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Report on the Landfill Allowances and Trading Scheme 2009/10

November 2010

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Executive summary

This is our 2009/10 annual report for the Landfill Allowance Trading Scheme (LATS) in England.

The objective of LATS is to reduce the negative effects of landfilling on the environment, including reducing the production of methane gas from landfill sites, as well as any resultant risk to human health by diverting biodegradable municipal waste (BMW) from landfill.

In 2009/10, English local authorities sent 8.4 million tonnes of BMW to landfill. This is 1 million tonnes less than the previous year and nearly 3 million tonnes less than local authorities could have landfilled if all 11.2 million tonnes LATS allowances had been used.

To meet their commitments local authorities can bank, transfer and trade allowances to landfill BMW with other local authorities. This year 20 English waste disposal authorities bought allowances worth over £2 million to meet their LATS obligations.

Five years on from the start of the Scheme, 32% (12.4 to 8.4 million tonnes) less BMW is landfilled and England send 46 % less BMW to landfill than it did in 2001/02.

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1. Introducing LATS

Under the Landfill Allowances and Trading Scheme (LATS) in England, waste disposal authorities are required to meet allowance allocations by diverting biodegradable municipal waste (BMW) from landfill. Reducing the amount of waste we send to landfill will limit the impact on our environment both now and in the future.

England is working to meet the following diversion targets set out in Article 5.2 of the Council Directive 1999/31/EC (Landfill Directive).

- by 2010 to reduce the amount of BMW going to landfill to 75 per cent of that produced in 1995.
- by 2013 to 50 per cent of the 1995 figure.
- by 2020 to 35 per cent of the 1995 figure.

Waste disposal authorities (WDAs) are responsible for diverting collected municipal waste (MSW) from landfill. Authorities can borrow, buy, sell or use banked allowances. The Department for Environment, Food and Rural Affairs (Defra) has allocated allowances to each authority for the LATS scheme years from 2005/06 until 2019/20. One allowance represents one tonne of BMW that can be landfilled.

Waste disposal authorities must not landfill more BMW than their yearly allowance.

By 31 October each year the Environment Agency provides Defra with a report on the reconciliation process. This includes:

- details of the total amount of BMW sent to landfill in the most recent scheme year;
- total amount of BMW sent to landfill in that year as reported by landfill operators;
- a list of WDAs that do not hold sufficient allowances;
- trading history, volume and average prices of trades.

To give a consistent and comparable picture, the report refers to the original allowance allocations for the 123 waste disposal authorities. These allocations were issued in 2004 and do not reflect any trading of allowances.

2. Reporting

Waste disposal authorities

Waste disposal authorities use the web-based system, [WasteDataFlow](#) (WDF), to report municipal waste data. Table 1 below shows the number and type of local authorities that entered data during 2009/10

Table 1: Different types of local authorities in England

| Type | Abbreviation | Function | Number |
|------------------------------|--------------|---------------------------------------------------------------|------------|
| Waste disposal authorities | WDAs | County councils | 33 |
| Waste collection authorities | WCAs | Borough and district councils grouped together under the WDAs | 236 |
| Unitary authorities | UAs | Take the role of both WDAs and WCAs | 90 |
| Total | | | 359 |

Throughout this report, WDAs and UAs are collectively referred to as 'waste disposal authorities'.

The reporting deadlines for waste disposal authorities (Table 2) are set out in the LATS (England) Regulations 2004.

Table 2: LATS reporting deadlines

| Quarter | Period | Reporting deadline |
|---------|------------------------------------|--------------------|
| 1 | Data from 1 April to 30 June | 30 September |
| 2 | Data from 1 July to 30 September | 31 December |
| 3 | Data from 1 October to 31 December | 31 March |
| 4 | Data from 1 January to 31 March | 30 June |

The data reporting performance of waste disposal authorities continues to improve each year.

Across all quarters in 2009/10, 98% of waste disposal authorities submitted their data to WasteDataFlow within reporting deadlines (Level 30). Almost all of the waste disposal authorities that missed the deadline were able to submit their data within 2 working days.

Landfill operators

Under the LATS (England) Regulations 2004, landfill operators are obliged to keep records and make returns for the amounts of municipal waste accepted at landfill. These are annual returns containing details of the waste disposal authority origin and type of waste received.

In 2009/10, **landfill operators reported that a total of 13,093,924 tonnes of MSW was deposited at landfill sites.** This is a decrease of 2,111,943 tonnes since 2008/09. This waste was deposited at 139 different landfill sites, operated by 22 different waste management companies.

