Project No: 315160

**Non-Technical Summary**

Prepared for:

**Envar Composting Ltd**

Cheffins

The Heath

Woodhurst

Huntingdon

Cambridgeshire

PE28 3BS

**Contents Amendment Record**

This report has been issued and amended as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Revision** | **Description** | **Date** | **Author** | **Reviewer** | **Approver** |
| 0.1 | Draft for internal review | 23/10/2024 | GK |  |  |
| 1.0 | Final version for submission | 25/10/2024 | GK | RH | RH |
| 2.0 | Updated with addition of wash plant | 02/04/25 | GB |  |  |

Executive Summary

This application seeks to update the current permit to enable the continued efficient use of the facilities for approved uses and to serve a community need in the treatment of biological materials, to add two activities related to current activities and to modify some of the existing activities. In short the application seeks to:

* Add the activity of bio-drying to produce a fuel, this will occur using current infrastructure and abatement systems with no physical changes to the process or emission points
* Variation of transfer operation to include bail storage related to the physical treatment operation and the waste code 19 12 10
* Add waste code to the transfer operation as part of variation to allow the acceptance and treatment of screenings 19 08 01
* Add associated activity of a wash plant related to the physical treatment operation
* Alter two permitted EWC code clauses associated with the currently permitted operations and biodrying, namely 19 02 06 for AR1/bio drying application
* Extend the site boundary to cover the operators entire land holding, albeit only part of the land will be used for waste activities as shown

There are also some technical adjustments and corrections which the operator seeks to make for the purposes of clarity in permitting. These are in brief:

* Amend the wording included in Table S1.1 activities, AR5a to more accurately reflect the reality of the onsite operation. Please see section 5.1
* Amend composting tonnages to reflect the site operation more accurately please see section 5.2 reference AR3 and S2.6
* Amend site capacities to reflect actual capacity throughputs linked to the overall site capacity hard stop limit
* Amend description on 03 03 10 regards AR1 and AR3 – see paper sludge justification

The charges related to these changes have been worked out in the document titled “application summary and contents”

An enhanced pre-application application was undertaken with representatives from the Environment Agency (EA) on the following dates;

* Written representations by emails on 10/04/24, 12/04/24 and 15/04/24.
* MS Teams meeting on 15/05/24.

Notes from these discussions have been included throughout the non-technical summary.

Enough information is provided about likely significant effects such that the nature of the effect can be understood, and this is explained in clear, non-technical language. It does not merely state there will be a significant effect on a particular receptor without explaining what that effect would be.

These changes are mainly technical in nature for the addition of a new activity of biodrying, the actual site infrastructure, the abatement systems, the operational plans and monitoring requirements essentially stay as they are and as they are currently permitted and operating. As the site is designed and built to undertake these processes. Notwithstanding, we have sought to provide up to date documents to evidence compliance with our regulatory and voluntary duties.

This overarching document will describe the operation in layman’s terms to give as accurate picture of the site as possible. It should be viewed as an introduction to the site, its environs and its activities, existing and proposed, to give as thorough an understanding of the site as possible prior to the technical determination.

This application comprises the following:

* Application forms;
* Part A
* Part C2
* Part C3
* Part F
* List of Directors
* Technical competence details
* Non-Technical Summary;
* Proposed changes document, this will include
  + Appropriate Measures (please note this will not be a full assessment, but will be limited to the elements affected by the proposed changes)
  + Additional wastes list
  + Risk assessment (please note this will not be a full assessment, but will be limited to the elements affected by the proposed changes)
* Environmental Risk Assessment (inclusive of Habitats Risk Assessment);
* An updated Environment Management System (EMS) summary.
* An updated Dust and Emissions Management System
* An update Odour Management Plan
* An updated Fire Prevention Plan
* A Site Specific Bioaerosol Assessment
* Updated site and drainage plans
* Updated standard operating procedures including waste acceptance, storage and treatment procedures
* Waste pre acceptance and acceptance procedures (management system procedures)
* BAT assessment including sector specific information for biowaste

These documents demonstrate that these minor changes to operations at the facility will not pose an adverse risk to the environment. The site will be operated in accordance with an Environmental Management System (EMS), and comprehensive management procedure is in place to ensure that any risks are managed.

