

This Resource Framework applies to England

Guidance

Anaerobic digestate: Resource Framework

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1. The Purpose of the Resource Framework

The Resource Framework has four main purposes:

To clarify the point at which waste management controls are no longer required for specified outputs

To provide users with the confidence that the quality of digestate produced from anaerobic digestion of source-segregated biodegradable waste (biowaste) conforms to an approved standard

To provide users with the confidence that the quality of digestate produced from anaerobic digestion of source-segregated biodegradable waste (biowaste) is suitable for use in designated market sectors

To protect human health and prevent pollution of the environment, including soil

2. Review and Update of the Resource Framework

This document will be reviewed regularly. This document may be subject to change before these review dates. Triggers for such a change could include:

pollution incidents;

development in scientific understanding;

a change in the market;

a change in legislation or case law; or

a change to the agreed industry standard or input materials.

This Resource Framework will be reviewed in Summer 2025

The Environment Agency will seek support from industry in reviewing this document.

This Resource Framework may be withdrawn if it becomes apparent that it is generally being misapplied and/or misused.

3. When the final product is no longer considered waste

Digestate produced from anaerobic digestion of source-segregated biodegradable waste (biowaste) is no longer subject to waste controls when you can show that:

- has been produced using only approved source-segregated waste materials listed in **'4. Waste you can use'**

you have stored and processed the waste correctly, meeting all the conditions of the British Standard Institution's Publicly Available Specification (BSI PAS) 110 (2014) for the anaerobic digestion of source-segregated biodegradable materials;

it needs no further treatment before its intended use

it meets any extra specification requested by your customer;

4. Waste you can use

Use only source-segregated biodegradable materials as defined in the BSI PAS 110 (2014) and only materials compliant with the below:

4.1. Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing

Waste code	Waste description
02 01 01	Sludges from washing and cleaning – vegetables, fruit and other crops
02 01 02	Animal tissue waste
02 01 03	Plant-tissue waste

Waste code	Waste description
	- Includes straw, other crop residues, riverine vegetation and spent growing media based on plant issues such as compost derived from source-segregated biodegradable waste, peat and bark.
02 01 06	Animal faeces, urine and manure - Animal faeces, urine and manure (including spoiled fully biodegradable bedding)
02 01 07	Wastes from forestry – Green waste and plant tissue only

4.2. Wastes from the preparation and processing of meat, fish and other foods of animal origin

Waste code	Waste description
02 02 01	Sludges from washing and cleaning – Process water and food washing waste only.
02 02 02	Animal tissue waste – May include blood and animal gut contents.
02 02 03	Material unsuitable for consumption or processing – May include gut contents, shells and shellfish wastes. Includes sludges from gelatine production.

4.3. Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing, conserve production, yeast and yeast extract production, molasses preparation and fermentation

Waste code	Waste description
02 03 01	Sludges from washing, cleaning, peeling, centrifuging and separation – Sludges from food processing only.
02 03 04	Materials unsuitable for consumption or processing - Allowed only if no chemical additives or toxin residues present.

4.4. Wastes from the dairy products industry

Waste code	Waste description
02 05 01	Materials unsuitable for consumption or processing – includes raw milk.

4.5. Wastes from the baking and confectionary industry

Waste code	Waste description
02 06 01	Materials unsuitable for consumption or processing

4.6. Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)

Waste code	Waste description
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials
02 07 02	Wastes from spirits distillation Only: <ul style="list-style-type: none">• Malt husks, malt sprouts, malt dust• Hops• Spent grains• Sludge from the production process• Yeast and yeast-like residues
02 07 04	Materials unsuitable for consumption or processing Only: <ul style="list-style-type: none">• Malt husks, malt sprouts, malt dust• Hops• Spent grains• Sludge from the production process• Yeast and yeast-like residues

4.7. Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard

Waste code	Waste description
03 01 01	Waste bark and cork
03 01 05	Sawdust, shavings, cuttings, and wood other than those in 03 01 04 only – Virgin timber with no preservative only.

4.8. Wastes from pulp, paper, and cardboard production and processing

Waste code	Waste description
03 03 01	Waste bark and wood
03 03 10	Fibre rejects, fibre-, filler- and coating-sludges from mechanical separation – Only allowed if not mixed with, or does not contain, de-inking sludge.
03 03 11	Sludges from on-site effluent treatment other than those mentioned in 03 03 10 – Only allowed if not mixed with or does not contain, de-inking sludge.