It is important to note that this data comes from landfill operator recording systems, and is reported independently of the local authority WDF returns. As a result, it is difficult to directly verify one dataset against the other. The following may explain the differences between the figures:

- Waste measured at landfill may have gone through one or more intermediate stages, such as bulking, transfer or treatment, which can change the nature and quantity of waste received.
- It may be difficult for landfill operators to find out exactly where the waste has come from.
- Waste received at landfill may contain a mixture of waste collected by local authorities, and privately collected commercial waste that is not accounted for in the WDF returns.

3. Data Validation and Auditing

Level 30

The validation process begins once data from a waste disposal authority is authorised by an approved signatory in WDF, the data is submitted to 'level 30'. It is usually a senior manager within the waste disposal authority that is responsible for checking and authorising data to be submitted to level 30.

A number of factors affect level 30 validation. These include:

- variable quality of local authority data;
- availability of waste disposal authority staff to deal with queries;
- number of data changes needed to improve quality;
- complex situations requiring technical investigation and specific detailed guidance.

Once data has been successfully validated, it is approved to 'level 35' and becomes the responsibility of the EA to further validate.

Across England, an individual waste disposal authority's level 30 data requires amendment an average of 1.1 times each quarter. Although many waste disposal authorities are validated to level 35 without the need to make amendments, during 2009/10 the maximum number of amendments required for an individual level 30 submission to reach level 35 was 8.

Level 35 to Level 40

The EA undertake quarterly validation of all data submitted by all waste disposal authorities after the individual returns have been validated by Enviro to level 35. Successful validation results in a quarterly return being approved to 'level 40'. Level 40 validation involves further scrutiny of reported data in terms of where municipal waste is sent for reprocessing, recovery, and disposal.

The aim of level 40 validation is to improve the accuracy and consistency of waste data, it specifically monitors:

- Reporting of final destinations
- Residual waste collections (e.g. comparing disposal authority data against its constituent collection authority data)
- Tonnage to alternative disposal facilities
- Reject rates at Material Recycling Facilities (MRF)
- Organic waste treatment.

Monitoring these elements of waste data reporting increases our confidence that we can accurately calculate the amount of biodegradable waste diverted from landfill for each waste disposal authority.

During 2009/10, level 40 validation has raised a number of issues across England, the most common issues are:

- Not reporting accurate end destinations;
- rubble wrongly reported as reused/recycled when it has been landfilled;
- misreporting of MSW (particularly commercial waste and highways waste);
- consistent reporting of MSW into WDF across quarters;
- 0% reject rates being reported for MRFs;
- incorrect reporting of waste data from residual waste treatment facilities.

Waste disposal authority site visits

As part of our monitoring role, we visit waste disposal authorities to audit their performance in complying with LATS requirements. The visits are risk-based, and focus on helping waste disposal authorities continue to improve their systems and processes for collecting, quality assuring, and reporting LATS data..

Between 2007/08 and 2008/09, we visited 98% of waste disposal authorities in England – each waste disposal authority was provided with a visit report containing a performance rating and a number of recommendations. At the start of 2009/10 we revised the scope of our site visits to focus on progress since the first visit. We found that re-visits should also focus more on the diversion/recycling information handled by waste disposal authorities.

A visit consists of an evidence-based approach to assess the quality and consistency of LATS information handled by the waste disposal authority. There are 5 elements to a visit:

- Progress since last visit
- Data collection
- Quality assuring data
- Reporting data
- Strategic information

During 2009/10 we visited 25 waste disposal authorities – this included 2 waste disposal authorities that had not previously been visited.

Figure 1 shows the overall waste disposal authority performance ratings provided during our 2009/10 visits:

