

**ZERO
WASTE
SCOTLAND**

Turning full circle

Reprocessors



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zerowastescotland.org.uk

Overview

Reprocessing facilities are where the materials collected for recycling are turned into something new. Some facilities will turn the materials directly into new products, but some need to be turned into a raw material which can then be used by manufacturers. For example, glass reprocessors will take glass collected for recycling and use a process to turn it directly back (reprocess) into bottles or jars, but aluminium reprocessors will often use cans to create rolls or sheets of aluminium ready to be used in manufacturing.

Different reprocessors will take in different materials depending on what it is they manufacture. There are separate reprocessors for glass, paper and other materials. As a result, the specific processes used at each facility will vary.

What goes in?

Material collected for recycling:

For example: paper, glass, cardboard, plastic, aluminium, steel, etc.



What happens?



Materials arrive and incorrect, non-targeted, items (contaminants) are removed.

Materials then go through the relevant process, e.g. the following steps are for glass:



The glass collected for recycling is heated at very high temperatures until it melts.



The molten glass is then blown into moulds to create new bottles.



Once cooled, the new bottles are ready to be filled and appear back on shelves for you to buy.



What comes out?



New products: Some materials, such as glass, can be turned directly into new products.

Raw materials for manufacture: Some materials, such as plastic, will be turned into a form which can be used by manufacturers. Plastic can be turned into flakes, beads, or thin fibres depending on what type of plastic it is and what it will be used to make.



Ultimately, all reprocessed materials are turned into new products, for example:

- Plastic bottles can become new bottles, fleeces (fleece coats) or park benches;
- Glass bottles become new glass containers with mixed-colour glass “fines” becoming an aggregate material used in road construction.
- Paper can be turned into all sorts of paper products, whether office printing paper or toilet roll.
- Aluminium can be turned back into cans or could be used as part of a car or aeroplane.

Glossary

Aggregate material

Materials such as sand and gravel which are used in the construction of roads, making concrete etc.

Contaminants/Contamination

Materials which have not been targeted for collection and should not be present.

Contamination can hamper recycling efforts so care is needed to make sure that only the correct, target, items are put out for collection.

Glass “fines”

Very small pieces of glass which are too small to be separated by colour which means they cannot be reprocessed into new glass bottles. They can still be recycled and will often be used as an aggregate.

Raw materials

The materials used to create products. Raw material can include new or “virgin” resources which have not been used in production before, and materials that have been recycled.

Further information

Zero Waste Scotland (ZWS)

For more information on Zero Waste Scotland, its work and research, please visit: www.zerowastescotland.org.uk

For more information on waste facilities and how they are developed, please visit: www.zerowastescotland.org.uk/infrastructure

Scottish Environment Protection Agency (SEPA)

For information on waste regulation, licencing, data and more detailed technical information on facility types and the standards they are required to achieve, please visit:

www.sepa.org.uk

Recycle for Scotland

For more information on how to reduce, re-use and recycle, please visit: www.recycleforscotland.com

Videos

To watch videos explaining what different facilities do, please visit: www.recycleforscotland.com/facts-figures/facts-figures

Chartered Institution of Wastes Management (CIWM)

For more detailed and technical information on different facilities and on waste management issues in general, please visit: www.ciwm.co.uk

Renewable Energy Association

For more information on thermal and biological treatment facilities which create energy from waste, please visit: www.r-e-a.net/renewable-technologies

Environmental Services Association

For more information on waste management and the different types of facilities, please visit: www.esauk.org/



For more information about Zero Waste Scotland's terms and conditions, please visit www.zerowastescotland.org.uk/content/terms-conditions

If you have any questions please contact data@zerowastescotland.org.uk