* Site boundary plan
* Updated site layout
* Updated Site Condition Report

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# Introduction

## The operator

Envar Composting[[1]](#footnote-1) operates eight Open Windrow Composting (OWC) and In Vessel Composting (IVC)[[2]](#footnote-2) sites across the Southeast and Midlands areas of England with the main input materials being green waste at OWC sites and co-mingled food and green waste at IVC sites. The main customers for the business are local authorities.

Envar is owned and operated by the Heathcote Holdings group of companies. Heathcote Holdings is a British, family owned and operated company operating in the waste, agricultural, horticultural, plant hire and ecological remediation sectors.

The Envar management team consist of seasoned and experienced waste operators who have been operating waste installations for many years. Technical competence is held throughout the management structure from supervisor to director level the business is accredited to ISO 9001 and 14001 through LRQA which is UKAS accredited.

## The site

The Envar site was originally owned by Hemsby Composts Ltd and operated by the Hemsby family. The composting operation started in 1965 after the Hemsby family purchased the site from a local farmer.

In April 2003, the site, still operating as Hemsby Composts Ltd, gained a Waste Management Licence (EAWML 75098) to compost waste under the Environmental Permitting (England and Wales) Regulations 2016 (as amended)[[3]](#footnote-3). In February 2006, a licence was granted under the Animal By-Products (Enforcement) (England) Regulations 2013 (ABPR)[[4]](#footnote-4) to compost meat included catering waste.

The first operational IVC tunnels in the UK were constructed at this time and known as G1 and G2. Further construction of the 200-tonne tunnels known as “G3-6”. Tunnels G7-11 were built in 2012/13 with state-of-the-art emission control technology including a stainless steel in-line scrubber, gas monitoring equipment, automatic SCADA (Supervisory Control and Data Acquisition), and aerated concrete floors.

In April 2016, ADAS Group sold Envar to FGS Organics Limited. Between 2017 and 2024, the site has been under a continual process of modernisation and upgrading. The operator carried out improvements in response to the site’s Environmental Permit the Regulation 61 update and is now compliant with relevant BAT requirements. Envar have invested in infrastructure, improvement, repair and full refurbishment of previously derelict buildings along with investment in the onsite mobile machinery including the purchase of seven new JCB wheeled loaders two Komatsu super large loaders, repairs to the fencing, site surface, laboratory, welfare, and emergency infrastructure.

The facility is currently permitted to treat up to 200,000 tonnes per annum.

The operator is now seeking to secure the future of the site through continued investment in new technology and infrastructure. The required changes to the permit will now take place in a series of phases.

# Site Setting

## Location

Envar Composting Facility operated by Envar Composting Limited, is located in Woodhurst, Cambridgeshire centred on National Grid Reference TL 3361 75401.

A map with red circle and blue circles

Description automatically generated

Figure 2‑1: General site area in relation to Sites of Special Scientific Interest and Source Protection Zones

## Nature and heritage conservation

The nature and heritage conservation sites, protected species and habitats, and other features identified in the table below are considered in the application.

### Sensitive environmental receptors

There are no Sites of Special Scientific Interest (SSSIs) within 2 kilometres, or Special Protection Areas (SPAs), Special Areas for Conservation (SACs) or Ramsar Sites within 10 kilometres of the installation boundary.

### Sites of Special Scientific Interest (SSSI)

The Ouse Washes lie between The Hundred Foot/New Bedford River to the south-east and the Old Bedford River/Counter Drain to the north-west. These rivers fall within the boundary of the Site of Special Scientific Interest. The Old Bedford River in particular is of national nature conservation importance in its own right.

