

2021/22 National Statistics on Local Authority Collected Waste in England - Methodological Summary

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1 Introduction

Estimates of local authority collected waste generation and management for England are published on an annual basis by Defra¹. Since 2004/5 data collection has been via an online web-based system called WasteDataFlow (WDF). National estimates were released on a quarterly basis for the first time in February 2008 as it took some time for the new system to become established. Since Quarter 2 of 2007/8 the quarterly data have been published as National Statistics, and the response rate for the survey has been 100% since 2008/9.

During 2016, Defra ceased to publish quarterly statistics following a statistical consultation exercise and now publishes data on an annual basis. An exception to this was the publication of provisional “official” statistics for Quarter 1 of 2020/21 to give early overview of the impact of the COVID-19 pandemic on local authority waste and recycling.

WasteDataFlow is a UK system, and is used by the other UK countries to produce similar statistics. The questionnaires differ slightly, but the core information collected is comparable. Details of the core dataset are available here.

¹ <https://www.gov.uk/government/collections/waste-and-recycling-statistics>

2 National Statistics accreditation

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

In 2020 these local authority waste & recycling statistics together with those published by the devolved administrations in Northern Ireland, Wales and Scotland underwent a compliance review by the “Office for stats regulation” (OSR), who monitor government statistical quality.

National statistics accreditation for the England publications was maintained by the review. The OSR made a number of [recommendations](#) around the statistics and publications

3 Timeliness

The deadline for data submission for each quarter is 3 months after the end of the quarter. After the validation process is complete (as described below) Defra receive the data around 6 months after the end of each quarter. Defra conduct further data quality assurance checks on the quarterly and annual data, with assistance from the Environment Agency as required.

Defra publishes the local authority breakdown and the regions, including the financial year data around November/December of each year.

4 Data quality

Generally, the data that is reported into WasteDataFlow comes from information supplied to authorities by their waste management contractor and is used by them in their own internal management information systems and for contract performance monitoring, etc. It is not possible to know for sure how accurate the reported data is, but authorities have an incentive to maintain accurate data for their internal purposes.

Reported waste collection tonnages or tonnages of material going into a primary treatment facility will have a higher degree of accuracy than tonnages of material reported at secondary or subsequent facilities. This is because after collection or on arrival at primary facilities the tonnage of waste is measured at a vehicle weighbridge. Once entering a primary treatment facility or transfer station waste may be combined with waste from other local authorities and possibly commercial sources. Subsequent fractions of this waste reported as treated or separate material streams are likely to be calculated based on a proportion of the overall tonnage of waste entering the primary facility. The local authority will also be dependent on the co-operation of waste management facilities and brokers

handling the waste further downstream on supplying relevant information. This should be borne in mind when analysing data.

In WasteDataFlow, each local authority has at least one data entry user and an authoriser who has to check and approve the data before it can be submitted to the database. After submission the data pass through standard validation checks to ensure internal consistency and completeness of data reporting and period on period changes against defined thresholds to identify potential data recording errors. Further targeted checks are carried out by Defra at a quarterly the national level, with input from the Environment Agency, as appropriate.

Stage 1 [validation](#) covers the internal consistency of the return and comparison with previous returns. There is detailed guidance for local authorities on the WasteDataFlow website covering data entry. There are also a number of tools provided to authorities to help them ensure their returns are correct. There are some in built data entry restrictions which limit data entry options and some other onscreen checks and a more detailed validation spreadsheet available on WasteDataFlow for users to run to check that the data they have entered balances. This will also highlight other potential issues for the local authority to either address or confirm as correct, with appropriate explanation before the return to submitted for validation by the contractor. There is a comments box accompanying each question where local authorities can enter extra information to help with the validation process. Once the local authority has submitted their quarterly dataset Defra's contractors review the validation checks and any comments provided. Any further points may be raised with the local authority amended if necessary.

During the COVID-19 pandemic validation rules were adjusted to take account of increased household arisings, fall in commercial waste streams and disruption to HWRC services. This was to ease burdens on local authority reporting into WasteDataFlow recognising resource pressures and exceptional changes to tonnages reported during this year. Validation rules were reset to previous tolerances for submission of 2021/22 data.

At the national level, Defra performs checks on the consistency of the national results, comparisons with previous estimates and general sense checking of the results to check and understand trends and identify any potential data outliers. Sometimes Defra identify particular data reporting errors which are queried with local authorities and which will be corrected in liaison with the local authority. Specific enquiries may be referred to the Environment Agency when appropriate, particularly for advice on particular waste streams, treatment facilities or outputs.

The introduction of the new treatment question, "Q100" for all local authorities from April 2015 provides scope for more flexible and complete reporting for the treatment and end destination of waste. This multiple level question structure results in a much more complex data structure, where reporting outputs are still developing. Data validation checks have evolved since its introduction and now include checks for IBA and IBA metal from

incineration of waste, proportions of rejects from sorting facilities, and autocomplete functions to help reduce data errors.

