

WasteDataFlow method for calculating “waste from households” (WfH) recycling

1 Status of this document

This document has been written by DAERA’s Control & Data Management and Waste Statistics teams.

The specifications given here form the basis of the calculations carried out using WDF data. This document only pertains to local authorities in Northern Ireland.

1.1 Rationale

The new “waste from households” (WfH) recycling rate has been introduced for statistical purposes to provide a harmonised UK indicator with a comparable calculation in each of the four UK countries.

Within this document, the abbreviations WfH and WnfH are used to denote “waste from households” and “waste not from households” respectively.

Important note:

“Waste from households” and “waste not from households” are different definitions from the previous “household” and “non-household” waste definitions.

1.2 Categorisation within WasteDataFlow questions

Mostly, complete WasteDataFlow questions are categorised as WfH or WnfH. Where a WDF question has more than one element then the elements within a question are categorised as WfH and WnfH. The following tables give classifications for key WDF questions.

Table 1: Recycling and reuse collection questions (except Qu18)

Question	Categorisation
Q010 – Kerbside – by LA or its contractors	All materials are classified as WfH except plasterboard, rubble and soil which are classified as WnfH
Q012 – Kerbside – Non-contracted voluntary/community sector	
Q016 – Civic amenity sites	
Q017 – Bring sites	
Q033 – Bring sites – by voluntary/community sector	
Q011 – Commercial, industrial or other non-household	Questions are classified as WnfH
Q034 – Street recycling bins	

Table 2: Categories within Question 18 (other recycling)

Question 18 category	Question 18 category	
	Household waste	Non-household waste
Municipal parks/grounds waste collected through 'other' means for composting	Waste not from households (organics)	Waste not from households (organics)
Other method of waste / material capture	Waste not from households (recycling)	Waste not from households (recycling)
Waste collected in community skips	Waste from households (recycling)	Waste not from households (recycling)

Table 3: Categories within Question 23 (residual waste)

Category within Qu23	Classification
Civic amenity sites waste: Household	Waste from households
Collected household waste: Bulky Waste	
Collected household waste: Other	
Collected household waste: Regular Collection	
Asbestos Waste separately collected	Waste not from households
Beach cleansing	
Civic amenity sites waste: Non-household	
Collected gully emptyings	
Collected household waste: Street Cleaning	
Collected non-household waste: Commercial and Industrial	
Collected non-household waste: Construction and Demolition	
Collected non-household waste: Grounds waste	
Collected non-household waste: Highways waste	
Collected non-household waste: Other	
Other collected waste	
Separately collected healthcare waste	
Waste Arising from clearance of fly-tipped materials	

2 Definition in terms of WDF questions

The denominator for the WfH calculation is an estimate of total waste arisings and is based on data from Qu10, Qu12, Qu16, Qu17, Qu33 and the relevant categories of Qu18 (see Table 2, page 2) and Qu23 (see Table 3, page 2). A more detailed calculation of the denominator is given in section 2.1 below.

The numerator of the WfH calculation is an estimate of total waste recycled after deducting rejections and is based on Qu19, Qu19a and Qu35. A detailed calculation of the numerator is given in section 2.2 below.

2.1 Denominator for District Councils

The calculation of the denominator for District Councils in Northern Ireland is as given below.

Calculation	Notes
All recycling and reuse (before any rejections) from Qus 10, 12, 16, 17, 33, for all materials except plasterboard, rubble and soil.	Plasterboard, rubble and soil are not classed as waste from households and therefore are not included in the calculation. Material rejected is not deducted as this is part of the total WfH arisings.
PLUS	
Recycling from Qu18 (WfH portion only)	
PLUS	
Residual waste from Qu23 (WfH portion only)	As noted in Table 3 (page 2), this includes residual waste from kerbside collections, CA sites, bulky waste, and other collected waste.
LESS	
Recycling of Construction & Demolition type material of Residual waste from Qu23	Plasterboard, rubble and soil are not classed as waste from households and therefore are not included in the calculation.

2.2 Numerator for District Councils

2.2.1 Numerator – overall calculation

The numerator is calculated as shown in the table below. The calculations for the individual elements of the numerator are described in the sections which follow.

