THE TOWN AND COUNTRY PLANNING
(ENVIRONMENTAL IMPACT ASSESSMENT)
(ENGLAND AND WALES) REGULATION 1999

PROPOSED ANAEROBIC DIGESTION PLANT TO REPLACE BIO-DIESEL PLANT IN ENERGY RESOURCE CENTRE, AND HEIGHTENED CHIMNEY (39M)

LAND ADJOINING FACTORY OFF FELTHOUSE LANE, CHEDDLETON

ENVIRONMENTAL STATEMENT

FOR

JOHN POINTON AND SONS LIMITED

OUR REF: 09/2796/C/W

APRIL, 2010

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ENVIRONMENTAL STATEMENT

1. INTRODUCTION

1.1 John Pointon and Sons Limited operate a rendering plant based at Cheddleton, near Leek, Staffordshire. Rendering is the application of heat, sometimes with pressure as well, to animal by-products, which are primarily the parts of animals for which there is no immediate market outlet, to transform this material into meat and bone meal (MBM) and extract the fat, known as tallow. More refined meat and bone meal derived from avian material is generally known as Processed Animal Protein (PAP). Pointon's plant is the largest single plant in Great Britain and the existing business covers an extensive area (6 hectares) at the end of Felthouse Lane, a part private road and unadopted highway to the south of the settlement of Cheddleton close to Wetley Rocks.

1.2 The main factory complex is covered by an array of large buildings as the reception, handling, treatment and subsequent storage of resulting products and effluent is all contained within buildings or plant. Apart from the specific process requirements for containment, this is primarily because of the malodorous nature of raw animal by-products, which is putrifying animal remains, and the effluent from the process which is also highly malodorous, the products of MBM and tallow being significantly less so. To operate the plant requires very considerable amounts of energy and while the process of rendering is one prescribed for Integrated Pollution Prevention Control permitting under the Environmental Permitting Regulations, 2010, the installed capacity for power generation is such that Pointon's plant is also permitted under the Regulations as a large combustion plant. Further details are given in the section below on IPPC Permitting.

1.3 Pointon's rendering plant is one of a score or so of licensed plants in the whole of the country (of which some are fishmeal plants and several are small scale blood or poultry operations) but the only plant in the country which is licensed under the Animal By-Products Regulations to accept and process Category 1/2 and Category 3 material in segregated lines at the same location. A feature of the industry since the BSE crisis, from the mid 1990s, and subsequent Foot and Mouth Disease (2001) is that the few plants in the industry have less flexibility with individual plants being licensed for certain types of Categories of material only. The Planning Statement, which also forms part of this Environmental Statement, details the nature of the industry and the segmentation which has occurred. As a consequence of this industry being the main means of disposal of animal by-products and also its segmentation, this industry is of national importance. The industry serves the needs of the meat industry, meat processing plants and food manufacturers and farmers throughout the whole country. It also provides a means of treating or disposing of food waste such as chocolate, pet food, pastry and other surplus or contaminated food products. An efficient rendering industry also keeps costs down ultimately for the farmer and consumer, while dealing with the detritus of the meat and food processing industries, and increasingly from retail outlets who have surplus, spoilt or past sale date food products, in a prescribed and environmentally friendly manner. The process of rendering is one of the original re-cycling activities with MBM or PAP traditionally being fed back to animals as feed. Intra-species feeding is now banned and inter-species feeding is severely limited but is expected to change with avian products, in addition to the current fish derived products, being allowed back into feedstuffs for certain species.

1.4 The proposal of the Planning Application, which this Environmental Statement accompanies, arises out of the hiatus originally caused by the BSE and Foot and Mouth Disease crises and the regulatory regime which was then imposed and which has seen considerable changes. With a more stable regulatory climate, and with the science better understood as to what can be reasonably permitted without injury to animal or human health, the industry as a whole is moving to make better use of

MBM and tallow; both products having to be treated as "waste" in certain circumstances, and also its input, raw material.

1.5 The industry also processes surplus waste foodstuffs and has traditionally passed them through the rendering process which "treats" these foodstuffs in compliance with the regulatory regime but which does not derive any benefit from doing so – there is little fat to be derived from such material. The industry now recognises that there are more appropriate methods of treatment which recovers the energy from waste foodstuffs, leaving a useful residue, and which accords with the Government's policies and objectives to reduce waste going to land-fill, promote the use of non-fossil fuels in energy production and reduce CO2 emissions.

1.6 The Company previously proposed to develop an Energy Resource Centre (ERC) and Community Recreational Facility (CRF) under planning application ref: 08/01715/FUL. This is a comprehensive scheme for two parts of the Company's site off Felthouse Lane, Cheddleton, which was considered by the Local Planning Authority, Staffordshire Moorlands District Council, in January 2009; the scheme was "approved" subject to a Section 106 Agreement which is pending, with all issues of principle agreed. The ERC part of that scheme has two key elements, one being a plant to produce bio-diesel from tallow, and the other being a 20MW electricity generating plant which will use tallow and also some residual products from the bio-diesel production unit as fuel.

1.7 The proposed development which is the subject of the current planning application and this accompanying Environmental Statement is an Anaerobic Digestion (AD) plant with two Combined Heat and Power engines, and associated plant, equipment and reception building, and a heightened chimney (39m) for the emissions from tallow fuelled electricity generating engines which forms part of the previously approved Energy Resource Centre. The AD plant is proposed as a replacement for the previously proposed bio-diesel production facility which formed part of the ERC and which will not now be built. The location of the scheme within the ERC/CRF proposal is illustrated on drawing no. 2003-1192-40, Appended at A.

1.8 The proposed development is wholly within the context of the previously submitted scheme and the implementation of that scheme, which also includes community recreational facilities, a revised access on to Cheadle Road and the closure of the present westerly end of Felthouse Lane and its access with that main road.

1.9 **Format of Report**

1.9.1 This Environmental Statement addresses each of the issues listed in Part II of Schedule 4 of The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations, 1999. It is considered that the proposed AD proposal and heightened chimney fall under both items and 3 and 6 in the Table 2 Schedule 2 of the Regulations (see Section 2 below).

1.9.2 The matters listed in Part II of Schedule 4 to the EIA Regulations are:

- A description of the development comprising information on the site, design and size of the development.
- A description of the measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects.
- The data required to identify and assess the main effects which the development is likely to have on the environment.
- An outline of the main alternatives studied by the applicant and indication of the main reasons for the choice, taking into account the environmental effects.
- A non-technical summary of the information provided under the foregoing four items.

1.9.3 As part of the accumulation of data to undertake the Environmental Impact Assessment of this proposal specific specialist reports have been commissioned on the following items:

- Landscape Impact and Visual Assessment, prepared by The Appleton Group, Landscape Architects

- Addendum Transport Assessment prepared by Singleton Clamp and Partners, Consulting Engineers and Transportation Planners – this is an Addendum to the Transport Statement submitted with the ERC/CRF scheme, reviewing the impact of the difference in traffic generated by the substitution of the bio-diesel with the ASD plant
- Report on impact upon Air Quality and Air Dispersal Modelling, and Odour impact prepared by The Airshed, Specialist Environmental Consultancy for Air Quality, Odour and Environmental Noise, to verify both the specific effect of the proposed development and cumulative effect with emissions from the existing rendering factory, and potential odour issues
- Addendum Noise Assessment Report prepared by WSP Environmental UK - this is an Addendum to the previously produced report from WSP Acoustics entitled, Proposed Recreational Facilities, Site Access Road and Energy Centre – Noise Assessment Report, August 2008 which refers to potential noise from the AD plant equipment, processing building and increase in traffic
- Planning Statement, including review of Development Plan policies, prepared by The Graham Bolton Planning Partnership Limited; this weighs the benefits and adverse effects of the proposed development of the AD plant and heightened chimney as an integral part of the proposed ERC/CRF scheme

1.9.4 This Environmental Statement reviews the data and refers as necessary to it. It also considers the main alternatives studied by the applicant and indicates the reasons for the choice of the proposed development having taken into account the environmental effects. This ES concludes that the proposed development will not have significant adverse effects upon the environment, or environmental media, and that such effects there are can be mitigated to reduce their impact further.

1.10 Advertising

1.10.1 This Environmental Statement is submitted with the Planning Application. As such, advertising of the EIA development is not required to be undertaken by the applicant but forms part of the advertising of the planning application undertaken by the local planning authority.

1.10.2 Copies of the Environmental Statement can be obtained from the offices of the local planning authority, Staffordshire Moorlands District Council, or directly from The Graham Bolton Planning Partnership Limited, whose offices are at Onward Buildings, 207 Deansgate, Manchester M3 3NW (Tel 0161 833 1616, manchester@gbpp-planning.co.uk) at a cost of £100 for a hard copy of the Environmental Statement and accompanying specialist reports or a cost of £5 for an electronic copy (CD) of the Environmental Statement and accompanying specialist reports.

