SUBJECT:	*Recycling End Destination Report*
REPORT OF:	*Services Overview Committee*
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WARD/S AFFECTED	*All*

1. Purpose of Report

1.1 To update Committee on the end destination of materials collected for recycling. This follows interest in the end destinations following a presentation to Committee in spring 2018 and takes into account the resulting impact of the China import ban.

RECOMMENDATIONS

1.2 That Services Overview Committee notes this report.

2. Executive Summary

2.1 Following a waste service presentation to Committee earlier this year on the communication and engagement activities undertaken to promote and enhance the service, a request was made for detail on the material end destinations for the recycling collected by the authorities.

2.2 To understand better what happens to the waste our residents separate for recycling. To gain insight into the possible impact regulations introduced by China this year (restricting imports of waste exported for treatment) and its effects for sourcing alternative sustainable markets for material recycling.

3. Reasons for Recommendations

3.1 The report is provided for information purposes.

4. Content of Report

4.1 This report will seek to inform Members, sharing information on processing routes and end uses where known.

4.2 Information made available through this report is based on data provided to the authorities for the purposes of national reporting (Waste Data Flow *Defra)*. This information on our performance measures are within the public domain.

5. National Indicators

5.1 Waste Data Flow is the web based system for municipal waste data reporting by UK local authorities to government. Data submissions are made quarterly and annually on performance measures to Defra, demonstrating accountability for waste managed by the authority and its respective partners.

5.2 Data must be made available and presented to the authorities by our contractors within agreed timescales in order to complete returns on time. Data is presented in different formats and derives from different sources. Collating information, interpreting and processing data for accurate returns is a time consuming procedure albeit essential in undertaking our statutory duty.

5.3 The same process and data analysis helps to inform other reporting measures, including local Performance Indicators and returns for recycling credits claimed from the county council.

5.4 There is a legal obligation for LAs to accurately report performance measures to Defra. A sequence of standard questions, reporting specific measures on the amount of municipal waste collected by authorities. This includes recycling and refuse collected from the kerbside and other sources, such as street cleansing arising and fly-tipped waste.

5.5 Material collected for recycling must be reported with an end destination. That tends to be the third party responsible for reprocessing that material, once it has been through and left the Material Recovery Facility (MRF), where it is separated by its type for example steel cans, aluminium, High Density Polyethylene (HDPE) and Polyethylene Terephthalate (PET). For residual waste the end process must be reported, although the actual destination is not a requirement.

6. The China Affect

6.1 At the turn of the year stringent regulations introduced by China came into force. The regulations were designed to crack down on poor quality of materials imported for recycling.

6.2 Bans applied to specific waste types. The main purpose of the ban was to improve environmental standards and stimulate local recycling collection infrastructure.

6.3 In addition to banning a number of wastes types from 1st January 2018, the permitted contamination levels on waste still allowed was reduced to 0.5% on paper and plastics. This is lower than the 1% expected by the industry in the run up to the ban and means that China has by far the highest standards in the world.

6.4 Over the past decade China has been the feedstock for the element of exported waste from the UK and Europe, fuelling demand for raw material for consumable products.

6.5 Alternative markets had to be identified and much uncertainty ensued. The full impact of the regulations was unclear, although markets are slowly stabilising.

6.6 Due to the time taken for shipping containers to arrive in China (3 months), the export of materials to China ceased around October 2017 and we've seen alternative material markets emerging since this time.

6.7 It is important to highlight that only a proportion of waste we collect for recycling is exported. The majority of waste collected is reprocessed within the UK.

6.8 It is difficult to calculate specifically how much of the Dry Mixed Recycling (DMR) we collect is eventually exported. The material we collect is a portion of the total feedstock which the sorting facility is processing.

6.9 We can take a holistic view of one such facility and the amount of material it exports, based on data available to us. Although this is not representative of the end destinations for the material we collect it is used for illustrative purposes.

6.10 Table 1 demonstrates the percentage of sorted material exported by Viridor for the period between July 2017 and June 2018. It should be noted that the vast majority of exported material is post-consumer plastic consisting of HDPE (Natural & Mixed); PET (Clear); and plastic bags.

Table 1.

Month	2017	Month	2018
July	21%	January	13%
August	8%	February	19%
September	12%	March	13%
October	13%	April	27%
November	17%	May	17%
December	13%	June	20%

6.11 From data available we can see that exports to China ceased after July 2017. This can be attributed to the pending regulatory changes that were to come into effect.

6.12 As demonstrated in table 1 we see a slight drop in the amount of recyclable material exported outside the UK from August 2017. However that figure begins to increase in Q1 this year.

6.13 To highlight the percentage of material exported to countries outside of the EU, table 2 takes a look at the same period.

Table 2.

Month	2017	Month	2018
July	14%	January	6%
August	5%	February	9%
September	10%	March	4%
October	6%	April	15%
November	10%	May	9%
December	8%	June	14%

6.14 Common countries exported to outside of the EU include Malaysia, Taiwan, Vietnam and Philippines. Other end destinations may include markets in Hong Kong, Indonesia and India.

