

# RECYCLING DESTINATIONS 2015-2016



**SOLIHULL MBC  
RECYCLING DESTINATION REGISTER 2015-16**

<b>Purpose of Note:</b>	To provide further detail regarding the end destinations of the materials collected through the Kerbside Recycling Service, Bickenhill Household Waste Recycling Centre (HWRC) and the Mini Recycling Centre's as part of Solihull MBC's commitment to the Resource Association's End Destination Charter. This information covers the period April 2015 to March 2016.
<b>Date:</b>	11 <sup>th</sup> October 2016

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**1 Background**

In 2015/16 Solihull residents re-used and recycled 39,450 tonnes of household waste<sup>1</sup>, an increase of 598 tonnes on the previous year (household wastes only). This resulted in an estimated<sup>2</sup> 5,722 tonnes of carbon emissions<sup>3</sup> being prevented by not landfilling or incinerating these materials<sup>4</sup>. Furthermore the diversion of residual waste from Landfill to Incineration with energy recovery (the generation of electricity and district heating) results in an additional 19,448tonnes of carbon emissions<sup>5</sup> being prevented<sup>6</sup>.

2015/16 was the first full year that we collected recycling as a part co-mingled system. Paper, card, plastic bottles, tubs, trays, tins, cans and aerosols are collected mixed in a brown 240 litre wheelie bin or clear sacks for properties which cannot accommodate a wheelie bin. Glass bottles and jars are collected separately through the 55 litre black recycling box.

<sup>1</sup> Household waste is defined as waste from domestic properties.

<sup>3</sup> CO<sub>2</sub> tonnes equivalent.

<sup>4</sup> Calculated using carbon savings factors from life cycle analysis studies provided by DEFRA:  
<http://www.ukconversionfactorscarbonsmart.co.uk/>.

<sup>5</sup> CO<sub>2</sub> tonnes equivalent.

<sup>6</sup> Calculated using carbon savings factors from life cycle analysis studies provided by DEFRA:  
<http://www.ukconversionfactorscarbonsmart.co.uk/>.

Throughout the course of 2015/16 saw the withdrawal of the mini recycling centres, as the materials can be recycled through the kerbside recycling service and continually fall in usage, based on the quantity of material collected.

The tables below detail the materials collected by Solihull MBC in 2015/2016 through the Kerbside Recycling Service, Bickenhill HWRC recycling facility and the Mini Recycling Centres across the borough. The tables show the type of material, collection contractor, reprocessor and the final end use of the material.

Recycling and re-use of materials provide numerous benefits including reducing carbon emissions, both by saving energy in extraction and manufacturing processes and by avoiding the emission of powerful greenhouse gases that are emitted as a result of landfilling biodegradable wastes. Recycling can also have other environmental benefits, including conserving natural resources and reducing other forms of pollution.

Solihull MBC aims to use UK based recycling contractors and to supply local markets. However this is not always possible due to the demands of the global economy. Often it is more economical to export materials overseas to where the demand lies. For example, the demand for re-use clothing is often greater in developing countries and Eastern Europe than in the UK.

All the materials listed below are classed as household waste, with the exception of plasterboard, hardcore, rubble and soils which are defined as commercial/industrial wastes (non-household).

## 2 Kerbside Recycling Material End Destinations

### Kerbside Recycling Collections 2015-16

	Material	Collection Contractor	Reprocessor (Initial)	End Use
		<p>Mixed Household Recycling – Paper, Card, Plastics and Cans</p> 	<p>Amey</p>	<p>Materials are sorted into the separate material fractions via an automated process at a Materials Recycling Facility. The separate materials are then baled and sold on the open market for manufacture into new products across the world. Further information on the process can be found in Appendix A. Any material that is not suitable for recycling is used to manufacture Solid Recovered Fuel (SRF) which is used in the cement industry as a replacement for coal. For more information on the SRF process <a href="#">click here</a>.</p>

