

Where does my recycling go?

Recycling, where does it go?

Recorra gives your waste a second life. We ensure your recycling is processed as locally as possible while offering complete transparency on the entire journey of your materials.

How

We choose recycling partners based on the quality of their processes and end-products over the best price.

This creates a 'circular economy', where instead of a 'take-make-throw' society, materials are kept in circulation through re-use and recycling. This helps tackle climate change and other global challenges, like biodiversity loss, waste, and pollution, by decoupling economic activity from the consumption of finite resources.

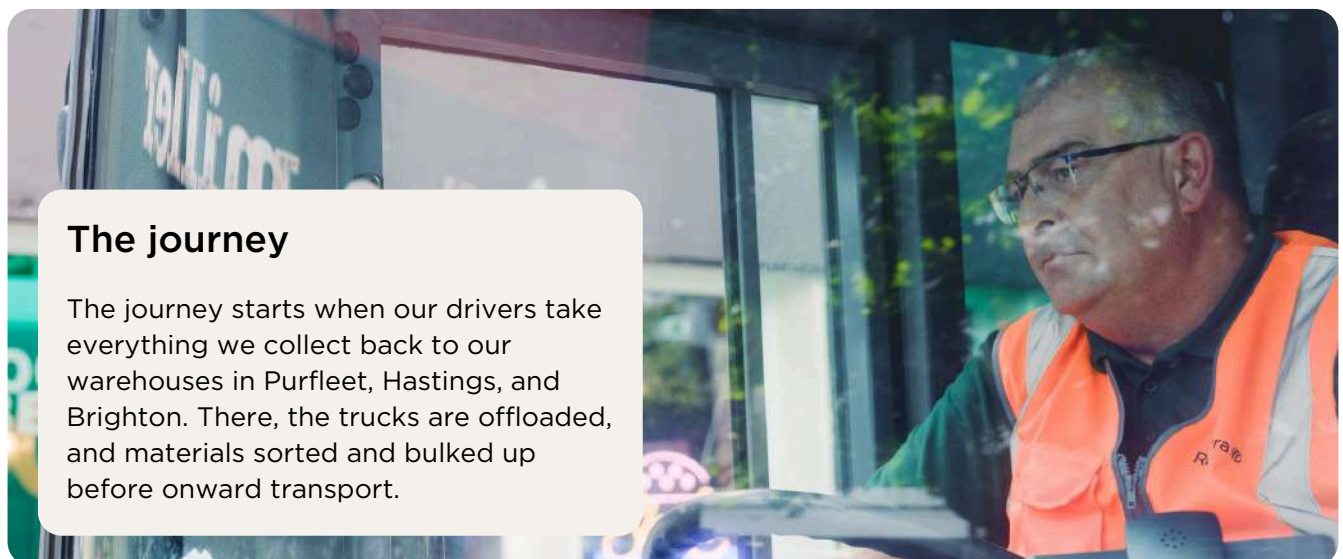
In the UK, roughly two-thirds of plastic waste is sent overseas to be recycled. This saves on cost, and the lack of recycling facilities means that, unfortunately, sending waste abroad 'offloads' the problem of our waste to other countries. Much of the UK's waste is exported to Malaysia, Turkey, Poland, and Indonesia. This global operation amounts to colossal carbon emissions through transportation, as well as regulation loopholes, ethical concerns, and a lack of transparency over what actually happens to recycling.

At Recorra, our priority is keeping the waste and recycling we collect as local as possible. Almost all (98%) of the material we collect is reprocessed in the UK, and our partners are vigorously vetted to ensure complete transparency over the journey of your waste. Even when not kept within the UK we only send material to vetted facilities in Northern Europe. Our hands-on approach means we have ultimate control and reputational security, safeguarding our brand as well as your own.

Each material has a different destination depending on markets and prices. Recorra is accredited to ISO 9001 and 14001, meaning we maintain full traceability of where your recycling goes and, to add to this, we welcome all our customers to visit our recycling facility.

The journey

The journey starts when our drivers take everything we collect back to our warehouses in Purfleet, Hastings, and Brighton. There, the trucks are offloaded, and materials sorted and bulked up before onward transport.