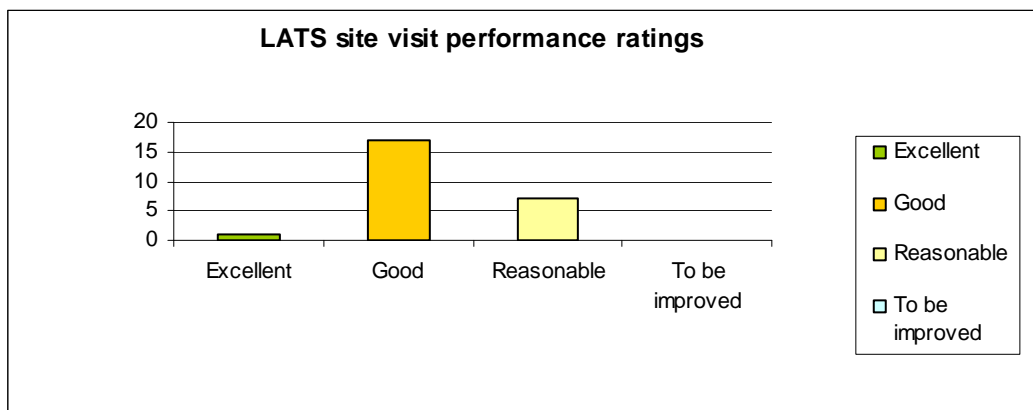


Figure 1.

No waste disposal authority received an overall rating of 'to be improved'. Of the 23 waste disposal authorities that had previously been visited, **18 received overall improved performance ratings or were consistently rated as 'good'**.

We made 123 recommendations for continuous improvement during our 2009/10 visits – the bulk of which were centred around data reporting. Although significant improvements have been made, verifying end destinations of waste diverted from landfill continues to be an issue for waste disposal authorities.

For the 23 waste disposal authorities that had previously been visited, we followed up on 148 previous recommendations.

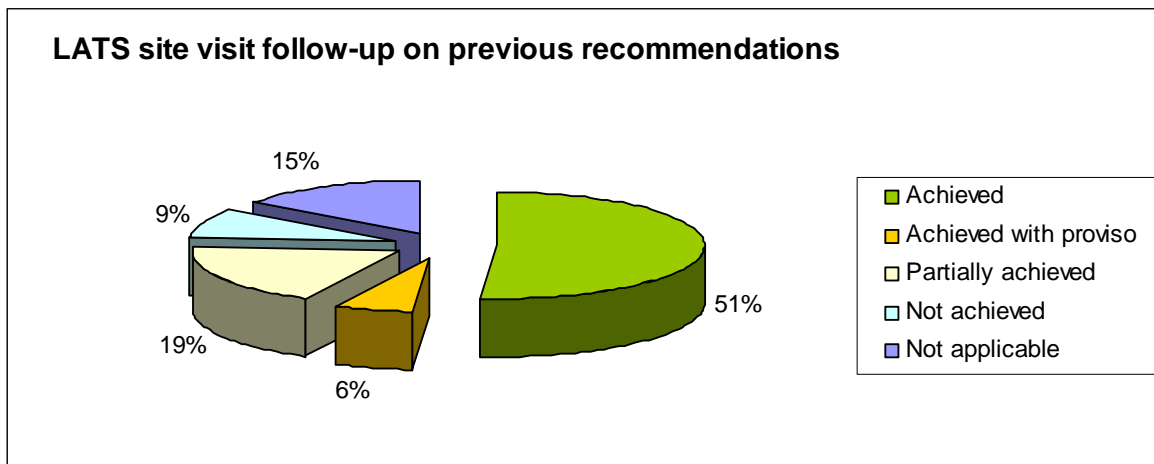


Figure 2.

(The 15% classified as 'Not applicable' include recommendations that can no longer be achieved due to changes at the waste disposal authority. E.g. a newly formed unitary authority cannot achieve a recommendation to work closely with WCAs if the WCAs no longer exist).

Waste disposal authorities have made good progress in following recommendations and improving performance – this is also reflected in their overall site visit ratings.

4. Reconciliation.

No later than 5 months after the end of a LATS scheme year, we calculate how much BMW was landfilled by each waste disposal authority during that scheme year. We do so by using the [mass balance calculation](#). We then reconcile the BMW landfilled against the number of allowances held by that authority. (Annex 2 shows how the mass balance is calculated).

During 2009/10, waste disposal authorities were not permitted to bank surplus allowances from 2008/09, or borrow allowances from 2010/11. The available allowances for each waste disposal authority were made up of the initial allowance allocation, plus or minus any traded allowances.

We provided each waste disposal authority with a 'draft' LATS reconciliation figure by 31 August 2010. This was a 'draft' figure because it included any trading activity to date - all authorities were able to trade their allowances until 30 September 2010, when the trading registry was closed and the reconciliation figures became final.

5. Trading.

Trading does not alter the number of LATS allowances used in 2009/10, it allows authorities with a deficit of allowances to ensure they are able to meet their allocation and not become liable to penalties under the scheme.

