

Town and Country Planning Act 1990
Supporting Statement in Respect of a Planning Application for the:

Full Planning Consent for a Development of a Plastics to Liquid Fuel Recycling Facility
at

Upper Higham Lane, Higham Ferrers, Northamptonshire, NN10 0SU
For Energy Roots Ltd

By their Agent:

Dallol Energy Ltd

Local Planning Authority: Northamptonshire County Council

Planning Portal Reference: PP-06666468

Updated - August 2018



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(*as attached electronically to main application)

**sent to Planning Authority via email)

(Attachments in 'Bold' denote new documents that may replace the original submissions – see NCC website for latest documents)

1.0 Introduction and Background

- 1.1 This Planning Support Statement is being submitted in support of a planning application for full planning consent for a Plastics to Liquid Fuel Recycling Facility. The application is being made to Northamptonshire County Council as a 'Waste and Minerals planning application.
- 1.2 Dallol Energy Ltd act as planning agent on behalf of Energy Roots Ltd ('ERL'), the applicant and developer. The landlord since 1997 is Greenfield Properties (UK) Ltd ('GPL') and they have given their consent for this application (Appendix 1). Subject to planning consent, ERL have secured an option for a 20-year lease
- 1.3 The statement should be viewed in conjunction with a submission made to Northamptonshire County Council via the Planning Portal. The reference code is PP-06666468.
- 1.4 The site is located at Easting = 52.295376, Northing=-0.546062 and approximately 2.3 km East of Rushden & Higham Ferrers in rural Northamptonshire.
- 1.5 The area immediately surrounding the Installation is comprised of the following key land uses:
 - North: Further commercial and light industrial units with woods and agricultural land beyond. Chelveston Rise, a collection of houses, is located approximately 500m away beyond another parcel of woodland.
 - South: Upper Higham Lane with agricultural land beyond that. Newton Lodge is located at 470m. To the South East is Airfield Farm which located at 350m from the site.
 - East: Agricultural land with the village of Yelden at approximately 1,600m.
 - West: Agricultural land immediately adjacent to the site with Buscott's Lodge at 810m.
- 1.6 The nearest surface watercourses are localised field drains approximately 500m to the North and South of the site.

- 1.7 The site itself is not subject to any statutory or non-statutory nature conservation-designations. There are a number of sites with ecological designations within 5km of the site. These are:
Finedon Top Lodge Quarry Site of Special Scientific Interest (SSSI);
Upper Nene Valley Gravel Pits SSSI, SPA and Ramsar;
Yelden Meadow SSSI.
- 1.8 This application is for new construction to house the plant and process and is situated on previously developed land within the boundary of site and the development is known as the Plastic Recycling Facility.
- 1.9 The whole site will be utilised. **GPL will therefore cease to operate the current operations of World Rubber Ltd** on the southern portion of the site and this area will be cleared prior to the start of redevelopment.
- 1.10 The northern portion of the site is now redundant, but was most recently used as a processing plant for tyre waste. Uninterrupted history of industrial use goes back to 1950. The whole site enjoys a certificate of lawful use, dated 2002, allowing for the treatment of and transfer specific wastes. This consent was issued by Northamptonshire County Council (NCC) as local authority responsible for waste related development.
- 1.11 A current Waste Management License (Licence Number EA/WML/73098) is in place covering the southern site and the license holder is GPL. It is regulated by the Environment Agency and allows for up to 0.075Mtpa of material process. There is an exception certificate for the northern portion of the site.
- 1.12 The recycling process which includes advanced thermal treatment will be regulated by varying the existing Part A (1) Environmental Permit for the site which is regulated by the Environment Agency to a 5.1A(1)(b) Permit.
- 1.13 Global Warming or Climate Change is generally accepted as a reality. The movement of waste across borders in order to dispose of it by unregulated methods is in some cases illegal and in all cases immoral. A recognised approach to combat climate change that is supported by UK Government and Local Authority policy is to move away from using fossil fuel derived energy to that available from renewable sources. Waste plastic is considered to be a renewable resource under these policies and this facility seeks to turn that renewable resource into various products that will be re-used there-by displacing further consumption of fossil fuel.
- 1.14 The entire site is land designated for industrial and commercial use including waste management developments according to Policy 17 of the Northamptonshire Waste & Minerals Local Plan.
- 1.15 The site is accessed from Upper Higham Lane, a public highway via an existing and approved splay. It has established 24hr use for multiple HGV deliveries, but movements normally take place during the hours of 8am to 6pm.

- 1.16 The existing road splay is for vehicle access only.
- 1.17 Town and Country Planning (Environmental Impact Assessment) (England & Wales) Regulation 1999. The Applicant submitted a screening opinion request to NCC for the preceding Planning Application (Granted as 16/00020/WAS/FUL) and it was determined that no formal Environmental Impact Assessment was required although several suggestions were made as to what was required in terms of the potential for the development to effect the environment. As this is a similar Application, in accordance with discussions with the Planning Officer no screening opinion was sought this time.
- 1.18 The Applicant, Agent and various consultants met with the Environment Agency to discuss the attached plan and receive the Agency's initial thoughts on 18th October 2017 at Kingfisher House, Goldhay Way, Orton Goldhay, Peterborough, PE2 5ZR. The meeting was positive, and they look forward to receiving this application as consultee. The application to vary the existing EP is submitted at the same time as this application.
- 1.19 The existing Planning Consent 16/00020/WAS/FUL is for a Waste Plastic Pelleting Plant that uses Refuse Derived Fuel in a conventional waste combustion system. This proposal seeks to remove the need for the burning of any waste.

2.0 The Application Proposal

General

- 2.1 The proposed facility will be a purpose built operation. Non-recyclable plastic (waste unexpanded polystyrene, polyethylene and polypropylene) will be delivered to the site by HGV in 500kg bales. The technology uses a pyrolysis process fuelled by petroleum gas also created by the process to turn plastic material back into a form of oil using conventional fractionation. It is important to note that unlike the existing Planning Consent, there is no combustion of waste in the process. Approximately 85% of mass converts to liquid fuels products meeting the EN590 diesel standard and petrol EN228 standard.
- 2.2 The proposed facility will receive 67,000 tonnes of feedstock over the year and export 56,000 tonnes of product. 200 tonnes will be processed daily over 333 days of the year. Deliveries to and from the site take place over 5.5 days a week. The hydrocarbons produced in the processing area (Petrol, diesel, etc.) will be stored in a tank farm before being loaded into road tankers and delivered to customers.
- 2.3 The feedstock will be pre-processed off-site under an agreement for which the applicant has secured a Letter of Intent from a large balance sheet company with good covenant. The end-products will be exported off-site via HGV after which they will be blended with conventional road-fuel by established licensed processors mainly in the Midlands.
- 2.4 The target feedstock material (from which the material brought to site is made) already arises as a difficult to recycle or reuse waste in or near Northamptonshire but is currently either disposed of to land-fill or transported as an incinerator fuel known as Refuse Derived Fuel (RDF) via shipping container cross-border to be used as a resource in Energy plants across the European Union. Plants in Belgium, Netherlands, Sweden and Germany are typical users of this material as a fuel. This point demonstrates entirely why there is a need for this development as there are currently no other dedicated recycling facilities for this material in the wider region.
- 2.5 On arrival, the feedstock is stored in the reception hall and tested for other material contamination when still in bale form. Any rejected bales would be sent back to their supplier, and because of a highly prescriptive fuel acceptance criteria the expected rejection at this point is 2%. The in-specification bales would then be moved to the processing building where they will be split and put through a further specification check using colour sorting and metal separation technologies. A further 1% of material would be rejected at this stage.

2.6 Photographs of Site Entrance Splay



View from access road towards Upper Higham Lane



View from Upper Higham Lane looking at site access road



View from Upper Higham Lane looking at existing site entrance

- 2.7 The Plastics Recycling Facility will operate on a 24/7 basis. Deliveries to and from the development will take place between the hours of 6am and 8pm Monday to Sunday. There will be no Bank-Holiday external activity at the site. The Applicant reserves the right not to observe these delivery hours in the event of an emergency.
- 2.8 The Applicant will engage a recognised contractor in the design, installation and project management of turn-key commercial and industrial plant to build the facility. The Principal Contractor through its own endeavours and that of various sub-contractors will be responsible to the Applicant for providing the plant design, technological integrity, and project management experience and training in order to leave a highly sustainable renewable fuel processing facility.
- 2.9 After the requisite training and hand-over period the plant will be operated by a dedicated operational team which will create twelve (12) skilled engineering jobs.
- 2.10 The site already has recent planning consent granted (16/00020/WAS/FUL) for 0.075Mtpa of waste material to be imported and existing consent for a small waste incinerator and energy pellet plant. This development therefore does not seek to increase the consented tonnage and merely changes the process and therefore the built environment from the previous application. The impacts if any are broadly similar to those which are already consented.
- 2.11 Although there is a change to the number and layout of the buildings, there is no increase in the catchment for rainwater as the area of hardstand or building roof area remains as currently built.
- 2.12 As feedstock that will be used for processing into liquid fuel is imported to site as a fuel having been pre-processed & (cleaned) into a type of RDF elsewhere,

there will be no requirement for 'raw' or putrescible waste to be imported to the site.