1.10.3 The application will be advertised by the Local Planning Authority. The advertisement will specify the date by which representations in response to the Environmental Impact Assessment application should be made, which should be addressed to:

Head of Planning,
Staffordshire Moorlands District Council,
Moorland House
Stockwell Street
Leek
Staffordshire
ST13 6HQ

1.10.4 The Company has for some considerable time had regular liaison meetings with the Parish Council. However, the development for which planning permission is sought, and the integral associated proposals, have not been a matter of formal prior discussion with the Parish Council – until the project had reached an appropriate stage it could not go "live".

1.10.5 The Company now has a dedicated liaison committee of which Councillors and Parish Councillors, representatives of local residents, the Environment Agency and Animal Health are members together with representatives of the Company.

1.10.6 In respect of the ERC/CRF scheme, the Company and its consultants engaged in extensive public consultation once the proposal had reached a cogent form. The Company did a number of things:

- An initial courtesy consultation and notification to Councillors prior to a public announcement
- Local notification of the proposed Open Day held at Cheddleton Community Centre
- Brochures circulated to local people illustrating the project
- Paid reply card enabling people to provide an initial response and raise questions
- Dedicated website illustrating the project and also providing an electronic response system
- Open day held on 26 March, 2007, at which there were displays, presentations, answers to the questions raised by people in the response cards and also on the day personnel on hand to explain the project in full

1.10.7 As noted in the Introduction to this Planning Statement, there has been no further direct consultation with the community at large in respect of this AD proposal. As recorded in the chapter on the Development Proposals, this scheme for an AD plant has been the subject of a grant application to Advantage West Midlands and until the outcome of that application was known, the scheme could not be advanced. Time constraints have prevented preparation of plans and suitable material to enable a full public consultation to be undertaken similar to that undertaken with the ERC/CRF scheme. However, the AD plant proposal is essentially a substitution of one bio-process with another which has very little different impact than the previously proposed element of the bio-diesel production facility within the overall proposal for the ERC/CRF.

1.10.8 However, there has been liaison with the dedicated John Pointon and Sons Ltd Liaison Group Meeting, of which Councillors and Parish Councillors, members and local residents. The proposal was reported to the meeting of the Liaison Committee on 22 January, 2010. A copy of the minutes of that meeting is appended at B.

2. IDENTIFICATION OF EIA DEVELOPMENT

2.1 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999, as amended, prescribe certain developments for environmental impact assessment under Schedule 1. Schedule 2 lists developments which may need to be the subject of environmental impact assessment if they fall within certain criteria having regard to the potential impact of the particular development and whether the impacts may be environmentally significant.

2.2 Class 3 of Schedule 2 to the Regulations refers to the Energy Industry and includes industrial installations for the production of electricity where the area of development exceeds 0.5 hectares; Schedule 2, Class 6, Chemical Industry, includes the treatment of intermediate products and production of chemicals where the area of new floorspace exceeds 1000m^2 and also storage facilities for petroleum, petrochemical and chemical products where the area of any new building or structure exceeds 0.05 hectares or more than 200 tonnes of petroleum, petrochemical or chemical products is to be stored at any one time. It is considered that elements of the proposed ERC development and AD plant potentially fall within the remit of these classes. It may also be considered that the scheme falls within Class 11 of Schedule 2, which concerns installations for the disposal of waste where the area exceeds 0.5ha; the raw material to be processed are classed and treated as "animal by-products" and are not generally defined as "waste".

2.3 Regard has been had to the selection criteria for screening Schedule 2 development, as referred to in Schedule 3 of the Regulations. In terms of the Characteristics of Development, it is considered that the following are particularly relevant:

- The size of the development
- Accumulation with other development
- The potential for pollution and nuisances

In respect of the Location of Development there is no particular environmental sensitivity of the geographical area but regard has been had in particular to:

- Existing land use
- The landscape
- The planning status of the site (this is not a specified criteria within Schedule 3)

With regard to the Characteristics of the Potential Impact, the following matter is particularly relevant:

- The magnitude and complexity of the impact

2.4 In view of the above it is considered that the proposed AD plant as part of the Energy Resource Park, and the heightened chimney is required to be the subject of environmental impact assessment and is "EIA development" as defined in the Regulations.

3. THE PROPOSED DEVELOPMENT

3.1 The Existing Site

3.1.1 The site of the proposed Energy Resource Centre (ERC) within which the AD plant will be situated lies to the south east of the main factory site and to the north east and adjoining the site of the water treatment plant. The overall proposal and location plan, drawing 2003-1192-40, illustrates and defines the site (appended at A) while drawing 2003-1192-32 Rev F illustrates the ERC site and AD plant only (appendix C).

3.1.2 The overall ERC site area extends to 4.4 hectares and is presently a green field, formerly in agricultural use – it has not been used for agriculture for many years and is now degraded pasture land – and the AD plant site which is the subject of the planning application extends to 0.69 ha within this area. The site slopes downwards from southwest to northeast towards the Churnet River and Caldon Canal. To the immediate south east, the site is bounded by a track, which is also a public footpath, which provides access from the main factory site to an off-site temporary meal store which lies to the north of the factory and proposed ERC as illustrated on drawing 2003-1192-32Rev F.

3.1.3 There is a further open field, in the ownership of the Company, to the north of the proposed site but which is not included in the planning application; the intention is to plant trees in part of this field area as an additional feature of the current proposal and the field may also be used, subject to specific investigation and design, for water attenuation purposes in connection with storm water run-off from the site, which may occur in extreme, 1 in 100 year events. The lorry park and bio-filters of the main factory site lie to the west of the proposed site of the ERC.

3.2 The Proposed Development

3.2.1 The description of the proposed development is:

> *"Development of an anaerobic digestion facility in place of a bio-diesel production plant included in planning application ref no 08/01715/F (for and Energy Resource Centre), including a 39m chimney for the electricity generating engines in place of the 30m chimney previously proposed."*

3.2.2 The submitted plans with this application are:

2003-1192-40	Location Plan
2003-1192-39	Site Plan
2003-1192-32F	ERC/AD Plant Site Plan
2003-1192-34B	Process Building
2003-1192-35B	ERC/AD Plant – Site Sections
2003-1192-36	Filter Bed Details
2003-1192-37	Sub Station Building
2003-1192-38C	External Plant
1521/02/F	Landscape Masterplan

3.3 The AD plant in the Energy Resource Centre

3.3.1 The site of the proposed Energy Resource Centre (ERC) lies immediately adjoining the south east of the main factory site and to the north east and adjoining the site of the water treatment plant. The site of the AD planning application is within the area of the ERC and is illustrated on drawing 2003-1192-39, within the location plan shown on drawing 2003-1192-40.

3.3.2 The overall site area occupied by the buildings and plant of the ERC is approximately 2.7 ha of which 0.69 ha will be occupied by the AD Plant.

3.3.3 As the site slopes down steeply from southwest to northeast, it will be necessary to excavate to create a stepped site for the proposed development and the layout and arrangement of buildings has been designed to accord with the nature of the site, the need to create suitable sized areas of the site for different activities and the need for all accesses to be of an appropriate gradient for access by HGV's, cars and also pedestrian access from the main factory site, which accords with access for the disabled requirements. Another factor in the eventual ERC layout has been the consideration to site buildings to minimise their visual and landscape impact, for suitable landscaping and to mitigate for loss of an intermittent line of trees across the site.

3.3.4 The AD plant and associated reception building and most plant would be located in the "middle step" of the ERC site as illustrated on drawing 2003-1192-32F; the proposed bio-filter and a sub-station would be located on the lower, northerly "step", taking up a small area of car parking.

The floor space of the proposed AD building, plant and structures is as follows:

Process Building		1660 m^2
Two Digester Tanks	(each)	308 m^2
Buffer Tank		219 m^2
Gas Holder		328 m^2
Filter Bed		422 m^2
Heat Exchangers/Pasteurisation Tanks		137 m^2
CHP Engines		96 m^2
Sub Station		36 m^2
		3514 m^2

3.3.5 Anaerobic Digestion – Description and Proposed Scheme

3.3.5.1 Anaerobic digestion is the process of capturing methane from the decomposition of organic materials. Livestock manures and slurries, sewage sludge and food wastes are the common organic materials. The process produces a bio-gas which can be used to generate heat and / or power or as a transport fuel. The processed organic material reduces to a digestate – approximately 40% of the original volume of the input material, which can be used as a fertiliser and soil conditioner. Anaerobic digestion is a well-proven renewable energy and waste management technology which, as noted in the Policy chapter, is being promoted and accelerated by the Government as a technology with great potential to contribute to climate change and wider environmental objectives.

3.3.5.2 The proposal which is the subject of the planning application is to develop an AD plant which will process food waste which the Company already receives and currently processes via its rendering lines, and also to take in more food waste from commercial and industrial sources, presently largely disposed of via land-fill.