Our Materials Recovery Facility

We have invested over £2.5m in upgrading our Materials Recovery Facility (MRF), now one of the most advanced sorting facilities in the South East. The optimisation of the MRF has seen a 300% increase in capacity, providing scope to further increase recycling rates and drive improvements in quality.

Waste Screen

Vibratory movements shake the materials over the screen. Small items less than 50mm fall through, typically broken glass, dirt, food, and shredded paper. These cannot be recycled and are sent for disposal. The rest of the material is now much cleaner and continues through the plant.

Ballistic separator

Separates materials into two different streams based on their climbing ability. Rolling and bulky 3D items, such as cans and plastics bounce to the lower end, whilst lightweight flat 2D items such as paper walk upwards.

Artificial Intelligence (AI) optical sorters

With the latest recycling technologies in place, the facility can process more materials, and the traceability of waste streams has vastly improved. We are working with Grey Parrot – experts and innovators in Artificial Intelligence – to develop even better ways through their image processing technology to analyse and assess the material that we collect and process.

Eddy Current

Uses a large magnet to separate non-ferrous metals such as aluminium cans from the rest of the 3D materials. Non-ferrous metals are repelled.

Compostables sorting line

In collaboration with the Waste and Resources Action Group (WRAP) and Vegware, we have installed the UK's first compostable sorting line at our MRF. This infrastructure facilitates the removal of contamination while allowing us to scale up our compostable packaging services.



What do we collect?

Appliances

Recorra can collect broken or unwanted appliances such as fridges, dishwashers, kettles, and other sundry metal items.

Fridges are taken to European Metal Recycling, where they are broken down into small chunks that can then be separated easily by magnets into materials for recycling.



Batteries

Recorra collect all types of non-lead acid batteries, both rechargeable and single use, including:

- Nickel Cadmium
- Zinc Carbon
- Lithium Ion
- Mercury Oxide
- Alkaline Manganese
- Nickel Metal Hydride
- Silver Oxide

We also recycle lead acid batteries in the form of Uninterruptible Power Supplies (UPS), and we try to reuse these wherever possible. UPS that fail testing are recycled through the well-established recycling infrastructure that exists for lead acid batteries.

All types of batteries must be stored and collected separately, including those in vapes. When discarded in general waste or recycling bins they are not stored safely. Batteries can then combust in collection vehicles and cause fires, endangering lives and causing thousands of pounds of damage.

Cans

Recorra collects mixed material cans, aluminium, and steel. These are sorted into ferrous and non-ferrous metals that are then crushed and baled at our MRF. The bales are then transported to a recycling facility in Warrington, where the different metals are separated using magnets and then melted down into ingots. Ingots are metals that are cast into shapes suitable for further processing. These are used to make new drinks cans, as well as to produce cars and aircrafts.





Canisters

Canisters are classes as hazardous waste and require specialist treatment, as they are high pressured and there is a risk of combustion.

The canisters collected by Recorra get transported to Waste Care in Essex, a specialist hazardous waste company.

Here, the canisters are safely depressurised and dismantled so that the constituent metal can be recycled.

Cardboard

Cardboard makes up a large proportion of waste and can be effectively recycled back into new cardboard.

We collect cardboard in a variety of ways, including:

- bundles collected from the kerbside
- roll cages
- wheeled bins
- bales

To reduce costs and storage space for large cardboard producers, we can supply balers and baling equipment.

At our yard, cardboard is baled before being sent for processing. Bales are delivered directly to mills by DS Smith in Sittingbourne, and Smurfit Kappa in Snodland, Kent. There it is made into packaging materials and fresh cardboard for boxes.

This is an example of the closed-loop recycling process, which guarantees cardboard is never sent to landfill or used as waste for energy.



Compostables

Compostables such as compostable food packaging and Scrummi towels are designed and certified to EN13432. These compostables are sent to Envar, an in-vessel composting (IVC) facility in Cambridgeshire to be transformed into soil. There, they go through several stages before they end up as nutrient rich compost:

1. Incoming materials are shredded and blended into a uniform mix, then loaded into aerated, temperature-controlled bunkers.
2. Over 7-10 days, temperatures reach 60°C. The mix is then transferred to maturation bays for 7-12 weeks, where conditions are monitored for optimal composting.
3. After screening and grading, the result is a stabilised, nutrient-rich, peat-free compost used in agriculture.