In October 2010, the final reconciliation figures for 2009/10 were published on the [electronic register of landfill allowances](#) following the successful closure of all accounts.

- 20 waste disposal authorities exceeded their initial 2009/10 allocation, and needed to acquire extra allowances in order to avoid potential penalties.
- 46 waste disposal authorities traded allowances during 2009/10.
- 264,106 allowances were traded for the 2009/10 scheme year.
- The total value of trading was £2,022,601.

Table 3 shows the monetary value of trades that took place for the 2009/10 LATS year:

| Number of trades | Period when trade took place | Average price (£) per allowance |
|------------------|------------------------------|---------------------------------|
| 2 | 2007/08 | £29.50 |
| 3 | 2008/09 | £18.50 |
| 37 | 2009/10 | £4.84 |

Table 3.

37 trades took place during the scheme year, of which, 20 trades occurred during the reconciliation period in September 2010.

Some waste disposal authorities have partnership agreements - this can help explain why some trades have no or a low monetary value, and why some waste disposal authorities acquired allowances that were not needed to meet their targets.

The current total value of all trades, spread over several scheme years, is now close to £19.5 million.

6. Waste Disposal Authority Performance

On an annual basis, we calculate the total amount of biodegradable municipal waste (BMW) sent to landfill by each waste disposal authority in England. BMW to landfill (for each waste disposal authority) is calculated on a quarterly basis, and the 4 quarterly figures are summed to provide an annual reconciliation figure. The quarterly mass balance calculation, which is used to calculate how much BMW a waste disposal authority has landfilled, is available on the [WDF website](#), and in Annex 2.

Quarterly predictions

At the end of each of the first three quarters of 2009/10, we provided waste disposal authorities with individual forecasts of the quantity of BMW that was likely to be landfilled. The forecast takes into account the BMW landfilled in a given quarter, and in the year to date - it also factors in seasonal fluctuations in BMW landfilled based on previous years performance. During 2009/10, the 3 quarterly forecasts for BMW to landfill were accurate to within 1.5% in predicting the overall performance of England. Table 1 shows the 3 overall forecast figures for England:

| Quarter 2009/10 | Forecast BMW to landfill 2009/10 (tonnes). | Percent forecast figure varies from actual BMW to landfill 2009/10 |
|-----------------|--------------------------------------------|--------------------------------------------------------------------|
| 1 | 8,355,515 | 1.04% |
| 2 | 8,568,381 | 1.47% |
| 3 | 8,463,775 | 0.23% |

Table 1.

Actual BMW sent to landfill during 2009/10

The LATS 2009/10 allowance figure is 11,200,000 tonnes of BMW. The actual BMW landfilled by waste disposal authorities in England 2009/10 is 8,444,003 tonnes. **This means English waste disposal authorities met their combined allocation with 2,755,997 allowances to spare.**

Figure 3 shows the tonnes of BMW landfilled each LATS year to date against the initial allocation of allowances for each LATS year up to 2013.

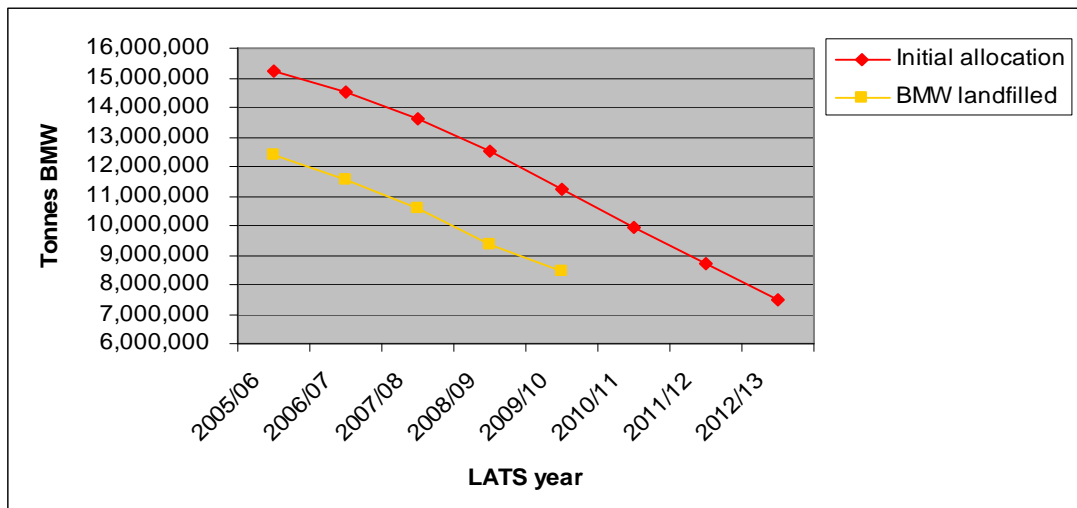


Figure 3.