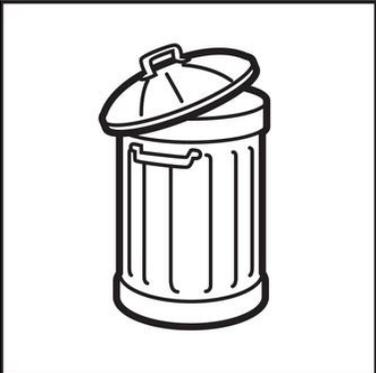
## Kerbside Recycling Collections 2015-16

Material		Collection Contractor	Reprocessor (Initial)	End Use
 <p><b>mixed glass bottles &amp; jars</b></p>	<p>Mixed Glass Bottles and Jars</p> 	Amey	URM (UK) Ltd, Knottingley, West Yorkshire	<p>Mixed glass bottles and jars collected in the black box are colour separated using innovative laser technology. It is then used to make a variety of end products including being re melted into new glass bottles and jars. Some of the material is unsuitable for re-melting into new glass products and is used as an aggregate, for example in road building in both the UK and abroad. Find out more about the <a href="#">process</a>.</p>
 <p><b>clothes</b></p>	<p>Clothes</p>	Amey	Warwickshire and Northamptonshire Air Ambulance, Kegworth, Leicestershire	<p>Textiles are sorted and graded. Suitable textiles are sold through the Air Ambulance shops to fund their works. Some of the textiles, that are unsuitable of resale in the UK are sold to brokers in Eastern Europe for resale and re-use. A small element of the material received is unsuitable for reuse or recycling and sent for disposal (i.e. odd shoes).</p>

### Kerbside Recycling Collections 2015-16

Material		Collection Contractor	Reprocessor (Initial)	End Use
  clothes	Clothes	Amey	JMP Wilcox & Co Ltd, West Midlands	Direct reuse in developing countries or shredded to be made into cotton felt/wadding/mops/dusters and industrial; wiping cloths both within the UK and Asia.
 garden waste	Garden Waste	Amey	Suez, Warwickshire	The garden waste collected in the green wheelie bin is composted in windrows to produce compost which is sold through national retailers under different brands. Find out more about <a href="#">windrow composting</a> .

Kerbside Recycling Collections 2015-16

Material	Collection Contractor	Reprocessor (Initial)	End Use
 <p><b>household waste</b></p>	<p>Household Waste</p> 	<p>Amey</p>	<p>Household waste collected in the black wheelie bin or purple sack is not landfilled.</p> <p>Value is recovered from the waste as it is incinerated with the heat being recovered to generate electricity and heat local buildings. For more <a href="#">information</a>.</p> <p>Incinerator Bottom Ash (IBA) is a by-product from the Energy from Waste process and predominately consists of glass, ash, metals and fines it makes up between 19 to 21% by weight of the waste left in your residual wheelie bin. This material is now being recycled into secondary aggregates. The IBA is taken to a plant and then processed by crushing, screening and separating to produce an aggregate suitable for use in the construction industry.</p> <p>The advantage of doing this is it replaces virgin aggregate i.e. reduces quarrying and has an environmental benefit.</p> <p>The metals within the IBA are separated from the ash and recovered for recycling. reprocessing into their separate fractions and then into new metal products. <sup>6</sup></p>

**Kerbside Recycling Collections 2015-16**

<b>Material</b>		<b>Collection Contractor</b>	<b>Reprocessor (Initial)</b>	<b>End Use</b>
	Offensive Hygiene Waste	Amey	Veolia ES Birmingham Ltd, Birmingham, West Midlands	Offensive Hygiene waste is collected in yellow and black striped sacks. It is not landfilled but value is recovered as the waste is incinerated at specialist energy from waste plant with the heat being recovered to generate electricity. This service ceased in March 2016.