Table 2‑1: Nature and heritage conservation sites within 10km

|  |  |  |
| --- | --- | --- |
| Sites and features within distance | Designation | Distance (km) |
| Hemingford Grey Meadow | Site of Special Scientific Interest (SSSI) | 6.4 |
| Great Stukeley Railway Cutting | Site of Special Scientific Interest (SSSI) | 7.8 |
| Berry Fen | Site of Special Scientific Interest (SSSI) | 7.5 |
| Warboys and Wistow Woods | Site of Special Scientific Interest (SSSI) | 10.9 |
| Warboys Claypit | Site of Special Scientific Interest (SSSI) | 10.9 |
| Houghton Meadows | Site of Special Scientific Interest (SSSI) | 5.6 |
| Godmanchester Eastside Common | Site of Special Scientific Interest (SSSI) | 8.2 |
| Ouse Washes | Site of Special Scientific Interest (SSSI) | 17 |
| Ouse Washes | Special Areas of Conservation (SAC) | 10 |
| Ouse Washes | Special Protection Area (SPA) | 10 |
| Ouse Washes | Ramsar | 10 |
| St Ives-March Disused Railway (The Parks South) | Local Wildlife Site (LWS) | 2 |
| Heath Fruit Farm | Local Wildlife Site (LWS) | 2 |
| Lawn Orchard | Local Wildlife Site (LWS) | 2 |
| Holywell Front Pollard Willows | Local Wildlife Site (LWS) | 2 |
| River Great Ouse | Local Wildlife Site (LWS) | 2 |
| Fen Drayton Gravel Pits | Local Wildlife Site (LWS) | 2 |
| Meadow Lane Gravel Pits | Local Wildlife Site (LWS) | 2 |

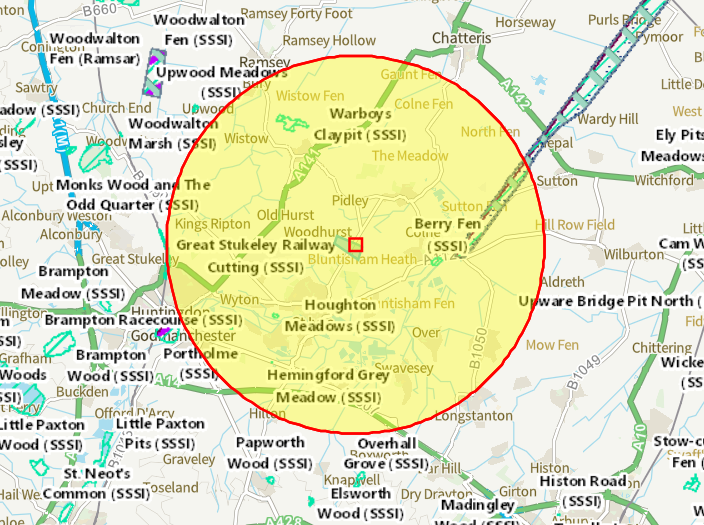


Figure 2‑2: Nature and heritage conservation sites within 10km

# Currently Permitted Activities

The current permit authorises the following activities,

* Composting non-PAS compliant materials in closed reactors
* Composting non-PAS compliant materials in open windrow
* Production of CLO from MSW fines in closed reactors
* Composting of Category 3 co-mingled food and green waste to produce PAS100 compost (IVC followed by open windrow)
* Composting in open windrows to produce PAS100 compost
* Compost leachate treatment
* Waste transfer with treatment
* Drying of waste/heat treatment for recovery

# Proposed Changes

### Biodrying/composting for the purposes of making a fuel

The operator seeks to undertake composting for the purposes of making a fuel (Biodrying) this is proposed be transferred off site under EWC code 19 05 03 (off-specification compost). The waste codes that will be incorporated into this process are included in Appendix B. The aim of this process is to accept sludges from wastewater treatment namely, raw sludge and non-compliant biosolids and provide a recovery solution for this waste stream. This will be carried out by blending the material with other organic waste streams for the purposes of adding structure to allow for effective drying and stabilisation and composting the material using the IVC tunnel process. The purpose of the blending is to prepare the materials to effectively dry within the closed vessel by allowing effective airflow. The material, once it meets an agreed specification can then be transferred offsite for use as fuel. Further details around processing on site can be found in Appendix C.

