

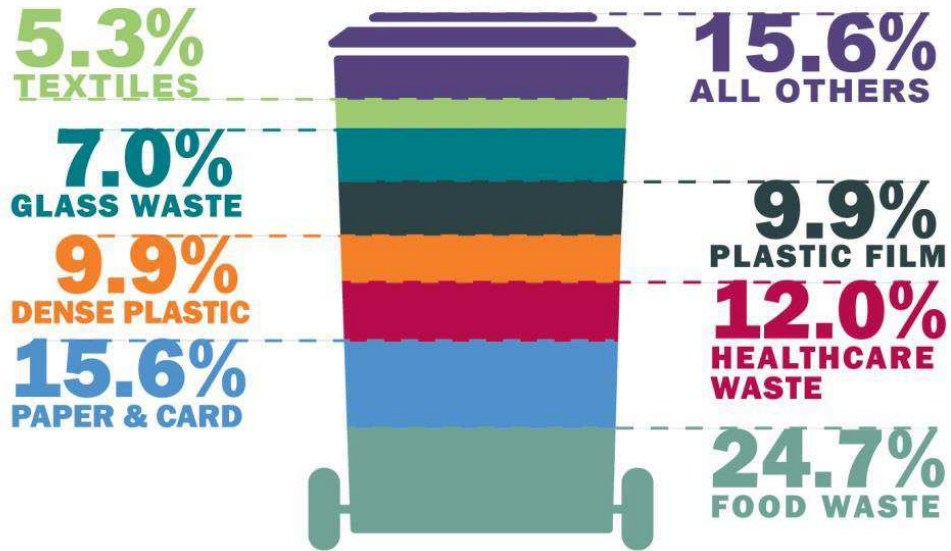
Report on	Northern Ireland Waste Composition Study Results
Date of Meeting	2 nd July 2018
Reporting Officer	Mark McAdoo, Head of Environmental Services
Contact Officer	Mark McAdoo, Head of Environmental Services

Is this report restricted for confidential business?	Yes	
If 'Yes', confirm below the exempt information category relied upon	No	X

1.0	Purpose of Report
1.1	To inform members of the results of a study analysing the composition of kerbside collected household waste in Northern Ireland compiled from a two-phase fieldwork campaign.
2.0	Background
2.1	RPS was commissioned by WRAP, (the governmental advisory body on waste and resources), on behalf of the Department of Agriculture, Environment and Rural Affairs (DAERA), to undertake a study of the composition of household waste collected at the kerbside in Northern Ireland.
2.2	The aim was to determine overall waste composition, individual material capture rates and the extent to which recyclable or compostable materials are being disposed of in the residual waste stream. In addition, the report examines what has changed since 2007 (when the last waste composition study was carried out) in what we throw away in the residual waste stream and the biodegradability of each waste stream.
2.3	Waste composition analysis of kerbside collected material was carried out for all 11 local authorities in Northern Ireland. The study was conducted over two phases in order to account for seasonal changes that can occur in the waste streams. Phase 1 was undertaken from 13th March 2017 to 14th June 2017, while Phase 2 was undertaken from 4th September 2017 to 29th November 2017.
2.4	Household samples were identified based on socio-demographic (Mosaic) groups, service provision, collection rounds and local authority knowledge. Each local authority sample consisted of 150 households representative of the overall socio-economic makeup of the local authority. In total, waste and recyclables (dry and organic) from 1,650 households was analysed during both Phase 1 and Phase 2.
3.0	Main Report
3.1	<p><u>Summary Northern Ireland Results</u></p> <p><u>Kerbside collected residual waste</u></p> <p>Typically a household in Northern Ireland disposes in the region of 478 kg of residual waste annually. Food waste makes up just under 25% of total residual waste arisings.</p>

This is followed by paper and cardboard (15.6%), healthcare waste (12%), plastic film (9.9%), dense plastic (9.9%) and glass (7%).

Figure 1 Summary composition of residual waste in Northern Ireland



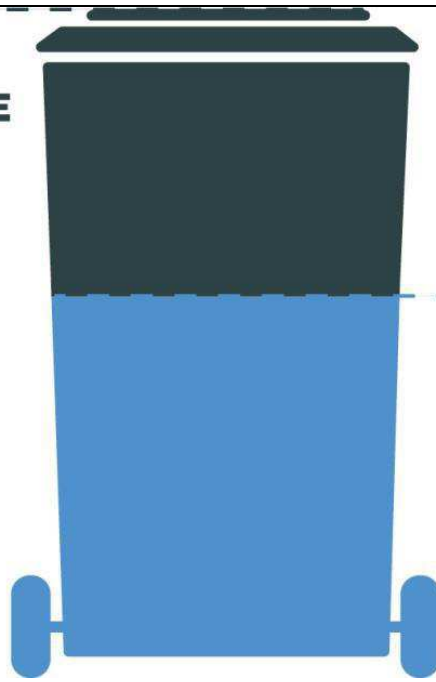
It should be noted that the quantity of residual waste collected at the kerbside has greatly decreased over the past 10 years with food waste showing the largest absolute reduction from 174,424 tonnes in 2007 to 87,062 tonnes in 2017.