Calculation	Notes
“Dry recycling” element of numerator	See section 2.2.2 below.
PLUS	
“Organics” element of numerator	See section 2.2.3 below.
PLUS	
“Preparation for Reuse” element of numerator	See section 2.2.4 below.
PLUS	
“Recycling from residual” element of numerator	See section 2.2.5 below.

2.2.2 Numerator – dry recycling element

Calculation	Notes
Qu19 tonnages (sent for recycling minus any rejections at the gate of the reprocessor) for all materials excluding plasterboard, rubble, soil and five organics categories. Plus Qu 35 tonnages which have been ‘rejected to recycling’	<p>Plasterboard, rubble and soil are not classed as waste from households and therefore are not included in the calculation.</p> <p>The five organics categories (green garden waste only, mixed garden and food waste, other compostable, waste food only, wood for composting) are not included because these will be counted in the organics element of the numerator – see section 2.2.3 below.</p> <p>Some waste intended for ‘preparation for reuse’ is subsequently rejected to recycling</p>
MULTIPLIED BY	
<p>The WfH factor for dry recycling.</p> <p>This factor is calculated as $\frac{\text{(Total WfH collected for dry recycling, after collection rejections)}}{\text{(Total LA collected for recycling, after collection rejections)}}$ </p>	<p>This factor estimates the proportion of total local authority dry waste that is waste from households.</p> <p>The (Total WfH collected for dry recycling, after collection rejections) is tonnages (collected for recycling minus rejected) from Qus10, 12, 16, 17 and 33 for all materials excluding plasterboard, rubble, soil and five organics categories PLUS Qu18 WfH recycling collected (see Table 2, page 2).</p> <p>The (Total LA collected for recycling, after collection rejections) is calculated as the (Total WfH collected for dry recycling, after collection rejections) as above PLUS tonnages (collected for recycling minus rejected) from Qus11, 34 for all materials excluding plasterboard, rubble, soil and the five organics categories PLUS Qu18 WnfH recycling collected (see Table 2, page 2).</p> <p>Collection rejections (i.e. rejections made at the point of collection) are excluded as described above because this material would not be sent to the reprocessor so would not be included in the tonnages to which the WfH factor for dry recycling is applied. Collection rejections are recorded in the collection questions and can therefore be identified as WfH or WnfH using the categorisations in Table 1, page 1.</p>

2.2.3 Numerator – organics element

Calculation	Notes
Qu19 tonnages (sent for reprocessing minus any rejections at the gate of the reprocessor) for the five organics categories.	The five organics categories are green garden waste only, mixed garden and food waste, other compostable, waste food only, wood for composting.
MULTIPLIED BY	
<p>The WfH factor for organics.</p> <p>This factor is calculated as $\frac{\text{(Total WfH collected for organics, after collection rejections)}}{\text{(Total LA collected for organics, after collection rejections)}}$ </p>	<p>This factor estimates the proportion of total local authority organic waste that is waste from households.</p> <p>The (Total WfH collected for organics, after collection rejections) is tonnages (collected for recycling minus rejected) from Qus10, 12, 16, 17 and 33 for all the five organics categories. (Note that Qu18 is not included here because no element of that question is categorised as WfH organics.)</p> <p>The (Total LA collected for recycling, after collection rejections) is calculated as the (Total WfH collected for organics, after collection rejections) as above PLUS tonnages (collected for recycling minus rejected) from Qus11, 34 for the five organics categories PLUS Qu18 WnfH organics collected.</p>

2.2.4 Numerator – preparation for reuse element

Calculation	Notes
Qu35 tonnages (sent for reuse minus any rejections at the gate – inc. that ‘rejected to recycling’) for all materials excluding plasterboard, rubble, soil.	Plasterboard, rubble and soil are not classed as waste from households and therefore are not included in the calculation. Waste ‘rejected to recycling’ is excluded here as it is included in recycling – see section 2.2.2
MULTIPLIED BY	
<p>The WfH factor for reuse.</p> <p>This factor is calculated as $\frac{\text{Total WfH collected for reuse, after collection rejections}}{\text{Total LA collected for reuse, after collection rejections}}$ </p>	<p>This factor estimates the proportion of total local authority waste prepared for reuse that comes from waste from households.</p> <p>The (Total WfH collected for reuse, after collection rejections) is tonnages (collected for reuse minus rejected) from Qus10, 12, 16, 17 and 33 for all materials excluding plasterboard, rubble, soil.</p> <p>The (Total LA collected for reuse, after collection rejections) is calculated as the (Total WfH collected for reuse, after collection rejections) as above PLUS tonnages (collected for reuse minus rejected) from Qus11, 34 for all materials excluding plasterboard, rubble, soil.</p> <p>(Note that Qu18 is not included here because no element of that question is categorised as reuse.)</p>