3.3.5.3 The proposal is to utilise the existing food waste which comes into the Company plus newly sourced material which together amounts to approximately 19,800 tonnes in the first year of production, building up thereafter over five years to a total of 50,000 tonnes. By year 5, it is expected that the AD process will provide bio-gas to feed two on-site Combined Heat and Power engines to generate heat and in excess of 13,600MWh of electricity per year, saving 50,000 kg of CO^2 per annum. The residual digestate for use as a fertiliser and soil improver will amount to approximately 20,500 tonnes per annum.

3.3.5.4 Additionally, the input material must be sorted and extraneous material such as bits of metal, grit, etc, removed which are not suitable for processing; these will be removed by magnetic means, a waste dissolver and screening. Approximately 1,500 tonnes of ferrous material, primarily tin cans, will be extracted when the plant is in full capacity, and exported for recycling.

3.3.5.5 Liquid from the process and removed from the digestate will in part be re-circulated into the process as the raw material needs to be in a fairly liquid state for the anaerobic digestion to work appropriately. Residual liquids will be diverted for treatment in the Company's own water treatment plant.

3.3.5.6 The solid digestate produced by year 5, amounting to 20,000 tonnes per annum, will initially be recycled to 625 hectares (1,500 acres) of farmland adjacent to Pointon's facility providing beneficial re-use to agricultural land and displacing the use of inorganic fertiliser products. In due course, once the recycling operation is established, commercial outlets for solid digestate will be developed.

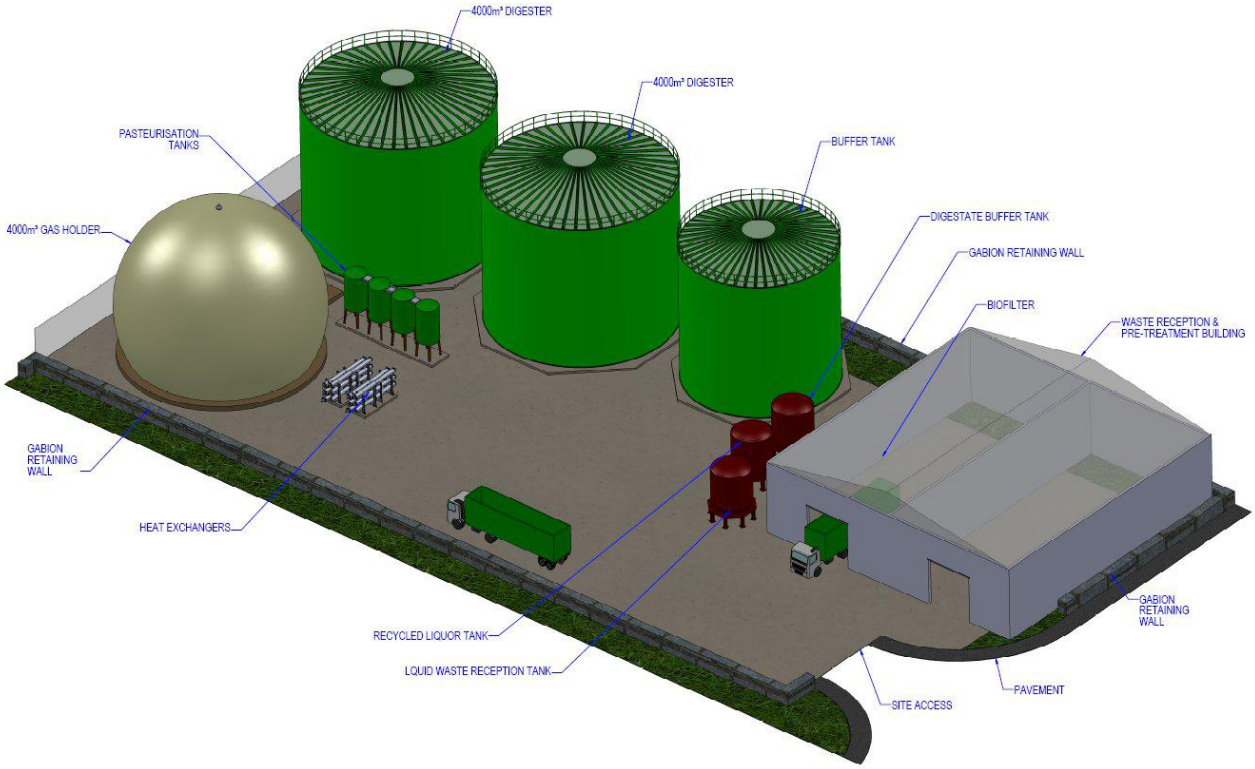
3.3.5.7 The proposed plant will have a total capacity of 60,000 tonnes of food waste but detailed market and technical feasibility studies have led the Company to conclude that it will be able to contract to process 50,000 tonnes of food waste. It is envisaged that the catchment area initially is a 40 mile radius of the site. It is envisaged that this will be a sub-regional facility for the processing of non-municipal derived food waste. The expected input material is primarily expected to be waste chocolate, pet food, pastry, sludge, and blood and also miscellaneous food waste.

3.3.5.8 The primary constituent elements of the proposal are:

- Reception and pre-processing building, in which extraneous material will be extracted; this building will be kept under negative pressure as potential odours will need to be extracted and abated;
- Two anaerobic digestion tanks of 20.3m in height;
- A storage buffer tank;
- A spherical gas storage tank;
- Two CHP electricity generating engines;
- An emission stack, 23.2m in height, and containing two flues to disperse the exhaust from the CHP/electricity generating engines and a stand-by flare short stack;
- A bio-filter, to abate odours extracted from the reception and pre-treatment building;

- Electricity sub-station;
- Various items of plant including heat exchanges;
- and as part of the application, but not part of the AD plant, the revised proposal for the chimney to the tallow fuelled electricity generating engines at 39m in height.

A generic visual representation of an anaerobic digestion plant is given below:



3.3.5.9 The scheme for an anaerobic digestion plant with associated equipment and CHP engines has been approved for grant assistance by Advantage West Midlands for WRAP funding under the Food Waste Treatment Capital Grant Programme, 2009-12. As a consequence there is now an urgency to develop the technical aspects of the scheme and obtain planning permission to allow this proposal to proceed to be completed by the end of 2011.

3.3.6 Chimney for tallow fuelled electricity generating engines

3.3.6.1 The tallow fuelled electricity engines, which is an element of the ERC scheme, are to be housed within a substantial building, with exhaust emissions dispersed via a tall chimney with a diameter of 3m, including lagging. The 30m height of the chimney proposed in the ERC scheme was determined following an air dispersal modelling exercise and the need to ensure dispersion of all emissions to comply with air quality standards. However, with the addition of two AD gas powered electricity generating engines, and particularly the arrangement and size and disposition of buildings and tanks (AD reception building and process and gas storage tanks), the chimney needs to be higher than originally proposed. The current application includes the proposal for this chimney to be 39m in height. The chimney will, however, still be lower than the main boiler chimney on site due to the fact that the ERC site level is substantially lower than the main factory site.

3.3.6.2 The ERC proposal includes for extensive bunding and landscaping around the ERC and CRF site which provides for containment and visual mitigation. The bunding will also use some of the material which needs to be cut from the site to create the appropriate levels. Other cut material is to be used in the formation of the embankment linking the proposed new access road onto Cheadle Road with the eastern end of Felthouse Lane and also with extensive additional bunding and landscaping around the Community Recreational Facilities. With the introduction of the AD plant, the landscape proposals have been slightly amended. This is shown on the Landscape Master Plan, 1521-02RevF.

3.4 **Access**

3.4.1 Access to the ERC site and thus the AD plant will be via an extension to the internal access route within the adjoining rendering factory. This route passes the security point at the eastern end of Felthouse Lane and then allows for transport to pass the rendering factory, but without entering its immediate environs, then pass the trailer

yard and bio-filter beds to the ERC site, entering it at the south west corner. Internal access is as illustrated on the submitted drawing No. 2003-1192-32Rev F.

3.4.2 Access to the main factory site is via Felthouse Lane which it is intended to divert at its western end to form an improved and safer junction with Cheadle Road (A520). This access route is generally indicated on drawing No. 2003-1192-40.

3.5 Scale and Landscaping

3.5.1 The individual buildings of the ERC are, as indicated, of fairly substantial scale in terms of floorspace, and similarly the reception and pre-treatment building of the AD plant and the digestor and storage tanks of the scheme. The proposed AD building is large enough to accommodate not only its functions but also the need for heavy goods trailer vehicles to be able to raise the trailer to full height for off-loading, and for vehicles to be able to stand under machinery which will load material or products into such vehicles. Consequently, the height of the reception is 11m to the eaves and 15m to the ridgeline.

3.5.2 In addition to the buildings there is also the need for various items of external plant. The two digestor tanks are 20.3m in height with a smaller buffer storage tank, and an adjacent large spherical gas storage tank. Such size of plant cannot be hidden but within the context of the ERC scheme and seen in the context of the existing rendering plant buildings will not appear prominent, particularly as the AD site sits below the large buildings of the rendering plant. The much smaller plant would be largely hidden from view.

