This includes our whole supply chain and therefore our supply farms too. Renewable energy sources on farms significantly contribute to reducing on farm emissions and we encourage all farms to apply for installations wherever possible and viable. 90% of our existing broiler supply



farms have at least one source of renewable energy and we will continue to encourage investments in this field to achieve 100%. We always strive for our suppliers to continue making investments in their farm and therefore we fully support this application for the installation of a bio-mass boiler unit, especially as Trostrey Court Farm falls into the 10% of farms without renewable energy. The new unit will allow the farm to move away from LPG heating, providing a renewable source of heat for the chickens which will make the farm much more sustainable and environmentally friendly. The new bio-mass unit will also improve the conditions of the environment within the poultry houses.

**Biofuelwatch (Objection):**

We believe that the information submitted by the applicant is insufficient and contradictory and that it does not form a credible basis for granting planning permission. According to the Planning Statement, there will be "no visible plume from the external roof flue" because of a flue gas filter "which captures all the smoke particles". The applicant seems to confuse the terms 'plume' and 'smoke'. A visible plume forms dependent on temperature differences between the water vapour discharged and ambient temperature. Depending on location and height, it may well impact on the visual amenity and landscape of the area, which are material planning issues under Monmouthshire's Local Plan, Policy SP13.

According to the Planning Statement, "emissions are well below the mandatory levels set by the Environment Agency/NRW". Yet, as the developer concedes, the plant does not require an environmental permit as a medium combustion plant. The only reason why a permit would be required would be if the plant was operated as a small waste incineration plant. We would suggest that the Planning Department requests information from NRW to establish whether such an application has indeed been submitted to them and what the details are.

Assessing the air quality and public health impacts of the proposed heat plant requires reliable information about the operations of and emissions from the boiler. The Planning Statement contains an incomprehensible sentence: "Levels of nitrous oxide (NO<sub>x</sub>) particulates from this particular boiler a filter will be less than 5mg./m<sup>3</sup> (max. permissible is 30mg/m<sup>3</sup>)." Clearly a word is missing and the developer must mean either nitrogen oxides or dust (PM<sub>10</sub>), because nitrous oxide is not regulated under any environmental permitting rules. The document from Tidy Plannet, the distributors of the boiler the developer wants to install, on the other hand, states that dust (PM<sub>10</sub>) emissions will be less than 5/m<sup>3</sup>,/m<sup>3</sup>.mg and emissions of NO<sub>x</sub> less than 150 mg. All of those emission figures are unusually low for a boiler with a capacity of ~1MW. If the capacity was between 1 and 5 MW, thus falling under the Medium Combustion Plant Directive as applied in m3 Wales, the emission limits would be 500 mg/for NO<sub>x</sub> and 50/m<sup>3</sup> mg for dust. We therefore believe that evidence of actual emissions should be required and used as the basis for assessing the public health and air quality impacts.

**Stop Waste Incineration, Protect the Environment (SWIPE) (Objection):**

The Air Quality Assessment (AQA) fails to consider the impact on air quality for walkers using the Potters Lane (C215-8) public route which passes alongside the bio-mass installation. Defra's Technical Guidance 22 refers in its Chapter 7 to pollutants from bio-mass combustion (Table 7.4) and from poultry farms (table 7.3). The Sol AQA accepts that footpath use will lead to transient exposure, but then fails to include Potters Lane on its list of Human Health Receptors at its Table 3.2. Walkers are sensitive receptors. The Sol AQA needs to explicitly consider Human Health Impacts from the bio-mass combustion, in combination with particulate matter emissions from the poultry units that also adjoin Potters Lane.

We note and welcome the applicant's suggestion (via Mr Butler's comments, 17 August 2022) that fuel stock is identified as "virgin, forestry and untreated waste wood only", and if the application is recommended for approval, it should be conditioned as such.

We consider that it is critical that waste codes are provided in the documentation, because it is important to ensure that *only* material specified by the relevant codes is utilised. Supply sources and economic conditions change over time and it is reasonable to predict the applicant may seek

to change the type of fuel used in future. Any change of fuel stock to treated wood or other fuel should necessitate a reassessment/approval by the LPA, and will also require a change to the permitting regime.

The boiler selected by the applicant (Sugimat Horizon 1000+) is capable of utilising not only “clean” waste wood, but also RDF (Refuse Derived Fuel) and SRF (Solid Recovered Fuel). RDF is produced from municipal solid waste (MSW), industrial waste and commercial waste, and can contain plastics as well as biodegradable material. Clearly emissions from a plant burning RDF – which may include heavy metals, dioxins and furans - are potentially more harmful to the locality and residents. This choice of boiler is puzzling if, as the applicant says, the aim is solely to provide heat for the farm’s poultry business.