2.2.5 Numerator – “recycling from residual” element

Calculation	Notes
Qu19a tonnages (sent for recycling minus any rejections at the gate of the reprocessor) for all materials excluding plasterboard, rubble, soil and five organics categories.	Plasterboard, rubble and soil are not classed as waste from households and therefore are not included in the calculation. The five organics categories (green garden waste only, mixed garden and food waste, other compostable, waste food only, wood for composting) are not included because these will be counted in the organics element of the numerator – see section 2.2.3.
MULTIPLIED BY	
<p>The WfH factor for residual recycling.</p> <p>This factor is calculated as $\frac{\text{Qu23 WfH collected} - \text{Q19a Plasterboard, rubble and soil tonnage (sent for recycling WfH portion only)}}{\text{Qu23 WfH collected} + \text{Qu23 WnfH collected}}.$</p>	<p>This factor estimates the proportion of total local authority residual waste that is waste from households.</p> <p>The (Qu23 WfH collected) is residual waste from Qu23(WfH portion only), this includes residual waste from kerbside collections, CA sites, bulky waste, and other collected waste (see Table 3, page 2). Plasterboard, rubble and soil sent for recycling that was originally collected as residual WfH (but not WnfH) has to be excluded from the calculation of this factor’s numerator (but not its denominator – see below)</p> <p>The (Qu23 WfH collected + Qu23 WnfH collected) is calculated as the (Qu23 WfH collected) as above PLUS residual waste from Qu23 (WnfH portion) see Table 3, page 2</p>

3 Frequently asked questions

3.1 Why has a new calculation been introduced?

The new “waste from households” (WfH) recycling rate has been introduced for statistical purposes to provide a harmonised UK indicator with a comparable calculation in each of the four UK countries.

3.2 What about the existing Key Performance Indicators reports?

The Key Performance Indicator reports will continue to be the main metrics / benchmarking tools since they appear in the published Strategy

<https://www.daera-ni.gov.uk/sites/default/files/publications/doe/waste-policy-delivering-resource-efficiency-northern-ireland-waste-management-strategy-2013.pdf>

3.3 Will there be further measures or changes?

Additional measures will be proposed and discussed with local authorities at User Group meetings and other forums representing local authority interests to provide a full benchmarking capability across all local authority managed waste.

3.4 How does ‘Waste from Households’ differ from KPI a2 ‘Household Waste sent for preparing for reuse and recycling (inc. composting)?

Table 4: Example recycling classifications for "waste from households" and "household waste"

Recycling (including composting and preparing for reuse)	“Waste from households” recycling	“Household waste” recycling
From households and other premises similar to households	✓	✓
From street recycling bins	✗	✓
From household-related parks and grounds	Community skips only	✓
From soil, rubble and plasterboard	✗	✗
From incineration bottom ash (IBA) & IBA metals	✗	✗
Other, from residual streams	Some outputs – see section 2.2.5, page 7	✓
Recycling rejections	✗	✗

‘Waste from Households’ has a narrower scope and only includes waste direct from households to kerbside collection, civic amenity sites or community skips managed by local authorities. Examples of different classifications of “waste from households” and “household waste” are given in [Table 4](#) (recycling) and [Table 5](#) (residual).

Table 5: Example residual classifications for "waste from households" and "household waste"

Residual waste	“Waste from households” residual	“Household waste” residual
From regular household collection	✓	✓
From civic amenity sites	✓	✓
From bulky waste	✓	✓
From other household waste	✓	✓
From street cleaning/sweeping	✗	✓
From asbestos waste	✗	✓

Guidance on the KPI a2 calculation is available here

[http://www.wastedataflow.org/documents/guidancenotes/NorthernIreland/KeyPerformanceIndicators/kpi_\(a2\)_v7.pdf](http://www.wastedataflow.org/documents/guidancenotes/NorthernIreland/KeyPerformanceIndicators/kpi_(a2)_v7.pdf)