

WasteDataFlow methodology for calculating the new national waste performance indicators (NI191, 192 and 193)

Rev 1st October 2008

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Status of this document

This document has been written by Defra's Environment Statistics & Indicators Waste team in conjunction with Defra waste policy and the WasteDataFlow (WDF) team at Enviro. It is based on the new national performance indicator guidance document produced by CLG¹ and provides a technical translation of this guidance into WasteDataFlow questions and terminology. This document only pertains to local authorities in England.

The specifications given here form the basis of the Excel reports in WDF for local authorities to monitor their performance and the data outputs for the Audit Commission and the CLG data interchange hub. The calculations within WDF are pre-programmed and automatic and therefore need to be universally applicable to all local authorities.

The current status of this document is final version for release onto the WDF website following feedback from local authorities via the WDF User Group. A minor revision was made in April to reflect the Defra FAQs which advise that asbestos should be included as household waste.

Note: All data reported to WasteDataFlow should be consistent with the LATS definitions and associated guidance documents provided by Defra and the Environment Agency.²

¹ <http://www.communities.gov.uk/documents/localgovernment/pdf/708685>

² <http://www.defra.gov.uk/environment/waste/localauth/lats/index.htm>

<http://www.environment-agency.gov.uk/business/1745440/444663/landfill/1764524/1693182/986852/?lang= e>

NI191:**The amount of residual household waste per household*****Description***

This is the amount of waste that is not sent for reuse, recycling or composting. It is calculated by deduction, i.e. it is total household waste minus household waste sent for reuse, recycling or composting, as defined under NI192. Therefore, it is recommended that the definitions given under NI192 are considered first.

The size metric is the number of households in the local authority area, as given by the dwelling stock figures from the Valuation Office. These figures are taken from the Council Taxbase returns made by local authorities. The number of households will be taken from the published national data set as at the end of the financial year and it is anticipated that this will be available and uploaded into WDF around June. This will mean that during the WDF data submission period the calculated NIs will relate to the previous year's household figures, but the final indicators will use the end of financial year household figures.

Definition in terms of WDF questions**WCA/WDA/UA;**Numerator:

Calculation	Notes
Total household waste	as defined under NI192 denominator
Minus	
Total household waste sent for reuse, recycling or composting	as defined under NI192 numerator

Denominator:

Calculation	Notes
Total households in authority area	Uploaded into WDF Qu2, taken from the Valuation Office end year household figures. E.g. for 2008/9 these will relate to end March 2009 and are expected to be released in May 2009.

NI192:

The percentage of household waste that is sent for reuse, recycling or composting.

Description

Household waste as defined under EPA 1990 and the Controlled Waste Regulations 1992 and described in the CLG guidance.

'Sent for' means delivered to and accepted for re-use, recycling or composting by a company, individual or organisation which will reprocess waste that is an acceptable form for inclusion in the re-use, recycling or composting process. Therefore, any material collected for reuse, recycling or composting but rejected to disposal whilst under the possession or control of the local authority is *excluded* from the numerator. Rejects may occur at collection, during sorting (e.g. at a MRF) or at the gate of the reprocessor. Similarly, *included* in the re-use/recycling/composting tonnage will be material within the residual waste stream that is subsequently separated out and sent for recycling, composting or reuse. For example, recyclate taken from residual waste sorted at transfer stations or MRFs, recycling outputs from MBT or other residual treatment processes. Outputs to compost (e.g. from MBT) can only be included if they meet the required standards as set out in the CLG Guidance. Incinerator residues or metals extracted for recycling cannot be included in the recycling tonnages.

In two-tier areas, where recyclate is extracted from the residual waste stream and the Waste Disposal Authority agrees that the WCAs should get credit for this in their recycling indicator, the data recording procedure set out in the WDF Factsheet on 'Back Allocation' should be followed.

In summary the procedure is:

WDAs should agree with their WCAs as to which authority are reporting which tonnages and there should be a documented methodology for any apportionment. The WDA should **not** enter the amount of extracted recyclate in the disposal question (e.g. Qu 64 where a residual waste MRF is used). The WDA should **not** enter the amount of extracted recyclate in Question 23. This is to prevent double-counting of waste between the WDA and WCA returns, but will mean there is an imbalance between the residual waste collected and that entered as inputs to the disposal questions (sum of 51, 52, 53, 54, 55, 56, 57, 59, 60, 64, 65). The WDA should **not** enter any of this extracted recycling in their recycling questions (e.g. 19).