### 3 Bickenhill HWRC Material End Destinations

#### Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
 mixed paper & card	Mixed Paper and Cardboard	Amey	Suez, Birmingham	Mixed material sent to MRF plant for sorting into paper and card fractions. They are then sent for reprocessing into new products across the UK, Europe and the Far East. To find out more <a href="#">click here</a> .
 mixed paper & card	Mixed Paper and Cardboard	Amey	Smurfit Kappa Ltd, Birmingham	All paper & card received at the plant is used for the production of brown paper for the packaging industry. The produced paper is sold on, primarily to Smurfit Kappa's own conversion plants throughout the U.K., for the manufacture of corrugated cardboard and subsequently boxes and other fibre based containers.
 cardboard	Cardboard	Amey	Smurfit Kappa Ltd, Birmingham	All paper & card received at the plant is used for the production of brown paper for the packaging industry. The produced paper is sold on, primarily to Smurfit Kappa's own conversion plants throughout the U.K., for the manufacture of corrugated cardboard and subsequently boxes and other fibre based containers.

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use
 <p>mixed glass bottles &amp; jars</p>	<p>Mixed Glass Bottles and Jars</p>	<p>Amey</p>	<p>Mixed glass bottles and jars collected in the black box are colour separated using innovative laser technology. It is then used to make a variety of end products including being re melted into new glass bottles and jars. Some of the material is unsuitable for re-melting into new glass products and is used as an aggregate, for example in road building in both the UK and abroad. Find out more about the <a href="#">process</a>.</p>
 <p>household metal packaging</p>	<p>Household Metal Packaging</p>	<p>Amey</p>	<p>Mixed material sent to MRF plant for sorting into steel and aluminium fractions. They are then sent for reprocessing into new products across the UK, Europe and the Far East. To find out more about what happens to aluminium cans <a href="#">click here</a>.</p>

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use
 <p>mixed textiles &amp; clothes</p>	Textiles and Footwear	Amey	<p>Direct reuse in developing countries or shredded to be made into cotton felt/wadding/mops/dusters and industrial; wiping cloths both within the UK and Asia.</p> <p>Shoes are sent to developing countries to be refurbished and to be reused. A small element of the material received is unsuitable for reuse or recycling and sent for disposal (i.e. odd shoes).</p>
 <p>mixed textiles &amp; clothes</p>	Textiles and Footwear	Amey	<p>Textiles are sorted and graded. Suitable textiles are sold through the Air Ambulance shops to fund their works. Some of the textiles, that are unsuitable of resale in the UK are sold to brokers in Eastern Europe for resale and re-use. A small element of the material received is unsuitable for reuse or recycling and sent for disposal (i.e. odd shoes).</p>

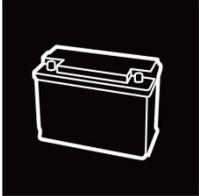
Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use	
 <p>household plastic packaging</p> <p>cartons</p>	Mixed Household Plastic and Tetrapak	Amey	Suez, Birmingham	<p>Mixed household plastics, are sent to Material Recovery Facility (MRF) plant for sorting into separate plastic fractions. These are then sent for reprocessing into new products across the UK, Europe and the Far East. To find out more <a href="#">click here</a>.</p>
 <p>plasterboard</p>	Plasterboard	Amey	Mid UK Recycling Ltd, Lincolnshire	<p>Processed to separate the gypsum and paper. Gypsum is reprocessed in to a range of gypsum based products in the cement industry. The paper is reprocessed into a variety of new paper products.</p>
 <p>scrap metal</p>	Scrap Metal	Amey	European Metal Recycling Ltd, Birmingham	<p>Materials broken down into separate streams for further reprocessing and/or onward reprocessing/recycling.</p>

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

	Material	Collection Contractor	Reprocessor (Initial)	End Use	
	 <p>large appliances</p>	Large Domestic Appliances	Amey	S Norton & Co Ltd, Liverpool	Large Domestic Appliances are shredded in a hammer mill with the resulting metals segregated for recycling. The non-metallic components are sent for further reprocessing in the UK.
	 <p>used engine oil</p>	Mineral Oil/Used Engine Oil	Amey	Elimpic Ltd, West Midlands	Oils are recovered and blended into recovered fuels and alternative fuels.
	 <p>cooking oil</p>	Vegetable Oil	Amey	Living Fuels, Nottinghamshire Norfolk	Reprocessed into a biofuel which is then used to generate electricity and heat in specific bioenergy Combined Heat and Power (CHP) plants.