Municipal waste trends

English waste disposal authorities have continued to make good progress in reducing the amount of BMW sent to landfill. There has been a steady reduction in the amount of total collected municipal waste, total residual waste, and directly landfilled waste (waste sent to landfill that has not been treated at a facility) over the last 3 years. There has also been a corresponding increase in the amount of waste sent for recycling, reuse and recovery (total collected municipal waste diverted). Figure 4 shows these trends for the last 3 years:

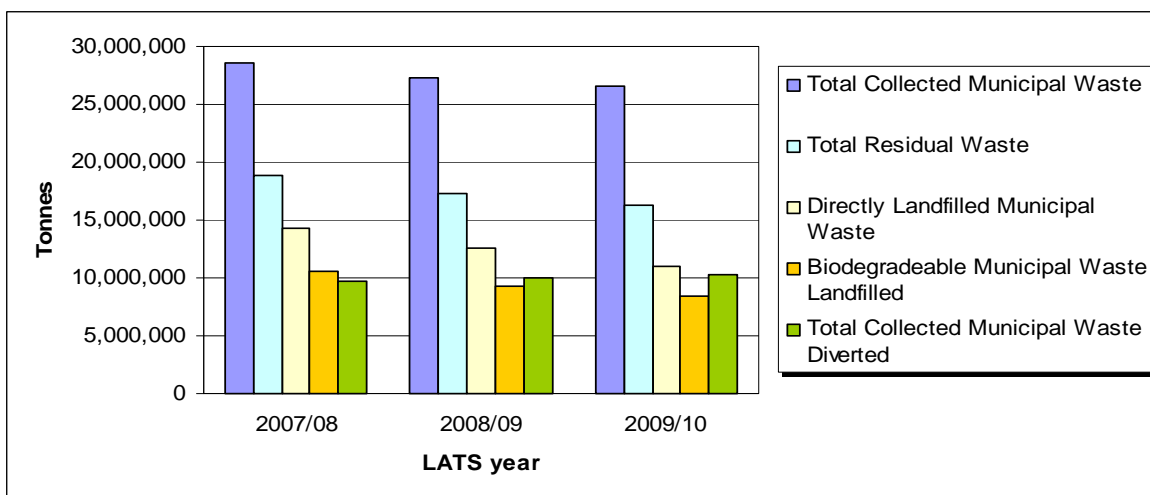


Figure 4.

Over the past 3 years (since 2006/07):

- There has been a 6.9% **reduction** in the total amount of collected municipal waste;
- Total residual waste has **reduced** by 13.9%;
- The amount of waste sent direct to landfill has **reduced** by 23.1%;
- BMW to landfill has **reduced** by 20.2%;
- The total amount of municipal waste diverted has **increased** by 6.7%.

Annex 2 shows an indicative mass balance calculation including the total amounts of municipal waste reported in 2009/10.

7. Improving LATS

During 2009/10, we continued to work with waste disposal authorities, Defra and Enviros to improve the operation of the Landfill Allowance Trading Scheme. Some of the main issues include:

Final destination of waste. Many local authorities send waste material to be recycled through brokers, intermediaries and reprocessors. Sometimes this waste is reprocessed and recovered within the UK, and at other times it is exported. It is apparent from our validation work that authorities differ in their approach to reporting the final destination of their municipal waste.

It is essential that accurate final destination information is reported on WasteDataFlow. This is so we can verify the reprocessing, recovery and recycling of material is carried out in an appropriate way, and that the material has been diverted from landfill as reported.

WasteDataFlow. WasteDataFlow continues to be the main tool for waste disposal authorities to report LATS data to government. We are continually improving the system in response to waste disposal authority feedback, changing waste treatment technologies and user requirements.

During 2009/10, technical developments included; revisions to the mass balance calculation to ensure recycling from residual waste was accounted for, and reporting functionality to allow reports based on end destinations. Enviros and the EA are also currently developing a new question to cover complex movements of waste at multi-functional facilities. The new question will not be an extra reporting burden on waste disposal authorities, it will be an optional alternative that will better match emerging treatment patterns/movements of waste.