2.13 Process Overview: (See also Appendix 5)

Plastic Storage Area and Extruder

The plastic storage and densification areas will be located to the south of the processing shed on the northern boundary. These areas will be covered, bunded and protected by the site fire protection system.

Processing Area

The processing area, which houses most of the processing equipment will be in the centre of the site. The main products will be diesel and petrol, with some liquefied petroleum range gas (LPG) to be captured and consumed for heating during the process. The plastic will yield (by mass) approximately 65% diesel, 20% petrol and 15% LPG.

The shed and processing units, which are enclosed, will be protected by a fire protection system. All processing areas will be on sealed concrete flooring with bunds to capture spills.

The non-recyclable plastic-to-liquid fuel (pyrolysis) process is described below and shown in the process flow diagram provided in Appendix 6.

Feedstock delivery system. The densified plastic tablets will pass into an low oxygen gas purged hopper and then through a double vapour lock consisting of a double slide gate and plug screw arrangement to remove all air associated with the feed stock. This will ensure both a continuous supply of feedstock to the processing plant and ensure air does not enter the catalytic reactor (rotary kiln) with the plastic, as this could cause oxidation of the hydrocarbons.

Catalytic reactor. In the catalytic reactor, the feedstock and small quantities of activated bauxite contacts the product oil/catalyst slurry and are rapidly heated to over 400 degrees Celsius ($^{\circ}\text{C}$). Activated bauxite was chosen as a catalyst due to its ability to assist in the production of liquid hydrocarbons (diesel and petrol) and absorb impurities. The activated bauxite will be stored in 20 kg bags in the workshop area. At any time, there will be less than 1 tonne stored on site (i.e., approximately one week's supply). The process will consume 20 kg of activated bauxite every 3 hours.

- A large horizontal cylinder enclosing a smaller cylindrical vessel, the rotary kiln or catalytic reactor. Hot gases produced by the cyclone combustor pass through the interstitial space between the two vessels heating the feedstock, catalyst and hot oil.
- The depolymerisation reaction occurs in the catalytic reactor. The reactor

houses a rotary stirrer and is sealed at both ends. The melting plastic depolymerises into hydrocarbon gases ranging from LPG to heavy wax. The majority of the gases produced are in the liquid fuel range (petrol and diesel).

- Hot vapour ducts remove the gaseous hydrocarbons produced in the depolymerisation reaction to the scrubber.
- The residual non-converted material comprising spent catalyst and char are drawn off the catalytic reactor for disposal.

Packed column scrubber. Hot vapours from the catalytic reactor pass through a packed column scrubber where they are cooled and washed free of particulates by the reflux diesel stream. Solid particles, dust (including any residual metal dust) and heavier oils and waxes are removed by the reflux diesel stream and fall back into the catalytic reactor to undergo further depolymerisation.

Fractionation column. The vapours from the packed column scrubber pass then pass into a conventional hydrocarbon fractionation column where diesel and petrol / LPG range hydrocarbons are separated. Reflux diesel (diesel that has been previously fractionated) is pumped from the small tank at the bottom of the fractionation column to the packed column scrubber through a flow control system.

Impurity Extraction System. The diesel phase passes to the impurity extraction system where it is contacted in a counter flow liquid/liquid extraction column. This system removes such impurities as Polyaromatic hydrocarbons, Sulphur compounds, colour compounds and oxygenates.

Vacuum drying column. The diesel fraction that has had impurities removed may still contain trace water. Water is removed by passing the diesel fraction through the vacuum drying tower. The diesel fraction falls through tower packing while exposed to a high vacuum at a temperature of approximately 110°C, causing the water to boil off and be directed to the primary condenser. The produced diesel is piped to the above ground diesel storage tanks.

Primary condenser. The lighter-end vapours flow from the fractionation tower to the primary condenser, where petrol and water are condensed from the vapour stream. The petrol is a finished product and is piped to the aboveground petrol storage tanks. Reflux petrol from the storage tanks is pumped through a flow control mechanism to the top of the fractionation column tower to assist in the fractionation process. The water fraction is directed to the reboiler where it is reheated to remove trace petrol. Post this step it is pumped to the wastewater treatment facility where it is treated before reuse as process water in the cooling tower.

Chilled vent condenser and compressor. Gas vapours (primarily LPG), which do not condense in the primary condenser are ducted to the chilled vent condenser which is chilled utilising an industry- standard cold glycol water system. Petrol is condensed from the vapours and piped to the petrol storage tank. Non-condensable gases from the chilled vent condenser are compressed and piped to the aboveground LPG storage vessel. Gases that do not condense in the compression process are drawn off and piped to the cyclone combustor for use as fuel.

Cyclone combustor. The cyclone combustor produces the hot gases and heat required for the depolymerisation process. The combustor uses LPG for start-up after which a mixture of LPG and non-condensable gases provides fuel for the burner. Hot combustion gases flowing from the cyclone combustor at over 1,100°C for over 2 seconds are mixed with recycled flue gas and enter the interstitial spaces between the catalytic reactor and outer cylinder at 900°C.

Heat recovery unit. Flue gases flowing from the interstitial spaces between the outer cylinder and catalytic reactor pass through a heat recovery unit where heat energy is recovered to reduce the plants fuel consumption lowering emissions to atmosphere. A small amount of the flue gases are vented to atmosphere via a stack with a real-time monitoring module for air pollutants.

Pyrolysis residue recovery system. Residual non-converted material (pyrolysis residue) exits the catalytic reactor via vapour locks to a sealed metal cooling vessel where it cools naturally. During cooling the vessel is subjected to a slight negative pressure by the fugitive vapour collection system to ensure any remaining vapours are captured and thermally oxidised in the cyclone combustor. The content of the non-converted material comprises filler materials (from the plastic feedstock), char and admix.

2.14 The main storage and processing facilities are described above. Other on-site facilities will include:

A control room and laboratory will be located in the central part of the site (excluding the driveway area).

A hard-standing area containing the first flush system will be in the northeast corner of the site. The first flush system has been designed to contain the first 15mm of rain of all hard-standing areas excluding areas covered by impervious roofing.

The fire protection system will be in the south-east corner of the site.

A workshop facility for general site equipment maintenance and spares storage requirements will be South of the main processing area.

The site surface will consist of sealed concrete in the vehicle and processing areas with gravel in areas between processing and vehicle access.

- 2.15 No new overhead cables are envisaged.
- 2.16 The plant buildings are equipped with a fire detection system. A developed Fire Plan is a requirement of the Environment Permit.
- 2.17 There is no effect from the development on Public rights of way.

Traffic impact and traffic assessment (See Appendix 7)

- 2.18 Using Upper Higham Road, the site is located 2.06 miles from the main Higham Ferrers (Kimbolton Road) round-about on the A6
- 2.19 Assuming a 286 day working year, the proposal will create up to 50 vehicle movements per working day (25 in and 25 out) on average, but it will displace the current 84 daily vehicle movements, meaning a net reduction of 34 vehicle movements per day. **The development reduces predicted vehicle movements from the World Rubber site by 40%**
- 2.20 Carr Brothers Ltd operate a major haulage depot from a different part of the site that uses the same main road access point to Upper Higham Road. Carr Brothers and their tenants operate c64 HGV vehicles and use an Automatic Number Plate Recognition system to control their gate. Recorded Data shows that more than 3000 vehicle movements per month through that gate is typical. The gate accounts for all vehicle movements to and from the site not related to World Rubber. A further 2000 current movements per month are estimated by World Rubber Ltd.
- 2.21 The development will reduce overall actual journeys to and from the site but the fact is that the site already holds licensed authority for many more journeys than are currently being undertaken. It must be stressed that no overall increase in tonnage is being applied for within this application.

At present World Rubber have authority to receive, sort and export 0.075Mtpa of waste per annum. Assuming an average bulk density that equates to 20 tonnes of tyres per HGV journey in and out, this equates to a total of 7500 theoretical HGV journeys per year. However, in practice, the nature of World Rubber's tyre recycling business means that around 50% of the tyres that arrive on site are brought in by smaller goods vehicles on a piecemeal basis at an average of c1.7 tonnes per vehicle. If the total tonnage of tyres being processed on site met the tonnage already permitted this would equate to a maximum of:

3,750 HGV transport movement ('TM') plus
 44,117 other TM to meet the license plus (most tyres to be recycled arrive in small quantities in cars and vans – arriving with tyres and leaving empty.
 5,760 staff and visitor TM
 53,627 total TM from the World Rubber site in isolation or added to at least 36,000 TM generated by the rest of the site:

It is reasonable therefore to state that c89,647 annual transport movements are already permitted on the site.