Corks

Corks are sent to ReCorked in Widnes near Liverpool. Their corks are reused within the UK and for every cork collected, ReCorked donate a portion of their profits to their nominated charities.

Corks are a biodegradable material which can easily be recycled into other materials or objects, instead often ending up as non-recovered waste. Corks that are not recycled will take an average of 3 to 10 years to biodegrade. This is because cork has a hard outer layer which is resistant to mold, fungus, water damage etc.

We collect your used corks as part of our Circular Box service. You can purchase one of our Circular boxes through our website recorra.co.uk. We collect other materials including complex plastics, PPE, toner/ print cartridges, and coffee pods.

Fluorescent Tubes

Fluorescent tubes are sent to Recolight, who process fluorescent tubes at their authorised treatment facilities. There, component materials (including glass, metals and phosphor) are separated and recovered. The glass cullet is treated and returned to the lamp manufacturing industry to be made into new fluorescent tubes.

The mercury from the phosphor powder is also distilled and recovered. The distiller purifies the mercury into various grades which are used in the production of new lamps.





Coffee Cups

Coffee cups are difficult to recycle because they are made from paper fused to a polyethylene liner. This makes it hard to separate at the paper mill. Currently, there are a limited number of specialist facilities in the UK capable of recycling this plastic-coated paper; one facility is our partners at James Cropper.

We collect coffee cups alongside other recycling to limit carbon emissions, but as part of a separate stream. All collections go through quality control to remove contaminants, baled at our depot in Purfleet and then transported to the mill in Cumbria for processing.

At the mill, cups are softened in a warm solution which separates the plastic coating from the paper fibres. The plastic layer is pulverised and recycled, leaving water and pulp. This pulp is then used to make paper and packaging, including a deluxe quality paper range in a coffee-themed colour palette. Our Office Supplies team then offers these products back to our clients.

Coffee Grounds

Recorra offers a separate coffee ground collection scheme. We collect your coffee grounds and take them to Envar, who recycle them into a variety of products; this includes coffee pellets and logs for biomass boilers, generating biofuels that offer a sustainable source of energy from an otherwise wasted product.

Envar use coffee logs for Inficaf, a new raw material used to displace virgin or synthetic materials and reduce waste. Envar's process extract more value from coffee grounds than simply composting or generating energy from waste. Uses include cosmetic exfoliants, bio-based printing inks, fillers for plant-based polymers, and much more.



Coffee Pods

Recorra collects used coffee pods (plastic and aluminium) as separate waste streams, as part of our Circular Box service.

Coffee pods and grounds are separated at specialist facilities in Cheshire. Grounds are sent to anaerobic digestion and turned into fertiliser and energy, and metals and plastics are sent for recycling.



Food

Recorra collects your food waste and takes it to an Anaerobic Digestion (AD) facility operated by Biogen. AD is a biological process which uses naturally occurring microorganisms in a sealed chamber to break down organic matter into a valuable fertiliser and a methane-rich biogas.

A combined heat and power (CHP) engine converts the biogas from food waste into a clean supply of electricity and heat. Produced heat is reused in the AD process, and the electricity generated enters the National Grid as a totally clean source of renewable energy. The highly stable nutrient-rich bio-fertiliser is kept in storage tanks ready for application on to agricultural land, at the correct time, reducing the reliance on fossil fuel-based fertilisers. A video of the process is available [here](#).

Furniture

We have a furniture reuse service that takes furniture in good usable condition and gives it a second life by delivering it to a reuse specialist partner, Reyooz. They sell on usable furniture at low prices to charities, Non-Governmental Organisations (NGOs), Small and Medium-sized Enterprises (SMEs), and individual consumer markets.

Other clearance furniture we receive is broken down into various material elements and recycled. Typically, this is made up of wood and metal.



Glass

Recorra delivers mixed glass to URM UK, whose processing plant is located so close to our facility we can tip the material directly from our vehicles, minimising costs and greenhouse gas emissions.

Here, bottles are crushed into a cullet and sorted to remove contaminants such as bottle caps and paper. It is then scanned to detect the various colour and shades of glass. The glass is separated into 3 main colours: clear, brown, and green. It is then supplied to manufacturers who make new bottles and jars from the finished, high-quality cullet.