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use	
 <p>car batteries</p>	Automotive Batteries	Amey	European Metal Recycling Ltd, West Midlands	Batteries separated into separate material fractions, i.e. metal and plastic for reuse in manufacturing.
 <p>batteries</p>	Household Batteries	Amey	G & P Batteries Ltd, West Midlands	Batteries separated into separate material fractions, i.e. metal and plastic for reuse in manufacturing.
 <p>fridges &amp; freezers</p>	Fridges and Freezers	Amey	European Metal Recycling Ltd, West Midlands	Broken down into separate components for reuse and remanufacturing within the UK, Europe and the Far East. CFC's are extracted for safe disposal.

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
 books	Books	Amey	JMP Wilcox & Co Ltd, West Midlands	Of the sorted material: 1% is sent for resale in the UK. 59% are exported to Africa for use in education. 40% is waste paper and is sent for pulping and manufacture into new paper products within the UK.
 books	Books	Amey	Warwickshire and Northamptonshire Air Ambulance, Kegworth, Leicestershire	Materials sorted with a significant proportion sold in Air Ambulance shops to fund their activities, The books unsuitable for resale are then sent to Better World Books for further reuse and recycling.
 wood & timber	Wood and Timber	Amey	A&A Recycling Services Ltd, Meriden, Warwickshire	All wood wastes are shredded to produce material suitable for recycling into new board products for use in the construction industry.
	Low Grade Wood Products (Chipboard and MDF)			

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use			
	Green Waste	Amey	Suez, Warwickshire  Composted in windrows to produce compost which is sold through national retailers under different brands. Find out more about <a href="#">windrow composting</a> .			
	Paint	Amey	Aqua Force Special Waste Limited, West Midlands  Collected paint is sorted into solvent based and water based material (hazardous and non-hazardous). Solvent based paints are used for solvent blending and re-used as a secondary fuel, usually in cement kilns. Water based paints are used as a soil conditioner in composting facilities. Where practicable metal packaging is recovered for recycling. Plastic packaging is sent for disposal to landfill due to the contaminated nature of the material.			
	Gas Bottles	Amey	<table border="1"> <tr> <td>Brooksight</td> <td rowspan="2">Collected by distributors to be refilled and redistributed, refurbished or reprocessed into scrap metal.</td> </tr> <tr> <td>Synergy</td> </tr> </table>	Brooksight	Collected by distributors to be refilled and redistributed, refurbished or reprocessed into scrap metal.	Synergy
Brooksight	Collected by distributors to be refilled and redistributed, refurbished or reprocessed into scrap metal.					
Synergy						

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use	
	<b>aerosols</b>	Aerosols (separate collection of this material ceased in September 2014 as it is now collected with the mixed cans)	Amey	Aqua Force Special Waste Limited, West Midlands	Metals are recovered for reprocessing into new materials.
	<b>small appliances</b>	Small Domestic Appliances	Amey	S Norton & Co Ltd, Liverpool	Broken down into separate components for further recycling and reprocessing.
	<b>tv's &amp; monitors</b>	TV's and Display Screens	Amey	Mekatek Recycling LTd, Pontyclun, Rhonda Cynon Taff.	TV's and display screens are deconstructed into metals, glass, plastics and residual components. These are then recycled or disposed of to landfill.

