

# Materials Facility Reporting Portal Q4 2015 – Commentary

## Key points

- This is the fifth publication of data under the Environmental Permitting (England and Wales) (Amendment) Regulations 2014 (Schedule 9A), and relates to the reporting period, October-December (Q4) 2015.
- The average percentage (by weight) of target material received by responding MFs in Q4 2015 was 86.0% for England and 88.4% for Wales which is very similar to the previous quarter (86.1% for England, 88.0% for Wales).
- Across the four specified output material streams, the lowest average percentage (by weight) of a specified target material in the output material streams is 89.8% for England, and 85.2% for Wales.
- The reporting process is still relatively new and users are advised to take this into account when analysing this data.

## Background

The MF Portal currently displays the input and output sampling data required by the Regulations. It does not display all data recorded by the facilities. The sampling of input tonnage is limited to mixed waste and is recorded for each supplier. The sampling of output waste is limited to specified output material (grades of glass, paper, metal and plastic). Therefore the Portal does not currently include tonnages for all other input and output waste and materials from the facilities.

Facilities have been sampling and reporting for 15 months. The Regulators are continuing their annual programme of announced and unannounced visits to each site. The visits enable the Regulator to advise operators on the statutory sampling and reporting requirements and assess compliance with them, as well as provide advice on best practice as set out in the WRAP guidance. Any potential adjustments a facility might make to their sampling arrangements following feedback and guidance from the Regulator, may not be immediately seen in their reported data on the portal

due to timescales involved in reporting and publishing on the Portal (which could be up to 6 months).

Much of the reported data is consistent across the previous reporting quarters. The Portal is a transparent display of data provided by the facilities. The data is available for waste suppliers (such as local authorities or businesses) and reprocessors to use and to inform feedback and discussions with their MF. For local authorities it can provide information on the quality of the material they are getting from their residents. Users should be aware that any queries raised during the Regulators' validation processes are reported back to the facilities but the data entries are not always rectified in response. This means the Portal will include data for facilities where there is an outstanding validation issue.

### **General observations for Q4 2015**

The data displayed in The Portal and summarised here is the latest supplied by the facility for Q4 2015. Since the Portal displays the data as provided by the facility, submitted data that appears extreme have not been removed or adjusted<sup>1</sup>. The summary statistics presented in this commentary are intended to be representative of MFs who have submitted the quarterly return.

Four additional facilities notified The Regulator (Environment Agency) in accordance with the Regulations for Oct-Dec 2015, taking the total to 90. All 90 submitted a quarterly data return. In Wales, 11 MFs notified The Regulator (Natural Resources Wales) and 11 submitted data.

### **MF Input stream analysis**

#### *MF Input stream analysis: England*

The waste supplied to the responding MFs in England was attributed directly to 209 local authorities (LAs) and 291 other suppliers (such as waste management companies or other waste facilities)<sup>2</sup>.

The total tonnage of material entering the MFs in Q4 2015 was 886,511 tonnes which is almost 69,000 tonnes or 8.4% higher than the previous quarter. The MFs provided data based on a total of 8,027 samples totalling 576 tonnes.

Table 1 below shows that the average percentage (by weight) of target material received by responding MFs in Q4 2015 was 86.0% which is again very similar to the previous quarter (86.1%).