IT Equipment

Recorra carefully examines all IT equipment at our own facility. Working and reasonably modern equipment is repaired and reused, while very old or broken equipment is disassembled, with the various components recycled or reused in new machines.

Items containing data are wiped as standard using Blancco systems. We can also physically shred data bearing items, for added security.



Metal

We collect other types of metal as well as drinks and food cans. These are separated into ferrous and nonferrous metals, which are sent onto a specialist. Aluminium cans go to a smelting facility in Cheshire.

Our metal skip goes to EMR in London, where metals are shredded and further separated by density and material type using magnets and x-rays. The metals and aggregates are sold on to end markets.

Paper Towels

Paper towels have traditionally been unrecyclable until now, with new process PaperCircle.

Working in partnership with one of Europe's leading paper towel manufacturers, Essity, the new process has been developed to remove the wet strength agent in paper towels, allowing them to be recycled in a closed loop recycling process. Recycled paper towels can even be re-purchased through our Office Supplies team.





The paper recycling process

The recycling process is broadly similar for all types of paper. At the mill, the paper is mixed with large quantities of water to form a slurry of fibres. It is sieved to remove contaminants (such as staples) and any fibres that are too short. Inks are removed by bubbling air through the mixture, using various brighteners and bleaches.

The clean usable fibre is piped to the pulper, where further

water is added to produce a very thin slurry. This is then pumped onto a mesh screen (the wire) above a trough. Much of the water drains off here and is recirculated. As the fibre goes over the wire it begins to take the form of a wet sheet.

Next, the fibres go through a series of dryers and rollers before ending up on a long reel. This reel is cut into smaller rolls for printers to

use or for converting into sheets of paper or envelopes.

The unusable residues of paper recycling -mainly short fibres, old inks, clays and other fillers are known as 'sludge'. Sludge is typically burnt by the recycling plant to generate heat and power for the recycling process or used as a soil conditioner by farmers.



Paper

Sorted white office paper

Sorted office white paper is taken to WEPA Greenfields in northern France. They have invested heavily into a state-of-the-art recycling technology that enables them to turn the wastepaper into top quality white pulp. This pulp is used to make high grade recycled copier paper, available to purchase from Recorra.

A proportion of our sorted office white paper is also now taken to Northwood Recycling, where it is transformed into tissue and towel products, which are distributed back to our customers via our Office Supplies team.

This is baled and then made back into packaging materials and cardboard at several mills across the UK.

Newspaper

The newspaper that Recorra collects is sent to a leading paper mill in Norfolk, which holds the largest newsprint paper machine in the world. Once collected and reprocessed, all paper can be in circulation again as newsprint



Plastics

There are many different types of plastics, all with different chemical and physical properties. Recorra collects plastics, does some preliminary sorting, and bales a number of plastics types, including PET, HDPE and PP.

We send these plastics to a facility in Rochester. There, they are further separated by type and colour. Sophisticated machinery is now available to automatically sort out plastic polymers, although hand sorting is still sometimes used.

PET plastic bottles are washed and flaked and then made back into either food grade pellets, suitable for making new bottles, or used for a variety of other non-food applications. Some are spun into fibres which are used in clothing or carpets.

Natural HDPE plastic (typically milk bottles) is separated, heated to molten form to eliminate contamination, then made into pellets, which are used to make new milk bottles.

Recycled PP is typically converted into things like drainage pipes, plant pots and 'Plaswood'.



Plastic cup lids & toiletries

Plastic cup lids, toiletries, and flexible plastics like crisp packets, snack wrappers, and film are traditionally hard to recycle; but not with Recorra's latest innovation; The Circular Box.

Collected separately, or combined in a flexible plastics stream, they are sent to ReFactory in Hull. There, they are melted down and transformed into a range of plastic products which can then be recycled time and time again.

Flexible Plastics

Most recycled plastics through our Circular Box are transformed into a weatherproof alternative to plywood called Stormboard™. A plywood like material it can be used for a range of uses including as construction hoarding, furniture and even Christmas trees! Once done, this material can be melted down and recycled again after use. Uniquely, Stormboard™ can be purchased back through our office supplies team in a complete closed loop.

Plastic film is re-processed into granules for supply into UK manufacturing.





Plasterboard

We collect unwanted plasterboard to be transformed into new plasterboard.

