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Where we have not expressed an agree or disagree opinion for a material, this is because the material/product, its actual recycling and/or potential for recycling is not within our knowledge / expertise.

		This should be disincentivised by a higher fee		
	Material	**Agree**	**Disagree**	**Comments**
1	**Plastics containing carbon black**			
2	**PVC inc, non-PVC packaging with PVC components**			
3	**Some polystyrene HIPS, expanded & extruded**			
4	**Some plastic films, e.g. multi-material**			
5	**Compostable and degradable plastics**	✓ for 'degradable' plastics	✓ for compostable plastics	**Degradable plastics** The UK organics recycling industry does not solicit degradable plastics* as feedstocks, nor does it intentionally feed them into its biological treatment phase(s); we do not want or expect this to change. * e.g. 'degradable', 'oxo-degradable' or 'oxo-biodegradable' ones or those that include 'biotransformation technology'. BS 8472 is a testing framework for oxo-degradable plastics and does not set pass/fail criteria for their minimum degradation in named/targeted environments within a maximum timescale. BS 8472 is not amongst the standards with which the UK organics recycling industry specifies its packaging and non-packaging inputs must be independently certified. Self-assessment of compliance is also not acceptable to the UK organics recycling industry. PAS 9017 is designed for additive-amended polyolefin plastics designed to disintegrate and biodegrade in 'open environments', setting pass/fail criteria relevant to plastic exposure to UV and heat cycles in the open air followed by its biodegradation in soil. However, the PAS 9017-specified test conditions are significantly different from those in industrial scale

				composting or AD+short-phase-composting 'controlled environments'. The maximum biodegradation timescale PAS 9017 allows for UV+heat-cycle-exposure-tested samples is 2 years. PAS 9017 is not amongst the standards with which the UK organics recycling industry specifies its packaging and non-packaging inputs must be independently certified. Self-assessment of compliance is also not acceptable to the UK organics recycling industry. **Compostable plastics** Standards the UK's organics recycling industry and environment protection regulators accept are specified in the industry+environment-protection-regulator-agreed End of Waste rule sets - the Compost Quality Protocol, PAS 100, the AD Quality Protocol, PAS 110 - and in the Environment Agency's composting and AD permits and guidance underpinning those permits. (These documents are not completely aligned on the standards they specify for packaging and non-packaging items allowed to be fed in because their initial and revised publication dates have been out of phase with each other and publication and withdrawal of some of the relevant, accepted standards. However, we are pursuing standards alignment between these QP and PAS documents and standards regulators specify as acceptable in composting and AD permits / statutory guidance that underpins those permits.) BS EN 13432 sets pass/fail criteria for packaging suitable for industrial composting or industrial anaerobic digestion followed by a composting phase, BS EN 14995 'mirrors' the first of these standards with a plastics rather than packaging scope, and ASTM D6400 sets pass/fail criteria for plastics suitable for industrial composting. Considering industrial/commercial scale organic recycling, these standards are included in the EoW rules set for composting, the EoW rules set for AD, and EA permit and guidance documents: BS EN 13432 and ASTM D6400, with requirement that items are <u>independently certified</u> compliant with at least one of the standards specified. BS EN 14995 is <u>also</u> included in the EoW rule set for composting, with requirement that items are <u>independently certified</u> compliant with this standard.