4.9. Wastes from the textile industry

Waste code	Waste description
04 02 10	Organic matter from natural products (for example grease, wax) – Waste types in this section allowed if biodegradable material only
04 02 21	Wastes from unprocessed textile fibres – Waste types in this section allowed if biodegradable material only

4.10. Waste from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made, fibres

Waste code	Waste description
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07 02 13	Waste plastic – Unused and uncontaminated excess production only. See note 1 below.
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4.11. Waste packaging; absorbents, filter materials wiping cloths and protective clothing

Waste code	Waste description
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15 01 01	Paper and cardboard packaging – Not allowed if any non-biodegradable coating or preserving substance present. See note 1 below.
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15 01 02	Plastic packaging – see note 1 below.
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15 01 03	Wooden packaging - Not allowed if any non-biodegradable coating or preserving substance is present. Untreated wood only. See note1 below.
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15 01 05	Composite packaging – Allowed only if all components comply with requirements of the chosen standard. See note 1 below.
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15 01 09	Textile packaging – Allowed only if entirely natural fibres.
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4.12. Wastes not otherwise specified in the list

Waste code	Description
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16 10 02	Aqueous liquid wastes other than those mentioned in 16 10 01 – Allowed only if digestate or liquor from an aerobic digestion process that accepts only waste input types allowed by this Resource Framework.
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4.13. Wood from construction and demolition wastes

Waste code	Description
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17 02 01	Wood – Not allowed if treated, for example contains veneers, other coatings or preserving substances. Waste types in this section allowed if biodegradable material only, with no chemical additives or preservative, and no persistent organics present. Untreated wood only.
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4.14. Soil (including excavated soil from contaminated sites), stones and dredging spoil

Waste code	Description
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17 05 06	Dredging spoil other than that in 17 05 05 – Only riverine vegetation allowed (and not associated dredged mineral material). Only dredged vegetation is permitted. EWC 17 05 06 dredging spoil allowed only if Hazard Analysis and Critical Control Point (HACCP) assessment considers pollutants that may be present and adequate risk control is decided feasible.
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4.15. Wastes from aerobic treatment of solid wastes

Waste code	Description
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19 02 03	Premixed wastes composed only of non-hazardous wastes – Acceptable only if derived solely from input types allowed by this Resource Framework and remains segregated from, and uncontaminated by any other waste type.
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19 02 06	Sludges from physico/chemical treatment other than those mentioned in 19 02 05 – Acceptable only if derived solely from physical treatment and/or pH adjustment of input types allowed by this Resource Framework and remains segregated from, and uncontaminated by, any other waste type.
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19 05 03	Off-specification compost – Allowed only if the compost is derived from input types allowed by this Resource Framework. This includes oversize material resulting from screening such compost.
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4.16. Wastes from anaerobic treatment of solid wastes

Waste code	Description
19 06 03	<p>Liquor from anaerobic treatment of municipal waste</p> <p>– Waste types in this section are only allowed by the Anaerobic Digestate Resource Framework and are derived from a facility independently certified as complying with BSI PAS 100. For example, the waste must not contain wastes derived from mechanical biological treatment (MBT) facilities or any compost-like outputs (CLO).</p>
19 06 04	<p>Digestate from anaerobic treatment of municipal waste</p> <p>- Waste types in this section are only allowed by the Anaerobic Digestate Resource Framework and are derived from a facility independently certified as complying with BSI PAS 100. For example, the waste must not contain wastes derived from mechanical biological treatment (MBT) facilities or any compost-like outputs (CLO).</p> <p>Any digestate accepted under this waste code must only contain waste inputs identified in “4. Waste you can use” section of the Anaerobic Digestate Resource Framework.</p>
19 06 05	<p>Liquor from anaerobic treatment of animal and vegetable waste</p> <p>- Waste types in this section are only allowed by the Anaerobic Digestate Resource Framework and are derived from a facility independently certified as complying with BSI PAS 100. For example, the waste must not contain wastes derived from mechanical biological treatment (MBT) facilities or any compost-like outputs (CLO).</p>
19 06 06	<p>Digestate from anaerobic treatment of animal and vegetable waste</p> <p>- Waste types in this section are only allowed by the Anaerobic Digestate Resource Framework and are derived from a facility independently certified as complying with BSI PAS 100. For example, the waste must not contain wastes derived from mechanical biological treatment (MBT) facilities or any compost-like outputs (CLO).</p>
19 12 12	<p>Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11</p> <p>– Accepted only if derived solely from input types allowed by this Resource Framework and remains segregated from, and uncontaminated by, any other waste type.</p>

4.17. Municipal waste (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

Waste code	Description
20 01 01	Paper and cardboard - See note 1 below. - Not allowed if any non-biodegradable coating or preservative present.
20 01 08	Biodegradable kitchen and canteen waste - See note 1 at the bottom of this section.
20 01 25	Edible oil and fat
20 01 38	Wood other than that mentioned in 20 01 38 – 20 01 37 is described as ‘wood containing dangerous substances’ Non treated wood waste Not allowed if any biodegradable coating or preserving substance present. Waste types in this section allowed if biodegradable material only, with no chemical additives or preservative, and no persistent organics present.
20 01 39	Plastics - see note 1 at the end of this section

4.18. Garden and park wastes (including cemetery waste)

Waste code	Description
20 02 01	Biodegradable waste - Manure, garden waste, green waste, horticultural waste, plant tissue, parks and garden waste, hedge and tree trimmings, grass cuttings and leafy materials. Waste types in this section allowed if biodegradable material only, with no chemical additives and no toxic residues present. Excludes road sweeping gully waste. The waste must not contain Japanese knotweed.