### RDF bale storage

Refuse Derived Fuel (RDF) shall be stored in the marked area on the site plan in line with Environment Agency storage requirements. The materials are produced in the transfer operation from the bailing of the appropriate material followed by wrapping. Baling transfer station waste allows Envar to maximise transport efficiency by using all available tonnage per load and reduces the potential environmental impact of handling loose waste such as litter, dust, noise and odour emissions and storage space is required for operational efficiency. The RDF bales are proposed to be stored outside pending collection. Bails may also be accepted on site pre made in order to manage supply and shutdown issues; the bails will be taken in unloaded and temporarily stored pending future collection.

Litter, dust and odour potential of baled and wrapped wastes is reduced as the waste is secured into a solidly wrapped block which is sealed from the elements. The packaging of the material minimises external interaction and provides therefore a better handling solution.

Noise is also reduced as the plant and equipment used to handle bales instead of loose waste is by its nature smaller and without buckets which scrape or bang on the ground, a bale “clamp”, similar to the one illustrated below, is the most common piece of equipment used for the movement of bales which does not involve contact with the floor and therefore reduces noise emissions and potential for dust from wear.



Figure 5‑1: RDF bale being loaded using bale clamp

The bales shall be stored in line with the pile size limitations as given in the EA FPP guidance, listed in section 9.2 of the guidance, copied below for convenience.

A table with black text and white text

Description automatically generated

The bales shall be stacked in an interlocking pyramid with the required separation distances as per the FPP guidance, as shown below. Fire tests undertaken on behalf of the WISH (Waste Industry Safety and

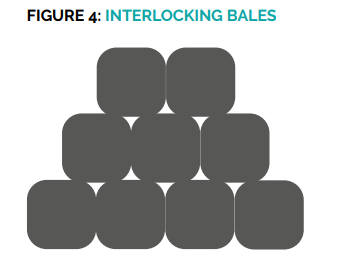
Health) Forum found that interlocking bales reduced how quickly a fire spread and also reduced the maximum burn temperatures obtained as flame vortexes were not able to form in the same way as in column-stacked bales.

Figure 5‑2: Interlocked RDF bale stacking arrangement

Bails shall be wrapped a minimum of two times per bail. Further information may be found in the management system summary.

### Screening/storage of sewage rag/screenings

Tonnage expected would be within the transfer and treatment tonnage capacity. It would be covered by the waste transfer and treatment part of the FPP. The treatment would only be carried out within a building and would be physical treatment only which is currently permitted. No biological treatment of this material would be undertaken at the site. The material would be prepared for energy recovery after recyclate is removed. The machinery used exists on the site already and is in current operation for other activities.

### Wash Plant

Enhanced pre -application advice has been previously sought by Envar Composting Ltd (EPR/GP3930DF/P002). Grit washing of non-hazardous grits from AD plants, from WWTP’s and from non-hazardous road sweepings was discussed during this enhanced pre-application advice request. Envar operates transfer activities for road sweepings at nearby sites and proposes to build a wash plant to enable the physical treatment of these sweepings and grits. Details of the wash plant can be found in the associated addendum NTS and documentation in the SharePoint folder.

# Minor Technical Amendments

Within the current permit there exists some minor technical issues which require to be resolved and confirmed within a replacement. These amendments are listed and detailed as follows:

## Composting of materials to make PAS100 compliant compost

The activity reference in the current permit under AR1 states the creation of PAS100 compost and that table 2.2 is comprised of a list of acceptable wastes for this process, however, table S2.2 contains unsuitable codes under the Compost Quality Protocol (CQP) and the very soon to be released resource frameworks.

The codes listed unsuitable for composting for PAS, are suitable for creating a deployable compost and are an approved treatment method under BAS but may cause slight confusion if left unclarified.

The operator wishes to amend the wording included in Table S1.1 activities, AR5a to more accurately reflect the reality of the onsite operation. the description currently reads “post-treatment of processed compost in a semi-enclosed building and on an impermeable surface including screening to remove contraries.” This should be amended to “post treatment of composting process outputs” to include other items that may be screened out of the process such as stones and oversize material.