3.5.3 A chimney is required in association with the electricity generating plant, and needs to be increased in height from 30m to 39m as noted above. As noted previously, however, all the AD plant and the chimney for the tallow fuelled electricity generating engines are on a site which steps down from its south western end towards the north east and all these buildings, and associated plant and the 39m chimney would be seen in the context of the existing plant with its similarly substantial buildings and existing

two chimneys, the largest of which would be higher than that proposed as part of the planning application

3.5.4 The landscaping proposed is a substantial belt of tree planting, utilising indigenous species, with appropriate undergrowth of bushes which will primarily be located on the proposed bunds which will raise the height of the initial planting and thus assist in its mitigation of the visual impact of the proposed development.

3.5.5 Additionally, a Landscape Masterplan has been prepared (see section on Landscape Impact and Visual Assessment) and it is intended to extend tree planting into adjoining areas of land owned by the applicant Company but which do not form part of the planning application. The Company has undertaken extensive planting on land in its ownership but outside of the existing factory site. That planting, which now extends to in excess of 41,000 trees, is helping mitigate the existing visual impact of the factory as well as providing a better landscape setting for it. The intention is that the further proposed planting as indicated with the Landscape Masterplan will contribute to this overall visual mitigation and specifically, the impact and setting of the ERC development.

3.5.6 The application site includes the fields immediately to the north of the site of the proposed ERC. The Landscape Masterplan (Rev F) illustrates how this area of land which is primarily intended to be part of the Sustainable Urban Drainage System to attenuate excess surface water run-off in circumstances of an extreme rainfall event will be treated. This has provided the opportunity for further planting, as well as the works associated with the surface water run-off attenuation, and includes a pond and intended improvements to the grassland.

3.5.7 It is intended to develop a phasing programme for the development with the structural bunding and landscaping being undertaken in advance of the main development programme – this will allow the landscaping to get a head-start and assist in reducing the visual impact as quickly as possible.

4. DATA REQUIRED

4.1 A formal scoping exercise of the matters to be the subject of environmental impact assessment and contained within the ES has not been conducted. However, an informal exercise has been undertaken in consultation with officers of the local planning authority. It was determined that apart from a Planning Statement including Design and Access Statements and all relevant consideration of planning policies, the following matters should be assessed:

- Traffic, and particularly heavy goods vehicle movements
- Landscape Impact and Visual Assessment
- An assessment of the impact of Emissions to Air and Odour impact
- Noise Impact Assessment

These assessments are in the context of the "approved" ERC/CRF scheme which was an EIA development supported by extensive studies and data.

4.2 Documents Submitted with the Planning Application

The following documents form part of the Planning Application:

- Planning application forms and Certificates
- Planning Statement
- Design and Access Statement
- The submitted plans as noted in the previous section
- The Environmental Statement includes the following documents – they are also part of the planning application:
    - Traffic Appraisal Addendum
    - Landscape Impact and Visual Assessment – full review
    - Air Quality and Air Dispersal Modelling, and Odour Impact Report
    - Addendum Noise Impact Assessment

- The Planning Statement is also referred to within the Environmental Statement and is deemed to form part of the supporting documentation to this Environmental Statement.

5. THE REGULATORY REGIME

5.1 There are two primary regulating controls on the operation of rendering plants and associated plant and equipment, which the ERC development constitutes. Firstly, there are controls under the Animal By-Product Regulations, specifically a European Regulation. Secondly, the operation of a rendering plant and also the operation of certain large scale combustions facilities either on their own or in association with other certain types of operations, are prescribed for "permitting", formerly under the Pollution Prevention and Control Regulations, and now the Environmental Permitting Regulations, 2010.

5.2 Animal By-Products Regulations

5.2.1 The handling, storage and processing of animal by-products and the subsequent use or disposal of products derived from rendering is regulated under European Union Regulation 1774/2002, as amended, The Animal By-Product Regulations (ABPR). This is directly imported into UK Law; the Animal By-Product Regulations, 2005, is simply the direct licensing regulation which particularly provides the penalties for not operating with a license and certain testing regimes. The primary aim of the EU Animal By-Products licensing regime is animal health and bio-security; these Regulations became more stringent and prescriptive in the light of the BSE crisis and other animal disease problems.

5.2.2 The ABPR specifically licenses the type and Category (or Categories) of material and will reflect the specific mode of operation and processing method for that material. This regulation provides for regular inspection, including of specific plant, by DEFRA officials and continuous records of processing and material, and the almost permanent presence on site at some major plants of Meat and Livestock Commission personnel who check on incoming material in particular, with certain categories of material colour stained to ensure that it is kept separate from other material or potentially not treated at all and sent elsewhere.

5.3 The Environmental Permitting Regulations

5.3.1 The operation of a rendering plant and directly associated activities, such as combustion plant, are prescribed for control ("permitting") under the Pollution Prevention and Control Act, 1999, and the Environmental Permitting Regulations, 2010.

5.3.2 Rendering was a prescribed process under The Environmental Protection (Prescribed Substances) Regulations 1991 for air pollution control under the Environmental Protection Act, 2000. This control, which was aimed at eliminating or at least minimising malodorous emissions to air which might be harmful to people or the environment, has been primarily exercised by local authorities who were the authorised "enforcing authority" for this purpose; there are certain circumstances in which the enforcing authority would be the Environment Agency. The control ("Authorisation") under the Act and Regulations remains in force and in operation at certain plants which have yet to receive their Permits under IPPC. Specific guidance has been issued by DEFRA, and also non-statutory guidance by the Environment Agency, to assist in the licensing and control of prescribed operations under both the Environmental Protection Act and IPPC.

5.3.4 Integrated Pollution Prevention and Control (IPPC) was brought in under the auspices of European legislation. IPPC is more extensive regulatory regime dealing not only with air pollution control but other potential pollution, that is to land and water. All existing prescribed operations, including rendering, are required to improve their operations to meet this comprehensive pollution protection regime. While the local authority is primarily the licensing and enforcing authority for the rendering industry, the Environment Agency may be the competent authority in certain instances; the EA is the licensing and enforcing agency for most Part A(1) prescribed processes, while rendering is usually classified under Part A(2).

5.3.5 John Pointon and Sons Limited have been issued with a Permit under IPPC. The Regulator is the Enforcement Agency as it was deemed that the size of the overall rendering plant which includes installed power generating capacity in excess of 50MW, meant that it would fall within a Part A(1) process and thus fall for regulation by the Agency.

5.3.6 John Pointon and Sons Limited has the following permits:

The site (and associated depots/transfer stations) currently holds the following permits and licenses:

1.	EA Permit number	BK00861Y variation notice number CP3332XR
2.	DEFRA Permit	09/021/8001/ABR/STO
3.	DEFRA Permit	35/065/8001/ABP/STO
4.	DEFRA Permit	37/065/8001/ABP/REN
5.	BSI OHS 18001	certificate 534326
6.	BSI EMS 14001	certificate EMS 534325
7.	EA Permit number	GB-EA-ETCO2-1148
8.	Registration	1270299 27-10-2008
9.	EA Permit number	BUT/771838/CB
10.	EA Permit number	BK00861Y variation notice number CP3338GC
11.	EA Permit number	BK00861Y

These licenses permit JPS to receive, store, process, manage operations, manage and control emissions relating to animal by products and wastes (including food wastes). The purpose of each permit is summarised as follows:

Permit 1	variation notice table 2.5 specifically permits a number of waste types for the anaerobic digestion plant.
Permit 2	Approval of Cat 1,2, 3 ABP storage at Foston depot
Permit 3	Approval of Cat 1 ABP storage at Cheddleton
Permit 4	Approval of Cat 1 & 3 ABP processing at Cheddleton
Permit 5	Site compliance at Cheddleton with OHS 18001 standard

Permit 6	Site compliance at Cheddleton with EMS 14001 standard
Permit 7	Consolidated greenhouse gas emissions permit for Cheddleton site.
Permit 8.	Registration of Cheddleton for Hazardous wastes
Permit 9.	Registration of JPS as licensed waste carrier
Permit 10.	Extension of tallow burning engine trials
Permit 11.	Extensions of site permit to include ERC (which includes AD)

In relation to the permitting of the ERC Table S.1.4 on page 13 of the permit (11) states, *only 2 relevant pre-operational measures have been identified which must be completed by JPS*. These include:

(i) Pre-op 2 (Composting facility- read Anaerobic Digestion)
"The operator shall submit a pre-commissioning report including confirmation of all release points to the Agency before the start of commissioning"

(ii) Pre-op 3 Electrical export generators
"The operator shall submit a pre-commissioning report including confirmation of all release points and a definition of the procedure of start-up and shut-down of the generators to the Agency before the start of commissioning"

Both these pre-operational measures are minor and will be completed in consultation with the nominated technology supplier.

