



Paper Round

Where does my recycling go





Paper Round
Recycling Facilities

Coffee
Cups



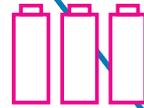
IT Equipment



Plastic
Bottles



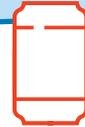
Batteries



Glass



Cans



Newspaper



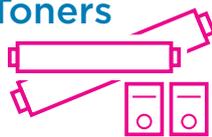
Coffee
Grounds



Vegware
Compostables



Toners



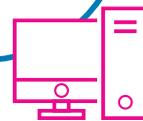
Food



Flourescent
Tubes



Monitors



Office
Paper



RECYCLING, WHERE DOES IT ALL GO?

Paper Round takes great care to maximise the environmental value of our clients' recycling. We do this by choosing the best recycling plants that will turn your paper, plastics and metals back into usable, high quality products. This creates a "circular economy" where waste is used in place of raw materials to make those products we all rely on. Reducing the environmental impacts of your waste in this way helps the fight against climate change.

The trade in recyclables is international. We try where possible to keep our material within the UK, but we do make use of recycling plants in Europe. Each material has a different destination depending on markets and prices. We have listed below the most common journeys the materials we collect travel to.

Paper Round is accredited to ISO 9001 and 14001 which means you can be confident that we maintain full traceability of where your recycling goes and, to add to this, we welcome all our customers to visit our recycling facilities.

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

OUR MATERIALS RECOVERY FACILITY



In 2019 we invested £2.5 million in upgrading our Materials Recovery Facility (MRF) in Purfleet, Essex. The optimisation of the MRF resulted in a 300% increase in capacity and a higher capability to drive improvement in quality.

With the latest recycling technology & processes in place, the facility is able to process significantly more types of material and benefit from more robust operational processes and traceability of waste streams.

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.

OPTICAL SORTERS

We have invested in three programmable optical sorters which can identify different materials using near infrared scans.

Items are ejected based upon the pre-selected type of material.

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.

APPLIANCES



Paper Round can collect broken or unwanted appliances, such as fridges, dishwashers, kettles and other sundry metal items. Fridges are taken to European Metal Recycling. They break them down into small parts which can then be easily separated by magnets and sent for recycling.

BATTERIES



Paper Round uses WasteCare and G & P Batteries for the recycling of batteries. The company is fully licensed to handle all types of non-lead acid batteries, both rechargeable and single use, including;

- | | |
|----------------------|--------------------|
| Nickel Cadmium | Lithium |
| 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.

CANS



Paper Round collects mixed cans, aluminum and steel. These are sorted into ferrous and non-ferrous metals then crushed and baled at our MRF. The bales are then transported to a recycling facility in Cheshire where the different metals are separated using magnets and then melted down into ingots. These are used to make new drinks cans and also in car production, aircrafts, etc.

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.

Although in a separate stream, the cups are collected on the same truck as other recycling to limit carbon emissions. They go through quality control to remove contaminants, baled at our depot in Purfleet and then transported to the James Cropper 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.

COFFEE GROUNDS



Paper Round also offers a separate coffee ground collection scheme. All of the ground we collect are sent to bio-bean. They were the first company in the world to industrialise the process of recycling waste coffee grounds into biofuels and chemicals. At their site in Alconbury Cambridgeshire, they recycle waste coffee grounds into sustainable, high performance products, such as biofuel pellets used to power biomass boilers. Biofuels are carbon neutral and reduces the need to use fossil fuels.

FLUORESCENT TUBES



Unlike basic recycling or 'lamp disposal', the fluorescent tubes collected by Paper Round are recycled in a true closed loop process. The lamps are sent to Recolight who process the fluorescent tubes at their authorised treatment facilities.

The 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.

FOOD WASTE



Paper Round collects your food waste and takes it to a specialised anaerobic digestion (AD) plant. 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 is used to convert the biogas into a clean supply of electricity and heat - the heat is reused in the AD process and the electricity 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 at the correct time back onto the land, reducing the reliance on fossil fuel based fertilisers. A video of the process is available [here](#).

GENERAL WASTE



After we collect the waste from your premises we take it to an energy-from-waste facility in London.

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.

GLASS



Paper Round delivers mixed glass to URM UK, whose processing plant is located close to our facility, thereby minimising vehicle movement. 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 crushed and supplied to manufacturers who make new bottles and jars from the finished, high quality cullet.

IT EQUIPMENT



Paper Round carefully examines all IT equipment at our own facility. Working, reasonably modern equipment is reused, while very old or non-working equipment is disassembled, with the various components recycled or reused in new machines.

With items that require confidential data sweeping, faulty hard drives are shredded at our facility, while fully functioning devices are sent to SWEEEP, located in Sittingbourne, Kent. Here, the equipment is wiped to ensure all data has been removed. Motherboards, cables and other general WEEE items are sent to FJ Church in Rainham, Essex.

PAPER

SORTED OFFICE WHITE



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

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

CARDBOARD

This is baled and then made back into packaging materials and cardboard at a number of mills in the UK.

NEWSPAPER

The newspaper that Paper Round collects is sent to a leading paper mill in Norfolk which holds the largest newsprint paper machine in the world. The closed loop system ensures the once collected and reprocessed, all paper can be in circulation again as newsprint.