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
	Fluorescent Tubes and CFL's	Amey	Mercury Recycling Ltd, Manchester	Lamps are deconstructed into glass, mercury, gas and metals. The different components are recycled with the mercury being recycled into new lamps.
fluorescent tubes				
	Ink and Toner Cartridges	Amey	RNIB	Ink and toner cartridges are collected at Bickenhill Household Waste Recycling Centre, and are then collected by the charity Royal National Institute of Blind People for them to reprocess.
printer cartridges				
	Mobile Phones	Amey	RNIB	Mobile telephones are collected at Bickenhill Household Waste Recycling Centre, and are then collected by the Royal National Institute of Blind People, who reprocess the mobile phones.
mobile phones				

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

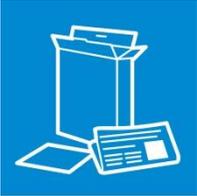
Material		Collection Contractor	Reprocessor (Initial)	End Use
 hand tools	Hand Tools	Amey	Hand Tools for Africa,	Refurbished for re-use in developing countries.
 spectacles	Spectacles	Amey	Vision Aid	Refurbished for re-use in developing countries.
 hardcore & rubble	Rubble	Amey	KSD Recycled Aggregates Ltd, Curdworth, Warwickshire	Reprocessed into secondary aggregate to industry approved standards for use in the construction industry.

Bickenhill Household Waste Recycling Centre (HWRC) 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
 <p>general waste</p>	Recovered Residual Waste	Amey	Coventry and Solihull Waste Disposal Company, Coventry	Material not landfilled. Value is recovered as the waste is incinerated (Energy from Waste) with the heat being recovered to generate electricity and heat local buildings. For more <a href="#">information</a> .
 <p>general waste</p>	Residual Waste - Disposal	Amey	FCC Environmental (Waste Recycling Group Ltd), Warwickshire	<p><b>Not Recycled or Recovered - material is landfilled</b></p> <p>Waste that cannot be sent to the Energy from Waste facility is disposed of to Landfill. Waste is buried in engineered covered cells where it decomposes over a long period of time with little or no value recovered. This results in the generation of methane gas which is captured and used to produce electricity. Find out more about <a href="#">landfill</a>.</p> <p>FCC Link:  <a href="http://www.fccenvironment.co.uk/waste-processing-landfill.html">http://www.fccenvironment.co.uk/waste-processing-landfill.html</a></p>

4 Mini Recycling Centre Material End Destinations- This service was withdrawn in March 2016.

Mini Recycling Centres 2015-2016

Material	Collection Contractor	Reprocessor (Initial)	End Use	
 <p>mixed paper &amp; card</p>	Mixed Paper and Cardboard	Smurfit Kappa	Smurfit Kappa Ltd, Birmingham	<p>All paper &amp; card received at the plant is used for the production of brown paper for the packaging industry. The produced paper is sold on, primarily to Smurfit Kappa's own conversion plants throughout the U.K., for the manufacture of corrugated cardboard and subsequently boxes and other fibre based containers.</p>
 <p>food tins &amp; drink cans</p>	Mixed Cans	Amey	Suez, Birmingham	<p>Mixed material sent to MRF plant for sorting into steel and aluminium fractions. They are then sent for reprocessing into new products across the UK, Europe and the Far East. To find out more about what happens to aluminium cans <a href="#">click here</a>.</p>

## Mini Recycling Centres 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
 <p style="text-align: center;"><b>books</b></p>	Books	Oxfam	Oxfam	Books sold in shops to fund Oxfam's projects. Find out what <a href="#">happens</a> .
		British Heart Foundation	British Heart Foundation	Books sold in shops to fund British Heart Foundations projects.
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><b>clear glass bottles &amp; jars</b></p> </div> <div style="text-align: center;">  <p><b>brown glass bottles &amp; jars</b></p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p><b>green glass bottles &amp; jars</b></p> </div>	Glass Bottles and Jars	Berrymans	URM (UK) Ltd, Yorkshire	<p>Reprocessed into glass cullet for manufacture into new glass products e.g. bottles and jars. Some of the material is unsuitable for re-melting into new glass products and is used as an aggregate, for example in road building in both the UK and abroad. Find out more about the <a href="#">process</a>.</p>

