

## Organic Recycling of Compostable Items in the UK

This document is intended to provide a high-level overview of the current landscape of organic recycling and recovery of compostable packaging and non-packaging items (referred to in this report as compostables) in the UK.

The information below is as accurate as possible based on the data and information available at the time of writing. There may be some facilities that accept compostables that are not included in figures in this document. If you have any questions or would like further information, please contact Emily Nichols ([emily@r-e-a.net](mailto:emily@r-e-a.net)), Technical Manager of Organics and Natural Capital at the Association for Renewable Energy and Clean Technology (REA).

### 1. The Biowaste Industry & Compostables

In the UK, composting facilities approved for treating Animal By-Products (APBs) are the majority of the facilities that accept and biodegrade compostables, as typically they are used in conjunction with food and discarded with food waste. Most food wastes must be managed under ABP regulatory controls.

Compostables fed into facilities whose compost output is independently certified compliant with End of Waste criteria (EoW certified) are considered organically recycled (as too is the biowaste that was fed in). In Wales and Scotland, compostables (and biowastes) fed into facilities whose compost is not EoW certified are considered organically recovered.

The vast majority of UK's food-waste-fed anaerobic digestion (AD) sector are 'wet-AD only' facilities. Typically, prior to the biological processing stage, these facilities remove as much packaging and non-packaging items as is practicable, regardless of material type and including kitchen caddy liners and food waste bin liners. Therefore, most compostables tend to be removed from the waste stream before digestion and are generally sent to energy from waste facilities (EfW) or landfill. The effectiveness of the depackaging / bag-splitting machinery may vary from site to site. E.g. tea bags and stickers on fruit and vegetables (F&V stickers) are small and flexible enough that they tend not to be removed during depackaging and remain in the waste that is fed into the anaerobic digester.

At industrial composting facilities, tea bags and F&V stickers tend to pass through shredders and remain with the biowastes that are formed into batches for composting. This is a key reason to only use certified compostable versions of these products across the UK market. Where food waste goes to composting facilities, kitchen caddy / food bin liners recommended or supplied by relevant local authorities to householders has tended to be certified compostable ones. Numerous food waste collections from

'closed environment' food service sources collect the food waste and used compostables in certified compostable bin liners.

## 2. Independent Certification of Compostables

REA has seen varying labelling claims amongst packaging and non-packaging products on the UK market. This, together with informal feedback from some biowaste companies, leads the REA to suspect that at least some products claimed to be compostable are not also independently certified compliant with at least one relevant standard or the named scheme included in the list below.

Under most circumstances, any packaging or non-packaging product intended to be fed into a composting, AD or integrated AD and composting process after it has become waste is required to be independently certified compliant with at least one of the following;

- BS EN 13432 (standard for packaging that is suitable for industrial composting and, if optional extra criteria are met, suitable for anaerobic digestion when there is a following composting phase),
- BS EN 14995 (standard for plastics that are suitable for industrial composting and, if optional extra criteria are met, suitable for anaerobic digestion when there is a following composting phase),
- ASTM D6400 (standard for 'plastics and other solid materials', e.g. paper, textile, foam and food packaging products, suitable for industrial composting),
- AS 5810-2010 (standard for plastics suitable for home composting),
- EN 17427 (standard for carrier bags suitable for well-managed home composting),
- NF T51-800 (standard for plastics suitable for home composting),
- TÜV Austria's OK compost HOME certification scheme criteria (for packaging and non-packaging products suitable for home composting).

There are some differences between standards options applicable to;

- a) facilities operated with only a permit/authorisation, that produce compost/digestate that can only be used under waste regulatory controls, and
- b) facilities operated with a permit and whose compost/digestate is EoW certified (i.e. certified compliant with the relevant Quality Protocol (QP), BSI PAS and Renewable Energy Assurance Ltd's relevant certification scheme rules) and so can be traded as products that are not subject to waste regulatory controls).

REA is pursuing alignment of the relevant QPs as a step towards more consistent product procurement, product labelling and messaging about correct disposal of compostables. Contact the REA for more information about independent certification and requirements for individual sites.