New guidance published on WasteDataFlow includes; updated LATS penalty guidance, MBT reporting guidance, and guidance on the mass balance changes to include recycling from residual waste.

Selection lists. As part of our Level 40 validation work we target waste disposal authorities who are not correctly reporting final destinations. We engage these waste disposal authorities to provide advice and guidance as to how final destinations should be reported. As more waste disposal authorities are implementing our advice, we have had an increase in queries regarding waste facilities used by waste disposal authorities and their contractors. Most queries relate to waste disposal authorities being unable to find the correct waste facility on the WDF selection list. This may be due to a number of reasons;

- The facility they are looking for is exempt, and therefore is not on the list - in these situations our advice is to report the facility as 'other/exempt', and enter the site details within the comments box.
- The facility details on the list may be slightly different to the details they have obtained. E.g. the waste company operating the facility may not be the permit holder, and subsequently not on our list. In these circumstances we can check our records and provide the correct facility details for the waste disposal authority to use.
- A new facility is being used, and at the time of the selection list update the permit had not been issued and therefore is not on the list. In these circumstances

we advise waste disposal authorities to contact us so we can advise which facility details to use until the selection list has been updated.

In some circumstances we may not have any details about a facility in question. Our advice is that waste disposal authorities should seek clarification directly with the facility operators to establish what authorisation they have that permits them to accept the waste they handle.

Feedback welcomed

Finally, we would welcome your feedback on the content of this report. You can contact us at:

lats@environment-agency.gov.uk

Annex 1: 2009/10 BMW allocation against BMW landfilled.

| Authority | Initial LATS allocation 2009/10 (tonnes) | BMW landfilled 2009/10 (tonnes) |
|----------------------------------------|------------------------------------------|---------------------------------|
| Barnsley MBC | 55,934 | 37,128 |
| Bath and North East Somerset Council | 37,604 | 36,604 |
| Bedford Borough Council | 38,246 | 27,112 |
| Bexley LB | 54,606 | 37,823 |
| Birmingham City Council | 209,139 | 36,882 |
| Blackburn with Darwen Borough Council | 29,555 | 28,436 |
| Blackpool Borough Council | 35,498 | 34,400 |
| Bournemouth Borough Council | 42,850 | 25,776 |
| Bracknell Forest Borough Council | 27,703 | 15,160 |
| Bradford City MDC (MBC) | 104,251 | 119,888 |
| Brighton and Hove Council | 44,968 | 34,159 |
| Bristol City Council | 76,563 | 74,337 |
| Bromley LB | 76,569 | 37,873 |
| Buckinghamshire County Council | 102,044 | 95,021 |
| Calderdale MBC | 40,850 | 29,333 |
| Cambridgeshire County Council | 109,638 | 83,799 |
| Central Bedfordshire Council | 57,912 | 34,708 |
| Cheshire East Council | 89,896 | 65,849 |
| Cheshire West and Chester Council | 77,922 | 68,058 |
| City of London | 27,029 | 15,994 |
| Cornwall County Council | 110,554 | 134,913 |
| Council of the Isles of Scilly Council | 1,357 | 0 |
| County Durham Council | 118,088 | 119,597 |
| Coventry City Council | 71,162 | 11,116 |
| Croydon LB | 75,700 | 76,814 |
| Cumbria County Council | 110,331 | 107,495 |
| Darlington Borough Council | 25,473 | 30,952 |
| Derby City Council | 47,261 | 44,744 |
| Derbyshire County Council | 154,610 | 150,451 |
| Devon County Council | 156,679 | 133,376 |
| Doncaster MBC | 76,477 | 62,254 |
| Dorset County Council | 82,565 | 72,865 |
| Dudley MBC | 51,431 | 14,352 |
| East London Waste Authority | 211,793 | 146,281 |
| East Riding of Yorkshire Council | 73,097 | 80,656 |
| East Sussex County Council | 102,028 | 67,067 |
| Essex County Council | 281,901 | 240,226 |
| Gateshead MBC | 70,938 | 48,743 |