Once collected we transfer them to Contrystyles, Ridham facility where they are then processed, crushed, powder separated and dust extracted. Once complete, the raw gypsum will be ready for use on new plasterboards. Creating a continuous cycle that reduces the amount of materials leaving the manufacturing process.

Plastic kegs

Single use plastic kegs are depressurised, dismantled, and separated into their various plastic components.

They are then sent onto the OneCircle recycling facility where they are turned back into plastic kegs.



PPE

Protective Personal Equipment (PPE) includes items such as face masks, gloves, and visors. We can collect these separately in one of our Circular Boxes and send them for recycling. They are recycled into new plastic products including Stormboard™, a recycled alternative to plywood.

Toners

Recorra sends toner cartridges on to Ink & Toner Recycling in Milton Keynes, where all cartridges and consumables are fully recycled or reused.

Original Equipment Manufactured (OEM) cartridges are sold to re-manufacturers in the UK and Europe. These companies refurbish the cartridges and refill them with toner. These cartridges, as well as being very environmentally friendly, are generally cheaper than OEMs.

Eco toner cartridges are the link between our recycling collection and sustainable office supplies; taking the waste we collect and turning it back into high-quality products.

The components that can't be recycled are broken down into their raw materials, extracted and used to make other plastic or metal-based products.



Vapes

The vapes we collect are sent to GAP Group in Gateshead. Here, they are broken down into their constituent parts. This means their valuable elements, notably lithium, can be extracted.

Textiles & Clothing

We provide businesses with pre-paid sacks to fill with used textiles and clothing. Our trucks collect unwanted textiles and transfer them to our MRF, where items are transported to our partner TRAIID in Wembley, London. TRAIID sorts these items and transfers them to a local charity shop; clothes that are too old or in damaged condition are repurposed into upholstery and cleaning materials.

TRAIID's mission is to keep clothing in circulation; their shops create funds to campaign for better working conditions within the fashion and textiles industries, and to educate others on the issue.





General Waste

After we collect the waste from your premises, we take it to an energy recovery facility.

Waste is loaded into a feed hopper and sent down into the furnace. Inside the furnace, it is dried and burned at temperatures of over 1000°C. The bottom ash drops into a slag extractor where it is cooled with water.

Steel is removed with magnets before the ash is sent for recycling. Hot gases produced by the furnace travel through the boiler, boiling water to generate steam.

Electricity is generated by passing the steam through a turbine. Some electricity is used to power the plant, and the rest is exported to the National Grid. Exhaust steam exiting the turbine is cooled and condensed back into water, which is fed back into the process. A comprehensive flue gas cleaning system cleans gases from the burnt waste.