Actual Current Transport Movements at the development site per annum:

World Rubber Ltd – (feedstock)	3,640 HGV TM
1820 in (910 HGVs arrive with av 9 tonnes of tyres and leave empty)	
1820 out (910 HGVs arrive empty and leave with 20 tonnes laden)	
	14,704 goods vehicles TM
Staff and visitor journeys	5,760 TM
Total current site transport movements	24,104 TM per annum

For the purposes of traffic prediction it is assumed that every individual HGV movement creates a reciprocal further journey on an 'in full, out empty basis'. In practice, a small number of reciprocal movements do carry goods, for instance the removal of reject plastic and char.

Predicted transport movements from the development site per annum:

67,000 tonnes Goods In (av29 tonnes per vehicle)	4,620 HGV TM
10,300 tonnes Petrol Goods out	710 HGV TM
45,900 tonnes Diesel Goods Out	3164 HGV TM
<i>(using 38,000 litre tankers - av29 tonnes per vehicles)</i>	
Staff visits and other visitors	5,760 TM
Total predicted site transport movements	14,254 vehicles per annum

Working at full capacity therefore, the development's process activity reduces total journeys by 9850 per year over the current traffic count. **This is a 40% reduction when compared against the current traffic count OR a 74% reduction compared to if the current site was working at it's permitted capacity.**

NB: These figures differ from those originally submitted based upon now having precise data from the technology manufacturer. These figures err on the side of over statement and in reality will be lower. For instance, even though Carrs Transport may be used for the import of feedstock it has been assumed that every vehicle leaves the site empty whereas if this was the case the journey would terminate at the site.

2.22 Due to the significant decrease in predicted vehicle movements there is considered to be no impact on from traffic on the nearby junctions. It is also considered that initial comments from Northamptonshire Highways have not recognised that this will be the case. The Applicant considers therefore that a specific traffic count of the local road network is unnecessary although reference has been sought from traffic counts done in support of a recent planning consent granted at Slater's Lodge by East Northamptonshire Council 17/01177/FUL

2.23 There is also no doubt that the process will reduce overall traffic movements within the county and beyond as the average diesel miles per tonne of waste fuel will be reduced as there will be no export to the European Union required (as now) for this material.

2.24 There will be no real change to the current labour related traffic, with 12 new employees plus management working on a two on, two off four-day shift basis potentially over three shifts in the 24 hr period. This means the maximum number of employees on site at any one time is likely to be two or three when the management are in attendance. Currently World Rubber employs 10 people including management who all work a day shift. Therefore, will be no real change in employee car journeys to the site. As a Waste & Minerals application, the classification of development is known as *Su Generis*. Therefore the Northamptonshire Parking Standards 2016 regulations do not specifically apply. However the applicant has taken the spirit of those regulations into account and made the following parking provision:

10 spaces of which;

1 is Disabled

2 are equipped with Electric Vehicle Charging Points

1 is split use for a car or for motorcycles

A separate Cycle Store capable of storing 10 cycles is also provided.

10 spaces is deemed to be a more than adequate provision allowing for up to 7 visitor cars to be on-site at any one time, however unlikely this event may be.

(See site plan for the positional allocation of parking spaces)

2.25 The Plastics Recycling Facility will operate on a 24/7 basis. Deliveries to and from the development will take place between the hours of 6am and 8pm Monday to Sunday. There will be no Bank-Holiday external activity at the site. The Applicant reserves the right not to observe these delivery hours in the event of an emergency.

2.26 The Applicant is aware that Northamptonshire Highways may have a concern that the existing condition of the road surface within the splay is less than ideal and does not conform to any recognised new build standard. The Applicant accepts that a condition to improve this splay may be attached to any planning consent granted.

2.27 Enquiry of www.crashmap.co.uk reveals that there have been no incidents in the immediate vicinity of the site in the last ten years (to 2017). There was one incident, classed as serious on 04/05/2013 between two vehicles after Upper Higham Lane becomes Newton Road (some 700m from the site) where one vehicle left the carriageway. It can therefore be concluded that there is no existing Highway safety concern at the junction of the site and Upper Higham Lane.

2.28 The Applicant is aware of an initial historical planning objection from Chelveston-cum-Caldecott Parish Council which was withdrawn upon agreement from Kier Street Services that there would be no HGV movements through the village of Caldecott emanating from their airfield site. We are aware of a similar commitment from Carr Brothers Ltd to act accordingly and our client has agreed to follow this voluntary direction to use NCC Highways 'Route B' for access to their site.

Visual impact Overview (See Detailed Appendix 13)

- 2.29 Currently the site is mainly visible from Caldecott Road towards the junction with and from Upper Higham Lane. A derelict and heavily fire damaged portal frame structure is clearly visible and is considered an eye-sore by Planning Officers. The development seeks to tidy the site and it would be difficult to make any case against it on the grounds of visual impact.
- 2.30 The nearest external residential receptor in terms of potential visual impact is 0.675km away being the former USAF residential block at Caldecott Crescent. The main road is positioned 1.6m above the ground floor of these properties and the road is flanked by a high fence and mature hedging. Therefore, there is only a view from the upper floors of the properties nearest the road and no view whatsoever from the majority. The existing view is filled by existing development. The new development site is only partly visible as it is almost completely screened by a mainly coniferous copse. The stack is positioned so that it is entirely screened from view by the copse. The development stands in the shadow of several significantly higher constructions being the wind turbines at Chelveston Airbase
- 2.31 The applicant acknowledges that the new development increases the building height from the existing structures by some 10m and in quantum the overall built area is also a significant increase. In order to mitigate visual impact as much as possible the applicant welcomes a planning condition requiring the implementation of a natural screening plan that pays particular attention to the visual impact of the development from the various footpaths that run near the development site.
- 2.32 During periods of extreme weather (ambient temperature of less than 2°C) a short plume of water vapour may be visible above the tree line.
- 2.33 The stack conforms to D1 modelling and Air Dispersion Modelling according to ADMS Vers. 5.2. (report attached at Appendix 8) and will be 35m high.

Environmental impact from emissions: Emissions to land, water and air

- 2.34 The plant produces 0.002Mtpa of char which will initially be land-filled using a licensed contractor but the long term plan is to recycle the char into concrete manufacture.
- 2.35 General trade waste generated on site, will be source separated and stored in one of three 1000lt wheeled bins and emptied under contract to a local commercial and industrial waste collector.
- 2.36 Further to the Surface Water Proposal (Appendix 6) The site will have a number of measures in place which would be considered best practice prior to treatment within the wastewater treatment plant.

The reject streams from the process then go to the wastewater treatment plant balance tank. The effluent is then subject to the following treatments which are considered to be BAT within Best Available Techniques.

- Coagulation and flocculation;
- Flotation;
- Filtration;
- Oxidation; and
- Reverse osmosis.

This will provide an effluent that is in accordance with the BAT AELs as defined within Best Available Techniques Reference Document on Waste Incineration May 2017.

H1 is a tool which can be used to assess the potential impact on the environment and human health of emissions associated with the operation of a facility. A H1 assessment has been completed to determine the potential impact associated with water emissions from the installation. This can be seen at Appendix 12 . However, it is considered that as the site is meeting the BAT Associated emission limits to water under the draft BREF for waste incineration, which are lower than those in the current adopted guidance, then the site can be considered to be achieving limits guaranteeing no environmental impact is occurring and therefore no further consideration is required.

2.37 A welfare unit and any other foul water within the new buildings will drain to existing mains sewer, having first been treated in a Package Sewage Treatment plant for foul water.

2.38 Flood Risk Statement (See Appendix 9)

2.39 There will be two air emission points from the installation. One for the combined boiler and kiln emissions with the second being the emergency flare. The catalytic combustor is designed with an effective process control system which results in an optimised performance with a low emissions profile that meets the emission limits.

2.40 Emissions and reagent dosing are controlled by feedback from the CEMs to the dosing units.

2.41 The monitored operation of the plant under the permit must remain within the emission limit values set by legislation and therefore ensure that there will be no adverse effect on air quality or the local environment from the activity being carried out. With the exception of a plume during extreme weather conditions there will be no effect on the environment from emissions to air. East Nottinghamshire Council EHO will be the Local Authority responsible for ensuring the plant complies with legislation that forms the basis of the SWIP. They are empowered to shut-down the plant if not satisfied either with the environmental performance of the plant or the record keeping to demonstrate it.

2.42 The Health Impact Assessment (Appendix 12) concludes that there are no significant health risks associated with the emission of pollutants from the proposed development.

2.43 East Northamptonshire Borough Council has undertaken an assessment of the air quality within the Borough and concluded that there was no requirement to declare an Air Quality Management Area. (AQMA)

2.44 Bedford Borough Council has declared four AQMAs. Three of these were located within the town with the fourth is situated in Great Barford, to the east of Bedford. The AQMAs are located approximately 17 miles from the proposed development site and are considered to be too far away to be directly affected significantly by emissions from the proposed development.