				Vegware's response to Defra includes info on results from a UKRI-funded trial through the Compostable Coalition UK; some compostable packaging showed promising results as a **high-energy AD feedstock** when pre-treated using thermal hydrolysis (autoclaving). **Biodegradable plastics** There are also plastics on the UK market described as 'biodegradable' or biodegradable in 'environments' other than AD, commercial/industrial composting or home composting. The BBIA has fed back to Defra on this topic and from REA's perspective, any packaging or non-packaging item fed in or intended to be fed into an AD, commercial/industrial composting process or an integrated AD+composting process must be independently certified with at least one of BS EN 13432, BS EN 14995 or ASTM D6400. **What is organic recycling?** Biodegradable wastes can be demonstrated to have been organically recycled where, for example, they are: a) composted and the compost meets End of Waste criteria, b) where anaerobically digested and the digestate or 'aerobically matured' digestate meets End of Waste criteria, or c) 'dry'-anaerobically digested and then composted, where the output is classified as compost and meets End of Waste criteria). **Acceptance of independently certified compostable items in the UK organics recycling industry** In our subsidiary company REAL's October 2022 report on Composting compostables in the UK, their data showed that in September 2022, a total of **24** composting processes they had certified (under their Compost Certification Scheme) confirmed they were accepting independently certified compostable materials (liners, packaging or both); 17 processes in England, 3 in Scotland, 3 in NI, and 1 in Wales. There are very likely to be more composting processes accepting at least compostable liners because there are approx **18** other composting processes - with permits or waste management licences (WMLs) - approved for treating Animal By-Products (e.g. food wastes) that are not REAL CCS certified. There may also be more permit- and waste-management-licence-scale

				composting processes accepting compostable liners and/or at least some of the specific compostable food service ware and packaging that is allowed into facilities without approval to treat Animal By-products (see Specific compostables allowed into facilities without ABPR approvals - REA (r-e-a.net)) and that are not REAL CCS certified. There are approximately **213** other processes with a permit or WML that mentions composting but some of these processes may not actually be composting.
6	**Non-polyolefin foamed plastics, e.g. non-PP, non-PE**			
7	**High wet strength paper and card**			
8	**Some coated papers, e.g. waxed, greaseproof**		✓ for waxed or greaseproof papers independently certified compliant with BS EN 13432	Waxed and greaseproof papers: provided the entire paper product is independently certified compliant with BS EN 13432, it would be suitable for in-vessel composting, a process that consists of 'dry'-AD+composting phase. Such items would potentially also be suitable (trial recommended) for feed into an autoclave+'wet'-AD process or if mascerated prior to feed into a wet-AD process. We assume such papers will have been in contact with animal-derived foodstuffs, in which case the organic recycling processes described would need to have approval to treat Category 3 Animal By-Products (there are approx 40 such composting processes in the UK and approx 110 such AD processes in the UK.)
9	**Paper and card with too much* foil embossing (*to be defined)**			
10	**Some fibre-based composites e.g. PVC lined**		✓ for fibre-based composites independently certified compliant with BS EN 13432	**Examples** A current UKRI-funded 'Close the Loop' research project includes, as part of it, the collection of used Vegware packaging and non-packaging products from signed-up businesses, which are then taken to commercial composting facilities. Some of the products in Vegware's range are compostable fibre-based composites while others are compostable plastics (e.g. cold

				drinks cups and hot drinks cup lids) and wooden cutlery (last of these is not packaging). Vegware has worked with waste collectors to build business collections in over 45 of the UK's largest towns and cities. Waste (food and used Vegware products) from Scotland is taken from catered offices, tourist attractions, universities and events by a wide range of UK waste collectors. This waste goes to suitable in-vessel composting facilities for processing in their normal cycle. There is also a separately-collected-compostable-packaging model to consider: the Riverford organic food box scheme and trial of take-back via Riverford's collection of their boxes from customers, then sending on to IVC facilities. This demonstrates, the public's willingness to recycle compostable materials, and that compostable packaging collected in this way could have a 'Recycle via take-back scheme' type of message.
11	**Glass with attached ceramics**			
12	**Some packaging in the "wood" and "other category e.g., cork, ceramics, textiles**		✓ see comments box for details	Wood packaging can be fed into industrial/commercial scale composting processes (and potentially 'dry'-AD+composting) if is independently certified compliant with BS EN 13432. If it contains any glues, coatings or other additives these would be included in lab-based product testing and in the certification body's assessment of the product. Wood packaging is not allowed to be fed into commercial/industrial composting if any non-biodegradable coating or preserving substance is present on or in it. The same is the case for wool, bagasse and mycelium packaging items, and they would be under the fibre-based composites category if they contained other material(s). Regardless whether classified as 'other' or 'fibre-based composite', these kinds of compostable packaging must also be independently certified compliant with BS EN 13432 if fed into industrial/commercial scale composting (and potentially 'dry'-AD+composting).
13	**Paper and card with double-sided lamination**			