MIXED PAPER

Mixed paper collected by Paper Round is sent to one of the world's largest paper-based packaging manufacturers in Snodland. Smurfit Kappa use a circular economy business model, with 75% of their products made from recycled fibre.

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 and through the use of 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.

PLASTICS



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

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

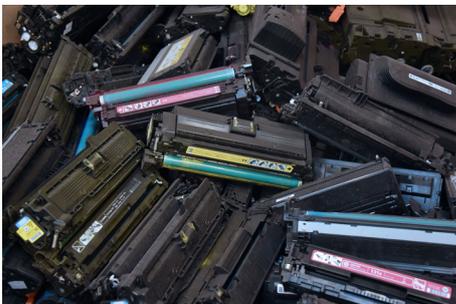
We send these plastics to nearby Viridor in Rochester. There, they are further separated by type and colour. Sophisticated machinery is now available to automatically sort out plastic polymers, although hand sorting is still sometimes used.

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'

TONERS



Paper Round 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 OEM's. Paper Round eco toner cartridges are the link between our recycling collection and sustainable office supplies business; taking the waste we collect and turning it back into high-quality products through closed-loop recycling.

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.

VEGWARE COMPOSTABLES



Compostable packaging such as Vegware is designed and certified to EN13432 and is commercially compostable with food residue. We send compostables to enVar, an in-vessel composting (IVC) facility in Cambridgeshire.

There, they go through several stages before they end up as nutrient rich compost:

1. Incoming materials are shredded and blended to produce a homogenous mix for composting
2. Blended materials are loaded into an enclosed bunker complete with aeration system, temperature control and data logging probes
3. Over 7-10 days, optimum temperatures are reached (60 degrees). The product is then moved to maturation bays where material is left to mature further
4. During maturation (7-12 weeks) the products are carefully monitored to ensure optimum temperature and moisture content
5. After screening and grading, the result is a range of stabilised, nutrient rich, peat-free compost. Compost is used in agriculture and to nourish soil

WOOD



Paper Round 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 sent to a Suez in Essex, where it is chipped and contaminants such as metal nails, 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
Cardboard	DS Smith	Kemsley Mill, Sittingbourne, Kent, ME10 2TD	EPR/BJ74681C/V010	N/A
Cardboard	Smurfit Kappa	The Mill, Snodland ME6 5AX	BJ74331Q	N/A
Cans	EMR Recycling	Bidder St, Canning Town, London E16 4SZ	FB3509MJ/V002	N/A
Cans	Novelis UK	Latchford Locks Works Warrington, WA4 1NN	BL6802IU	N/A
CRT/ Broken TFT	SWEEEP Kuusakosi Ltd	Gas Rd, Sittingbourne, Kent ME10 2QB	GP3498HL/V006	CB/DM3386FT
Coffee cups	James Cropper plc	Bridge St, Burneside, Kendal, Cumbria, LA9 6PZ	EPR/BJ7620ID/V007	N/A
Coffee grounds	bio-bean	Alconbury , Huntingdon, PE28 4WX	EPR/KP3133AS	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
General waste	Cory Environmental	Walbrook Wharf, Upper Thames Street, EC4R 3TD	DP3691ND/V002	N/A
Glass	URM UK Ltd	Port of Tilbury, Tilbury Freeport, Tilbury, Essex, RM18 7EH	WEX097591	CBDU106350

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Hazardous waste	Williams Environmental Management	Unit 3, Charles Street Ind Estate, Charles Street, Silvertown, E16 2BY	SP3293EJ/A001	CBDU161197
Sorted office white paper	Greenfield SAS	ZI de la Grande Borne, BP70039, 02407 Chateau Thierry Cedex, France	N/A	CBDL134012
Sorted office white paper	Northwood Recycling	Stafford Park 10, Telford, Shropshire TF3 3AB	EPR/PP3539TJ	CBDU212247
Mixed paper (including newspapers)	Palm Recycling Ltd	Poplar Avenue, Saddlebow Industrial Estate, Kings Lynn. Norfolk, PE34 3AL	EPR/FP3132UE/V009	N/A
Mixed paper	Smurfit Kappa	Paper Mills, Snodland ME6 5AX	EPR/BJ7433IQ	N/A
Plastic (PET, PP, PS and HDPE)	Viridor	Pelican Reach, Clipper Closer, Medway City Estate, Rochester, Kent, ME2 4QP.	EPR/TP3495HH	CBDU73182
Toners	Ink and Toner Recycling	52 Burners Lane, Kiln Farm, MILTON KEYNES, MK11 3HD	EPR/KF0608VW/A001	CBDU73009
Vegware Compostables	enVar	Cheffins, The Heath, Woodhurst, Huntingdon, Cambridgeshire PE28 3BS	EPR/GP3930DF	
Waste Electrical and Electronic Equipment	FJ Church and Sons	Centenary Works Manor Way, New Road Rainham, Essex RM13 8RH	MP3993EX/V0006	CBDU77494
Wood	SUEZ Recycling & Recovery UK Ltd	Barking Transfer Station, New Free Trade Wharf, 40, River Road, Barking, Essex IG11 0DW	AB3507MZ/V002	N/A



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