WCAs should enter the amount of back allocated recyclate extracted from the residual stream in Question 18 (household or non-household column as appropriate) and also in Question 19 in the appropriate material row. The WCA should also reduce the amount of collected residual waste in Qu23 by the corresponding amount (again to prevent double-counting).

Definition in terms of WDF questions

WCA;

Numerator:

Calculation	Notes
Total of all materials in Qu19 sent for recycling excluding rubble	Rubble is non-household waste.
Plus	
Total of all materials in Qu35 sent for reuse excluding rubble	
Minus	
Total of all materials except rubble collected for recycling or reuse in Qu11	Deducts recycling from non-hh sources
Minus	
Total of non-household waste reported in Qu18, all rows	Deducts recycling from non-hh sources. Not that no rubble should be recorded in Qu18 non-household as this would lead to “double-deduction” of rubble from the numerator.
Minus	
Recycling rejects: A proportion of the rejects in Qu19 attributable to household sources	Qu19 rejects * [(sum of collected for recycling in Qu10, 12, 16, 17, 18 (hh only), 33, 34, for all materials excluding rubble)/(sum of collected for recycling in Qu10, 11, 12, 16, 17, 18, 33, 34, for all materials excluding rubble)]
Minus	
Re-use rejects: A proportion of the rejects in Qu35 attributable to household sources	Qu35 rejects * [(sum of collected for reuse in Qu10, 12, 16, 17, 33, 34, for all materials excluding rubble)/(sum of collected for reuse in Qu10, 11, 12, 16, 17, 33, 34, for all materials excluding rubble)]
Plus	
Proportion of MRF rejects due to non-household sources	MRF rejects * [Qu11 co-mingled recycling/all co-mingled recycling tonnages from Qu10, 11, 12, 16, 17, 33, 34]

All MRF rejects will have been deducted from the tonnages entered into Qu19/35. As some of these will be due to waste from non-household sources, a proportion of the rejects need to be added back on.

There is a WDF Factsheet available on the recording of co-mingled material which provides further information on reporting tonnages going through MRFs. For MRFs that are used by a number of authorities when calculating the amount of waste sent for recycling, authorities may use the plant’s overall contamination rate if there is no more accurate information on the Individual authority’s waste stream.

Denominator:

Calculation	Notes
Total tonnage of household waste collected for recycling or reuse from Q10, Q12, Q16, Q17, Q18 (household waste column), Q33 and Q34; all materials excluding rubble.	Rubble is non-household waste. Material rejected is not deducted as this is part of the total household waste arisings.
Plus	
Collected residual household waste, Qu23.	All collected household waste (regular collection, street cleaning, bulky waste & other), CA site household, gully sweepings, asbestos and separately collected healthcare waste. It does NOT include CA Site non-hh, Collected non-hh waste (Highways, C&D, Grounds, C&I, Other), beach cleansing, fly-tipped materials and Other Collected.

In line with the indicator guidance, waste arising from sweeping gullies should be counted as household waste. Waste from emptying drainage pots under the Highways Act should be reported as "Highways Waste" and will therefore not be counted as household waste.

Asbestos waste arising from domestic properties or any of the premises itemised in schedules 1 or 2 of the Controlled Waste Regulations 1992 is household waste. If asbestos arises from other sources, it should be reported under a non-household row in Qu23, such as construction & demolition wastes or CA site non-household.

Household waste includes clearance of any waste put out in contravention to section 46 of the EPA 1990 (e.g. 'side waste') but does not include clearance of waste deposited in contravention to Section 33 of the EPA 1990 (fly-tipped waste). Therefore any fly-tipped waste (Section 33) should be entered under "Waste arising from clearance of fly-tipped materials" and 'side waste' (section 46) should be entered under a collected household waste category.