| Authority | Initial LATS allocation 2009/10 (tonnes) | BMW landfilled 2009/10 (tonnes) |
|--------------------------------------|-------------------------------------------------|----------------------------------------|
| Gloucestershire County Council | 107,428 | 116,639 |
| Greater Manchester WDA | 557,297 | 473,030 |
| Greenwich LB | 53,214 | 7,058 |
| Halton Borough Council | 27,759 | 31,118 |
| Hampshire County Council | 270,180 | 48,047 |
| Hartlepool Borough Council | 19,514 | 4,492 |
| Herefordshire Council | 35,508 | 41,912 |
| Hertfordshire County Council | 219,073 | 173,088 |
| Isle of Wight Council | 30,188 | 26,324 |
| Kent County Council | 290,258 | 156,248 |
| Kingston-upon-Hull City Council | 54,479 | 66,446 |
| Kirklees MBC | 94,557 | 22,677 |
| Lancashire County Council | 258,634 | 252,005 |
| Leeds City Council MBC | 151,189 | 145,297 |
| Leicester City Council | 56,656 | 45,510 |
| Leicestershire County Council | 138,123 | 100,637 |
| Lewisham LB | 49,733 | 10,311 |
| Lincolnshire County Council | 131,376 | 101,389 |
| Luton Borough Council | 40,377 | 35,126 |
| Medway Borough Council | 52,691 | 52,982 |
| Merseyside WDA | 310,848 | 336,259 |
| Merton LB | 38,930 | 38,714 |
| Middlesbrough BC | 26,927 | 10,546 |
| Milton Keynes Council | 44,753 | 45,476 |
| Newcastle-upon-Tyne City Council MBC | 68,924 | 60,023 |
| Norfolk County Council | 166,921 | 143,333 |
| North East Lincolnshire Council | 34,528 | 7,310 |
| North Lincolnshire Council | 39,802 | 29,759 |
| North London Waste Authority | 358,996 | 246,105 |
| North Somerset Council | 44,214 | 43,620 |
| North Tyneside Council | 44,627 | 35,814 |
| North Yorkshire County Council | 143,960 | 132,401 |
| Northamptonshire County Council | 146,969 | 130,171 |
| Northumberland County Council | 72,823 | 13,564 |
| Nottingham City Council | 69,031 | 23,668 |
| Nottinghamshire County Council | 181,603 | 120,058 |
| Oxfordshire County Council | 121,668 | 102,234 |
| Peterborough City Council | 34,135 | 30,367 |
| Plymouth City Council | 66,397 | 63,041 |
| Poole Borough Council | 35,888 | 33,391 |
| Portsmouth City Council | 37,684 | 6,167 |

| Authority | Initial LATS allocation 2009/10 (tonnes) | BMW landfilled 2009/10 (tonnes) |
|------------------------------------------|-------------------------------------------------|----------------------------------------|
| Reading Borough Council | 35,028 | 26,762 |
| Redcar and Cleveland Borough Council | 31,059 | 5,788 |
| Rotherham MBC | 58,036 | 23,692 |
| Royal Borough of Kingston-upon-Thames LB | 31,430 | 18,546 |
| Rutland County Council | 7,846 | 5,829 |
| Sandwell MBC | 57,277 | 34,871 |
| Sheffield City Council MBC | 113,709 | 19,177 |
| Shropshire County Council | 67,395 | 47,876 |
| Slough Borough Council | 26,542 | 16,198 |
| Solihull MBC | 39,565 | 8,032 |
| Somerset County Council | 117,929 | 96,849 |
| South Gloucestershire Council | 52,366 | 53,271 |
| South Tyneside MBC | 30,076 | 38,690 |
| Southampton City Council | 43,188 | 13,467 |
| Southend-on-Sea BC | 36,956 | 28,640 |
| Southwark LB | 51,141 | 36,766 |
| Staffordshire County Council | 184,345 | 73,850 |
| Stockton-on-Tees BC | 36,435 | 10,117 |
| Stoke-on-Trent City Council | 52,945 | 8,201 |
| Suffolk County Council | 148,873 | 111,938 |
| Sunderland City Council | 64,052 | 72,180 |
| Surrey County Council | 229,139 | 140,430 |
| Sutton LB | 35,665 | 36,175 |
| Swindon Borough Council | 38,968 | 37,884 |
| Telford and Wrekin Council | 37,450 | 34,345 |
| Thurrock Council | 27,909 | 29,543 |
| Torbay Council | 32,224 | 29,355 |
| Tower Hamlets LB | 38,871 | 45,498 |
| Wakefield City MDC | 82,137 | 74,282 |
| Walsall MBC | 56,218 | 29,996 |
| Warrington Borough Council | 44,014 | 36,355 |
| Warwickshire County Council | 113,495 | 77,084 |
| West Berkshire Council | 32,410 | 25,511 |
| West London Waste Authority | 329,450 | 289,128 |
| West Sussex County Council | 179,655 | 157,804 |
| Western Riverside Waste Authority | 198,694 | 232,398 |
| Westminster City Council | 87,938 | 21,971 |
| Wigan MBC | 79,008 | 75,090 |
| Wiltshire County Council | 93,158 | 81,046 |
| Windsor and Maidenhead BC | 34,708 | 29,996 |
| Wokingham Council | 29,804 | 24,017 |