5.3.7 Consequently, the Company in applying for a Permit and Variation under IPPC, and the Agency in reviewing and granting that Permit, have had to specifically consider the potential polluting effects of establishing the processes of bio-diesel production or AD processing and of electricity generation, as intended to be contained with the ERC, and the Agency has determined that these can be carried out without unacceptable impacts upon the environment or environmental media.

5.3.8 Though the Permit provides for the operation of a bio-diesel production/AD plant and energy electricity generating plants, their location or physical extent is not defined within the Permit. The defined Installation of the rendering plant and associated activities is, however, extensive and includes the site area of the proposed ERC; there will not, therefore, be the need for any alteration to the Permit to enable the proposed prescribed elements of the ERC to be operated.

5.3.9 It is important to note that not only has an IPPC Permit been issued to John Pointon and Sons Limited but also that it includes the proposals for bio-diesel production/AD plant and electricity generating plant, as Government planning guidance under PPS23 and PPS10 indicate that the planning regime should not seek to replicate or deal with matters which are primarily covered under other legislation. Specifically, in the case of pollution control matters the primary legislation is under IPPC and the issuing of the Permit under IPPC is specific confirmation that the operation of such plant is environmentally acceptable.

5.3.10 It is a basic precept of IPPC that the operation of the process permitted under the Regulations operates Best Available Technique (BAT). BAT requires operation to best accepted industry levels, which also assumes that those businesses will be able to operate viably. For new plants it is a requirement that they are BAT compliant from the outset, whereas for an existing prescribed processes it is expected that they already operate to the standards required under the Environmental Protection Act and Authorisation under that Act but that there will be a phased implementation of improvements to achieve BAT compliance within a specified timescale. The proposal to operate the bio-diesel production, or AD plant as now proposed, and electricity generating plant from renewable energy fuel are required to be BAT compliant from the outset.

6. SUSTAINABLE DEVELOPMENT - Best Practicable Environmental Option

6.1 This Section concerns the approach adopted by the applicant to the better use of its products and raw material within the statutory regulatory regime, which achieves more sustainable development and use of those products.

6.2 Best Practicable Environmental Option (BPEO) is an appropriate tool for considering sustainability. It has been defined by the Royal Commission on Environmental Pollution as:

> *"the outcome of a systematic consultative and decision making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefits, or the least damage, to the environment as a whole, at acceptable costs, in the long term as well as in the short term".*

6.3 BPEO underpins the Government's vision of sustainable waste management which is outlined in the Government's National Waste Strategy. The three further principles of the waste hierarchy, the proximity principle and self-sufficiency/regional self-sufficiency support BPEO. The AD plant proposal fits within these principles.

6.4 *"Developing an Implementation Plan for Anaerobic Digestion"* was published by Defra in July 2009 following the recommendations of the Anaerobic Digestion Task Group an independent body set up by the government and intended to deliver the objectives of the Anaerobic Digestion – Shared Goals issued in February 2009.

6.5 These set the ambition that:

> *"By 2020 anaerobic digestion will be an established technology in this country, making a significant and measurable contribution to our climate change and wider environmental objectives. It will produce renewable energy in the form of biogas that will be used locally or injected into the grid for heat*

and power and for transport fuel. At the same time, it will capture methane emissions from agriculture. It will also divert organic waste, especially food waste, from landfill. The digestate will provide organic fertiliser and soil conditioner for agriculture and land use. Anaerobic digestion and its products will be used in a way that is both beneficial to the environment and cost effective for that particular location.

"This country will be recognised as a world leader in the cost effective, innovative and beneficial use of anaerobic digestion and in anaerobic digestion technology and expertise. The Task Group will learn from experience both in this country and worldwide, making use of and building upon best practice, and will share our experience with others."

6.6 To maximise the potential of anaerobic digestion it is essential to make the most of the economic opportunities at each phase. Obtaining the right feed-stocks is crucial and food waste will be an important feedstock for many plants. This may come from source, segregated municipal collections or commercial sources, such as food processors, food service or the retail sector. Also, the anaerobic digestion of renewable bio-plastics offers businesses a useful option for dealing with food packaging waste.

6.7 *"Renewable Energy Strategy - Accelerating the Uptake of Anaerobic Digestion in England: An Implementation Plan"* was published in March 2010, and follows on from the July 2009 publication by Defra referred to above. This document expresses the Government's commitment to encouraging significant growth in the use of anaerobic digestion and follows the careful consideration of the recommendations of the Task Group to develop this proposed Implementation Plan. To achieve faster and more extensive growth in the use of AD, Defra's Policy document addresses the following areas:

- **Creating an economic framework** to enable the market to deliver the increase needed in renewable energy;

- **Creating the regulatory framework** for an appropriate balance between encouraging cost-effective growth in the use of AD, while ensuring protection of the environment and operationally;
- **Building capacity**, which includes the Government's £10 million Anaerobic Digestion Demonstration Programme to increase awareness and understanding of the use of this technology and its products;
- **Research, to Improve Understanding** which includes a new small scale anaerobic digestion development unit;
- **Sharing Global Experience**; and
- **Assessing Progress**.

6.8 The Implementation Plan links together the issues of climate change, renewable energy and waste and also that such developments create "Green Jobs". The policy document notes that energy from waste, such as that from AD, is integral to the Government's desire to manage waste in the most carbon and environmentally friendly way and to produce renewable energy. Recovering energy from waste fully accords with the long term waste hierarchy as well as the relatively more recent issues concerning climate change and the reduction of CO^2 emissions.

6.9 As noted earlier, the Regulatory regime is now more stable and the industry as a whole is looking to make better use of its products and input raw material. The AD plant proposal exemplifies a shift to make better and more appropriate use of a raw material away from "treatment" to "recovery" and making use of all the products of that recovered material including the digestate for use as a fertiliser and soil improver.

6.10 The proximity principle, as a further underpinning principle of the Government's National Waste Strategy, also applies in this instance. John Pointon and Sons Limited requires large amounts of electrical energy which the proposed renewable energy electricity generating plant of the ERC will provide, while also providing surplus power to raise steam for use in the rendering plant. This will be augmented by the power – both heat and electricity – derived from using the AD generated bio-gas in the two CHP engines. While the generation of electricity could take place elsewhere,

it would not then allow for the immediate use of food waste already processed at the Pointon's site which is drawn from a wide local area, and thus the proximity principle in terms of dealing with "waste" would not be adhered to. Additionally, the AD plant must be on site if the energy produced by the process is to be recovered and used to generate heat for use by the rendering plant – this will substitute for or augment as required energy being generated to raise steam in the main boilers and thermal oxidisers.

6.11 Thirdly, there is the self-sufficiency principle underlying the Waste Strategy. The Waste Strategy is usually viewed in terms of ensuring that where waste arises it is dealt with within the locality and certainly the region so that there is no necessity to export waste from region to region for treatment or disposal. This approach to self-sufficiency is not appropriate in terms of the current proposal. However, it is appropriate as a principle in terms of reducing reliance on mineral and fossil fuels, which to a large degree are imported. The production of bio-gas from AD and electricity from renewable energy sources, which is "home grown" in this instance, promotes self-sufficiency in a national sense as well as achieving the Government's aims of substituting renewable energy fuels for fossil derived ones and redacting carbon emissions.

6.12 Additionally, and of specific relevance to the AD plant, this scheme will assist in diverting food waste away from land-fill – away from disposal to recovery, further up the waste hierarchy. This is the purpose of the grant assistance scheme - the Food Waste Treatment Capital Grant Programme, 2009-12 – promoted by WRAP, and which is to provide support for the proposed AD plant which is the subject of this EIA planning application.

7. POTENTIAL SIGNIFICANT ADVERSE EFFECTS

7.1 The previous Chapter 4, Data Required, identifies the information that was agreed should be the subject of environmental impact assessment. Each of those reports are summarised in the following sub-sections with commentary as to whether the effects identified are significant, beneficial or harmful and, where they are harmful, what steps are being taken to amend the scheme to reduce the impact and/or introduce mitigating measures.

7.2 Traffic Assessment

7.2.1 A Transport Assessment Addendum has been produced by Singleton Clamp and Partners, Consulting Engineers and Transportation Planners, which forms part of the planning application submission. This demonstrates that there will be little impact from the proposed substitution of the bio-diesel facility with the AD plant.