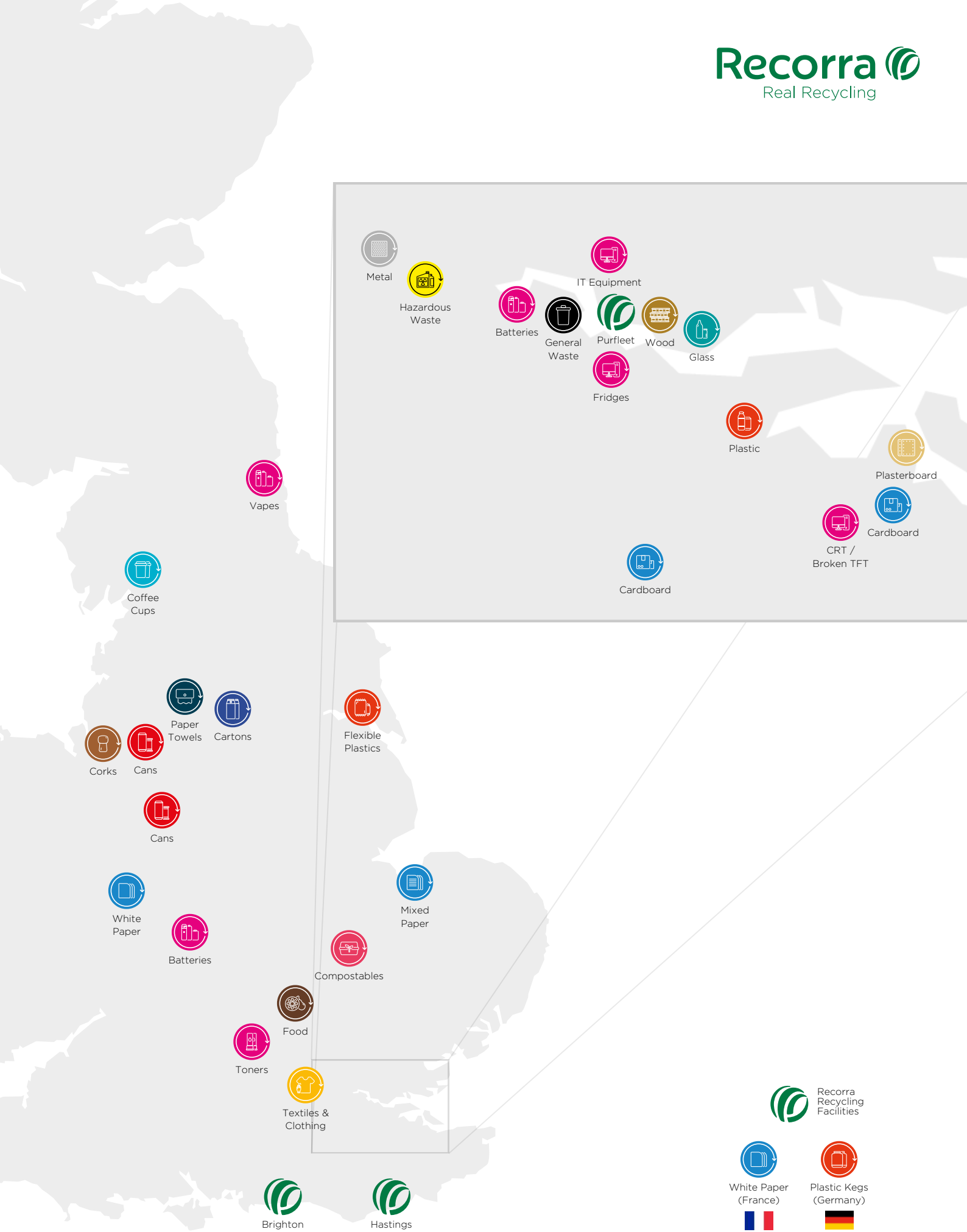
Wood

Recorra collects waste wood, principally in the form of redundant or broken wood pallets. We sort out any pallets that can be reused and pass them onto a pallet dealer.

Most of this wood, however, cannot be reused and are therefore sent to a facility in Tilbury, where it is chipped, and contaminants (such as metal nails) are removed. Wood chips are then used in a variety of applications, including animal bedding and horticultural mulches.

Lower grade woods such as MDF and plywood are chipped for use as biomass fuel, the most widely available source of renewable fuel in the UK.





Appendix

Material	Recycling Facility	Address	Environmental Permit/Waste Management Licence/ Exemption	Waste carriers licence
Batteries (sealed)	WasteCare	Unit 4-10, Atcost Road, Barking, IG11 0EQ	EPR/EP3494VG	CBDU84992
Batteries dry cell (lead acid)	G & P Batteries	Crescent Works, Willenhall Road, Darlaston, West Midlands, WS10 8JR	EPR/DB3704FG	CBDU74463
Canisters	Waste Care (Silver Lining Industries Ltd)	Unit 4-10, Atcost Road, Barking, IG11 0EQ	EPR/EP3494VG	CBDU84992
Cans	Novelis UK	Latchford Locks Works Warrington, WA4 1NN	BL6802IU-	N/A
Cardboard	DS Smith	Kemsley Mill, Sittingbourne, Kent, ME10 2TD	EPR/BJ7468IC/V010	N/A
Cardboard	Smurfit Kappa	The Mill, Snodland ME6 5AX	BJ74331Q	N/A
Cartons	Sonoco Alcore Environmental	Stainland Board Mill, Holywell Green Halifax, West Yorkshire, HX4 9PY	EPR/BJ6186IL	N/A
Coffee cups	James Cropper Ltd	Bridge St, Burneside, Kendal Cumbria, LA9 6PZ	EPR/BJ7620ID/V006	N/A
Coffee grounds	enVar	Cheffins, The Heath, Woodhurst, Huntingdon, Cambridgeshire PE28 3BS	EPR/GP3930DF	CBDU137749
Coffee pods	Tandom Metallurgical Group	Radnor Park Industrial Estate, Congleton, Cheshire CW12 4XE	EPR/QR3634KX	CBDU65076
Compostables	enVar	Cheffins, The Heath, Woodhurst, Huntingdon, Cambridgeshire PE28 3BS	EPR/GP3930DF	CBDU137749
Corks	ReCorked	Unit 8, St Michaels Industrial Estate, Widnes, WA8 8TL	WEX276043	N/A

