

Supplementary Material

1. Dataset summary

The dataset lists all known waste disposal and collection contracts held by local authorities across England, Northern Ireland, Scotland and Wales (as of 18 October 2018).

Where possible, the following details are listed for each contract:

- Local authority name
- Waste partnership details
- Contract reference number
- Contract status (open tender, closed tender, active, nearing completion, ended)
- Service provided (collection, processing, disposal)
- Details of shared contract arrangements (if applicable)
- Contract type (e.g. PFI)
- Contract title
- Supplier name
- Description of services delivered
- Total contract value
- Annual contract value
- Contract start date
- Contract end date
- Contract award date
- Contract review date
- Duration of initial contract period (in months)
- Total length of possible extension period (in months)
- Total overall contract period, including extensions (in months)
- Number of extension lots
- Detailed break-down of extension lots (in months – e.g. 2 x 12 month extensions)
- Number of extensions already taken

Before using the dataset please read this section. It contains detailed descriptions of the variables collected and the ways in which the data has been represented.

1. Governance Structure

Local authorities are responsible for dealing with the collection, processing and disposal of all municipal waste. Waste services may be provided directly by a local authority, by an 'arm's length' company owned by an authority or group of authorities, or will be contracted out to the private sector. The nature of a services' delivery is explained in the 'supplier' column. Where services are provided directly by the council, the supplier will be listed as 'conducted in-house'. Where a company is known to be owned by a council, the company name will be listed alongside a tag outlining their relationship with the council. When a service is delivered by a private sector company, the name of that supplier is listed instead. In the case of services provided by multiple companies under a single contract - often (but not always) through its division into lots - every company involved in delivering those services will be listed. In most cases when lots have been used, companies will be listed alongside a tag that indicates which lot that they are responsible for delivering (e.g. Lot 1) Shanks Group Ltd).

Local authorities' waste management responsibilities are split into two categories in the UK: waste disposal and waste collection. Waste disposal includes the bulking, transfer, composting, incineration, landfill, recycling, export and sale of waste products, while waste

collection includes the collection of waste from Household Waste Recycling Centers (HWRCs, also known as civic amenity sites, or ‘tips’), residential properties and commercial buildings. Disposal is overseen by waste disposal authorities. These are generally county councils, unitary authorities, and metropolitan authorities. District and borough councils, in contrast, are usually waste collection authorities. Within this dataset, this distinction is represented by the names of waste disposal authorities being listed in bold and the names of waste collection authorities being listed in normal font.

In practice, the distinction between waste disposal and waste collection authorities may not be clear-cut. Metropolitan authorities and unitary authorities typically have no smaller local councils within their jurisdictional areas; they therefore also provide waste collection services. It is not uncommon for these collection services to be delivered through multiple contracts that serve different areas under a council’s jurisdiction. In Scotland, Wales and Northern Ireland, all local authorities are unitary authorities and therefore provide both disposal and collection services. Similarly, county councils may provide limited waste collection services. In addition, it is not unusual for waste collection authorities to hold contracts for waste processing and disposal services, such as for the management of HWRCs, or for the disposal of particular kinds of waste (such as the composting of organic material). As such, whilst every effort has been made to represent the distinction between waste disposal and waste collection authorities in this dataset, many contracts listed do not adhere to this blunt categorization. Moreover, many local authorities across the UK are currently working together to provide joint waste disposal, processing and collection services. This means that waste services and contracts are often shared across regions and are not limited to a single area of governance. This is much more common in England and Wales than it is in Northern Ireland and Scotland, but similar arrangements are now becoming more prevalent in these areas, too.

In England in particular, it is now relatively common for multiple councils to join together to form formalized waste partnership agreements, through which they work together to draft and deliver joined-up waste management strategies. This often involves the integration of member council’s waste management services, with facilities and services being shared between councils, and with waste being transferred from sites managed by one council to locations managed by another. These partnerships also typically involve cross-council agreements on the kinds of material that will be collected at kerbsides, and agreements over the ways in which these materials will be processed. It is very common for these partnerships to jointly oversee the procurement of large-scale contracts, most often in relation to the development of new residual waste facilities.