Odour Control

2.45 The heavy plastic barrier between the trailer body and the building during the unloading phase is temporary. When the trailer has unloaded its cargo and driven away, the door is shut. Both these methods serve to eliminate the contamination of the site with any blown material and also to act as a barrier to contain any odour within the fuel although the plastic feedstock is non-odorous. The catalytic reactor and all process vessels are a sealed process. The process is contained within a building under slight negative pressure and there will be a fugitive emissions management system that draws air from process vents and within the building to use as primary combustion air. Therefore, the potential for any odorous emissions from the installation is deemed to be insignificant.

2.46 A detailed Odour Control plan forms part of the Environmental Permit application.

Noise Abatement (See also Appendix 10)

2.47 A full Noise Assessment has been prepared in accordance with BS4142 and submitted as an appendix to this application. The following section uses this data and looks at the potential noise impact of the proposed development. **It concludes that there will be a decrease in noise associated with this development.**

Overview

A detailed baseline noise survey has been undertaken to establish the prevailing background sound levels at a sample of locations selected as representative of the closest existing noise-sensitive receptors (dwellings) to the proposed development. Drawing on the results of the baseline noise survey, an assessment of the current noise climate was undertaken (See Appendix 10).

Noise measurements were obtained at three locations; opposite the entrance to the site on Upper Higham Lane, at the T-junction of Upper Higham Lane and Rushden Road (230 metres to the south east of the site), and to the south of the Chelveston Rise houses.

Receptors

The table below identifies the location of potential noise sensitive receptors in the vicinity of the facility. This shows that the nearest residential property are located 350m to the south east, upwind of site, in a rural location with business occurring at the same site and is likely to be less sensitive to

odour stimuli. All other residential properties are generally isolated houses within 1km with the nearest residential area being Chelveston Rise approximately 500m to the north east.

Noise Receptors

Receptors	Description	Approximate distance and direction from installation boundary
Newton Lodge	Isolated farm house	470m to the South
Airfield Farm	Isolated farm house	350m to the South East
Chelveston Rise	Small village of 30 houses	500m to the North
Yelden	Large Village	1,600m to the East

Noise Survey

During the night there was no activity on the site. Off-site the main noise source was distant road noise and wildlife noises.

Location 1: Opposite the entrance to the site on Upper Higham Lane. The main noise sources during the daytime measurements were site machinery, cranes and forklift truck activity; this was the dominant type of noise at the measurement location during the daytime measurement.

Location 2: At the T-junction of Upper Higham Lane and Rushden Road. Noise from process machinery (low rumble) was audible at this location during the daytime measurements; this was the dominant type of noise at the measurement location during the daytime measurement.

Location 3: To the south of the Chelveston Rise Houses. Site traffic and a low rumbling noise from process machinery on site was just audible at the measurement location. Distant road noise from the local main roads (A45 / A6) was just audible.

Receptor noise levels

Environmental noise measurements were carried out at the current World Rubber site (proposed Installation) during what was considered to be typical operating conditions during the daytime. However, there was no activity at night, therefore measurements were taken during this period to represent the background noise level. Table 4.22 shows the results of the assessment.

Noise Assessment Summary

Period	Difference between Rating and Background noise levels dB	Indication of an Adverse Impact according to BS4142?	Difference between BS8233 recommended levels	Internal noise levels meet BS8233:2014
Daytime; Location 3 – To south of Chelveston Rise houses (nearest downwind NSR to site)	+12.6	Yes – complaints are likely	-5.9	Yes

The BS 4142 assessment indicates that the noise produced by World Rubber at the façade of the NSR may have a negative impact (however; difference between Rating and Background noise levels to be considered as a 'worst scenario' on this occasion). The fact that there is a significant difference between day to day operations and the background and that the site has not received any noise complaints means that the nearby noise receptors are not particularly sensitive.

The BS8233 assessment indicates that the attenuated internal values do not exceed the noise levels during the daytime hours at the NSR.

Noise Sources

The key noise sources within the proposed variation to the installation are:

Boiler	110 dBA LA10 (15min)
Centrifuge	95 dBA LA10 (15min)
Chiller	100 dBA LA10 (15min)
Compressor	88 dBA LA10 (15min)
Cooling tower	101 dBA LA10 (15min)
Kilns	92 dBA LA10 (15min)
Shredder	110 dBA LA10 (15min)
Wastewater treatment plant	75 dBA LA10 (15min)

This information was taken for an assessment of the sister plant in Australia. All of these noise sources will be located within a building with the exception of the cooling tower and wastewater treatment plant.

The buildings will be constructed with a system such as 6 mm polymer render, 60 mm Kingspan Kooltherm[®] K5 External Wall Board 8mm cement particle board, 100 mm galvanised steel frame with 2 x 12.5 mm plasterboard, taped and skimmed. This system has sound reduction properties as shown below with an overall weighted sound reduction index of 50dB.

Sound Reduction Index in dB over a Range of Frequencies							
Test	Frequency (Hz)						Provenance
	125	250	500	1000	2000	4000	
A	32.4	43	45.5	53.4	63.8	66.9	(BRE Test L107-049 Report No. 236234)

A – weighted Sound Reduction Index (R _w)	
Test	R _w (dB)
A	50

This would ensure that those noise sources located within the buildings are effectively controlled so as to minimise any noise breakout prior to distance and vegetation being taken into account.

Mitigation

A noise assessment performed for the sister plant in Australia (See Appendix E1) shows that with additional mitigation measures such as:

- Enclosure of the cooling tower to 1m above the height of the tower;
- Waste Plastic Unloading Bay and Fuel Loading Bay Barrier Screens (2.5m in height); and
- Boiler shed door located to face away from nearest noise sensitive receptors

The predicted noise levels at the nearest receptor (500m away as is the case with this facility) would be 35-37 dBA LA₁₀ (15min) with a night time noise level of 31 dBA LA₁₀ (15min).

Conclusion

By including a high standard of design of the building infrastructure with appropriate mitigation measures (also proposed to be adopted at this facility) the noise levels can be brought down to levels consistent with the existing background levels **and below the current daytime operational levels which have not generated any complaints in the past 5 years.**

This does not take into account the fact that the Australian plant did not contain a building envelope to as high a standard as proposed for this installation, a greater surface roughness for the countryside nor that Chelston Rise is screened by trees which would have an additional acoustic dampening effect.

BAT Requirements for Noise / Vibration from *How to Comply with your Environmental Permit*

EPR Requirements	Current Arrangements	BAT?
Appropriate measure to reduce / control noise include: <ul style="list-style-type: none"> ○ Monitoring noise levels at different places and times to 	Equipment will be maintained in accordance with manufacturer's recommendations and planned maintenance schedule.	Yes

<p>find where the problem is coming from;</p> <ul style="list-style-type: none"> ○ Maintaining equipment specifically to reduce noise levels, e.g. balancing fans and fixing loose covers; ○ Enclosure or abatement – e.g. acoustic enclosures, silencers, keeping doors and other openings in buildings closed; ○ Timing –e.g. avoiding noisy work during evenings and weekends; ○ Siting away from sensitive receptors – e.g. of delivery or vehicle routes or noisy plant; ○ Switching off plant, vehicles and ventilation units when not in use; and ○ Reducing or stopping activities that are causing the noise until either the circumstances have changed or other appropriate measures have been put in place to allow the operations to re-commence without significant noise. 	<p>The process does operate during nights and weekends but associated activities such as tanker deliveries and mobile plant movements would be greatly reduced during those times.</p> <p>The activity is at a distance of over 350m to isolated farmhouses and over 1km to the nearest community.</p> <p>Vehicles and other equipment would be switched off when not in use.</p> <p>Any activities that are producing noise would be stopped and corrective taken in accordance with procedures within the EMS.</p>
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2.48 The wider site at NN10 OSU already functions as both a waste treatment site and a transport and haulage hub. There are currently no planning restrictions on hours of operation and the neighbouring rubber recycling plant works 24hrs. The mechanical recovery of the constituent parts of vehicle tyres takes place externally and can be generally considered a noisy operation. By contrast all mechanical operation of the Plastic Recycling Facility takes place internally and would not be considered a noisy operation.

2.49 The feedstock reception hall is sized to allow the plant to run for a prolonged period of time using the feedstock reserved within the hall storage area. There will be no external storage of loose feedstock therefore and no need for vehicle movements at unsociable hours of the day. The site will operate a tele-handler equipped with a 'white-noise' reversing alarm but even that will not be required to operate at night except in an emergency.

2.50 The energy centre will be required to function throughout a twenty-four-hour period however the NCC may wish to restrict the hours of fuel delivery.

2.51 Finished product (liquids) will be conveyed automatically to a separate tank farm adjacent to the main building.

Ecology, Archaeology and Environment (See also Appendix 14)

2.52 The nearest Site of Special Scientific Interest is Yeldon Meadows, 1.24 miles to the east of the site. Therefore, Natural England are not likely to be a Statutory Consultee to the planning application. The site is designated as neutral grassland occurring on clay. Further investigation of magic.gov reveals 'no features found' relating to this designation and therefore there is no argument to suggest that this development will have any impact on the SSSI as the site is very low risk. The next nearest SSSI is over 5 miles away.