The operator also wishes to amend the code for 03 03 10 as per the justification document

## Tonnages for the combined organic processing operation

The operator currently accepts co-mingled food and green for IVC operations and green waste for OWC operations. The two waste streams, being the IVC throughput which has been sanitised and partly stabilised and the green waste stream then are able to be combined on exit from the IVC tunnels and are then subjected to a further stabilisation step outside.

Currently all material goes through the IVC however with simpler recycling removing IVC tonnage more green waste only is expected to be taken straight to the composting open windrow operation.

Green waste is also stored outside for composting. The 135,000 tons of waste processing ability was based upon current working capacity of the tunnel system and not the overall site capacity. Therefore the 27,500t of green waste processing should not be included within the 135,000t. Overall tonnages are described below in section, and these are to change in the future as more waste is being split out between food and green waste as per the requirement of simpler recycling.

It is not possible, within a reasonable time frame, to ascertain when the splits shall take place or by how much the waste inputs will change within the next two years. Therefore, Envar suggests that the permit be modified to include an overall capacity for the tunnels (as modelled on 135,000) and the other on-site materials would be based upon their own capacities. However, the entire site overall capacity limit would be as per the planning permission limit of 200,000. Please refer to section 6.2.1 for full tonnage calculations.

### IVC operations (Combined, CLO, sewage, CAT3 ABPR material) interchangeable

Envar operates the following

* 4 tunnels with a capacity of 200 tonnes per tunnel
* 5 larger tunnels with a capacity of 500 tonnes per tunnel

Total tunnel capacity at any one time 3200 tonnes at any one time

Time in tunnel – 7 days

3200 tonnes x 52 weeks = 166,400t/yr TPA

This calculation is the theoretical maximum capacity, operational experience suggests that a maximum throughput of 145,000t/yr is more realistic which is in line with the maximum site limit of 200,000t/yr.

### Biomass

The biomass operation does not treat waste materials other than the use of grade A waste wood as a fuel. The total amount required per year is approximately 5,000 tonnes at present and the dryers are not currently drying waste. The overall capacity should remain as is.

### Transfer station

The waste transfer station is expected to continue as a normal waste transfer operation working up to an expected 50,000 tonnes also linked to the maximum overall site tonnage.

# Emissions

## Inventory

Emissions from the current system will stay in line with the BAT AEL’s which have already been agreed and adhered to. The biowaste review improvement conditions previously issue have been complied with. There is no change to emissions to water, land or air from any point source.

Fugitive emissions changes shall be limited to the additional waste codes changes included within the permit and this is covered with the updated:

* Bio-aerosol report
* Odour Management Plan
* Bespoke material risk assessments

Essentially, there is very little change to the process, Biodrying, composting and composting for non-pas production uses the same plant equipment, machinery and processes that are already undertaken on site using materials with a similar odour profile for which the site was designed. The changes therefore are mostly technical in nature.

## Monitoring

The operator shall monitor operations as is detailed in, the monitoring plan for the site and operations and make reports as required to the environment agency in line with the current agreed monitoring schedule.

# Management

The management at Envar have multiple CoTC qualifications and academic qualifications. Including 4COMP, 4COMP with Sewage and 4MTSH. Copies of which have been provided and subsequently updated to include continuing competency certifications.

Appendix A: Additional EWC Codes

|  |  |  |
| --- | --- | --- |
| EWC | Description | Process |
| 03 03 10 | fibre rejects and sludges including mineral based fillers and coatings only (only allowed if not mixed with, or does not contain, de-inking sludge and meets the site input contamination limits.) | PAS-100 compost production |
| 19 08 01 | Solid waste from primary filtration and screenings | Waste Treatment and Transfer |
| 19 08 02 | Waste from desanding/degritting | Composting in Closed System (non PAS-100) |
| 19 09 01 | Grit and sludges from the treatment of water in preparation for human consumption (sludges from water clarification) | PAS100 Compost production |
| 19 09 02 | Sludges from water clarification | Composting in Closed System (non PAS-100) |
| 19 12 10 | Combustible waste (refuse derived fuel) | Waste Transfer (Storage) |
| 19 12 12 | Organic fraction, washed and recovered from street sweeping processing | Composting in Closed System (non-PAS-100) |
| 19 12 12 | Silt from non-hazardous road sweepings conforming to the verification process as set out in the risk assessment and sampling plan | Composting in Closed System (non-PAS-100) |
| 19 12 12 | other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 | Wash Plant |
| 20 03 03 | Street cleaning residues | Wash Plant |