II. Dataset Columns

Column Heading	Description
Council	<i>This column describes the name of the council that the contracts listed pertain to. For ease of accessibility, this information is listed once for each council, with all contracts listed below these headings pertaining to that council. County Councils, Metropolitan Councils and Unitary Authorities (i.e. councils that are legally responsible for the disposal of waste) are listed in bold, whilst waste collection authorities are listed in normal text.</i>

	<i>Note: 1) waste collection and waste disposal authorities do not always exclusively adhere to these distinctions, so contracts that exceed the legal obligations of those councils may also be listed. 2) Some contracts are shared between councils, with the procurement process led by a different council (who therefore acts as the buyer). This does not stop that contract from applying to the council it is listed under however.</i>
Waste Partnerships	<i>This column provides details of the formal waste partnerships established by each council. Multiple partnerships may be described here. Informal partnerships and single-contract inter-authority arrangements will not always be listed here however. Instead, these arrangements will be outlined in the Shared/Individual column.</i>
Council (Per Contract Tag)	<i>In order to facilitate the use of filters and sorting tools in Excel, each contract must have an identification variable linking it to the council it provides services for. The values listed in this column will therefore simply be a repetition of the data in the 'Council' column, albeit listed individually for each contract.</i>
Shared/Individual	<i>This column provides a short description of the sharing arrangements associated with each contract. If a contract has been procured by one council on behalf of itself, then the contract will be listed in this column as 'Individual'. If it covers services that are shared across councils, or has been procured by one council on behalf of another, it will be listed first with the word 'Shared', and then with a description of the participating councils (e.g. Shared between York City Council and East Riding of Yorkshire Borough Council).</i>
Status Note	<i>The status note column provides information about the current status of a contract that exceeds the binary of ACTIVE/ENDED. Frequently used values here include: 'TERMINATED', 'OPEN TENDER', 'CLOSED TENDER', 'ANNUAL', 'RECURRING'. Where possible, those contracts listed as open or closed tender will also include details of the anticipated deadlines for the next stage of these procurements. This is to enable the tracking of their developments. Annual and recurring contracts are tagged here to highlight the fact that they are still active and are automatically renewed (unless cancelled) on a regular basis. Whilst the end date and Active/Ended values will therefore be listed as N/A (see Active/Ended description), the contract, if listed here, is likely still live.</i>
Active/Ended	<i>This column returns a simple status report on the contracts listed here. It is formatted to compare the end date of each contract to today's date, and to update itself accordingly. If a contract is still live when the dataset is consulted, it will be listed as 'ACTIVE'. If it has ended, then it will be listed as 'ENDED'. There are a few caveats to this. First, if a contract is listed as ended, yet still has extensions available to it, it may be the case that these extensions have been employed by the council.</i>

	As such, 'ENDED' may not be accurate – it will be necessary to check whether those extensions have been applied. To assist with identifying these contracts and their extension status, those contracts that are nearing their end, or have ended in the last year will be listed in the 'Near/Recent End' column. Second, if the end date of the contract is listed as 'N/A' (most commonly because the services described are conducted in-house and therefore do not have a fixed start or end date, or because the contract automatically renews annually), this column will return a value of 'N/A'. Third, if the end date is blank (indicating that this information is still to be located), then this column will simply display no value at all.
Near/Recent End	The Near/Recent End column is designed to allow the user to keep tabs on those contracts that are approaching their end dates soon, or have recently concluded. Its values are calculated in accordance with today's date. If a contract is due to end in the next 365 days (1 year), then that contract will be tagged as 'Near to Completion'. Likewise, if a contract has ended within the last 365 days (1 year) from date of use, then it will be tagged as 'Recently Ended'. If the end date for the contract is listed as 'N/A', this column will return 'N/A'. In all other scenarios, it will remain blank.
Service	This column broadly tags the services provided by a contract into a combination of three categories: 'Collection', 'Processing', 'Disposal'. This was primarily for use during the construction of the dataset in order to identify missing contracts, and has been compiled interpretively, so there may be inaccuracies/differences in the tagging of similar contracts across the dataset. As such, it is still a potentially useful variable, but it should be used with caution.
Reference ID	If a reference number was used by a council or procurement register for tagging that particular contract, then this will be listed in this column. All contracts should have an identification number, but this information was not consistently available (any contract missing this will be listed as 'N/A' in this column). For those contracts that do have a reference number however, this reference can be easily used for following up contracts in future correspondence with councils.
Contract Type	This column is mainly used to list PFI contracts, but there are also a number of other values that have been used in this column across the dataset. Most notably, if a contract has been procured on behalf of a council through a procurement company, this company will be listed here (e.g. Scotland Excel, LGSS, ESPO, NEPO). Some contracts will also be tagged 'Call-off' (a call-off contract is a medium-long term umbrella contract that often covers multiple smaller responsibilities), and 'One-off' or 'Order' (indicating that this contract is more akin to a single transaction than an ongoing arrangement).