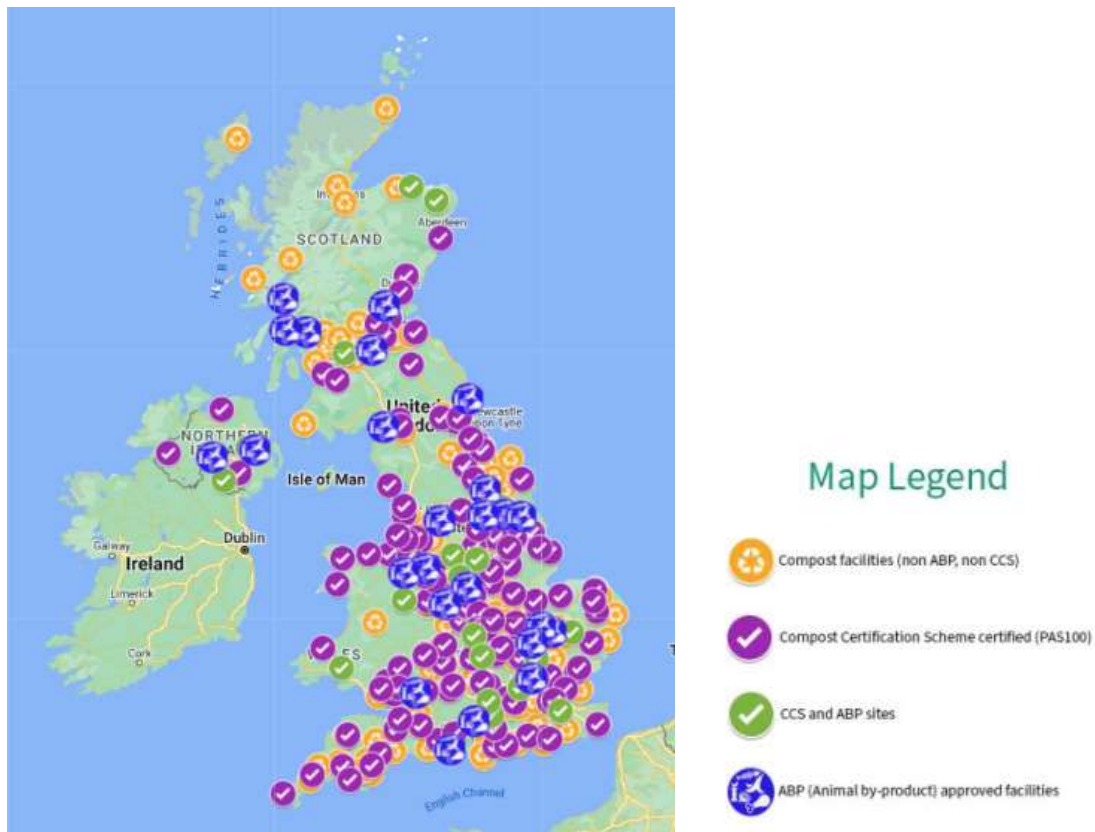
### 3. Composting Facilities in the UK

REA's map of composting facilities in the UK went live in October 2022 ([here](#)). It was produced using publicly available data from GOV.UK, the Environment Agency, the Scottish Environment Protection Agency, Natural Resources Wales and Northern Ireland's Department of Agriculture, Environment and Rural Affairs.

REA's focus was to map the following;

- facilities approved for treating ABPs (most food waste source types include animal-derived food wastes and are thus subject to ABP regulations),
- facilities that produce one or more compost products certified by Renewable Energy Assurance Limited's Compost Certification Scheme (CCS certified), and
- facilities with a permit / licence for composting.

*Figure 1 - Map of permit- and licence-scale composting facilities in the UK*



Mapped composting facilities cover those operated under permits or licences (in Scotland) but not the many small-scale, outdoor ones operated under registered exemptions from permitting. These permit-exempt facilities are not approved for treating ABPs. Mapped composting locations may also include a few that are part of Mechanical and Biological Treatment (MBT) facilities whose waste inputs include residual (grey/black bin) wastes; in these facilities the compostables are likely to be sent

to EfW or landfill as rejects rather than be sorted along with food and plant waste for feed into the composting process.