Sugimat’s boilers are not listed on Ofgem’s RHI Emissions Certificates register ([rhieclist.org.uk](http://rhieclist.org.uk)) which contains data for over 80 manufacturers who supply bio-mass boilers, including many to the poultry industry. This might suggest that no Sugimat boiler has been used to generate heat from bio-mass at least until the end of March 2021 when the non-domestic Renewable Heat Incentive closed to new applicants. The fact that Sugimat is not registered also means there is an absence of verifiable emissions data which is required to assess air quality and public health impacts.

In light of the applicant’s past proposal to burn RDF in an incinerator, there is a legitimate concern that this proposal may be resurrected in future – and that this boiler could be an important “building block” for such a plant.

Changes to the type or volume of the fuel used in this boiler will impact its status and subsequent permitting regime. If, for example, it burns *any* amount of treated wood, even if the overall volume remains the same, we understand it may then be defined as a small waste incineration plant and require a SWIP permit. Any future application to burn mixed waste at this site will conflict with the LDP and Welsh planning and waste policy, and will meet strong objection locally.

It is highly likely that a visible plume will form, influenced by temperature differences between the discharged water vapour and ambient temperature. This will conflict with MCC’s policy LC5: Protection and Enhancement of Landscape Character.

The applicant states additional traffic from incoming fuel stock and outgoing ash will be low and will utilise the private farm road out onto the B4598. Even small numbers of additional HGV traffic on small country lanes - if the above route is not adhered to - can cause unacceptable levels of noise, disruption and pollution. All traffic to the site must either use or cross the unclassified Clytha Road.

We welcome the confirmation that all bio-mass fuels delivered to the plant would be sourced in the south Wales region, in line with Welsh Government requirements on the circular economy. If the application is recommended for approval, it should be conditioned as such.

“Smoke” and “plume” are not interchangeable terms.

Please note all representations can be read in full on the Council’s website:  
<https://planningonline.monmouthshire.gov.uk/online-applications/?lang=EN>

## **6.0 EVALUATION**

### **6.1 Principle of Development**

6.1.1 Policy S12 of the Local Development Plan states that all development must demonstrate efficient resource use including increasing the supply of renewable energy. In this case the bio-mass boiler would replace the use of LPG, a fossil fuel that is currently used to heat / cool poultry sheds on the farm.

6.1.2 The use of bio-mass fuel is considered to be a renewable fuel as the carbon dioxide produced during the burning process is offset by that absorbed during the growing process of the

trees. Even though the combustion of renewable fuels produces carbon dioxide, this activity displaces the use of fossil fuels (in this case LPG) and therefore results in a reduction in overall carbon emissions. The benefit of this type of energy generation is considered to outweigh any carbon emissions from transport movements as a result of the development as all wood will be sourced from within the South Wales area.

6.1.3 Other considerations relate to the visual impact of the external parts of the development on the wider landscape and the impact on local amenity in terms of air quality and noise.

## **6.2 Good Design/ Place-making**

6.2.1 The external works proposed to facilitate the installation of bio-mass boiler unit and ancillary equipment and storage area comprise the replacement of underground heating pipes, installation of 500mm. dia. flue pipe, together with cladding of a previously open north-eastern elevation of the building with colour-coated steel sheets to match existing. The previous flue stack, gas buffer tank and coolers have been removed from the site.

6.2.2 The relatively minor changes to the existing site are considered to be appropriate in the setting of the existing, substantial farm complex and will not have an unacceptable visual impact on the character and appearance of the site. As such there will be no conflict with the provisions of LDP Policy DES1 relating to good design.

## **6.2 Landscape Impact**

6.2.1 As the site is within the open countryside, Policy LC5 of the LDP applies. The site is located within an existing complex of agricultural buildings set within the Upper Usk Valley Landscape Character Area (LCA) characterised by flat, river valley floodplain, of alluvium soils flanked by low river terraces of sand and gravels. It is a landscape of outstanding ecological interest identified as a rare example of a large mesotrophic lowland river. Large fields of arable crops and improved pasture dominate. It is an open landscape, enclosure provided only by low intensively managed hedges, in places replaced by post and wire fencing, individual field trees, hedgerow trees and linear tree belts with sinuous lines of willow and alder, following water courses.