Title	<i>The title of the contract.</i>
Supplier	<i>The name of the supplier (e.g. Veolia Environmental Services UK Ltd). In cases where there are multiple suppliers, these suppliers will all be listed in this field. Moreover, if these suppliers pertain to particular lots within the contract (and these divisions are known), they will also be listed in accordance with these lots (e.g. Lot 1) Viridor, Lot 2) Grundon Waste Management Ltd). Likewise, in cases where the supplier is another council, the name of this council will be listed. In cases where the company delivering said services is owned by one or more councils, the company name will be listed, followed by details of this ownership arrangement (e.g. Norse South East Ltd. (Joint venture between Havant BC and Norfolk CC)).</i>
Description	<i>Often this is the same as the contract title. Where available however, further information relating to the services provided under this contract will be listed here.</i>
Estimated Total Value	<i>The total value of the contract. This is an estimate because the value of these contracts can often change substantially, based on fluctuations in the sale price of secondary materials. This is particularly the case for longer-term contracts. Negative values indicate that a council generates revenue through a contract.</i> <i>Sometimes the value provided here will be inferred from the annual contract value and initial contract period variables ($=A1*(B1/12)$)*. As such, there may be discrepancies between the way in which councils calculate this figure, and the way in which it has been calculated here.</i> <i>If a contract's value is listed as N/A in both the Estimated Total Value and Estimated Annual Value columns, then its value has not been disclosed by the council. This is particularly the case for Welsh and Northern Irish councils, who frequently cite commercial sensitivity as a reason for withholding information. If the total value is listed as N/A, but the annual value is present however, then this means that the total value was not possible to be inferred because either the contract start or end dates were not available.</i> <i>*The dataset has been checked so that if the initial contract period is less than 12months, then the value here is simply the same as the annual value.</i>
Estimated Annual Value	<i>The annual value of the contract. This was often the figure cited by local authorities, so is most likely to be the figure most precisely reflected in their own records. In cases where the total contract value was the only value held by a council, the annual value was inferred through the following (reversed) calculation: ($=A1/(B1/12)$). Again, this was only applied to contracts that exceeded one year in length. Negative values indicate that a council generates revenue through a contract.</i>

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Start Date	<i>The start date of the contract.</i>
End Date	<i>End date of the contract. If a contract has been extended, then this will reflect the new end date for the contract, subject to that extension. The original end date can then be inferred from the start date and initial contract period values.</i>
Awarded Date	<i>If available, this column provides details of when the contract was signed.</i>
Review Date	<i>If available, this column provides details of when a contract will be reviewed, and the activation of extension options considered.</i>
Initial Contract Period (Months)	<i>The duration of the contract, as initially agreed as of its signing. This is presented in months.</i>
Total Option to Extend (Months)	<i>The sum total of the number of months by which a contract can be extended, subject to council authorization.</i>
Total Contract Period (Months)	<i>The sum of the initial contract period and the total option to extend (presented in months).</i>
Available No. of Extensions	<i>The number of lots into which a contract's total option to extend is divided.</i>
Available Extension Details	<i>A description of the break-down of the extension into different lots (e.g. Total extension = 36 months. Available number of extensions = 3. Available extension details = 3 x 12).</i>
Taken No. of Extensions	<i>The number of lots of extensions already authorized by a council (and therefore taken).</i>