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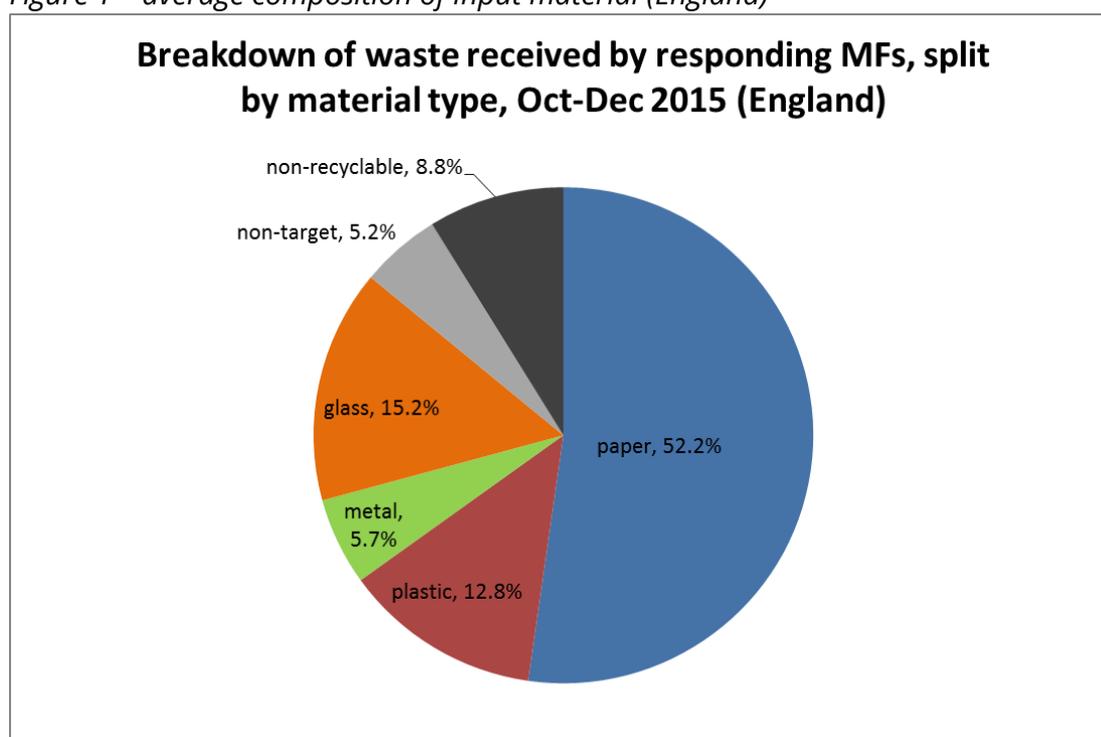
<sup>1</sup> For this quarter, there is an exception that the analysis has excluded the data supplied by one MF. It is for a newly notified facility and the way that the data has been supplied significantly skews the overall analysis. The facility intends to re-submit their data which will be uploaded on the Portal once the validation checks have been completed by the Regulator.

<sup>2</sup> Listed as either "other supplier" or "Another MF or Waste Facility" in the waste return.

Table 1: Breakdown of waste received by responding MFs, split by material type , Q4 2015 England

Material Type	Percentage of waste received
Target material	<b>86.0%</b> <sup>3</sup> (Inter-quartile range <sup>4</sup> 80.5% – 92.5%)
Of which:	
• Paper	52.2%
• Plastics	12.8%
• Metals	5.7%
• Glass	15.2%
Non-target recyclable material <sup>5</sup>	<b>5.2%</b>
Non-recyclable material <sup>6</sup>	<b>8.8%</b>
All material received	100%

Figure 1 – average composition of input material (England)



### MF Input stream analysis: Wales

The total tonnage of material entering the MFs in Q4 2015 was 83,410 tonnes. This is the highest quarterly input tonnage from all previous reporting quarters as it is the

<sup>3</sup> Average weighted by the total sample tonnage of each MF-supplier pairing

<sup>4</sup> The inter-quartile range shows the distribution of the middle 50% of the sample.

<sup>5</sup> Material that is capable of being recycled but is not a target material for that facility.

<sup>6</sup> Waste material that is not capable of being recycled (e.g. disposable nappies).