7. End Destinations

7.1 End destinations can vary depending upon a number of factors, including demand, value and market stability. In the current climate these fluctuations are more likely to affect end destinations for the DMR material collected, which have been turbulent since the China ban came into effect. End destinations for paper and mixed cardboard are more stable and less likely to fluctuate and is in part thanks to the current arrangements we have in place

7.2 Paper and cardboard collected at the kerbside is taken to our depot at Amersham. The material is sorted and separated. Paper is transported by road to Shotton, North Wales to be processed by UPM Kymmene. Mixed cardboard is transported by road to be processed by Pearce Recycling at one of its sorting facilities. It has centres at St Albans, Luton, Milton Keynes and Verwood

7.3 Cardboard is sorted and graded, then delivered to a paper mill where it undergoes a variety of processes to produce new products such as newsprint, cardboard packaging, and tissue. Those reprocessing markets tend to be within the UK or EU.

7.4 The fibre recovered by UPM is pulped to make new paper products. Any low grade paper unsuitable for recycling might be combined with other low grade fibrous by-products and used as fuel to help power its facilities.

7.5 The Dry Mixed Recycling collected from the blue bins, is tipped at our depot in Amersham. It is then transported by road to a Material Recovery Facility (MRF), where it is sorted by material type before onward journey to a third party reprocessor.

7.6 DMR material is sorted by Viridor under agreement with Serco. Viridor have facilities in Milton Keynes and Rochester where our material is commonly sent.

7.7 Viridor have a network of established outlets for the sorted material, supplying the market place with resource as feedstock for a wide variety of alternative uses. It is these outlets which we report as end destinations.

8. Composition – Dry Mixed Recycling from blue bins

8.1 To provide some local context to the current situation, we need to look at the composition of the DMR material we collect from the blue bins.

8.2 To enable us to report effectively, Viridor provide us with a sample analysis of the co-mingled material to determine just how much plastic, glass, metals and cartons we collect.

8.3 From the report we can determine a description of the material, the percentage split as a proportion of the sample taken, as well as the attributed tonnage based on the total net weight of material we delivered to the sorting facility. Table 3 illustrates the above and also provides details of the end destinations for the materials we collected.

Table 3. Composition of material from blue bins for April 2018

Material	WDF Material Type	End Destination	Percentage Split	Tonnage
Aluminium Cans	Aluminium Cans	Alutrade Ltd	3.28%	35.40
Glass Mixed	Mixed Glass	2ZLF Ltd	45.96%	495.51
HDPE Coloured	Mixed Plastic Bottles	Imerplast UK Ltd	2.74%	29.51
HDPE Natural	Mixed Plastic Bottles	Viridor Polymer Recycling	4.82%	52.00
PET Clear	Mixed Plastic Bottles	Viridor Polymer Recycling	8.28%	89.23
PET Coloured	Mixed Plastic Bottles	Clean Tech UK Ltd	3.54%	38.16
PET Trays Clear	Mixed Plastic Bottles	Viridor Polymer Recycling	3.31%	35.68
Polypropylene	Mixed Plastics	Viridor Rochester	8.19%	88.26
PS (ABS/HIPS)	Mixed Plastics	Viridor Rochester	0.56%	6.05
PVC	Mixed Plastics	Viridor Rochester	0.27%	2.89
Steel Cans	Steel Cans	Morris & Co Handlers Ltd	6.91%	74.46
Cardboard			0.00%	0.00
Fines	Mixed Glass	2ZLF Ltd	2.90%	31.23
Hard Plastics	Other Plastics	Imerplast UK Ltd	0.12%	1.26
Mixed Paper	Paper	Drumcastle Ltd	5.59%	60.23
Plastic Bags Clear & Coloured			0.00%	0.00
Plastic Film Clear	Other Plastics	Imerplast UK Ltd	2.08%	22.42
Plastic Laminates / Waxed Paper			0.00%	0.00
Scrap Metals		Morris & Co Handlers Ltd	0.00%	0.00
Tetrapack / Foil Lined			0.00%	0.00

8.4 The end destinations presented above are all UK based third party reprocessors. They must be licensed as an accredited waste processor with the EA. These are the end destinations we report to Defra.

8.5 WDF submissions for so far 2018 do not report material exported as an end destination.

8.5 Further examples of the compositional analysis can be made available upon request

8.6 As table 3 demonstrates, mixed glass represents a significant proportion of the material we collect for recycling. Plastics as a whole are significant, although presented by sub-category the end destinations are multiple.

8.7 We might consider some of the plastics we collect could be exported by the end destination reprocessor. However, to determine which type and just how much would require a more detailed analysis and may not prove conclusive.

8.8 It should also be noted that not all material is acceptable for recycling. Material unsuitable for recycling is considered rejection and these figures must also be reported to Defra. More information on the authorities reject rates can be made available upon request

9. Corporate Implications

Reports must include specific comments addressing the following implications;

9.1 Financial – There are no financial impacts expected for the council in relation to the current service agreement.

9.2 Legal – The Environmental Protection Act, 1990, sets waste collection authorities (District Councils) a duty to collect waste. The Waste Framework for England & Wales has set national recycling targets of 50% by 2020.

10. Links to Council Policy Objectives

The Joint Waste Collection service supports the objective:

Striving to conserve the environment and promote sustainability

Background Papers:	none