III. Dataset Rows

Each new row represents a single contract. Councils are listed according to their countries (England, Scotland, Wales, Northern Ireland), and in England, the district and borough councils governed by a wider county council are listed beneath their respected county councils (which are highlighted in bold). London is listed separately, due to the large number of contracts that are held by its metropolitan boroughs. The City of London is also listed separately, due to its unique status in the UK's system of local authorities. Each of these regional distinctions is then highlighted through green divider rows that use the following headings: "LONDON BOROUGHs", "CITY OF LONDON", "ENGLISH COUNCILs", "SCOTTISH UNITARY AUTHORITIES", "WELSH UNITARY AUTHORITIES", and "NORTHERN IRELAND UNITARY AUTHORITIES".

2: Data collection

Data collection was conducted in three waves: 1) searching aggregated contracts within national and regional procurement portals; 2) directly searching for information on contracts held by specific councils (through council websites and news reports); and 3) submitting freedom of information requests.

I. Procurement Portals

The first step in building the dataset was to locate all council waste contracts listed on regional and national-level procurement portals. These portals include those hosted by Proactis (the Proactis website hosts separate contract portals for different areas of the country - for example: the 'London Tenders Portal' that covers London-based procurements; 'YOR Tender' that covers contracts in the Yorkshire and Humber region; and 'The Chest' that covers North West local authority procurements), as well as Public Contracts Scotland and the GOV.UK contracts finder.

Each of these contract registers has different arrangements for finding and exporting data, but the process employed here generally involved the following actions:

1. Select a sub-database portal for a region of interest (e.g. YORTender)
2. If possible to bulk export data from the contract register (see point 5), then search for all waste contracts within that region/portal simultaneously. If this was not possible, narrow the focus to individual council.
3. Select the following contract categories:
 - a. UNSPSC category number 77000000 (Environmental Services)
 - b. CPV category number 90000000-7 (Sewage, Refuse, Cleaning and Environmental Services)
 - c. ProClass category number 180000 (Environmental Services)
4. Update results.
5. If possible, export results to Excel (with lots), format and transfer to new database. If not possible to export in this manner, manually transfer data.
6. Triangulate this data, using keyword-searches of these databases for waste-related terms. Occasionally, contracts would not be listed under the above categories and would therefore fall through the cracks. However, given that many of these contracts are listed under titles that do not necessarily include the term 'waste', the following search terms were also employed: waste, recyc (abbreviated to include recycling, recyclate, recyclable and other derivations), refuse, disposal, collection, kerb, landfill, compost.

At the end of this process it was clear that not all councils' services and contracts were represented: some councils were missing arrangements for certain kinds of services (such as kerbside collection, or the disposal of residual waste), while for other councils, no contracts were listed at all. In many instances, key pieces of information (such as start and end dates and contract values) were also missing. As such, data collection required a second step.

II. Direct Enquiries

It is a government requirement that all English councils must publish information relating to their waste contract arrangements. It is also a requirement that they must publish a register of all of the current contracts held that exceed £5000 in value. These requirements do not apply for Scotland, Northern Ireland and Wales however.

The second phase of data collection was to search for details of these contracts via local authority websites. Transparency however, is not consistent. Many council websites bury this information. Some provide no information at all (despite transparency regulations). Very few councils explicitly detail their waste contracts, and when these contracts are listed explicitly,

they are nearly always incomplete (often such listings only covered their largest contracts). In these circumstances, contract registers were the next port of call. Again this data was occasionally unavailable; much of it was either out of date or omitted key parts of information (such as start dates, values, and even supplier names), and pertinent contracts were also nearly always buried within huge lists containing thousands of procurements pertaining to other goods and services. Added to this, councils would sometimes only upload files that contained the contracts signed in that year or quarter, so any contract that had been signed previously but were still active could only be found by searching the files pertaining to the year or quarter in which they were signed.