Appendix B: EWC Codes for Biodrying

|  |  |  |
| --- | --- | --- |
| EWC | Description | Process |
| 02 01 03 | plant-tissue waste | Composting for the purposes of making a fuel |
| 02 01 06 | animal faeces, urine and manure (including spoiled straw) only | Composting for the purposes of making a fuel |
| 02 01 07 | wastes from forestry (biodegradable only) | Composting for the purposes of making a fuel |
| 02 03 04 | materials unsuitable for consumption or processing (biodegradable only) | Composting for the purposes of making a fuel |
| 03 01 01 | waste bark and cork – virgin timber only | Composting for the purposes of making a fuel |
| 03 01 05 | sawdust, shavings, cuttings, wood and particle board other than those mentioned in 03 01 04 – virgin timber only | Composting for the purposes of making a fuel |
| 03 03 01 | waste bark and wood | Composting for the purposes of making a fuel |
| 15 01 03 | wooden packaging – Grade A timber only | Composting for the purposes of making a fuel |
| 17 02 01 | Wood – Grade A clean waste timber only | Composting for the purposes of making a fuel |
| 19 02 06 | Sludge from the dewatering of sludge with the use of flocculation and coagulation  Septic tank sludge from the dewatering of septic tank sludge with the use of flocculation and coagulation  Septic tank sludge stabilised using non-waste lime  Sludge stabilised using non-waste lime  Sludge mixed with non-waste straw, non-waste wood or other non-waste plant tissue material  Septic tank sludge mixed with non-waste straw, non-waste wood or other non-waste plant tissue material | Composting for the purposes of making a fuel.  Production of non-PAS100 certified compost. |
| 19 05 03 | Compost oversize from aerobic treatment (wood fraction only) | Composting for the purposes of making a fuel |
| 19 06 06 | Digestate from anaerobic treatment of sludge with the addition of treated sewage effluent produced at the sludge producer’s wastewater treatment plant  Digestate from anaerobic treatment of septic tank sludge | Production of non-PAS100 certified compost.  Composting for the purposes of making a fuel |
| 19 06 06 | Digestate from the treatment of non-source segregated municipal waste, to including digestate from anaerobic treatment of municipal waste from a process that accepts waste input types listed in this table, or anaerobic digestion or appropriate permit.  Digestate from segregated biodegradable waste that has been sourced from municipal waste. | Composting for the purposes of making a fuel |
| 19 08 05 | sludges from treatment of urban wastewater | Composting for the purposes of making a fuel  Production of non-PAS100 certified compost. |
| 19 12 12 | Biodgradable waste (recovered wood from green waste) | Composting for the purposes of making a fuel |
| 20 02 01 | Biodegradable Waste | Composting for the purposes of making a fuel |

Appendix C – Composting/Biodrying Outline Process Flow

A diagram of a process

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1. [Envar | Compost, Biomass & Green Waste Recycling](https://www.envar.co.uk/) [↑](#footnote-ref-1)
2. [In Vessel Composting (IVC) | WRAP](https://www.wrap.ngo/resources/guide/vessel-composting-ivc) [↑](#footnote-ref-2)
3. [The Environmental Permitting (England and Wales) Regulations 2016 (legislation.gov.uk)](https://www.legislation.gov.uk/uksi/2016/1154/contents/made) [↑](#footnote-ref-3)
4. [The Animal By-Products (Enforcement) (England) Regulations 2013 (legislation.gov.uk)](https://www.legislation.gov.uk/uksi/2013/2952/contents) [↑](#footnote-ref-4)