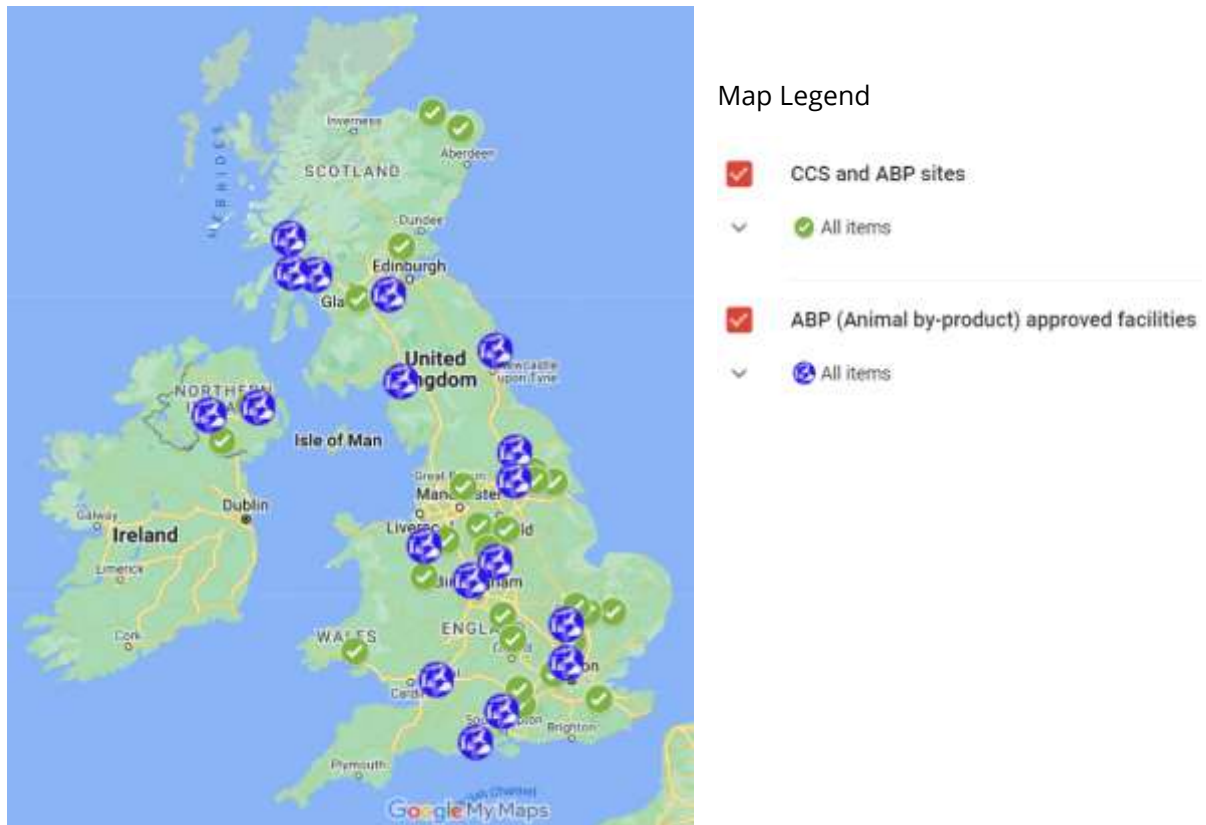
**Table 1 - Groupings and numbers of mapped permit- and licence-scale composting facilities in the UK**

Map key	Notes for interpretation	Number of facilities
'Compost Certification Scheme certified (PAS 100)'	Only CCS certified.	148
'ABP-approved'	Only ABP-approved.	18
CCS and ABP sites'	Both CCS certified and ABP-approved.	27
'Compost facilities (non-ABP, non-CCS)'	Not ABP-approved and not CCS certified.	213
<b>TOTAL mapped</b>		<b>406</b>
<b>TOTAL with ABP approval</b>	Regardless whether also CCS certified. May include some MBT facilities whose waste inputs include residual (black/grey bin) wastes.	<b>45</b>

REA has aimed not to map any same facility twice but cannot guarantee this. Some facilities may have been counted in the 'non-ABP, non-CCS' group and in another group. Such duplication can be difficult to avoid as some facilities are named differently between the different publicly available information sources.