WDA;

Numerator:

Calculation	Notes
Total of all materials in Qu19 sent for recycling excluding rubble	Rubble is non-household waste.
Plus	
Total of all materials in Qu35 sent for reuse excluding rubble	
Minus	
<i>Recycling rejects:</i> A proportion of the rejects in Qu19 attributable to household sources	Qu19 rejects * [(sum of collected for recycling in Qu14 for all materials excluding rubble)/(sum of collected for recycling in Qu11, 14, for all materials excluding rubble)]
Minus	
<i>Re-use rejects:</i> A proportion of the rejects in Qu35 attributable to household sources	Qu35 rejects * [(sum of collected for reuse in Qu14 for all materials excluding rubble)/(sum of collected for reuse in Qu11, 14, for all materials excluding rubble)]
Plus	
Total amount of WCA hh waste sent for recycling, reuse or composting, as defined above	
Minus	
Total of all materials except rubble collected for recycling or reuse in Qu11 (WCAs and WDA)	Deducts recycling from non-hh sources
Plus	
Amount of recycling output from residual waste sorted and treatment attributable to household sources	Tonnages diverted for recycling from Q56, Q57 (not char/slag), Q59, Q60, Q64 and Q65 * (total household waste in Qu69/total waste in Qu69 OR if Q69=0 then Qu23 residual household waste/total Qu23).

Note: Please refer to the Annex about the reporting of waste in Question 69

Denominator:

Calculation	Notes
Total tonnage of household waste collected for recycling or reuse from Q14; all materials excluding rubble.	Rubble is non-household waste. Material rejected is not deducted as this is part of the total household waste arisings.
Plus	
Total tonnage of collected household waste for recycling, composting or reuse by WCAs (as defined above)	
Plus	
Collected residual household waste, Qu23.	All collected household waste (regular collection, street cleaning, bulky waste & other), CA site household, gully sweepings, asbestos and separately collected healthcare waste. It does NOT include CA Site non-hh, Collected non-hh waste (Highways, C&D, Grounds, C&I, Other), beach cleansing, fly-tipped materials and Other Collected.

In line with the indicator guidance, waste arising from sweeping gullies should be counted as household waste. Waste from emptying drainage pots under the Highways Act should be reported as “Highways Waste” and will therefore not be counted as household waste.

Asbestos waste arising from domestic properties or any of the premises itemised in schedules 1 or 2 of the Controlled Waste Regulations 1992 is household waste. If asbestos arises from other sources, it should be reported under a non-household row in Qu23, such as construction & demolition wastes or CA site non-household.

Household waste includes clearance of any waste put out in contravention to section 46 of the EPA 1990 (e.g. 'side waste') but does not include clearance of waste deposited in contravention to Section 33 of the EPA 1990 (fly-tipped waste). Therefore any fly-tipped waste (Section 33) should be entered under “Waste arising from clearance of fly-tipped materials” and ‘side waste’ (section 46) should be entered under a collected household waste category.

UA;

Numerator:

Calculation	Notes
Total of all materials in Qu19 sent for recycling excluding rubble	Rubble is non-household waste.
Plus	
Total of all materials in Qu35 sent for reuse excluding rubble	
Minus	
<i>Recycling rejects:</i> A proportion of the rejects in Qu19 attributable to household sources	Qu19 rejects * [(sum of collected for recycling in Qu10, 12, 16, 17, 18 (hh only), 33, 34, for all materials excluding rubble)/(sum of collected for recycling in Qu10, 11, 12, 16, 17, 18, 33, 34, for all materials excluding rubble)]
Minus	
<i>Re-use rejects:</i> A proportion of the rejects in Qu35 attributable to household sources	Qu35 rejects * [(sum of collected for reuse in Qu10, 12, 16, 17, 18 (hh only), 33, 34, for all materials excluding rubble)/(sum of collected for reuse in Qu10, 11, 12, 16, 17, 18, 33, 34, for all materials excluding rubble)]
Minus	
Total of all materials except rubble collected for recycling or reuse in Qu11	Deducts recycling from non-hh sources
Minus	
Total of non-household waste reported in Qu18, all rows	Deducts recycling from non-hh sources. Not that no rubble should be recorded in Qu18 non-household as this would lead to “double-deduction” of rubble from the numerator.
Plus	
Amount of recycling output from residual waste sorted and treatment attributable to household sources	Tonnages diverted for recycling from Q56, Q57 (not char/slag), Q59, Q60, Q64 and Q65 * (total household waste in Qu69/total waste in Qu69 OR if Q69=0 then Qu23 residual household waste/total Qu23).
Plus	
Proportion of MRF rejects due to non-household sources	MRF rejects * [Qu11 co-mingled recycling/all co-mingled recycling tonnages from Qu10, 11, 12, 16, 17, 33, 34]

All MRF rejects will have been deducted from the tonnages entered into Qu19/35. As some of these will be due to waste from non-household sources, a proportion of the rejects need to be added back on.