| Authority | Initial LATS allocation 2009/10 (tonnes) | BMW landfilled 2009/10 (tonnes) |
|-------------------------------|-------------------------------------------------|----------------------------------------|
| Wolverhampton MBC | 61,873 | 9,778 |
| Worcestershire County Council | 118,656 | 91,975 |
| York City Council | 44,281 | 41,003 |
| Total | 11,200,002 | 8,444,003 |

Annex 2: Indicative mass balance calculation

This table shows how an indicative mass balance is calculated:

| | | | |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| MSW _T | Total Collected Municipal Waste | 26,540,956 | All waste collected for recycling, reuse, recovery and disposal. |
| BMW% | BMW (%) | 68 | Deemed percentage of biodegradable component of municipal waste in England. |
| BMW _T | Total Biodegradable Municipal Waste | 18,047,850 | $BMW_T = BMW\% \times MSW_T$ |
| Div _T | Total Collected Municipal Waste Diverted | 10,326,123 | Recycling & Reuse tonnages sent to a final destination, minus any tonnes rejected at gate of reprocessor. |
| Div _B | Biodegradable Content of Diverted Waste | 7,041,371 | Nominal biodegradable content of each material multiplied by the Net total collected municipal waste diverted. |
| Res _T | Total Residual Waste | 16,214,833 | $Res_T = MSW_T - Div_T$ |
| Res _B | Biodegradable Content of Residual Waste | 11,006,480 | $Res_B = BMW_T - Div_B$ |
| RB% | Residual Biodegradable Percentage (%) | 69 | $RB\% = (Res_B / Res_T) \times 100$ <i>(The figure in this table is an average for England across 2009/10)</i> |
| L _D | Directly Landfilled Municipal Waste | 11,022,695 | Tonnage of waste sent directly to landfill. |
| L _{TH} | Landfilled after Thermal Treatment | 269,356 | Tonnage of incinerator bottom ash sent to landfill and tonnage of char/slag sent to landfill |
| L _{MBT} | Landfilled after Mechanical Biological Treatment | 272,007 | Tonnage of waste sent to landfill from mechanical biological treatment. |
| MBT _{AF} | MBT Adjustment Factor | 1 | Site-specific factor by which MBT RB% is adjusted. <i>(The figure in this table is an average across England for 2009/10).</i> |
| L _{OT} | Landfilled after Other Treatment | 1,089,997 | Tonnage of waste sent to landfill from other treatment e.g. residual MRF. |
| Div _R | Rejected Diverted | 118,951 | Tonnage of Recycling & Reuse rejects from collection & gate of reprocessor. |
| BMW _L | $BMW_L = (L_D \times RB\%) + (L_{TH} \times 0\%) + (L_{MBT} \times (RB\% \times MBT_{AF})) + (L_{OT} \times RB\%) + (Div_R \times RB\%)$ | | |

Biodegradable Municipal Waste Landfilled 2009/10

8,444,003

*The purpose of this table is to show an indicative mass balance calculation. The figures included are the collective amounts reported in WasteDataFlow by all waste disposal authorities in England during 2009/10, and are displayed here for headline purposes.

(The collective figures are not used to calculate BMW sent to landfill for England. Individual mass balance calculations are made for each waste disposal authority on a quarterly basis – these are then summed to provide a reconciliation figure).

List of abbreviations

| | |
|-------|----------------------------------------------------|
| BMW | Biodegradable municipal waste |
| Defra | Department for Environment, Food and Rural Affairs |
| EfW | Energy from waste |
| FAQ | Frequently asked questions |
| LATS | Landfill Allowances and Trading Scheme |
| MBT | Mechanical biological treatment |
| MRF | Materials recovery facility |
| MSW | Collected municipal waste |
| UA | Unitary authority |
| UK | United Kingdom |
| WCA | Waste collection authority |
| WDA | Waste disposal authority |
| WDF | WasteDataFlow |

Would you like to find out more about us,
or about your environment?

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