The main focus of validation and data quality assurance of Q100 data is on tonnages of material, waste treatment, waste stream types and material outputs. Data quality assurance does not extend to checking accuracy down to individual facilities and individual permits; this level of checking would require very substantial additional resource and cross reference to sources outside of WasteDataFlow. It is possible that such issues may come to light through other detailed analysis by Defra or the Environment Agency and so could be addressed at this point. Similarly if there are other targeted exercises. As this level of checking is not routinely possible this should be borne in mind when carrying out data analysis on site level data or for individual materials.

5 Revisions policy

The general WDF policy is to minimise data revisions and encourage local authorities to accurately report quarterly data by deadlines. Where small revisions are requested, local authorities are advised to make balancing adjustments in subsequent quarters. For more substantive changes, local authorities request their data to be 'rolled back' to them after they have submitted. Where this change request is agreed by the Environment Agency and Defra, a quarterly return will be revised. These requests are relatively few during the year, but more requests are received towards the end of the year.

Generally no changes are permitted after validation of Quarter 4 data has been completed unless these are very significant so are by exception only. Authorities are also required to provide evidence regarding changes in procedures they have put in place to minimise the need for future data revisions.

6 The impact of the COVID-19 pandemic on data and reporting

Whilst there were some difficulties reported by local authorities e.g. obtaining data from smaller businesses e.g. such as charity shops (who provide reuse outlets for clothes etc) local authorities reported that the quality of the data was unaffected by the situation.

7 Waste from household's measure

The 'waste from households' recycling measure is a narrower measure than the other 'household' waste measure. It is used to construct a harmonised UK indicator for reporting recycling rates at a UK level on a calendar year basis, providing comparable calculations across each of the four UK countries. Table 1 shows the detail of what is included in the 'waste from households' and 'household' recycling measures.

Table 1

| Recycling (including composting and reuse) | Waste from Households recycling | Household waste recycling |
|--|--|----------------------------------|
| <i>from households and other premises similar to households, CA sites, Bring banks</i> | Y | Y |
| <i>from street bins</i> | N | Y |
| <i>from household-related parks and grounds</i> | Community skips only | Y |
| <i>from soil</i> | N | Y |
| <i>from rubble and plasterboard</i> | N | N |
| <i>from compost-like output from MBT plant</i> | N | Y |
| <i>from incineration bottom ash (IBA)</i> | N | N |
| <i>From metal recovered and recycled from incinerator bottom ash</i> | Y* | N |
| <i>other, from residual streams</i> | Y | Y |
| <i>recycling rejects</i> | N | N |

| Residual waste | Waste from households residual | Household waste residual |
|---|---------------------------------------|---------------------------------|
| <i>from regular household collection</i> | Y | Y |
| <i>from civic amenity sites</i> | Y | Y |
| <i>from bulky waste</i> | Y | Y |
| <i>from other household waste</i> | Y | Y |
| <i>from street cleaning/sweeping</i> | N | Y |
| <i>from gully emptying</i> | N | Y |
| <i>from separately collected healthcare waste</i> | N | Y |
| <i>from asbestos waste</i> | N | Y |

*Revised to include IBA metal in 2017 and applied to data from April 2015.

8 Inclusion of Incinerator Bottom Ash Metal (IBA Metal) In Waste from Households Recycling

A methodological change was introduced for the 2016 waste from household's dataset (Published December 2017) to include metal recovered and recycled after incineration in the recycling tonnage. Inclusion of IBA metal has been facilitated through the new Q100 reporting structure for waste treatment which all local authorities have been using since April 2015. The IBA metal which is now counted and reported as recycling would previously have been reported as 'recovery' in the waste from household's dataset. This methodological change for IBA metal has been applied to the waste from household measures only.

This change for IBA metal has been applied to data from April 2015 - it is not possible to apply the change to data before then as the question structure was different so reporting of IBA metal was not as complete. At an overall England level this change in methodology raised the recycling rate for 2016 by around 0.7 percentage points (equivalent to 152 thousand tonnes). For 2015 the waste from households recycling rate would be increased by around 0.4 percentage points (equivalent to around 97 thousand tonnes). This is a slight underestimate for the impact for 2015 as data for January to March 2015 use the old question structure so did not fully capture IBA metal for this quarter; estimated to be around 23 thousand tonnes.

Overall, this change in methodology results in 'waste from household' recycling rates being slightly higher than where IBA metal would previously have been reported as 'recovery'.