Note: Please refer to the Annex about the reporting of waste in Question 69

Denominator:

Calculation	Notes
Total tonnage of household waste collected for recycling or reuse from Q10, Q12, Q16, Q17, Q18 (household waste column), Q33 and Q34; all materials excluding rubble.	Rubble is non-household waste. Material rejected is not deducted as this is part of the total household waste arisings.
Plus	
Collected residual household waste, Qu23.	All collected household waste (regular collection, street cleaning, bulky waste & other), CA site household, gully sweepings, asbestos and separately collected healthcare waste. It does NOT include CA Site non-hh, Collected non-hh waste (Highways, C&D, Grounds, C&I, Other), beach cleansing, fly-tipped materials and Other Collected.

In line with the indicator guidance, waste arising from sweeping gullies should be counted as household waste. Waste from emptying drainage pots under the Highways Act should be reported as "Highways Waste" and will therefore not be counted as household waste.

Asbestos waste arising from domestic properties or any of the premises itemised in schedules 1 or 2 of the Controlled Waste Regulations 1992 is household waste. If asbestos arises from other sources, it should be reported under a non-household row in Qu23, such as construction & demolition wastes or CA site non-household.

Household waste includes clearance of any waste put out in contravention to section 46 of the EPA 1990 (e.g. 'side waste') but does not include clearance of waste deposited in contravention to Section 33 of the EPA 1990 (fly-tipped waste). Therefore any fly-tipped waste (Section 33) should be entered under "Waste arising from clearance of fly-tipped materials" and 'side waste' (section 46) should be entered under a collected household waste category.

NI193:

The percentage of municipal waste sent to landfill

Description

The definition of municipal waste is as for the Landfill Allowance Trading Scheme. 'Sent to landfill' includes both collected residual waste sent directly to landfill, waste collected for recycling but subsequently rejected to landfill and residual waste sent to landfill after an intermediate treatment (e.g. MBT). This indicator is only calculated for WDAs and UAs.

Definition in terms of WDF questions

WDA;

Numerator:

Calculation	Notes
Total waste directly to landfill, input to Qu 51, 52, 53	
Plus	
Recycling rejects from MRF sent to landfill (output from Qu58)	
Plus	
Recycling rejects from MRF sent to landfill (output from Qu58) by its WCAs	
Plus	
Recycling rejects to landfill from Qu19	Where the destination is specified as landfill or left blank.
Plus	
Recycling rejects to landfill from Qu19 reported by its WCAs	Where the destination is specified as landfill or left blank.
Plus	
Reuse rejects to landfill from Qu35	Where the destination is specified as landfill or left blank.
Plus	
Reuse rejects to landfill from Qu35 by its WCAs	Where the destination is specified as landfill or left blank.
Plus	
Recycling or reuse rejects at collection (Qu11, 14)	The destination is non-specified and assumed to be landfill
Plus	
Recycling or reuse rejects at collection by its WCAs (Qu10, 11, 12, 16, 17, 33, 34)	The destination is non-specified and assumed to be landfill
Plus	
Output to landfill after other treatment routes (Q56, 59, 60, 61, 62, 63, 64, and 65)	

Note that the recycling/reuse rejects at the point of collection (i.e. recorded in Qu14 or 11 or by WCAs in Qus10, 11, 12, 16, 17, 33, 34) are included in this calculation and are therefore assumed to be sent to landfill. The amount of collection rejects reported is very small and therefore makes a negligible impact on the landfill indicator. Local authorities are advised that where more significant tonnages are involved which are not sent to landfill, these amounts should be reported in Qu19 with the appropriate destination of residual selected.