### Mini Recycling Centres 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
	Textiles	BCR Global Textiles	BCR Global Textiles, West Midlands	Textiles sold to second-hand traders in the UK and developing countries for reuse, the non-reusable portion (generally less than 15%) is recycled in to products such as wiping cloths. Any waste is used to generate energy
		Oxfam	Oxfam	Textiles sold to second-hand traders in the UK and developing countries for reuse, the non-reusable portion (generally less than 15%) is recycled in to products such as wiping cloths.
		Salvation Army	Salvation Army	
		Traid	Textile Recycling for Aid and International Development	
		Greenworld Recycling Ltd	Greenworld Recycling Ltd, West Midlands	

### Mini Recycling Centres 2015-2016

Material		Collection Contractor	Reprocessor (Initial)	End Use
	Textiles and Footwear	Grovenor Samaritans	Grovenor Samaritans, West Midlands	Textiles sold to second-hand traders in the UK and developing countries for reuse, the non-reusable portion (generally less than 15%) is recycled in to products such as wiping cloths.
		The European Recycling Company Ltd	The European Recycling Company Ltd, Surrey	Textiles sold to second-hand traders in the UK and developing countries for reuse, the non-reusable portion (generally less than 15%) is recycled in to products such as wiping cloths. Shoes are sent to developing nations for reuse and refurbishment.

<b>Date:</b> 24.10.16	<b>Author(s):</b> Chris Gillett & Danuta Morley	<b>Version:</b> 2
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## **5 APPENDIX A – What is a Materials Recycling Facility?**

A Material Recycling Facility (MRF) is a specialist plant where recyclable materials that are collected from households mixed are sorted into different types, e.g. plastics, paper, cardboard, metal. This is achieved using a mixture of manual and automated methods. When the materials have been sorted into their separate streams they are baled and sold to reprocessors and manufacturers where they are used to create new products. Solihull MBC uses a facility in Birmingham operated by Suez (formally Sita UK Ltd). A schematic and description of the process is shown on the following page.

A brief overview of a Materials Recycling Facility can be found [here](#).



Recycling which is collected is taken to Bickenhill Household Waste Recycling Centre where it is deposited into bulking bays. There are two bays - one for glass and one for mixed recycling. The mixed recycling is transported by articulated lorry to the MRF.

The recycling arrives at the MRF and is deposited into the reception bay.



On the first conveyor an initial hand sort is carried out to remove any large recyclable items such as card and contamination (non-recyclable items) such as crisp packets and plastic bags.

Following this the material enters a trommel (a large rotating drum full of holes similar to large washing machine) where fine materials are separated out which are not recyclable.



The remaining recycling then leaves the trommel on a conveyor where the metallic items are removed. A series of Eddie Current Separators and electro-magnets are used to separate the ferrous and non-ferrous metals from the recycling.

After the metals have been removed the recycling passes over a vibrating table which separates the materials before they enter the air classifier on a high speed conveyor



The air classifier uses the different material properties (density and aerodynamic profiles) to separate materials by weight. In addition optical scanners are used to identify and separate different plastic types that are then separated with air knives/blowers.

Once all of the individual materials have been separated they each go through a separate manual picking line for fine sorting.



The separated materials are then dropped down a series of hoppers and onto conveyor belts which transport them to the individual material bays where they are stored prior to being sold on for reprocessing in specialist factories into new products

The facility used by Solihull MBC is unique in that Suez also operates a Solid Refuse Fuel (SRF) facility on the same site, and are able to direct contamination (material not suitable or accepted for recycling) into the SRF plant. This facility then turns the contamination into a fuel for use in the cement industry as a replacement fuel for coal.



# MATERIALS RECYCLING FACILITY