During REA's short-timescale mapping project, it did not request operators' permission to mark which of the ABP-approved facilities feed in compostable items. Consequently, the map does not currently identify which operators are feeding compostables into their biological treatment. Figure 2 below shows the ABP-approved facilities which are mostly likely to be the ones able to accept compostables. Prospective suppliers of compostable packaging and non-packaging wastes, or wastes that include them, should check which waste types the relevant facility or facilities will accept in practice.

**Figure 2 - Map of ABP-approved and 'ABP-approved plus CCS certified' permit- and licence-scale composting facilities in the UK**



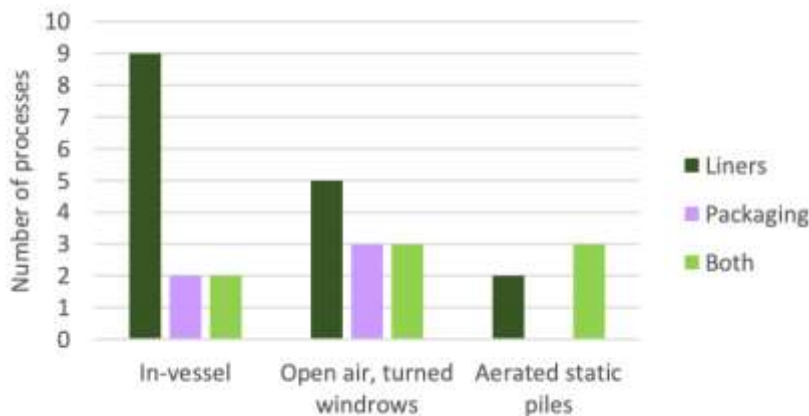
#### 4. REAL's Report on Composting Compostables in the UK

Renewable Energy Assurance Ltd's Renewable Energy Assurance Ltd (REAL) is a wholly-owned subsidiary of The Association for Renewable Energy and Clean Technology (REA). REAL's report on 'How Compostable products are recycled in the UK' ([here](#)) presents information on the numbers of industrial composting processes that are both certified by their Compost Certification Scheme (CCS) and accept independently certified compostable items. In February 2024 REAL's data showed that twenty-nine CCS certified composting facilities confirmed that they accept independently certified compostables. This includes twenty processes in England, four in Scotland, three in Northern Ireland, and two in Wales. Sixteen of the facilities accept only compostable liners, five accept only compostable packaging, and eight accept both compostable liners and packaging, as shown by Figure 3.

Adding up REALs' figures for compostable liners and compostable packaging separately, twenty-four certified composting facilities accept wastes that include compostable liners and thirteen certified composting facilities accept wastes that include compostable packaging.

As of May 2024, their [website](#) showed a total of 171 composting processes producing at least one grade of compost certified under their scheme.