Denominator:

Calculation	Notes
Total tonnage of waste collected for recycling or reuse from Q11 and 14; all materials.	Material rejected is not deducted as this is part of the total waste arisings.
Plus	
Total tonnage of collected waste for recycling or reuse by WCAs (sum of Qu10, 11, 12, 16, 17, 18, 33, 34)	
Plus	
Collected residual waste, Qu23.	Total of Qu23, all rows.

UA;

Numerator:

Calculation	Notes
Total waste directly to landfill, input to Qu 51, 52, 53	
Plus	
Recycling rejects from MRF sent to landfill (output from Qu58)	
Plus	
Recycling rejects to landfill from Qu19	Where the destination is specified as landfill or left blank.
Plus	
Reuse rejects to landfill from Qu35	Where the destination is specified as landfill or left blank.
Plus	
Recycling or reuse rejects at collection (Qu10, 11, 12, 16, 17, 33, 34)	The destination is non-specified and assumed to be landfill
Plus	
Output to landfill after other treatment routes (Q56, 59, 60, 61, 62, 63, 64, and 65)	

Denominator:

Calculation	Notes
Total tonnage of waste collected for recycling or reuse from Q10, 11, 12, 16, 17, 18, 33, 34; all materials.	Material rejected is not deducted as this is part of the total waste arisings.
Plus	
Collected residual waste, Qu23.	Total of Qu23, all rows.

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ANNEX: Guidance on use of Question 69

In WDF, authorities are required to report the amount of municipal waste that is sent for disposal. There is no differentiation in the disposal questions regarding whether this is from household or non-household sources. Historically, for BVPIs authorities were required to estimate the amount of household waste sent to landfill or incineration.

Under the new NI guidance, the outputs from residual treatment processes can be included in NI192. As the input to these processes is municipal waste, it is necessary to estimate the proportion of this which is household waste.

This can be done from question 23, but where the ratio of household to municipal waste given by the collected residual waste is not appropriate for an authority's individual management methods, then Question 69 can be completed instead. A simple example can best explain how this works:

Say an authority collects 1000 tonnes of mixed residual waste. Of this, 800 tonnes is household waste and 200 tonnes are non-household. These tonnages will be separately identified as hh or non-hh in the collection question (Qu23 in WDF). If all of this municipal waste goes to landfill, the authority will report 1000 tonnes to landfill (in Qu52). To estimate the amount of hh waste to landfill, the calculation in WDF uses the proportion of collected household waste (from Qu23), i.e. $800/1000=0.8$ and applies this to the input to landfill, i.e. $1000*0.8 = 800t$. This is clearly correct. The procedure also works where an authority is using more than one disposal route (e.g. landfill and incineration) and sending the waste in equal proportions to both routes.

There will be circumstances where this calculation is not appropriate for a local authority's circumstances. To take an extreme example if all of the collected residual household waste is sent to incineration and all of the non-hh waste is sent to landfill. Then the input to Question 52 (landfill) would be 800 and the input to question 54 (incineration) would be 200. Clearly, then applying a %hh from Qu23 would be incorrect giving $800*0.8=640t$ of hh waste for 82d.

We therefore introduced an new (optional) question in WDF for authorities to complete in these circumstances (Question 69). The data entered in this question are used in preference to question 23 for calculating the residual hh waste % where this question has been completed. In this example, the authority would complete Qu69 in the following way:

	household	non-household	Total
landfill	800		800
incineration		200	200
Total	800	200	1000

WDF would then use this data: e.g. for landfill, $800/800=1$ and apply this to the input to the disposal question, e.g. Qu52 so $800*1=800$ for 82d.

This calculation methodology is clearly most relevant for the BVPIs 82c and 82d. However, it is also required for the new NI192 for the recycling outputs from residual waste treatment processes. The relevant line in the NI192 guidance is:

Amount of recycling output from residual waste sorted and treatment attributable to household sources	Tonnages diverted for recycling from Q56, Q57 (not char/slag), Q59, Q60, Q64 and Q65 * (total household waste in Qu69/total waste in Qu69 OR if Q69=0 then Qu23 residual household waste/total Qu23).
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The ratio from Question 69 (total) or from Question 23 is applied to the recycling outputs of Qu56, 57 (not char/slag), 59, 60, 64 and 65.