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CRT/ Broken TFT	SWEEEP Kuusakoski Ltd	Gas Rd, Sittingbourne, Kent ME10 2QB	GP3498HL/V006	CBDU197677
Flexible Plastics (Film, PPE, stationery, cup lid, toiletries)	ReFactory	Morley Street, Hull, HU8 8DN	AB3438RY	N/A
Fluorescent tubes	Recolight	Suite 265 Airport House, Purley Way Croydon CRO 0XZ	EPR/DB3405HU	CBDU53820
Food waste	Biogen	Milton Parc, Milton Ernest, Bedfordshire MK44 1YU	EPR/VP3932EG	N/A
Fridges	European Metal Recycling	Manor Road, Erith, Kent DA8 2AD	WEX104300	N/A
Glass	URM UK Ltd	Port of Tilbury, Tilbury Freeport, Tilbury, Essex, RM18 7EH	EB3606HC	CBDU106350
Hazardous waste	Williams Environmental Management	Unit 3, Charles Street Ind Estate, Charles Street, Silvertown, E16 2BY	SP3293EJ/A001	CBDU161197
IT Equipment (EEE waste)	FJ Church and Sons	Centenary Works Manor Way, New Road Rainham, Essex RM13 8RH	MP3993EX/V0006	CBDU77494
Metal	EMR (European Metal Recycling Ltd)	Bidder Street, Canning Town, London, E16 4SZ	T/NE/MAY043	CBDU188448
Metal (aluminium cans)	Tandom Metallurgical Group Ltd	Radnor Park Industrial Estate, Cheshire, CW12 4XE	EPR/QP3634KX	CBDU65076
Mixed paper (including newspapers)	Palm Recycling Ltd	Poplar Avenue, Saddlebow Industrial Estate, Kings Lynn. Norfolk, PE34 3AL	EPR/FP3132UE/V009	CBDU101791
Paper towels	Essity UK Ltd Stubbins Mill	Stubbins St, Ramsbottom, Bury BLO 0NH	EPR/LP3636WW	CBDU164131

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Plasterboard	Contrystyle Recycling	Ridham Dock Gypsum Facility, Ridham Dock Road, Iwade, Sittingbourne, Kent, ME9 8SR	EPR/DB3606LE	CBDU107168
Plastic (PET, PP, PS, and HDPE)	Viridor	Pelican Reach, Clipper Closer, Medway City Estate, Rochester, Kent, ME2 4QP.	EPR/KB3906KL	CBDU73182
Plastic keg	Reiling Plastic Recycling	KG, K'Park-Straße 20, 59071 Hamm, Germany		N/A
Sorted office white paper	WEPA Greenfield	ZI de la Grande Borne, BP70039, 02407 Chateau Thierry Cedex, France	Copy of local site permit provided	N/A
Sorted office white paper	Northwood Recycling	Stafford Park 10, Telford, Shropshire TF3 3AB	EPR/PP3539TJ	CBDU212247
Textiles & clothes	TRAID	5 Second Way, Wembley HA9 0YJ	WEX285394	CBDU261675
Toners	Ink and Toner Recycling	52 Burners Lane, Kiln Farm, MILTON KEYNES, MK11 3HD	WEX291543	CBDU73009
Vapes	GAP Group	Nest Road, Gateshead, NE10 0ES	EPR/EB3805KW	CBDU161832
Waste (general)	Cory Environmental	Norman Road North, Belvedere DA17 6JY	DP3691ND/V002	N/A
Wood	Seras Energy Ltd	Fort Road Biomass Processing Plant, Fort Road, Tilbury, RM18 7NU	EPR/AP3634DG/V002	CBDU82952

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