**Figure 3 - Types of compostable accepted at different types of certified composting facilities in the UK**



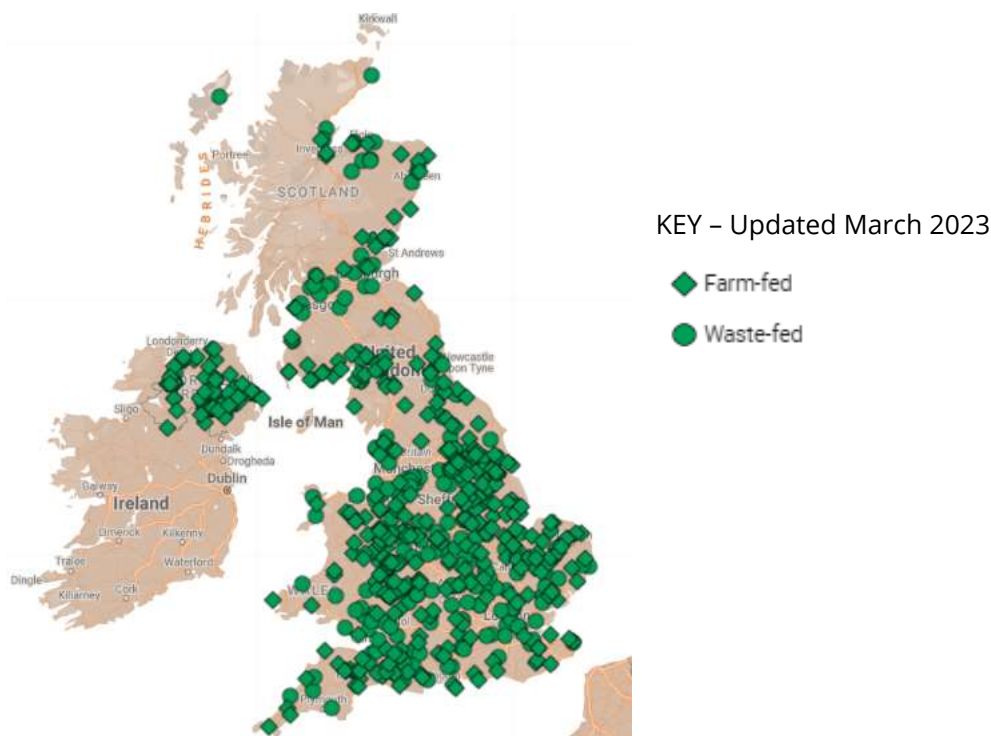
### 5. Compostables Allowed into Facilities Without ABP Regulation Approval

REA’s webpage on Specific Compostables Allowed into Facilities without ABPR Approval ([here](#)) provides information on the certified food- and drinks-contact compostable item types allowed to be composted in facilities that are not approved for treating Animal By-Products (e.g. open-air turned windrows). Item types covered in this exemption are restricted to keep any risk of animal-pathogen transfer acceptably low. Setting up of the exemption was driven by potential for collection of compostables and food wastes from ‘closed environment’ sources (e.g. cafes, fast-food-service restaurants and offices) and their composting within a larger network of facilities than only in IVCs. REA’s view is that householders should not put compostable packaging and non-packaging items that are within the agreed exemption into their garden waste bins.

### 6. AD Facilities in the UK

The NNFC’s map ([here](#)) shows all operational anaerobic digestion facilities in the UK, excluding water treatment facilities. They are categorised as ‘agricultural’ plants that use predominantly agricultural feedstocks (e.g. manures, slurries, purpose grown energy crops and crop residues) or ‘waste’ plants that use predominantly municipal, commercial, and industrial biowaste streams. Facilities can be further categorised by the end-use of the biogas (heat and/or power (CHP) or biomethane to grid (BtG)).

**Figure 4 - Map of operational anaerobic digestion plants in the UK (excluding water treatment facilities)**



REA estimates that many of the waste-fed AD facilities are likely have an ABP approval that enables them to treat wastes that include animal-derived food wastes, but the map does not show which ones are ABP-approved and what type of ABP-approval is held.

ABP-approved premises lists produced by government ([here](#)) show there are 100 AD facilities in England, Wales and Scotland with approval to treat ABPs. DAERA’s list shows 10 in Northern Ireland approval to treat ABPs ([here](#)). Although most of these 110 facilities treat source-separated biowastes, with numerous also accepting farm-source manures, slurries, crop residues and purpose-grown energy crops, this total also includes some AD processes that are part of MBT processes designed for treating residual (black/grey bin) wastes.

## 7. Terminology

Independently certified Industrially compostable final products\* are those that have a valid certificate of conformance to at least one of the following standards, the certificate having been issued by an independent certification body;

- BS EN 13432,
- BS EN 14995,
- ASTM D6400.

Independently certified home compostable final products\* are those that have a valid certificate of conformance to at least one of the following standards or the named scheme, the certificate having been issued by an independent certification body;

- AS 5810-2010,
- EN 17427,
- NF T51-800,
- TÜV Austria's OK compost HOME certification scheme criteria.

\* This document focusses on final products. It does not discuss raw materials, intermediates and manufacturing process scraps. The standards listed also allow testing of raw materials and intermediates, and certification scheme providers also offer assessment and registration/certification services for these.