2.53 A detailed desk-top and site based study has been undertaken to establish what effect the development may have on the ecology of the site and its environs. The study (attached at Appendix 11) concludes that the development will have only marginal effect and that there is no argument against the development from an ecology basis.

2.54 A desk-top study has been undertaken to establish the archaeology of site. Study of OS County Series Mapping for Bedfordshire and Northamptonshire conclude that between 1885 (earliest map) and the 1938 to 1952 Series at 1:10,560 the site was established as an agricultural enclosure.

2.55 The topography of the site reveals no direct suggestion of ancient or pre-historic Archaeology, although the development is within a landscape containing several Pre-historic and Romano-British sites identified through find spots and aerial photography.

- 2.56 The geology of the site reveals shallow topsoil on heavy clay. It is unlikely therefore that it was used for a purpose other than for agriculture prior to the known modern history of the site.
- 2.57 In 1941 The Air Ministry developed the neighbouring RAF airfield at Chelveston. When the airfield was taken over by the USAAF in 1942 the development site provided hospital, mortuary and other facilities to the airfield. The current subterranean drainage system is all that remains on the actual site although the wider site still contains several buildings from this period. The airfield was officially closed in 1947 but then re-opened in 1951 to accommodate USAF heavy bombers and a nuclear capability. The development site was not reinstated to the airbase.
- 2.58 In 1952 the site was sold by the Air Ministry and Chamberlin Phipps Ltd established it as a recycling and manufacturing facility. They provided a service to the county's shoe making industry where the majority of that industry's waste leather off-cuts etc were pulverised and reformed into 'leatherboard'. This was sold back as a material from which the soles of shoes were then manufactured. The southern development site was developed between 1965 and c1968 and was initially a division of Chamberlin Phipps (owned by its Pension Fund) and known as Rushden Granulating. The current business, World Rubber can trace its roots back to the development of rubber regrinding, manufacture and recycling in also in connection with shoe manufacture as rubber soles became more popular than leather.
- 2.59 Thermal treatment, most likely coal fuelled process steam generation was found on the site up till the late 1970s and there is some photographic evidence of the existence of several stacks. The stack on the development site was demolished in the 1970s.
- 2.60 A full archaeological assessment was made of the surrounding area in 2006 and that report has been studied for this application. It reports that although minor archaeological previously occurred within the parishes of Chelveston and Yilden close to the development site most interest has been in Roman remains found in the River Nene valley and medieval remains in Raunds. There is crop mark evidence to suggest that some settlement activity may have taken place beginning in the Iron Age but again this is limited to the river valleys of the Nene and Til. There is little evidence of post Roman development of the higher clay lands of Bedfordshire and Northamptonshire. From medieval period there is some evidence of limited population based around farmsteads some of which had grown into hamlets or villages by 1086 (Domesday) but none by the development site. Field enclosure took place from the late 18th century to the late 19th century but by 1885 (as evidenced on the OS County Series Map of that year) all the land in the vicinity of the site was enclosed.

2.61 The development is situated in an area of significant disturbance on ground at the periphery of a former airfield where successive manufacturing processes have necessitated multiple construction iterations incorporating various concrete slabs between 1950 and the present. There exists photographic evidence of this disturbance the most interesting and relevant probably being a picture taken in 1964. Jimmy Harris, a retired employee of both Rushden Granulating and World Rubber worked at the site from boyhood to his retirement in 2006 and has assisted with historical analysis to do with the development site.

2.62 The area to the South of the site currently occupied by a soil bund was put there in recent times by the Applicant. The bund replaced the previous waste tip where discarded rubber shoe lasts had been accumulated. The Applicant used a mechanical digger to remove the shoe lasts which were then put through the rubber recycling process. The top soil that was then used to create the bund was imported by a local haulage contractor.

2.63 No ground based investigation for archaeology has been undertaken or is planned. The existing concrete slab that forms the base of the site will not be interrupted except for the provision of foundation pits for the portal frame building and a small area of excavation for the machinery bases and a flood defence. Prior to final design, core samples to establish specific ground make-up will be taken and therefore also examined for any archaeology.

2.64 The existing ground disturbance suggests that the development will have no significant impact on any surviving archaeological deposits and therefore no mitigation measures are considered necessary. This is the same approach as taken in 2016 when no objections to this principal were received from the County Archaeology Advisor. However, the Applicant is prepared to consider a planning condition enforcing that a watching brief is taken on any works that penetrate the slab or disturb any other ground. The Applicant has taken independent advice from a Qualified Person on this matter (see letter at Appendix 14)

Sustainability

2.65 The NCC Planning Authority should consider that as a recycling facility that is converting a renewable resource into a product it is the embodiment of any legal definition of sustainability.

2.66 Feedstock for treatment imported to the site will be sourced mainly from the Nottinghamshire or Bedfordshire cross-border geographical catchment area. This area may extend south to within the M25. As such this facility should be considered a 'regional' as opposed to a 'sub-regional' installation according to the NCC's own definitions.

2.67 Recycled and mainly single use plastic will be pre-treated off-site and then used here to make zero sulphur road fuel which will in turn displace other fossil fuel derived road fuel use. There are no by-products as even the sulphur is collected and sold. It is important to realise that the feed material sought by the process is a paid for commodity and as such, there will be no stock-piling of any significant quantity.

After-care and After-Use

2.68 The development will establish modern portal frame buildings on the site surrounded by an existing but improved concrete hard stand. In the event of the process no longer being viable, the most likely eventuality, and the one that provides the most benefit to the public would be that the building would be re-used for a different industrial purpose – meaning other development of potentially less suitable sites would not be needed. Therefore, there is no plan or precedent to re-instate the land back to agriculture.

2.69 A baseline environmental condition report forms part of the Environmental Permit Application to vary an existing permit. The Applicant or operator of that permit has a legal duty to return the development site back to that baseline condition after use.

3.0 Local and National Planning Policy

3.1 Local Planning Policy Executive Summary

Adopted in October 2014, The Northamptonshire Minerals & Waste Local Plan is the land use strategy for minerals and waste related development that the NCC has committed to follow through to 2031 and forms part of the statutory development plan.

(NB .For the purposes of this application, policy that relates to mineral development is not relevant and therefore is ignored. The following section lists policy taken directly from the plan (in italics) then gives short answers as to why this application conforms with or enhances that plan.)

The Local Plan identifies what waste related development should go where, it considers impact design, sustainability and how it relates to the surrounding community and environment. It also acts as a driver for new investment and addresses any adverse effects. Finally, it lists specific site locations for waste related development.

Before the detail of the Plan is looked at it is worth stating that the development site is already permitted for waste management and is specifically included in the Local Plan at *5.72/3 Sites for Waste Management in a Rural Area* and is given the designation WS12 under Policy 17.

Policy 17: Sites for waste management use in rural areas

The following sites are allocated for waste management use:

WS11: Kilsby

WS12: Chelveston

WS13: Nassington - Kings Cliffe Regeneration Centre

- 3.1 Sites for waste management uses appropriate to a rural area are allocated through Policy 17. These sites were put forward through the plan-making process (including a change of a temporary facility to a permanent facility). Each site was individually assessed as to whether it was appropriate for a waste management use or for its temporary permission to be made permanent.
- 3.2 The capacity of the facilities coming forward at these locations cannot be fully calculated until planning applications relating to them are made and determined. It is estimated based on the typical facilities that could go on the identified sites that this would not be less than a combined total of 0.1 Mtpa.

Note:**The development seeks to process 0.075Mtpa which is broadly in-line with the Plan's estimate for a typical facility**

If it can be accepted therefore that the location for this development is appropriate for waste related development, then the main purpose of this section is to demonstrate how the specific development proposal fulfils the vision and objectives of the Local Plan.

- 3.3 In recent years Northampton has experienced a growth in the waste management industry. This has been beneficial to the development of a sustainable waste management network throughout the county and has greatly increased our operational capacity, particularly in relation to preliminary treatment, i.e. preparing for re-use and recycling. Although the county has made headway in this regards, there is still a need to continue to drive waste up the hierarchy, recognise waste as a resource and maximise recovery.

The development enhances the Plan because it creates a resource from waste, maximises recovery and moves it up the hierarchy.

- 3.4 Although classed as being in economic development, minerals and waste related development has a very limited role to play in addressing the structural issues highlighted above compared to other elements of planning and development, Waste development has the greater role of the two, particularly as new technologies for waste management come forward and the industry moves from being a predominantly, low value, low skilled sector into being a more balanced one. Waste management is a key part of the Environmental Technologies job sector, along with renewable energy, and this job sector is one that Northamptonshire's economic agencies consider should be supported to grow in the county, particularly in North Northamptonshire.

The proposal enhances the Plan as it represents Best Available Technique (BAT) in thermal treatment technology. It will provide 12 FTE skilled engineering jobs and creates renewable energy from waste to sustain itself.