4.19. Other municipal wastes

Waste code	Description
20 03 01	<p>Mixed municipal waste</p> <p>- Allowed only if separately collected biodegradable wastes otherwise allowed by this Resource Framework. If former foodstuffs are packaged, the restrictions given in section 12 above on packaging wastes apply. An example is unsold food wrapped in compostable packaging that arises as waste from a retail food store.</p>
20 03 02	<p>Waste from markets</p> <p>- Allowed only if biodegradable fractions. Examples are plant material, fruit and vegetables.</p> <p>Packaging waste from a supermarket source is allowed only if it complies with the restriction for the corresponding waste type in section 11 above.</p> <p>See note 1 below.</p>

Note 1 - Industrially compostable packaging and non-packaging items that are independently certified as compliant with at least one of the following shall be permitted:

EN 13432

EN 14995

ASTM D6400

- Home compostable packaging and non-packaging items that are independently certified as compliant with at least one of the following shall be permitted:

EN 17427

AS 5810-2010

NF T51-800

TUV Austria's certification requirements for home compostable packaging under their 'OK

5. How to meet the Resource Framework standard

5.1 Obtain certification from an approved third-party certification body

5.1.1 Producers must demonstrate compliance with the requirements of this Resource Framework and of the approved standard. Compliance must be demonstrated to an approved certification body operating according to scheme rules agreed with the Environment Agency. The approved certification body must also obtain accreditation to ISO 17065:2012 from the United Kingdom Accreditation Service (UKAS) and maintain this on an annual basis.

5.1.2 As part of the certification process, the producer will be required to:

keep and retain specified records for a minimum of four years; and

make them available to the certification body for certification purposes. Details of the records to be kept are given in section 5.2 and 5.5.

5.1.3 Scheme rules will not be agreed by the Environment Agency unless they make provision to ensure that:

the method of certification demonstrates that users have met both the requirements of the approved standard and those of the Resource Framework;

compliance with both the standard and the Resource Framework are certified annually by an independent certification body accredited by UKAS to ISO 17065:2012 (or any subsequent updates) to the relevant scopes;

the accredited certification body should have certification of digestate in its accredited scope;

certification verifies source documentation, evidence of site management procedures (including compliance with the quality management system) and laboratory test results;

the certification body or its authorised contractor carries out at least one site inspection per year to verify on site documentation; and

the certification process is overseen by an impartial committee.

5.2 Record your incoming waste

This includes:

- the waste type, in compliance with your permit
- its volume or weight
- the source of the waste
- date of delivery, if the waste is not already on site
- name and address of supplier
- name and address of carrier
- your method for confirming the waste is acceptable input material – if not, your rejection reasons and what you did with the rejected waste

5.3 Store waste correctly

You must comply with your environmental permit or exemption and follow [waste management controls](#)

5.4 Process the waste following:

The specifications defined in the BSI PAS 110 (2014)

And the minimum quality criteria for the sub-limit for plastic contaminants as a specific component of physical contaminants of 8% of the PAS 110 physical contaminants limits.

Keep records of any inspection and testing carried out as part of your compliance with BSI PAS 110 (2014)

5.5 Keep records of any inspection and testing carried out as part of your compliance with BSI PAS 110 (2014)

6. Unused Resource Framework compliant whole digestate, separated liquor and separated fibre: loss of non-waste status

Resource Framework compliant compost from source-segregated biodegradable materials will become waste again and subject to waste management controls if at any stage:

- you discard it;
- you plan to discard it;
- it is required to be discarded;
- it is stored indefinitely with little prospect of being used.

This applies to anyone holding stores of compost, not just producers.

Further guidance on when a material is waste can be found here: [check-if-your-material-is-waste](#)

7. Resource Framework compliant recycled whole digestate, separated liquor and separated fibre mixed with waste and non-waste

If you mix the Resource Framework compliant material with;

Other waste material, the whole mixed volume becomes waste, and you must apply waste management controls

Non-waste material, the whole volume is non-waste if it meets the standard for your intended and recognised end product

Guidance on waste management controls can be obtained from the Environment Agency's National Customer Contact Centre on **08708 506 506**, from its website (<http://www.environment-agency.gov.uk/subjects/waste/>)

10. Standards and Specifications to which this Resource Framework applies

At present, this Resource Framework applies only to the latest version of British Standards Institution's Publicly Available Specification for digestate materials (BSI PAS 110)

Electronic copies of BSI PAS 110 documentation can be obtained free from:

WRAP – at <https://wrap.org.uk/resources/guide/bsi-pas-110-producing-quality-anaerobic-digestate#download-file> or by phoning 0808 100 2040

Renewable Energy Assurance Limited – at <https://www.biofertiliser.org.uk/>

If you are supplying material for horticultural end uses, you must agree the specification with the customer and comply with the WRAP document for horticultural and end markets - [WRAP-Growing Media Specification.pdf](#)