However, the study estimates that 55% of the contents of the residual bin is made up of waste types that could commonly be recycled at the kerbside.

Figure 2 Recyclable materials found in the residual stream

3.2

45.0%
NON-RECYCLABLE
MATERIALS



55.0%
RECYCLABLE
MATERIALS

Kerbside collected recyclables

3.3

Typically a household in Northern Ireland puts 138kg of material into the recycling container annually. Paper and cardboard make up just over half of the total recycling waste arisings in Northern Ireland at 51,560 tonnes. Dense plastic (17.4%), glass (16.3%), ferrous metal (3.9%) and non-ferrous metal (3.9%) were also prominent.

Contamination of the kerbside recycling bin

3.4

The proportion of non-target materials (i.e. contaminant materials that cannot be recycled in services currently provided by local authorities) in the recycling bin averaged 14.4% for commingled collections and 3% for source segregated collections. Cleanliness of target materials was not taken into account, such as food residue in containers or target materials in plastic bags.

Kerbside collected organic waste

A household in Northern Ireland typically throws out in the region of 170kg of organic waste annually. Garden waste is the largest waste type found in the organic waste stream making up just over 60% of the total organic waste arisings. Food waste makes up 34.2%. Contamination of the kerbside organic collection is minimal at 1.6%.

Biodegradability

The biodegradable content has been estimated for the following waste streams collected at the kerbside:

- Residual 53%
- Dry recycling 54%
- Organics 97%

The biodegradable content of all kerbside collected household waste in Northern Ireland has been estimated to be 62.5%.

3.5

Capture rates

'Capture' refers to the quantity of a particular target material that is 'captured' by the service or scheme designed to accept that material. 'Capture rate' therefore refers to the proportion (as a percentage) of a targeted material that has been collected relative to the total quantity of that material arising (i.e. including both the residual bin and material recycled / composted).

The capture rates of key materials identified through this study are:

- Paper and cardboard - 57.7%
- Ferrous metal - 45.3%
- Glass - 40.6%
- Garden waste - 94.8%
- Food waste - 32.3%

This shows there is a significant amount of progress to be made across Northern Ireland to improve the capture rates for materials that can be readily recycled at the kerbside.

Comparison of Summary Mid Ulster Results to NI Results

	<u>NI average</u>	<u>MUDC average</u>
<u>Kerbside collected residual waste per HH</u>	478 kg of residual waste annually	482 kg of residual waste annually
<u>% Recyclable materials found in the residual stream</u>	55% of waste in residual bin could be recycled	50.15% of waste in residual (black) bin could be recycled
<u>Top Recyclable materials found in the residual stream</u>	Food waste 24.7% Paper and card 15.6% Dense plastic 9.9% Glass 7%	Food waste 26% Paper and card 13.3% Dense plastics 10.6% Glass 5.9%
<u>Kerbside collected recyclables per HH</u>	138 kg of material into the recycling container annually.	202.8 kg of material into the blue bin annually
<u>Contamination of the kerbside recycling bin</u>	14.4% contamination rate for commingled collections	17.25% contamination rate of blue bin
<u>Top contaminating materials in kerbside recycling bin</u>	Food waste 2.5% Healthcare waste 0.6%	Food waste 4.6% Healthcare waste 1.5%
<u>Kerbside collected organic waste per HH</u>	170 kg of organic waste annually	239kg of organic (food and garden) waste annually in brown bin
<u>Contamination of the kerbside organics bin</u>	1.6% contamination rate.	4.5% contamination rate. (Healthcare waste, plastic film, construction wastes)

3.6

3.7

This report has highlighted the main challenges facing this and other Councils in NI:

- Lost capture of food waste placed in the black bin

	<ul style="list-style-type: none"> • Lost capture of recyclables placed in the black bin • Contamination of the blue bin <p>There is potential to recover significant additional tonnages of readily recyclable material from household black bins and to divert these into the blue and brown bin collections, to increase further the Mid Ulster recycling rate. Sustained communications to householders will be essential in achieving this.</p>
4.0	Other Considerations
4.1	Financial, Human Resources & Risk Implications
	Financial: Reduction in residual waste and diversion to blue/brown bins brings a cost saving per tonne.
	Human: Ongoing, targeted recycling communications are a key focus for Environmental Services Recycling Officers to ensure the three bin system is utilised effectively and the recycling rate is maximised.
	Risk Management: Continuing to meet statutory targets and adherence to NILAS targets ensures the avoidance of potential fines.
4.2	Screening & Impact Assessments
	Equality & Good Relations Implications: None.
	Rural Needs Implications: None.
5.0	Recommendation(s)
5.1	Members are asked to note the contents of this report.
6.0	Documents Attached & References
6.1	Photographs of waste compositional analysis.