6.2.2 The inclusion of the River Usk SSSI/ SAC within the area, whilst only taking up 5% of the LCA land area does emphasise the Landscape Habitat importance of this LCA. An analysis of the relevant sensitivity appraisals from LANDMAP information indicates that the LCA has been evaluated as;

Visual and Sensory; 4% Outstanding, 90% High  
Landscape Habitats; 5% Outstanding  
Historic Landscape; 7% Outstanding, 89% High  
Cultural; 36% Outstanding 64% High

6.2.3 The proposal is primarily the internal boiler installation, renewal of pipes and recladding an existing building with cladding to match that existing together with the installation of a short flue terminating 1m above the ridgeline. The supporting analysis indicates that there will be emissions within permissible levels and no visible smoke from the exhaust stack (except when first operational). It is accepted that there may be a plume of vapour visible during certain weather conditions. Given the intermittent nature of this, and the fact that the plume will be viewed in the context of an existing working farm and large agricultural sheds, this is not considered to reasonably justify the refusal of the application in the context of LDP Policy LC5 - the plume would not permanently or adversely affect the character of the wider landscape.

6.2.4 The relatively minor changes to the existing site are considered to result in a development that is acceptable from a landscape perspective and would not have an unacceptable visual impact on the character and appearance of the valued Upper Usk Valley landscape and its setting.

## **6.3 Impact on Residential Amenity (Including Air Quality and Noise)**

6.3.1 An Air Quality Assessment (AQA) has been undertaken to demonstrate the emission levels from the proposed development. The applicant's consultant has used ADMS dispersal modelling 5.2 to determine predicted nitrogen dioxide, PM10 and PM2.5 at a fifteen locations around the site. The modelling has indicated that alongside the background levels in the area (obtained from DEFRA's Background Air Pollution maps), the bio-mass boiler would have a negligible and not significant impact on local receptors. This assessment has been derived using the methodology given in IAQM's Air Quality and Planning Guidance, and compared against the Local Air Quality Management regime's emission limit values for ambient air quality. The applicant then commissioned stack emission monitoring to determine actual emission levels, rather than assuming MCPD emission limit values, and that report identified that emissions would be below those values. As such, the Council's Environmental Health Officer has confirmed that the AQA's conclusions remain valid.

6.3.2 The proposed boiler is fitted with an automatic ash removal system to ensure effective combustion with the ash residue being approx. 5 - 10% of the incoming fuel quantity. The ash produced is non-hazardous and a valuable source of organic minerals. Flue gases are cleaned via a ceramic flue gas filter which captures the smoke particles ensuring that there is no visible smoke from the external roof flue beyond those visible when the boiler is first lit. The emissions are below the mandatory levels set by Natural Resources Wales. Similar installations are in use in many poultry units in the County and nationally.

6.3.3 In terms of noise, TAN11 (Noise) states that Local Planning Authorities must ensure that noise generating development does not cause an unacceptable degree of disturbance. Measures introduced to control the source of, or limit exposure to, noise should be proportionate and reasonable, and may include containment of noise generated (e.g. insulating buildings which house machinery). In this case, it is accepted that the boiler will generate noise and sound insulation has therefore been installed to minimise this in the form of a baffle cowl to reduce emitted noise from the stack, which is understood to be the main emission point. A baffle cowl is an external cover that substantially reduces noise emission.

6.3.4 When assessing the impact of any noise generated from the boiler, it is important to take into account the noise that would be expected from the current agricultural use. This will include noise from existing Heavy Goods Vehicle movements in association with the poultry farm as well as movements of other agricultural machinery and the extraction fans in the chicken houses.

6.3.5 An Occupational and Environmental Noise Survey was submitted by the applicant in support of the application prior to the installation of the baffling cowl. The recommended limit for "disturbing" nuisance noise in the UK is 70dB and the Noise Survey found that the levels detected outside the limits for the property and within the field were below these levels. Noise detected towards the neighbouring property was ranging from 47.5 dB to 66dB, although this was also contributed by some wind noise and wildlife. It was noted that although sound was not excessive, the frequency of the heating plant could be heard above the background noise which led to the recommendation to install the cowl which is considered to be proportionate and reasonable in this case (proposed condition 3 covers this point).

6.3.6 It is accepted that this survey did not meet the relevant standard (BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound) which would be expected for this sort of development if noise was suspected to be a concern. Notwithstanding the quality of the noise survey, the applicant has since installed sound mitigation referred to above. The Council's Environmental Health Officer visited the area when the background sound levels were typical and the bio-mass boiler was in use. The Environmental Health Officer has confirmed that they did not experience any significant noise in the vicinity of the nearest dwelling and therefore there are no grounds on which to sustain an objection to this application based on excessive noise.

6.3.7 On the basis that the proposed boiler would not have any adverse effect on local amenity in terms of air pollution or noise nuisance, the development does not conflict with any of the provisions of LDP Policy EP1.