- 3.5 The following indicative capacity gaps have been identified by the end of the plan period (2031):

- inert recycling 0.31 Mtpa, NOT RELEVANT TO THIS APPLICATION
- hazardous recycling 0.02 Mtpa, NOT RELEVANT TO THIS APPLICATION
- **advanced treatment 0.53 Mtpa,**
- **non-inert landfill 0.67-0.85 Mtpa,**
- inert landfill 0.14 Mtpa, and NOT RELEVANT TO THIS APPLICATION
- hazardous landfill 0.006-0.02 Mtpa. NOT RELEVANT TO THIS APPLICATION

The county is short of capacity for Advanced Treatment. This development enhances the Plan by providing a reduction to the gap of 0.075Mtpa or 14%. Looked at in a different way, it could also claim to remove up to 0.075Mtpa from non-inert landfill.

- 3.6 A range of different facilities of various types and sizes will be required to manage waste produced within Northamptonshire and ensure that waste is moved up the waste management hierarchy; maximising the recovery of resources. The indicative waste management and disposal capacity requirements suggest that there are opportunities for increased capacity for recycling of inert and hazardous wastes as well as advanced treatment and disposal to landfill of mixed (MSW, C&I and CD&E) and hazardous wastes at various stages during the plan period.

The development fits exactly with the vision of multiple technologies being used to move waste produced in Northamptonshire up the hierarchy.

- 3.7 The Local Plan recognises that waste management is becoming more specialised and is also a higher value industry than previously. It is not appropriate to oppose facilities serving wider catchments when other industries and commercial enterprises are not so constrained. However, in the wider interests of sustainability, it is not envisaged that Northamptonshire should take on a role as a key sub-national location for waste management or disposal facilities.

The development is located at the southern end of the Central Spine and seeks to use Commercial & Industrial Waste from within the immediate catchment area. According to the plan there is a capacity gap of 0.47Mtpa for Advanced Treatment prior to 2021. However it should not be prevented from sourcing material from cross-border or further afield.

- 3.8 National guidance states that Local Plans should identify, through all the allocation of sites, waste management capacity equivalent to at least ten years. In addition the Waste Framework directive also seeks the clear identification of allocated sites. This Local Plan therefore attempts, in the interest of flexibility and deliverability, to strike a balance between identifying allocations and also allowing non-allocated sites to come forward. Consequently the Local Plan seeks to secure delivery of the indicative capacity requirements on two ways: (1) identification of specific sites for waste management uses would be acceptable in principle; and (2) identification of locally specific policies on which the acceptability of proposals for waste-related development that come forward on non-allocated sites can be determined.

The local plan specifically allocates the site as being suitable for waste related development. It will help to plug the capacity gap between the current situation and that required by the plan for the future.

- 3.9 A sustainable waste management network requires both primary and advanced waste management facilities. This in turn should reflect both the catchment area and functional role. These should also go to locations where investment can be optimized and sustainable development can occur. More significant facilities for waste management should also seek to create higher value waste management related jobs at the respective facility. The key driver for the location of these facilities will be their relationship to what this Local Plan defines as Northamptonshire's local spine.

This development is a good example of advanced waste management facility although it is smaller in scale in terms of the definitions in the Plan. It neatly reflects the catchment area by drawing its raw material directly from the surrounding south Northamptonshire, north Bedfordshire area. It is fully sustainable as it creates renewable energy and is energy self sufficient and it vastly reduces either the diesel miles that waste of this type uses up or saves it from landfill.

- 3.10 Northamptonshire's waste management network will be developed to incorporate a centralized distribution of advanced treatment facilities supported by a network of local and neighborhood preliminary treatment facilities. These facilities should be co-located together and with other forms of complimentary development where appropriate, for example commercial, industrial or residential development. In interpreting the spatial strategy for waste management reference should be made to the local hierarchy, catchment areas and functional roles in relation to facilities.

Electricity not used by the plant will be used by existing neighboring businesses. It is a good example of co-location as some of the other businesses are also waste management businesses.

- 3.11 Proposals must also demonstrate a specific need for the facility, specifically addressing the intended functional role and catchment area. All proposals should identify both the intended functional role and catchment area of the facilities included in the proposed development. Allocations for sites for integrated waste management facilities, waste management use in or adjacent to urban areas would be expected to have a catchment area greater than that of 'neighborhood'.

The case for need has been established on the site for decades. Initially there was a need for the Shoe making industry to have somewhere to take its waste in order to recover some of that waste as a product to be reused by itself. The development continues this circular economy. Waste created in a local catchment area is reduced in volume and turned into a product that will be used in energy recovery also within the catchment area. The end users currently import material through the county and this will also be reduced. The waste itself is currently either landfilled or sent as fuel to Europe. The need for this development is beyond doubt.

3.12 The intended functional role of facilities should be considered within the broader context of creating a sustainable waste management network within Northamptonshire. The intended functional role and contribution that the development makes towards the waste management capacity requirements should be clearly set out in the proposal. Proposals should also demonstrate that there is a clearly identified market base for the waste outputs, and that the intended catchment area for the facility is in general conformity with the principle of managing waste close to its source. In this regard the operation of the facility should minimize transportation of waste from its source, and collect and recover waste in the most efficient way possible. Specifically regarding advanced treatment facilities, proposals must ensure that waste has undergone preliminary treatment prior to advanced treatment.

The development benefits from an infeed and off-take agreement Letter of intent which although commercially sensitive and not therefore disclosed within this Application clearly demonstrates the local market for the end product. Indeed the Applicant intends to use the development to lobby the Environment Agency in order to establish end of life use status for the pellets and thereby take them out of the waste category altogether. (this has been successful in the Netherlands where pellets made from RDF using the same equipment have since 2010 been no longer considered a waste.)

3.13 The development of non-inert waste management facilities should maximize the use of previously developed (brownfield), despoiled or redundant sites. Proposals for non-inert waste management facilities on greenfield or previously undeveloped sites will be required to demonstrate a need for the facility at that specific location.

The site is a previously consented waste management site at a brownfield location

3.14 Catchment areas are to be defined against the following criteria;

National

- Waste to be managed on site originates from within England or an equivalent geographical area within Great Britain.
- The facility is of a specialized nature specifically relating to the waste to be managed or the nature of the process involved; on the basis of its specialized role the facility is one of the very few of its type nationally (or identified area).
- Waste to be managed does not include untreated /unsorted MSW, CD & E or green waste.
- The facility supports the waste hierarchy and is not for the disposal of waste, unless disposal forms the last available option.

Regional

- Waste to be managed on site originates from within the East Midlands or an equivalent geographical area.
- The facility is of a specialized nature specifically relating to the waste to be managed or the nature of the process involved; on the basis of its specialized role the facility is one of only one or two within the region (or identified area).
- Waste to be managed does not include untreated/unsorted MSW, CD & E or green waste.
- The facility supports the waste hierarchy and is not up for the disposal of waste, unless disposal forms the last available option.

Sub-regional

- Waste to be managed on site originates from within Northamptonshire or an equivalent geographical area.
- May include a wide variety of waste types including MSW, CD & E and green waste.
- The facility supports the waste hierarchy and is not for the disposal of waste, unless this is the last available option.

Local

- Waste to be managed on site originates from within up to two local adjacent planning authority areas or an equivalent geographical area.
- The facility is intended to serve either an urban area and its immediate rural hinterland, or be located in a rural area for the purpose of dealing with agricultural and/or similar wastes produced locally.
- The facility should be for preliminary treatment, however in certain circumstances may be for advanced treatment.
- The facility supports the waste hierarchy and is not for the disposal of waste.

The development conforms to all of these requirements but should not be considered as a local facility.

3.15 Northamptonshire's landscape has been largely altered by the actions of man; this has in turn led to locally-distinctive landscapes and features that are part of our cultural heritage. It is important to protect the country's landscapes for the sake of their intrinsic character and beauty, the diversity of wildlife, as well as the wealth of their natural resources. Once lost such features can be difficult to re-create.

The attached ecology study coupled with the small scale of this development shows conformity with NCC's stated aims for a waste facility

3.16 Waste management facilities involving advanced treatment often include some form of emission stack (chimney) and increasingly feature the use of lighting for the joint purpose of security and visual interest, and may include the use of reflective surfaces as a design feature. This is particularly important in Northamptonshire given the presence of military flight paths and a large number of migratory birds. The presence of tall structures (particularly when involving atmospheric emissions) or reflective surfaces under flight paths may represent air safety risks. Proposals for development surrounding areas known to be of importance for migratory bird species (e.g. the Upper Nene Valley Gravel Pits SPA and associated habitats) should also consider the potential for building bird strike resulting from tall structures and reflective surfaces. It is therefore important to highlight the need for consideration of such matters during the formative stages of proposal research and design.

The development includes a 35m stack. It will be painted in a light blue colour. Although it needs to include a lightning conductor, it will not require any warning light or reflective paneling. There is no risk to migratory birds from this development. It stands in the shadow of several significantly higher constructions being the wind turbines at Chelveston Airbase.