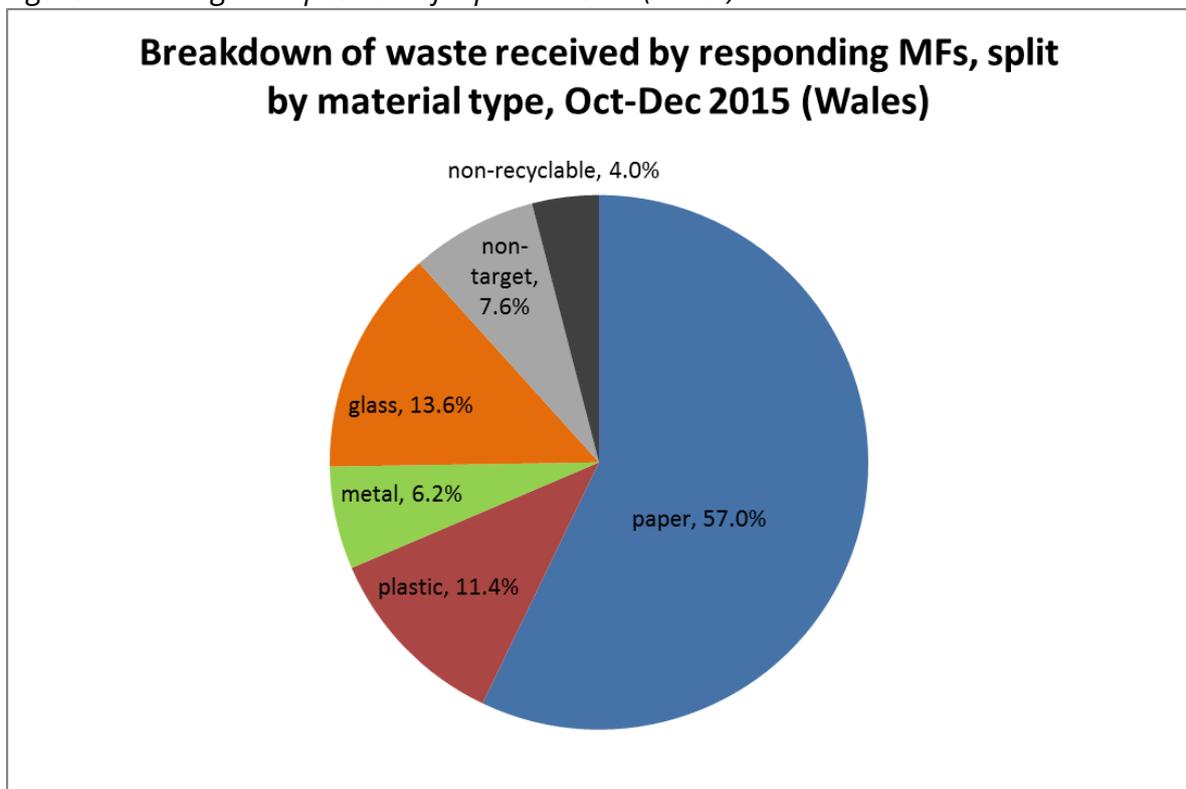
first quarter where data has been received from all 11 notified facilities. 611 samples were taken which amounted to 43 tonnes.

Table 2 below shows that the average percentage of target material received by responding MFs in Q4 2015 was 88.4%, which is similar to the previous quarter (88.0%).

*Table 2: Breakdown of waste received by responding MFs, split by material type ,Q4 2015 Wales*

<b>Material Type</b>	<b>Percentage of waste received</b>
Target material	<b>88.4%</b>
Of which:	
• Paper	57.0%
• Plastics	11.4%
• Metals	6.2%
• Glass	13.6%
Non-target recyclable material	<b>7.6%</b>
Non-recyclable material	<b>4.0%</b>
All material received	100.0%

*Figure 2 – average composition of input material (Wales)*



## MF Output stream analysis

### MF Output stream analysis: England

The total tonnage of Specified Output Material (SOM)<sup>7</sup> leaving the responding MFs in Q4 2015 was 597,024 tonnes. This is a decrease by 9,650 tonnes compared to the previous quarter but is still similar to other quarters. The MFs provided data based on a total of 16,955 samples totalling 825 tonnes which is the highest across all quarters.

SOM produced by MFs contain some materials that are non-target and non-recyclable. Table 3 below shows that the average percentage of target material in the outputs of responding MFs is 89.8% or higher for all of the four main SOM. Figure 3 displays the target material percentage and inter-quartile range for each material. There is a slight reduction in weighted mean average and inter-quartile range for glass but little change for the other materials. The variability across samples as indicated by the inter-quartile range is lowest for paper and highest for plastic, which is the same as the previous quarter.