7.2.2 The originally proposed Bio-Diesel units required input material of tallow of up to 10,000 tonnes per annum, imported by HGV, with an output of bio-diesel to be transported off-site by tanker, in approximately the same quantity. Based upon a typical load weight of 25 tonnes per vehicle, this bio-diesel process would have resulted in the following movements at the site access:

Use / Process	**Quantity (per annum)**	**Weekly HGV Traffic**	
		In	**Out**
Existing Operations			
Bio-Diesel – Import Material	10,000 tonnes	8	8
Bio-Diesel – Tanker Export	10,000 tonnes	8	8
Bio-Diesel – Residual Material Export	none	-	-
	Total Movements	16	16

7.2.3 The following table sets out the HGV movements associated with the Anaerobic Digestion Plant based upon a typical 25 tonne load:

Use / Process	**Load Requirement (per annum)**	**Weekly HGV Traffic**	
		In	**Out**
Proposed Operations			
Anaerobic Digestion – Import Material	Up to 40,000 tonnes	32	32
Anaerobic Digestion – Gas Export	On site use	-	-
Anaerobic Digestion – Digestate Export	40% of input, i.e. 20,000 tonnes	16	16
	Total Movements	48	48

7.2.4 When compared to the approved traffic movements the proposed changes within the ERC site would result in a net increase of 32 inbound and 32 outbound movements per week. However, approximately 50% of the digestate material is anticipated to be spread on local fields that can be accessed without vehicles having to emerge on to the public highway, and therefore the total vehicle movements on the public highway can be reduced by a further 8 inbound and 8 outbound movements.

7.2.5 Overall the proposed AD plant will generate approximately one additional 1 vehicle per hour – this will have no noticeable impact at the site access or on the surrounding highway network.

7.2.6 On the above basis the Addendum to the Transport Assessment concludes that the *"proposed change from bio-diesel production to an anaerobic digestion plant would not change the conclusions of the Traffic Statement that was prepared for the approved site proposals and the proposed change can be approved from a highway and traffic point of view".*

7.3 Landscape and Visual Impact

7.3.1 The Appleton Group, Landscape Architects, have produced a full revised report assessing the visual and landscape impact of the proposed development and, in particular, the proposed Energy Resource Centre scheme as amended inclusive of the AD plant, building, equipment and proposed higher chimney.

7.3.2 A review of National, Regional and Local Planning policies related to landscape and the environment generally was undertaken and in addition landscape policies specific to the site and its environs were identified. The history in land use and landscape terms of the site was researched. A search for landscape character assessments on both a regional and local basis was made. Staffordshire Moorlands District Council was contacted in respect of Tree Preservation Orders and Conservation Area status, neither of which applies to the proposed site.

7.3.3 Mapping of both a local and a wider area was obtained in order to evaluate topography, vegetation and land use and to identify public rights of way and potential viewpoints into the site. Aerial Photographs were also obtained to supplement the mapping. The land-use both within and adjacent to the site was plotted from Ordnance Survey maps and air photographs.

7.3.4 Field studies were undertaken in autumn/winter 2006 to verify and supplement desk top information and a photographic survey of views into the site and its surroundings was undertaken using a camera with a 50mm focal length, which is that closest to the human eye. At the time at which the surveys were carried out there were no visual limitations as the screening potential of vegetation was minimal as most species were devoid of their leaves. Principal, representative public vantage points were identified, adjacent land-uses verified, viewpoints towards and into the site recorded (public and potential private) and a zone of visual influence determined. 'Sensitive' receptors were identified. These surveys were augmented with a further visit to the site and viewpoints in February 2010 in the light of the AD plant proposal.

7.3.5 Having made a baseline assessment, with regard to the above together with the relevant policy considerations from national guidance, Structure and Local Plans, an assessment of visual amenity was made. Views from the edge of the Peak District National Park are a minimum distance of 7 km from the ERC site. From there the existing plant is barely perceivable due to the distance, the large expansive views available and the general context in which the site is located. Occasional plumes at intermittent intervals from existing plant are noticeable – the proposed chimney to be incorporated in the ERC development would not give rise to a plume. Other long distance views of the area and the existing plant are possible from the north east and east but these are only partial views. From the south vegetation frequently obscures views. From the west, long distance views are perceivable but not highly visible due to topography, distance and vegetation.

7.3.6 A similar assessment was made of middle distance views from where vegetation is a more important aspect but where distance from the existing plant and the site of the ERC is less determinative of visibility. The most prominent view is from the public footpath which runs parallel to the site of the ERC along its eastern boundary and from where existing plant is also prominent in view.

7.3.7 The construction of the proposed ERC development with the substitute AD plant would result in the loss of a 200m length of dry stone wall and tree/hedgerow planting which cumulatively will result in a **moderate adverse** impact, due to the direct loss of the landscape element and impacts in character terms. The removal of existing stone posts will also result in a **negligible adverse** impact in character and landscape resource terms. The loss of the pasture grassland of the ERC site (this area is no longer in pasture use) is anticipated to have a **negligible adverse** impact.

7.3.8 Visual amenity of users and views during the construction phase were also assessed from the adjoining footpath which would initially be a temporary impact of **moderate adverse** significance, reducing to **minor adverse** due to the formation of planted screen mounds during the early stages of the construction process. The effect of views from the national park would have a **negligible adverse** impact of a temporary

nature, and on the private properties a temporary **moderate adverse** impact reducing as planting matures to **minor adverse**. Overall, in terms of local landscape character, it is considered that the proposal would have a temporary **moderate adverse** impact.

7.3.9 A summary of the residual significance of the impacts is contained in the table below:

Table 1: Landscape and Visual Residual Impacts

CONSTRUCTION PHASE		**OPERATIONAL PHASE**	
Impact	Significance	Impact	Significance
Loss of vegetation within Area B	Minor Adverse	Landscape proposals for Areas A, B and C	Moderate beneficial
Removal of Dry Stone Wall and Tree Planting within Area A	Moderate Adverse	Visual Amenity of Users of Footpath adjacent to Area A	Minor beneficial
Removal of stone posts in Area A	Negligible Adverse	Middle Distance Views of the Proposed E.R.C from the North (Cheddleton)	Minor Adverse
Loss of pasture Grassland in Area A	Negligible Adverse	Middle Distance Views of the Proposed E.R.C from the South West (Footpath)	Minor Adverse
Visual Amenity of Users of Cheadle Road	Moderate beneficial	Visual Amenity of Users of Cheadle Road	Moderate Beneficial
Visual Amenity of Users of Footpath adjacent to Area A	Minor Adverse	Listed Building in Area B	Moderate Beneficial
Viewpoint from the National Park	Negligible Adverse	Viewpoint from the National Park	Negligible Adverse
Visual Amenity of adjacent Private Properties	Minor Adverse	Local Landscape Character	Moderate Beneficial
Local Landscape Character	Moderate Adverse	Night-time Impacts of the Proposed Community and Recreational Facilities	Minor Adverse

7.3.10 Following the initial report of The Appleton Group, the information was reviewed by the applicant Company and its advisors and The Appleton Group were commissioned to prepare a Landscape Masterplan to further enhance the mitigation measures proposed in their original report. The details of the Landscape Masterplan are given within their report, which forms part of this Environmental Statement, and a copy of the revised Landscape Masterplan, drawing No. 1521/02F, is appended at C to the ES. This is a revised Landscape Masterplan taking account of the extended application site to include the area of land to be used for a Sustainable Urban Drainage Scheme and the AD plant and heightened chimney.

7.3.11 It is considered that during the operational phase by incorporating the planting proposed within the Landscape Masterplan, which extends to adjoining areas of land beyond the ERC site but within the land under the control of the applicant, the proposals will amount to a **moderately beneficial** impact upon this landscape area given its current character assessment which is described by Staffordshire County Council as "deteriorating". Additionally, it will be an improvement to the visual amenity of users of the adjoining footpath, aiding in the assimilation of views of existing industrial features, and amount to a **minor beneficial** impact; long distance views from the Peak District National Park will be **imperceptible** with middle distance views from the north and south west being **minor adverse.**

7.3.12 The assessment undertaken by The Appleton Group also refers to potential night time impacts as the ERC would be operating 24 hours a day. However, the issue of light pollution and consequent visibility within the locality has been considered in advance and a separate report prepared by Clancy Consulting to which reference is made later in this ES.

7.3.13 The zone of visual influence of the proposals has been assessed and it is considered that the proposed scheme would not extend the current area from which the existing plant may be visible, while the mitigation measures proposed will be beneficial.

7.3.14 The overall conclusion is that with the mitigation suggested together with the Landscape Masterplan, the proposals will not have an overall significant adverse impact in landscape and visual amenity terms. Rather, there will be beneficial impacts in landscape resource and character terms and also to the amenity of footpath users on the eastern boundary of the ERC site from where there are prominent views of the existing plant.

7.4 Air Quality and Air Dispersal Modelling

7.4.1 A new assessment of the potential impact upon air quality and odour impact has been undertaken by The Airshed. Their report forms a part of this Environmental Statement.

7.4.2 The Air Quality and Air Dispersal Modelling Report has assessed not only the potential emissions from the proposed development, specifically the operation of the renewable energy electricity generating plant and AD plant, but also the cumulative impact of operating that plant together with the existing combustion plant on the main factory site. The report also reviews the potential for odour impact.

7.4.3 The following is the Executive Summary of the *'Air Quality Impact Assessment'*, dated April 2010, prepared by The Airshed:

"1. John Pointon & Sons operate an animal rendering plant at their site at Felthouse Lane, Cheddleton, Leek, Staffordshire ST13 7BT. The plant is a part A scheduled process in terms of the Environmental Permitting Regulations enforced by the Environment Agency. The main process emissions are from two thermal oxidisers discharged from a 26m high stack. Additional energy requirements are provided by four tallow fired boilers which discharge from a 27.5m high stack. Planning permission has been granted for a new energy centre where emissions from tallow fired engines will be released from a new 30m high stack.