## **6.4 Access / Highway Safety**

6.4.1 No changes to access or parking are proposed as part of this application. It is understood that the poultry sheds generate up to 3 heavy duty vehicles (HDVs) per day (6 HDV movements). The proposed bio-mass boiler will generate an additional 2 delivery vehicles per week. All delivery vehicles will utilise the private farm road out onto the B4598. Therefore, it is concluded that the vehicle movements associated with the proposal would have a negligible impact on highway safety or local amenity.

## **6.5 Biodiversity**

6.5.1 The application site is within approximately 650m of the River Usk Site of Special Scientific Interest (SSSI). A number of notified features of the SSSI are sensitive to nitrogen, and therefore An Air Quality Assessment (AQA) has been undertaken to demonstrate the emission levels from the proposed development. NRW are satisfied with the conclusions set out in the report. All process contributions are shown to be below the recommended guidance threshold (<1% of critical level/load) and can therefore be screened out as not significant in terms of impacts on sensitive ecological receptors. We therefore consider that the proposed development is not likely to damage the features for which the River Usk SSSI is notified.

6.5.2 Planning Policy Wales (PPW) 11 sets out that “planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means that development should not cause any significant loss of habitats or populations of species, locally or nationally and must provide a net benefit for biodiversity” (para 6.4.5 refers). This policy and subsequent policies in Chapter 6 of PPW 11 respond to the Section 6 Duty of the Environment (Wales) Act 2016. There are opportunities within the application site to provide enhancements for biodiversity either in the form of bat/bird boxes or new planting but no details have been provided to date. As such, should Members be minded to approve the application, any consent should include a condition requiring details of biodiversity enhancement features as well as a timetable as to when these will be implemented.

6.5.3 On the basis of the above and subject to a condition requiring enhancement for biodiversity, it is concluded that there will be no adverse impact on the SSSI and the provisions of PPW11 and LDP Policy NE1 are met.

## **6.6 Response to the Representations of Third Parties and/or Community Council**

6.6.1 Issues in relation to air quality and noise have been addressed above in Section 6.3 of this report.

6.6.2 If in the future, there are concerns of noise nuisance, for example, as a result of the bio-mass boiler not working correctly/ being in disrepair then it can be investigated by officers of the Council's Environmental Health section under the statutory nuisance provisions of the Environmental Protection Act 1990. A limit on the type of fuel to be used at the plant can be conditioned as requested by those making representations.

6.6.3 The questions raised by the Community Council have been addressed elsewhere in this report.

## **6.7 Well-Being of Future Generations (Wales) Act 2015**

6.7.1 The duty to improve the economic, social, environmental and cultural well-being of Wales has been considered, in accordance with the sustainable development principle, under section 3 of the Well-Being of Future Generations (Wales) Act 2015 (the WBFG Act). In reaching this recommendation, the ways of working set out at section 5 of the WBFG Act have been taken into account and it is considered that this recommendation is in accordance with the sustainable development principle through its contribution towards one or more of the Welsh Ministers' well-being objectives set out in section 8 of the WBFG Act.

## **6.8 Conclusion**

6.8.1 Having regard to the policy context above, the proposal is considered to be acceptable and planning permission is recommended subject to conditions.

## **7.0 RECOMMENDATION: APPROVE**

### **Conditions:**

1 The development shall be carried out in accordance with the list of approved plans set out in the table below.

REASON: To ensure the development is carried out in accordance with the approved drawings, for the avoidance of doubt.

2 The bio-mass boiler shall only use Virgin Wood or British Standard PAS111:2012 Grade A – Clean Recycled Waste Wood.

REASON: In the interests of local amenity in accordance with LDP Policy EP1, and to protect the integrity of the SSSI.

3 Before the bio-mass is used on the premises, it shall be fitted with sound insulation in accordance with details shown on Page 5 (CP03 - CA - 0500 Silencer) by Acoustica dated 24/7/23, and retained in perpetuity. Should the sound insulation require replacement, details shall be submitted to and approved in writing by the Local Planning Authority prior to installation.

REASON: In the interests of local amenity in accordance with LDP Policy EP1.

4 Prior to the first beneficial use of the biomass boiler, details of enhancement features for biodiversity together with a timetable for implementation, shall be submitted to and approved in writing by the Local Planning Authority. The details as agreed shall be carried out in accordance with the approved timetable.

REASON: In the interests of the ecological and biodiversity value of the site and to ensure compliance with PPW 11, the Environment (Wales) Act 2016 and LDP policies S13, and NE1.