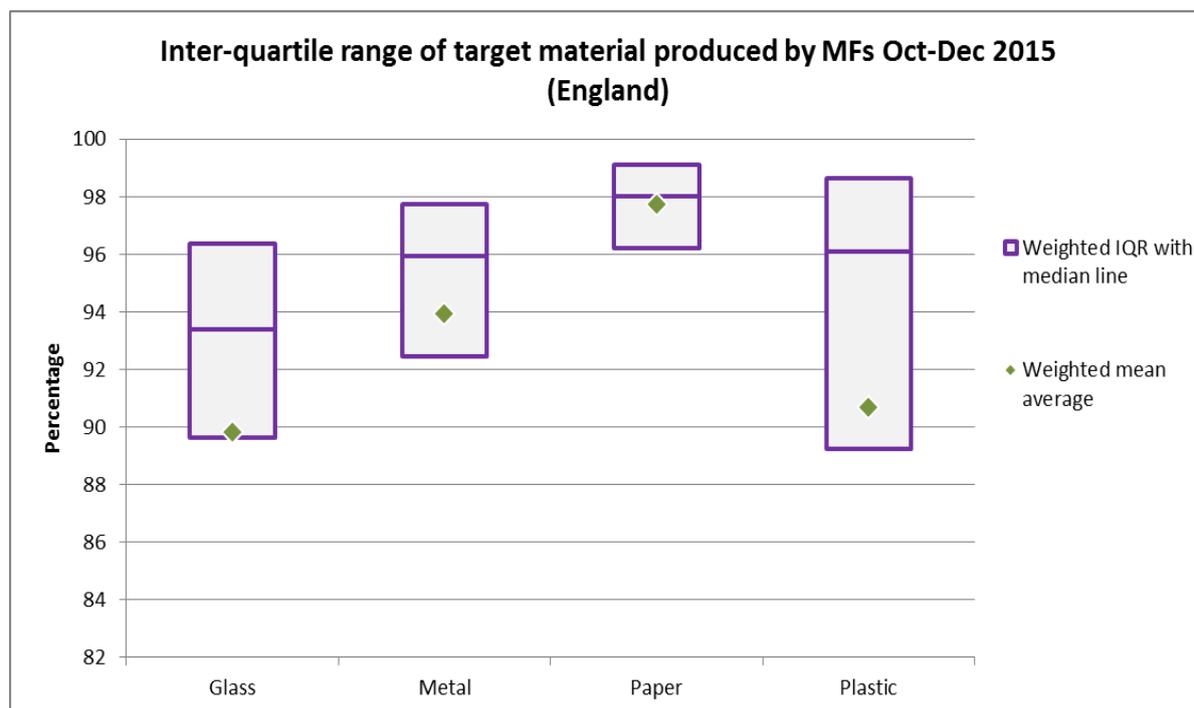
Table 3: Summary of Specified Output Materials (SOM) produced by responding facilities, Q4 2015 England (data for Q3 2015 in brackets)

SOM	Grades included	Weighted mean average percentage targeted material in output <sup>8</sup>	Inter-quartile Range
Paper	Cardboard, Newspapers and Magazines, Paper – Mixed	97.7% (97.1%)	96.2%-99.1% (96.2%-99.3%)
Plastic	Hard Plastic, HDPE Bottles – Clear, HDPE Bottles – Coloured, HDPE Bottles – Mixed, Household Plastic Film, LDPE Film – Clear, LDPE Film – Coloured, Mixed Plastic, Mixed Plastic Bottles, Mixed Rigid Plastic, PET Bottles – Clear, PET Bottles – Coloured, PET Bottles – Mixed, Polypropylene (PP), Pots, Tubs and Trays (PTT)	90.7% (91.1%)	89.2%-98.6% (88.0%-98.7%)
Metal	Aluminium, Scrap metal, Steel	93.9% (94.7%)	92.5%-97.7% (93.1%-97.9%)
Glass	Glass – Clear, Glass – Brown, Glass – Green, Glass – Mixed (Aggregate/Glass Sand), Glass – Mixed (Container / Glass fibre)	89.8% (92.8%)	89.6%-96.4% (90.6%-96.4%)

<sup>7</sup> Paper (including card), metal, plastic and glass

<sup>8</sup> Average weighted by total tonnage of each MF-SOM grade combination.

Figure 3: Distribution of percentage of target material in output, Q4 2015 England



#### MF Output stream analysis: Wales

The total tonnage of SOM leaving the responding MFs in Q4 2015 was 61,733 tonnes which is the highest of all reported quarters as it is the first quarter where data has been received from all 11 notified facilities.

SOM produced by MFs contain some materials that are non-target and non-recyclable. Table 4 below shows that the average percentage of target material in the outputs of responding MFs is 85.2% or higher for all of the four main SOM. There is a slight reduction in weighted mean average for glass, a slight increase for metal but little change for paper and plastic.