2. *Pointons propose to make further application to build an anaerobic digestion (AD) plant at the energy centre, as an alternative to the bio-diesel facility previously proposed. The methane produced by the AD process will be used to fuel new gas engines to generate electricity. The combustion gases from this new process will be released from a single 23.2m stack with a standby flare. Odour from the waste treatment building will be captured and treated using a bio-filter. The assessment also considers options for effective dispersion of residual odour from the new AD bio-filter.*

3. *The process is located in a rural setting to the east of Cheddleton. The nearest residential area is ~400m to the west of the process. There are some isolated dwellings within 250m of the site. The process buildings, including the proposed energy centre, are up to 14m high and also likely to significantly influence dispersion. The new AD tanks are up to 20m high and these are likely to significantly influence dispersion. The process is located near the top of a hill so that topography is likely to significantly influence dispersion.*

4. *This air quality impact assessment for the new AD plant has been prepared by The Airshed based on emission data provided by John Pointon & Sons and Monsal, the proposed suppliers of the AD plant. The pollutants of concern are likely to be NO_x, SO_x and odour. This report considers the potential adverse impacts from combustion gases from the proposed new AD process and odour from the proposed bio-filter. The baseline process contribution include emissions from the thermal oxidiers and standby boiler plant based on reported emission test data. The emissions from the pilot plant and energy centre are based on the process load assumptions made in the previous air quality study. No information on odour emission rates from the process has been made available to The Airshed. This assessment therefore ignores baseline odour. The assessment of emissions considers a range of stack heights for the energy centre stack and a range of options for dispersing odour. Air quality impacts are assessed against European Limit Values to*

protect human health and sensitive ecosystems and against draft odour Guidance standards. Three Scenarios have been considered:

- *Scenario 1 – The baseline or existing conditions considers the process emissions as currently permitted by the planning regime including emissions from the thermal oxidiser, the boiler plant and the as yet un-built tallow fired engines in the energy centre, where the energy centre stack is 30m high;*

- *Scenario 2 – The as proposed Scenario includes the baseline emissions for Scenario 1, along with the emissions from the proposed AD plant. This Scenario also considers the benefits from increasing the height of the stack serving the tallow fired engines; and*

- *Scenario 3 – Considers the potential impacts on short-term air quality due to an unplanned failure of the AD process resulting in the flaring of gas.*

5. *Estimates of regional background pollution are based on published values. Baseline process emissions are based on model predictions. The likely impact from process emissions has been predicted using ADMS 4.2, an atmospheric dispersion model.*

6. *This indicates that the height of release of the emissions from the tallow fired engines in the energy centre should be increased, to a height of 39m, to reduce the impacts on the adjacent footpath.*

7. *With mitigation, the predicted increase is of marginal adverse significance or less at all receptors. The greatest short-term impacts are predicted to occur at the footpath to the east of the AD plant. The increase in short-term air pollution is predicted to be $\leq$10% above the baseline condition provided the stack for the energy centre is increased to a height of 39m. The worst case*

annual mean is predicted to occur at Ashcombe Park, where the annual mean NO_2 is predicted to increase by ~ 10%.

8. Environmental monitoring should be conducted at the nearest dwelling to help improve the quality of baseline estimates and to provide site specific NO_x : NO_2 conversion factors.

9. The proposed AD plant is unlikely to significantly affect vegetation or sensitive eco-systems.

10. Several model runs have been conducted to assess the likely odour impact from the AD plant. The emissions from the bio-filter is likely to exceed the Environment Agency's draft odour benchmark if the emissions are released from an open bed at near ground level. Odours from the AD bio-filter would tend towards insignificance if the stack height is increased to >20m.

11. Odour from the proposed bio-filter bed serving the AD plant is unlikely to significantly affect local amenity provided the mitigation measures set out in Section 6 are effectively implemented.

7.4.4 In respect of odour, the main report notes that the emissions from the bio-filter bed are predicted to exceed the Environment Agency's draft odour benchmark but would be insignificant if a stack venting the bio-filter is erected to a height of approximately 20m, though at a height of just 5m it would result in perceived odours below the EA benchmark. The benchmark is just 1.5 OU_E/m^3, 1 OU_E/m^3 being the level of odour that 50% of the population can perceive. It should be noted, also, that the odours emitted from a bio-filter bed are large in quantity but their character, which is of an earthy/woody nature, are not offensive.

7.4.5 There is no current proposal to erect a stack to vent emissions from the AD bio-filter bed. There is a general investigation under way in liaison with the regulator, the Environmental Agency, to potentially vent via chimneys all emissions from the covered bio-filter beds at the Pointon's site to improve dispersion. The conclusions of that review will be applied in respect of the bio-filter bed proposed as part of the AD plant scheme and application.

7.5 Noise Assessment

7.5.1 An Addendum Noise Assessment Report has been undertaken by WSP Environmental UK; their report supports and forms part of this ES.

7.5.2 WSP Acoustics produced an Environmental Noise Assessment for the ERC/CRF proposal, their report entitled *"Proposed Recreational Facilities, Site Access Road and Energy Centre – Noise Assessment Report"*, dated 28 August, 2008. The consultants have reviewed the Noise Impact Assessment for the ERC in the light of the proposals to substitute the bio-diesel production plant with the AD plant; their report is entitled *"Proposed Recreational Facilities, Site Access Road and Energy Centre – Noise Addendum Report"* and is dated 3 April, 2010. The Addendum Report considers:

- An assessment of noise as a result of noise breakout through the proposed AD reception and pre-treatment building
- Assessment of noise from HGV movements/turning operations
- Assessment of noise from external AD plant, and assessment of traffic noise using the access road.

7.5.3 In respect of the potential for noise breakout from the reception and pre-treatment building, predictions have been made for the closest residential receptors, not in ownership of the applicant. The results, presented in Table 1 indicate that at all receptors, both day-time and night-time, the predicted specific noise levels from noise breakout are lower, and in some cases substantially lower than the measured

background noise levels. Consequently, complaints are unlikely, in terms of the guidance in BS4142.

7.5.4 The assessment of noise from HGV operations at the AD plant recognises that there would be a larger number of movements in comparison with the traffic associated with the substituted bio-diesel production facility. However, the noise generated would remain below the prevailing measured daytime and night-time noise levels at local receptors and consequently it is assessed that there would be no impact.

7.5.5 There are a number of external plant and equipment associated with this AD development. Twenty two separate items of plant have been identified and a detailed noise model prepared using the CadnaA noise model. The predicted rating noise levels were shown to fall below the measured background noise levels at all sensitive receptors and at least 7dB below the condition described in BS4142 as being of only *"marginal significance"*.

7.5.6 In respect of noise arising from the increased use of the proposed access road resulting from the proposed AD plant in addition to the ERC scheme, the low level of additional traffic movements results in a corresponding noise level change, calculated to be less than 0.1dB. The conclusion of the earlier Noise Report that noise levels will fall well below the prevailing ambient noise levels at local receptors with no significant impacts predicted to arise, remains correct.

7.5.7 Overall, the Noise Addendum Report identifies that the proposed development will give rise to *"minor or negligible noise impact at worst"*. Accordingly, the report considers that:

> *"Noise need not be considered a determining factor in granting planning permission for the proposed development".*

8. PLANNING ASSESSMENT

8.1 A review of the planning context, planning policies, and assessment of the AD plant proposal in the context of the ERC has been prepared by The Graham Bolton Planning Partnership Limited in support of the Planning Application. That document stands alone as a supporting statement to the planning application but also is relevant to and forms part of the Environmental Statement.

8.2 The application site of the proposed ERC development, and thus the AD plant, is within the Green Belt and very special circumstances must be demonstrated if it is to be permissible. This has previously been established via the earlier planning application and approval for the ERC/CRF scheme.

8.3 Planning Context

8.3.1 The context for the ERC development is the move by the Company, encouraged by Government policy and a more stable regulatory regime, to better utilise the products of rendering by generating electricity from non-fossil fuel, and also to better use the raw material input to reduce it and also generate electricity.

8.3.2 The proposal which is the subject of the current planning application, to construct an anaerobic digestion plant in place of the formerly proposed bio-diesel production plant, continues to reflect the Company's intention and move to making better use of both its products but also of the raw material inputted in line with the regulatory context and Government policy. Anaerobic digestion in particular is being encouraged by the Government and, as referred to in the chapter on policy in the Planning Statement, the Government (Defra) recently published an "Implementation Plan" for accelerating the uptake of anaerobic digestion in England. The substitution of the bio-diesel production plant with the AD plant has the benefit of putting the existing food waste collected by the Company through a more appropriate treatment process, rather than rendering, reducing it in quantity while deriving a gas which can

be directly used for generating electricity, with a resulting remaining digestate available to be used as a fertiliser or soil improver.