III. FOI Requests

When it became clear (or even suspected) that certain contracts, or specific pieces of data related to known contracts, were missing from the dataset and could not be located manually, these details were requested from councils under the Freedom of Information Act. In the case of Northern Ireland and Wales (where it is not a government requirement that contract information be published, and where information on these contracts is difficult to locate), FOI requests were made to all local authorities. Data supplied directly by these councils was then imported into the dataset using the processes described above.

3: Data limitations

Every effort was made to ensure that the process of data collection was comprehensive and reliable. Nonetheless, there are a number of possible limitations to the dataset.

I. Comprehensiveness

It is impossible to know whether this is a complete list of all active contracts. The only way to guarantee this is to send the dataset to local authorities to confirm. Even if this were to be done diligently, it would be impossible to know if there were contracts missing that local authorities did not want publicized.

Practical obstacles increased the risk of some contracts being omitted from the dataset. First, the search terms that were used may have allowed some contracts to be missed. An example would be contracts pertaining to a specific type of waste e.g. 'Paper Treatment Services', or 'Wood Processing'. Most material-specific contracts will have been picked up on however, due to the use of category codes, the use of 'recyc', 'waste' and in particular 'disposal' and 'collection', and second, by manual scanning of the documents under study.

Second, the search terms used developed over the course of data collection. Specifically, terms such as 'landfill' and 'disposal' were only used about 1/5th of the way into data collection. Analysis was conducted systematically in the following pattern: London, City of London, England (north to south), Scotland, Northern Ireland, Wales. It was only around the Yorkshire region that this process was finalized and standardized.

Third, and connected to this learning process, the dataset may be missing some contracts that have been procured through external companies using contract frameworks. Particularly early on in the data collection process, some of these contracts were excluded due to the buyer name being listed as something other than a council (E.g. ESPO, LGSS, Scottish Excel). On the whole, these contracts will have been included, but there is a chance that some will have been missed, particularly in the earlier stages of data compilation.

Fourth, the dataset does not include a full list of the waste contracts that are currently up for tender. This could be done fairly easily by looking at those contracts that are near to completion, and simply looking up the advertised tenders for the council they pertain to (although this would miss out on contracts for new kinds of services that a council has not previously procured).

Finally, it should be noted that the contracts listed here *are specifically those held by local authorities*. It is not a comprehensive list of all public waste contracts held across the UK. Other waste collection contracts may also be held by schools, universities, hospitals and other similar sites, and these are procured separately, often by external procurement agencies.

II. Reliability

In terms of the reliability of the data, there are a small number of factors that may have led to errors.

1. In the case of partnership-procured contracts, it was often difficult to identify the annual amounts that local councils individually paid towards these contracts. It was relatively easy to find the total contract value, listed under the lead purchasing council, but there is no requirement that other councils publish this information. Monthly and quarterly payments for these contracts were sometimes published, but it was often impossible to accurately establish estimates of a council's annual individual contributions due to the frequent variability in these payments. As such, if the value of shared contracts is shown to be the same across councils, this means that the figure displayed is the total contract value, as shared by local authorities. What this means in practice is that **it is not possible to accurately establish the total spend on waste services by local councils across the UK, simply by calculating the sum of a value column**. This is also the case because nearly all of the figures of total values provided by councils are estimates, given that there is typically some flex in these contracts, particularly those that span long time periods.
2. For a number of contracts in this dataset, some details have been compiled from, or have been supplemented by, data from news reports.
3. Considerable amounts of unknown data have been inferred from figures that *are* known. For instance, it is common for only one of either the annual or total values of a contract to be displayed in council contract registers. As such, it was often necessary to calculate one from the other, based on known figures for the contract duration. There may therefore be some disparity with official figures cited in other locations but that were not accessible at the time of compilation.
4. It was occasionally difficult to be certain whether the listed total contract values were estimates that included or excluded contract extension periods. There are therefore likely to be some inaccuracies in values across the dataset as a result.