3.17 Restoration should maximize public and environmental benefit, but it's after-use should be determined in relation to its land use context and surrounding environmental character. Public benefit could include uses that benefit the local community, whilst environmental benefit could include habitat creation that meets Northamptonshire BAP priorities. A wider scope of restoration, rather than a simple re-instatement to the previous use, allows for consideration of both local circumstance and broader linkages and can support the integration of investment priorities in line with spatial planning principles.

As the development site is brownfield it is unlikely that after-use will allow community involvement and the public benefit will best be served by re-use of the building as an industrial unit of some sort, thereby reducing the pressure to develop other more sensitive greenfield sites.

3.18 Planning obligations can be used not only to mitigate the effects of development, they can also bring tangible and more subtle benefits to the local community, including the:

- provision of waste awareness and publicity campaigns for the local community and/or the introduction of local waste minimization projects, and
- enhancement of local community facilities.

It is the intention of the Applicant to use the development for organized educational visits although it would not expect these to be an obligation of planning consent.

3.19 The County Council, as the MWPA, will therefore seek to meet the Local Plan objectives through its own actions such as:

- Waste management activities – for example, encouraging behavioural change, through the preparation of the JMWMS and procurement of waste management services (contracts).
- Corporate Behaviour – for example, through the procurement of materials and goods which in their production have sought to minimize waste, made efficient use of materials that are used, encouraged the use of recycled materials and used local materials.
- Its development and construction activities – for example, in the construction and operation of County council owned new schools and community facilities.
- Implementation of other plans and strategies – for example, the Local Transport Plan.

3.20 The development entirely compliments the Chelveston-cum-Caldecott Neighbourhood Development Plan in terms of its vision, objectives, strategy and actual policies. The main reason for this is that the site is located precisely within the boundary of its Policy EC1d – land use allocated for B1, B2, B8 uses including heavy haulage. Although the proposed building height is higher than the current structures, this is necessary in order to completely house the processes within them and the buildings are of a form and design appropriate to the location. Visual impact will be mitigated as much as possible (See Section 2). It could be argued that the current structures are themselves visually unattractive having been subject to fire damage several years ago. The overall look of the site will be much improved as the site will be cleared of all the current tyre detritus and there will be no external storage of any material going forward. The land was previously developed and there will be no encroachment on the neighbouring fields or the spinney. No additional traffic other than that already permitted will travel through Chelston Rise or Caldecott and it will instead use the Upper Higham Lane back to the main road network. There will be a reduction in noise levels compared to the existing rubber recycling facility and there will be no other environmental nuisance created. Additional vehicles parking requirements are all accommodated within the development. The NDP also seeks to encourage sensible renewable energy development. Whilst the NPD could not have envisaged the specific technology or process being proposed by the applicant, it is worth noting that this development will become an important local and national contributor to the reduction of fossil fuel used as vehicle fuel as well as reducing the amount of plastics being sent to land-fill or exported for incineration.

The development demonstrates excellence in waste treatment practice. The Applicant welcomes inclusion in any external local or national initiative to spread the potential for this kind of best practice.

General Summary: This application will improve or maintain the amenities of nearby land users as it will maintain air-quality and noise levels, and will reduce visual impact by installing the new building in the place of the current dereliction.

The installation of this plant complies with the Landfill Directive (99/31/EEC) in reductions to waste going to landfill and by using RDF to fuel the plant lowers the amount of waste being exported to other European energy recovery plants. Overall lorry miles will be reduced.

The development takes place within the boundaries of an existing industrial facility alongside other complimentary industrial development that is located in Northamptonshire's central spine, described as a 'key driver' above. The site would be an improvement on visual impact, with the possible exception of a 35m chimney stack, but are several 120m wind turbine within view of the site (1.5 km). The nearest residential receptor is owned by the landlord and there are no other receptors within 0.5 miles. There will be no additional noise, smell or other nuisance caused by the development. Stack height has been modelled to fully disperse any emission. The prevailing wind direction means that the nearest residential receptor in its direction is over 0.675m away, more than adequate distance to allow for the full dispersion of any stack emission. The equipment being deployed complies with Emission legislation which is significantly lower than Clear Air Act 1993 standards. It is designed to surpass the expectation of the Environment Permit ELVs. (see 1.9)

The development can be shown not to have any adverse effect upon these or any other properties.

There is no material effect on traffic to the site.

A maximum of 0.06Mta tonnes of liquid road-fuel will be created for export from the site. This will be taken offsite to be used elsewhere in the region. The development is on a purpose built B2 industrial complex with existing highway splay. There is no effect on any aviation, military or defence installation.

The development site may offer some potential for future expansion (subject to additional consent) and therefore increased capacity in the medium to long term, processing more feedstock and offering more sustainability and further reducing the Local Plan capacity gap.

In addition to the answers already given, the proposal demonstrates that appropriate operational requirements are capable of being satisfied at this site (including accessibility and suitability of the road network, ability to connect to the grid and the proximity of the feedstock) and that appropriate measures are in place for after-use. Traffic, Dust, Noise, Smell or any other pollution will be unaffected by the development and monitored and regulated by a strict Environment Permit.

3.2 National Planning Policy

This Planning Support Statement will allow the planning merits of the application to be assessed in accordance with these sections on Achieving Sustainable Development from the National Planning Policy Framework March 2012:

- 1 Building a Strong, competitive Economy
- 3 Supporting a Prosperous Rural Economy
- 8 Promoting Healthy Communities
- 9 Protecting Green Belt Land
- 10 Meeting of Climate Change
- 11 Conserving and Enhancing the Natural Environment
- 13 Facilitating the Sustainable Use of Minerals

The application may also be examined in accordance with:

- Renewable Energy Strategy 2009
- Energy White Paper 2007

Renewable Energy Strategy 2009

The Renewable Energy Strategy of 2009 recognised that biomass will have an important role to play in generating renewable electricity and heat. The Strategy sought to 'ramp up' the supply and use of biomass for heat and power, whilst ensuring sustainability and protecting the environment.

The Strategy also confirmed that the end date for the Renewables Obligation would be extended (this is now 2035) to encourage greater investment and remove the cap on renewable energy generation in the UK, which then sat at 20%. Renewable energy generation using waste qualifies under the Renewables Obligation Order.

The fact that this development comprises a Small Waste Incinerator Plant means that it will generate renewable heat for the factory and in the future the possibility is that it will generate electricity for the site and export the balance to the National Grid and contribute towards the Government's carbon reduction obligations and renewable energy targets.

Energy White Papers 2007 (note – This pre-dates RHI)

The paper recognised the progress made within the UK for biomass derived energy production but also that it still lagged some way behind that of many European countries. The Government has set national targets for electricity generated from renewable sources and expects 10% of total electricity generation by 2010, 15% by 2015 and 20% by 2020.

The Government recognised the importance of recovering energy from biomass and stated that such facilities should be sized and contracts sensitively designed in accordance with the local availability of fuel. The use of biomass as a fuel can produce benefits best exploited where energy from biomass plant is designed as a Combined Heat and Power (CHP) system. To meet the Government's targets on renewable energy generation, power generation processes such as energy from biomass must be considered. The Energy White Paper 2007 indicated that the Government would be looking to work with regional and local planning bodies to deliver its objectives, including establishing regional targets for renewable energy generation.

Achieving Sustainable Development

Sustainable development is the core principle underpinning planning. At the heart of sustainable development is the simple idea of ensuring a better quality of life for everyone, now and for future generations. A widely used definition was drawn up by the World Commission on Environment and Development in 1987:

“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

The following key principles are identified in the framework and should be applied by planning authorities to ensure that development plans and decisions taken on planning applications contribute to the delivery of sustainable development:

- Development plans should ensure that sustainable development is pursued in an integrated manner, in line with the principles for sustainable development set out in the UK strategy. Regional planning bodies and local planning authorities should ensure that development plans promote outcomes in which environmental, economic and social objectives are achieved together over time.
- Regional planning bodies and local planning authorities should ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change — through policies which reduce energy use, reduce emissions, promote the development of renewable energy resources, and take climate change impacts into account in the location and design of development.

1 Building a Strong Competitive Economy

This standard voices an optimistic approach to green lighting development. Paragraph 18 stipulates that the planning system should operate on the basis that applications for development should be allowed, having regard to the development plan and all material considerations, unless the proposed development would cause demonstrable harm to interests of acknowledged importance. It goes on to say that development control should not place unjustifiable obstacles in the way of development which is necessary to provide homes, investment and jobs, or to meet wider national or international objectives.

In an increasingly competitive and knowledge-driven global economy, the planning system is a key lever the Government has to contribute towards improving productivity and the UK's long-term economic performance. It is the responsibility of the regional planning bodies and local planning authorities to determine how best to plan for economic development, in the context of their responsibilities and taking account of their particular local circumstances.