8.4 Alternative Sites

8.4.1 The EIA Regulations require an outline of the main alternatives studied by the applicant and an indication of the main reasons for the choice of the proposal taking into account the environmental effects. As far as site location is concerned, the Planning Statement notes that location of the ERC, including the AD plant, is determined by the present location of the rendering plant which lies within the green belt. The AD plant will utilise food waste as feedstock which is already accepted and processed at the rendering facility. Also, the purpose of the ERC scheme and the AD plant is to provide power – heat and electricity – which will be used on-site for the rendering plant and other facilities, with surplus energy being exported to the grid. Use of this AD produced bio-gas to generate energy will substitute for other fuels including fossil fuels, and make the plant more self-sufficient. This cannot be achieved if the proposed AD plant were to be located elsewhere, off-site. The decision not to proceed with the bio-diesel plant provides an opportunity to fit in the AD plant which otherwise could not be accommodated on site.

8.4.2 It is concluded, that there are no reasonable alternative locations to that proposed. The site of the ERC development, and specifically the AD plant within it, represents both a rational and logical decision, taking into account the context of the proposed development, the location of the existing rendering plant and the environmental effects of developing the ERC site as opposed to elsewhere within the Company's land.

8.5 Planning Policy

8.5.1 The Planning Statement includes a review and assessment of Planning Policy at National, Regional, County and Local levels. Of particular note is the support given by Government in PPS22 to renewable energy projects including the specific advice that a sequential approach should not be applied to a consideration of such projects, which are frequently restricted to the proposed site and not capable of being developed elsewhere. This advice post-dates the policies within the current Regional Spatial Policy, the Joint Structure Plan and the Staffordshire Moorlands Local Plan.

8.5.2 The Government has laid out in **PPS22 – Renewable Energy** its objectives and national planning policies for the development of renewable energy resources which it considers vital to facilitating the delivery of the Government's commitments to both climate change and renewable energy. Amongst other things renewable energy will assist in the effective protection of the environment, by reductions in emissions of greenhouse gases, and the prudent use of natural resources by reducing reliance on fossil fuels.

8.5.3 At the outset PPS22 recognises that:

> "*Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic, and social impacts can be addressed satisfactorily*"

8.5.4 The key principles also note that the wider environmental and economic benefits of all proposals for renewable energy projects are material considerations to be given significant weight in determining whether proposals should be granted planning permission.

8.5.5 Technical Annex 2 deals specifically with anaerobic digestion (AD) which can produce heat and energy or a combination of both and have the benefit of using waste substances that are otherwise difficult to dispose of in an environmentally acceptable manner. It is also effectively carbon neutral and can reduce overall quantities of

carbon dioxide released into the atmosphere when it is used to replace energy from fossil fuels. By-products may also be put to beneficial use such as compost and liquid fertiliser which in turn can reduce demand for similar products that are produced in a less sustainable way.

8.5.6 The Regional Spatial Strategy will become the Regional Waste Strategy for the West Midlands once it is approved by the Secretary of State. Policy W1 proposes that waste should be considered as a resource and that each waste planning authority or sub-region allocates sufficient land to manage the waste arising within their own area. The objective is to reduce the percentage of commercial and industrial waste going to landfill from 42% in 2002 to 25% by 2025. Policy W2 requires each waste planning authority or sub-region to plan for a minimum provision of new facilities. The Strategy notes that Staffordshire and Stoke-on-Trent has a "treatment" gap of 1.25 million tonnes and needs to make provision for a pattern of sites and facilities for waste treatment.

8.5.7 At more local level the extant Local Plan does not reflect up to date national or regional policy. However, the emerging Staffordshire Moorlands Local Development Framework, and specifically the Core Strategy does, and Policy ST1 supports small and large-scale renewable energy schemes, including where they can be incorporated into existing ones, subject to certain criteria.

8.6 Climate Change, Energy and Waste Policy

8.6.1 The Planning Statement also refers to Government policy in respect of climate change, cutting CO^2 emissions, generation of electricity using non-fossil fuels and reducing waste. These include the Government's targets for the UK to reduce greenhouse gas emissions by 80% by 2050 compared to 1990 levels with an interim target of 34% by 2020. And to comply with the Climate Changes Act which will involve producing electricity from low carbon sources; emissions from electricity and heavy power sources are to be reduced by 22% by 2020 compared to 2008 levels. And also to produce 15% of energy from renewable sources by 2020.

8.6.2 In particular mention is made of the Government's policy and actions to promote and accelerate the uptake of anaerobic digestion. The Government's proposed Planning Policy Statement: Planning for a Low Carbon Future in a Changing Climate, which is currently the subject of consultation, includes draft policy LCF1.4 which proposes amongst other things that local planning authorities should secure greater integration of waste management with the provision of decentralised energy and district heating networks based on renewable energy from waste, surplus heat and biomass. As an existing and very substantial facility for dealing with "wastes", including food waste, the proposed AD plant located at the Pointon's facility is ideally placed to respond to Government policy and objectives embodied in this draft PPS.

8.6.3 While this is a unique scheme, it:

- fully accords with Government policies
- makes best use of resources while reducing waste
- tackles the causes of climate change by substituting renewable energy for that based upon fossil fuels

8.6.4 The Planning Statement concludes that there are no material reasons – whether resulting from potential environmental impacts of the scheme or in policy terms – why planning permission should not be granted, subject to a condition that it will proceed in the context and development of the ERC/CRF approved scheme. Indeed, it notes the strong policy presumptions in favour not least of which is the Core Strategy policy SD1 of Staffordshire Moorlands Local Development Framework which supports the provision of small and large scale renewable energy projects.

9. CONCLUSIONS

9.1 The Planning Statement details the planning background and relevant considerations for the determination of the proposed development. In particular, it reviews the reasons for the proposed development and the regulatory and Government policy background which is restrictive but also an encouraging and guiding impetus to the scheme.

9.2 This Environmental Statement specifically considers the development of the AD facility, within the Energy Resource Centre proposal, which constitutes "EIA development". Consequently, particular regard has been had in its preparation to the consideration and assessment of potential significant effects upon the environment. Those particular environmental matters which have been the subject of investigation and assessment where previously agreed with officers of the local planning authority and consist of:

- Traffic, and particularly heavy goods vehicle movements
- Landscape Impact and Visual Assessment
- An assessment of the impact of Emissions to Air resulting from the proposed renewable energy generation plant and AD plant and the cumulative impact with existing emissions from the adjoining factory, and Odour Impact assessment, and
- A noise assessment

9.3 The Planning Statement and report on traffic notes the minimal impact that the proposed development and change to the ERC scheme will have upon the highway network.

9.4 The development of the Ad plant with its large building and tanks, together with an extended 39m chimney as proposed for the energy resource centre have been assessed in the context of the wider Pointon's site and approved ERC/CRF scheme. A full review has been undertaken and an assessment made and it has been concluded that

the zone of visual influence in unlikely to be any different from the "ZVI" of the existing rendering factory, due to the location of the proposed development and the context in which it is seen. As a consequence of that, the effects upon long distance views are judged to be minimal.

9.5 The most significant visual effects are from closer views notably from the public footpath which lies at the eastern end of the factory site and the proposed ERC. However, the landscaping proposals both contained within the planning application and forming part of the Landscape Masterplan will ameliorate the impact not only of the proposed development but also of the existing main factory and, as such, will have a beneficial effect given the context of the proposed development adjoining the large scale and prominent factory site. The change with the addition of the AD plant does not result in any greater assessed impact.

9.6 The potential impact of emissions from the renewable energy electricity generating plant together with the AD plant has been assessed and, in association with existing sources of emissions from the adjoining rendering plant. It has been concluded that the chimney for the tallow fuelled electricity generating engines should be raised to 39m as proposed in the planning application. All emissions from the combined existing factory and the ERC development with the AD plant will not exceed national air quality standards.

9.7 In terms of odour assessment, recommendations are made to vent the bio-filter bed, to which malodours abstracted from the AD reception building will be directed for treatment, with a chimney of 20m; this would remove potential odours to almost nothing. As noted in this ES and in the Planning Statement, there is a current wider assessment of venting of bio-filter beds being undertaken and the conclusions of that study will be applied to all bio-filter beds including that proposed. Consequently, that recommended feature does not appear as part of the current planning proposals.

9.8 A Noise Assessment has also been undertaken which indicates that no adverse impact from noise arising from the proposed AD plant itself, or activity associated with it.

9.9 The Environmental Statement has reviewed those matters which it was agreed with the local planning authority should be the subject of specific environmental impact assessment. It has also taken into account the other matters required under Part II of Schedule 4 of the EIA Regulations. It is concluded that there is no unacceptable significant environmental impact which will arise from the proposed development of an AD plant and higher chimney, in the context of the proposed ERC/CRF scheme without which the AD plant cannot be built.