Table 4: Summary of Specified Output Materials (SOM) produced by responding facilities, Q4 2015 Wales (data for Q3 2015 in brackets)

SOM	Grades included	Average percentage targeted material
Paper	Cardboard, Newspapers and Magazines, Paper - Mixed	96.3% (96.0%)
Plastic	Hard Plastic, HDPE Bottles – Clear, HDPE Bottles – Coloured, HDPE Bottles – Mixed, Household Plastic Film, LDPE Film – Clear, LDPE Film – Coloured, Mixed Plastic, Mixed Plastic Bottles, Mixed Rigid Plastic, PET Bottles – Clear, PET Bottles – Coloured, PET Bottles – Mixed, Polypropylene (PP), Pots, Tubs and Trays (PTT)	94.7% (95.3%)

Metal	Aluminium, Scrap metal, Steel	96.9% (94.4%)
Glass	Glass – Clear, Glass – Brown, Glass – Green, Glass – Mixed (Aggregate/Glass Sand), Glass – Mixed (Container / Glass fibre)	85.2% (89.7%)

The smaller number of facilities compared to England make the calculation of inter-quartile ranges for the specific materials less meaningful and therefore are not included in the table above.

**Date of next release**

The release of Jan-Mar 2016 data is expected for Aug 2016. There will be a commentary on the data at this time.

*Date of analysis – 27/04/16*

This analysis uses the data that was current on this date. The Oct-Dec 2015 quarterly data may get updated in future quarters.

## Annex - The Portal and the MF Regulations

The Regulations require qualifying Materials Facilities (MFs)<sup>9</sup> to provide quarterly details of the mixed waste tonnage received from each supplier and the output tonnage despatched by four specified material streams. Under the Regulations MFs are also required to take samples of the input and output material so that the average percentage of target, non-target and non-recyclable material can be estimated. This data will enable the market to obtain a greater understanding of recycling quality, through the transparency of data in this area.

The online Materials Facility Reporting Portal ([The Portal](#)) was developed to provide a simple way for users across the sector to display and interrogate the sampling data returned by the MFs to the Regulators. Where a facility has responded to queries from The Regulator by resubmitting its return, the data displayed in The Portal reflects the update. Where no response to queries has been received, the data shown is the original supplied by the MF. There is no distinction in the Portal to whether there has been a response from the facility. All data is included to promote transparency.

### MF Input streams

The Portal displays the following input stream data for each MF-supplier pairing<sup>10</sup>:

- Tonnes of mixed material entering facility;
- Number of samples taken;
- Total sample weight;
- Average percentage composition of target material<sup>11</sup>, broken down (where targeted) by:
  - Paper
  - Plastic

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<sup>9</sup> A qualifying MF is defined as a regulated facility that receives mixed waste material in order to separate it into specified output material (SOM) for the purpose of selling it, or transferring it to other facilities or persons to enable that material to be recycled by those facilities or persons. To qualify, a facility must receive 1,000 tonnes or more of mixed waste material for sorting in four consecutive reporting periods (each reporting period is three months).

Mixed waste is defined as material that:

(a) originates

(i) from households; or

(ii) from other sources but is similar to household waste in terms of its nature or composition; and

(b) consists in the largest proportion of two or more of the following kinds of target materials mixed together:

(i) glass;

(ii) metal;

(iii) paper;

(iv) plastic.

<sup>10</sup> Where the input tonnage from the supplier reaches the sampling thresholds as stated in The Regulations.

<sup>11</sup> A material that is identified by the operator of a Materials Facility as destined to be separated out from Mixed Waste Material in order to produce bulk quantities of that identified material.

- Metal
- Glass;
- Standard deviation, standard error of the mean, and 95% confidence interval of total target percentage composition;
- Average percentage composition of non-target material<sup>12</sup>; and
- Average percentage composition of non-recyclable material.<sup>13</sup>

Further detail around the sampling regime, definitions of terms and the calculations on the data required by MFs can be found in the MF Sampling Guidance<sup>14</sup>.

### **MF Output streams**

Each MF submitted the following data for each grade of Specified Output Material (SOM) that it produces:

- Tonnes of material leaving facility;
- Number of samples;
- Total sample weight;
- Target material;
- Average percentage composition of the target material;
- Standard deviation, standard error of the mean, and 95% confidence interval of total target percentage composition;
- Average percentage composition of non-target material; and
- Average percentage composition of non-recyclable material.

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<sup>12</sup> Material that is capable of being recycled but is not a target material for that facility.

<sup>13</sup>Waste material that is not capable of being recycled (e.g. disposable nappies).

<sup>14</sup> <http://www.wrap.org.uk/sites/files/wrap/MF%20Sampling%20Guidance%20April%202014.pdf>

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