3 Supporting a Prosperous Rural Economy

This section focuses on making sure that planning decisions work towards enhancing employment within any given community directly or indirectly. It is clear that an application to build a development that is certainly categorised as sustainable that replaces an existing development that is certainly categorised as not sustainable is in line with this directive. Energy centres are prime examples of departments which will teach connected employees skills which are highly desirable to commercial and industrial employers.

8 Promoting Healthy Communities

The first point raised in this section refers to the inclusive community interaction brought about by planning applications such as this one. This wider discussion, as well as being a chance for locals to express opinions for concern or suggestions for amelioration, is an opportunity to educate those thus far passive towards the benefits that development and especially green energy development can bring.

Biomass energy centres are an 'in' point for electricity generation for local areas and some schemes provide possibilities for district heating. Industrial development feeds residential development, which feeds commercial development which is in turn supported by industrial development.

9 Protecting Green Belt Land

Energy centres are generally built in urbanised areas in order to benefit from the grid connectivity for heat and power. They are normally exempt from any restrictions on perceived harmful emissions since pollutants are successfully abated. Where possible, the centres are built on disused private land and will adhere to the guidelines set out in paragraphs 84 and 85. Green belt village communities are not to use this status in combination with any conservation area status they might have such as being in part of an area of outstanding natural beauty or a heritage site.

Paragraph 89 excludes new energy centres on previously used land from being inappropriate for the green belt by saying “the replacement of a building...not materially larger than the one it replaces” and “redevelopment of...brownfield land” are exceptions to this suggestion.

10 Meeting of Climate Change

The planning system needs to deliver economic development in a way which is sensitive to the challenges of climate change. Businesses which are able to respond rapidly to environmental challenges by adopting new technologies such as low-carbon innovation may also be able to improve their competitiveness in the global marketplace. Economic development can also help to deliver environmental and social benefits.

11 Conserving and Enhancing the Natural Environment

The overall aim of planning and pollution control policy is to ensure the sustainable and beneficial use of land (and in particular encouraging reuse of previously developed land in preference to Greenfield sites). It states:

Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the release of substances to the environment from different sources to the lowest practicable level. It also ensures that ambient air and water quality meet standards that guard against impacts to the environment and human health. The planning system controls the development and use of land in the public interest. It plays an important role in determining the location of development which may give rise to pollution, either directly or from traffic generated, and in ensuring that other developments are, as far as possible, not affected by major existing, or potential sources of pollution. The planning system should focus on whether the development itself is an acceptable use of the land, and the impacts of those uses, rather than the control of processes or emissions themselves.

Planning Authorities should work on the assumption that the relevant pollution control regime will be properly applied and enforced. They should act to complement but not seek to duplicate it. Besides financial benefits, biomass energy centres carry with them the peace of mind of having reduced emissions compared to fossil fuels and fewer maintenance trips being required for new tech; also there is typically reduced traffic flow due to proximal fuel sources.

The impact of noise can be a material consideration in the determination of planning applications. The planning system has the task of guiding development to the most appropriate locations. The planning guidance identifies a number of key measures that can be introduced to control the source of, or limit exposure to, noise.

Engineering: reduction of noise at point of generation (e.g. by using quiet machines and/or quiet methods of working); containment of noise generated (e.g. by insulating buildings which house machinery and/or providing purpose-built barriers around the site); and protection of surrounding noise-sensitive buildings (e.g. by improving sound insulation in these buildings and/or screening them by purpose-built barriers); Layout: adequate distance between source and noise-sensitive building or areas; screening by natural barriers of other buildings.

13 Facilitating the Sustainable Use of Minerals

This is the revised statement for renewable energy in England and provides a clear framework of objectives and issues to be considered by regional and local planning authorities across the range of renewable energy technologies. It understands the importance of renewable energy development in delivering the Government's commitment on both climate change and energy generation from renewables. Positive planning which facilitates renewable energy development can contribute to all four of the elements of the Government's sustainable development strategy, these being; social progress, effective protection of the environment, prudent uses of natural resources and maintenance of high and stable levels of economic growth and employment.

This section states that regional planning bodies and local planning authorities should adhere to the following key principles to planning for renewable energy:

- 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.
- Regional spatial strategies and local development documents should contain policies designed to promote and encourage, rather than restrict, the development of renewable energy resources. Regional planning bodies and local planning authorities should recognise the full range of renewable energy sources, their differing characteristics, locational requirements and the potential for exploiting them subject to appropriate environmental safeguards. '
- At the local level, planning authorities should set out the criteria that will be applied in assessing applications for planning permission for renewable energy projects. Planning policies that rule out or place constraints on the development of all, or specific types, of renewable energy technologies should not be included in regional spatial strategies or local development documents without sufficient reasoned justification.
- The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals shall be granted planning permission.
- Regional planning bodies and local planning authorities should not make assumptions about the technical and commercial feasibility of renewable energy projects. Small scale projects can provide a limited but valuable contribution to overall outputs of renewable energy and to meeting energy needs both locally and nationally. Planning authorities should not therefore reject planning permission simply because the level of output is small.

For biomass or waste projects, the need to transport feedstock to the production plant does have the potential to lead to increases in traffic. LPAs should make sure that the effects of such increases are minimised by ensuring that generation plants are located in as close proximity to the sources of fuel that have been identified.

But in determining planning applications, planning authorities should recognise that there are other considerations (such as connection to the National Grid and the potential to use heat generated from the project) which may influence the most suitable locations for such projects. However, the simultaneous or indeed asynchronous application for more than one energy project within the same area from more than one party does not require the local authority to reject one or both of the proposals. These facilities do not compete with each other for feedstock and do not compete to provide heating or power in district schemes but are able to work in tandem to reduce the end users' costs for heat and/or electricity.

4.0 Summary and Conclusions

- 4.1 The proposal fully accords with European and National guidance on the use of renewable fuel to replace fossil fuel derived energy.
- 4.2 The proposal fully accords with National, Regional and Local planning guidance on energy production, industrial development and sustainability. The proposal will assist NCC to meet capacity gaps identified in the Local Plan.
- 4.3 The development will have no adverse impact on the local environment, health, amenity, highways or landscape.
- 4.4 The current traffic count will be reduced by 9850 vehicle movements
- 4.5 The current noise levels created by outside working at the site will cease as all manufacturing process will take place inside a dedicated building
- 4.6 Operations will be strictly controlled and monitored under an Environmental Permit from the Environment Agency and a waste management license from the Environment Agency.
- 4.7 The Plastics Recycling Facility will serve as an exemplar for the local area creating 12 FTE skilled jobs not including management.
- 4.8 The feedstock used will be sourced where possible from treated local waste arisings and hauled by local hauliers securing at least four other rural jobs.
- 4.9 The Applicant is agreeable to any reasonable Planning Conditions which should serve to mitigate any potential issue.

Appendices 1,2,3,5,8,11 and 12 are lodged as separate documents on the Planning Portal at PP-06666468

Appendix 4

Environmental Designation

The area is shown as having no SSSI's other than Yeldon Meadows.

Finedon Top Lodge Quarry Site of Special Scientific Interest (SSSI) and Upper Nene Valley Gravel Pits SSSI, SPA and Ramsar are outside the relevant area

Yeldon Meadows

National Grid Reference: TL 010674

Description: Neutral grassland occurring on clay. *Alepocurus-Sanguisorba* is local to the midlands and southern parts of England.

The development poses a very low risk to this SSSI.

Appendix 6

Surface Water Proposal

(See Document)

Appendix 9

Flood Risk Statement

- 1 The development site is made up of land previously developed for industrial purposes. It is situated at 90m above sea level on a slight falling slope to the north. It contains an upper and a lower elevation with the difference between the two being 1.4m. This produces natural fall into an existing site drainage system built by the Air Ministry in the 1940s.
- 2 The wider site has been permanently occupied since the 1940s. The current landlord has been in occupation since 2002 when that company took over an existing manufacturing plant on the site. There is no record of site flooding in living memory.
- 3 Although the site is nearer to the River Til topography ensures that the site drains lead storm water via a system of culverts and field ditches past Caldecott and Chelveston villages towards the River Nene where it flows into Stanwick Lakes at a distance of 4 miles following the water course.
- 4 The site sits some 60m above the flood plain of the River Nene. Investigation of the Environment Agency Flood Risk web mapping tool for relevant risk profiles reveals:
 - Risk of Flooding from Rivers and Seas – Less than very low risk
 - Risk of Flooding from Surface Water – Very low risk
 - Risk of Flooding from Reservoirs – No risk
- 5 On the basis of the desk-top and site based study undertaken overall flood risk for the site would be reduced from an already very low or no risk basis following development due to the flood mitigation measures that form part of the development plan (See separate Appendix)

Appendix 10

Noise Statement

A full Noise Impact Assessment to BS4142 Standard has taken place within the past few weeks. The report is filed as an appendix

- 1 The report concludes that there will be no increase in noise to any nearby receptor from the development.

END OF PSS/DESIGN & ACCESS STATEMENT FOR NN10 OSU © Dallol Energy Ltd April 2018