There are no such methodological changes to the dataset for all local authority waste or 'household waste' recycling. There are no changes to the household (NI 192) household recycling figures that are reported for England, nor at a regional and individual local authority level where existing methodology and definitions have been retained

9 Question 100 (Q100)

A new "Question 100" (Q100) to replace the various existing treatment questions, was introduced on a voluntary basis from April 2014 and up to around 100 local authorities in England used this new question to report their waste management practices over the quarters in 2014/15. These 100 local authorities represented about 29 per cent of all total local authority waste. Q100 reporting became mandatory in April 2015 for all local authorities in England. This is the first statistical release presenting annual waste statistics for all local authorities in England using Q100.

Q100 provides a more flexible structure that has enabled local authorities to report a more complete and transparent representation of the more complex waste treatment practices that occur which could not be accurately captured under the old question structure. It also provides the opportunity for local authorities to report in more detail the further treatment and disposal of certain waste types such as refuse derived fuel (RDF), which would have

been a final output previously. This is highly specific to the Local Authority and the facilities and the practices used for treatment and disposal.

Q100 also allows for more accurate and transparent reporting of recycling recovered from the residual stream which is back-allocated by the waste disposal authority to its constituent waste collection authorities, where there is arrangement to do this. This is done in a slightly different way with some subtle changes to the calculation and apportionment. It also provides material specific information to be recorded which results in lower figures against 'other materials' for recycling as this is now recorded against specific materials such as glass, plastic, paper etc.

There are some subtle differences in the way the recycling calculations work in relation to the apportionment of waste as household/non-household or waste from household/non-waste from household depending on whether the local authority has provided the specific split at treatment; in the absence of this, the default factor based on the split at collection is applied. In many cases local authorities have provided specific splits for household waste but not the waste from household splits. This may have a small impact on the apportionment and the household and waste from household recycling rates.

The introduction of Q100, provides scope for local authorities to report more fully on treatment and end destination. This is particularly the case for incineration of waste and subsequent outputs and their final treatment and disposal. Gathering such information can be challenging, especially where waste goes through multiple different sorting and treatment processes at different facilities. In most cases local authorities are able to supply this information but in some cases full end destination treatment is not given or is stated as 'unknown'. This may have a small impact on the final figures. Defra will continue to monitor this and working with local authorities to enhance data quality assurance and consistency and completeness of reporting.

10 2021/22 statistics

The final cut of quarters 1, 2, 3 and 4 of 2021/22 were downloaded from the WasteDataFlow database in March 2023.

There was a 100% submission of returns. This was from 333 reporting authorities in 2021/22 down from 338 in 2020/21. This decrease was due to 'Northamptonshire County Council' disposal authority and Northamptonshire collection authorities being replaced by the 2 new unitary authorities:

'North Northamptonshire', absorbed the waste collection authorities previously reporting as 'Corby & Kettering shared service', 'East Northamptonshire Council' and 'Wellingborough Borough Council'

'West Northamptonshire' absorbed the waste collection authorities previously reporting as 'Daventry District Council', 'Northampton Borough Council' and 'South Northamptonshire District Council'.

11 Seasonality and year-end effects

Waste production and management varies over the course of a year. This means that the trends observed in quarterly data (or a rolling year) will not necessarily marry up with that previously seen by users of the annual data. This means care needs to be taken in interpreting the long-term trends of an annual dataset with that of any quarterly data or between calendar year and financial year datasets. The COVID-19 pandemic impacted waste arisings and collected tonnages in 2020/21 and to a lesser extent 2021/22.

In particular, during the first national lockdown which commenced 23rd March 2020, some local authorities were unable to maintain collections of dry recyclates, there was suspension of garden waste collections and widespread closure of HWRC. This was due to staff shortages and the introduction of changes to working practices. The national lockdown and rules for the operation of some commercial enterprises had a significant impact on the generation of waste during this period and throughout the 2020/21 year.

Waste generation was generally lower in 2021/22 than in 2020/21, but still higher than pre COVID-19 pandemic levels.

12 Dealing with unvalidated returns

There are two main choices for dealing with returns that have not completed validation. Either to use the validated return made for the same period of the previous year, or to use the unvalidated returns directly. In 2021/22 all returns were validated and responses received to all validation queries specifically raised by Defra.

13 Access to data

WasteDataFlow data becomes public domain once the statistics release has been published. Users can access the results in a number of ways:

- i) From the Defra website, which contains the statistics releases and summary analyses. [Here](#).
- ii) WDF contains a reporting feature which allows custom reports to be produced. Access is available to anyone. An email address is required to register (no other personal information is collected). Register [here](#).

14 Feedback

We are always interested in feedback from users on any aspect of this release or waste statistics in general. In particular we would welcome hearing about what users do with the results and data which is available in WasteDataFlow.

Comments may be sent to:

Waste and Recycling Statistics

Defra

Foss House

Peasholme Green

York

YO1 7PX

Email: WasteStatistics@defra.gov.uk

The 2021/22 publication contains links to a short questionnaire in google forms, where you can leave comments on the publication and data.