

# MF Reporting Portal Q1 2015 – Commentary

## Background

This is the second publication of data under the Environmental Permitting (England and Wales) (Amendment) Regulations 2014 (Schedule 9A), and relates to the reporting period, January-March (Q1) 2015. The Regulations require qualifying Materials Facilities (MFs)<sup>1</sup> to provide quarterly details of the mixed waste tonnage received from each supplier and the output tonnage despatched by four 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.

Of the 87 MFs in England who notified The Regulator (Environment Agency in England and Natural Resources Wales for Wales) in accordance with the Regulations for Jan-Mar 2015, 85 submitted a quarterly data return. In Wales, 9 MFs notified and 7 submitted data. A validation process was carried out on each return by The Regulator, and queries were raised on 82 of the returns for England and 7 for Wales. A large number of queries is to be expected as the reporting is a new requirement, with specific data required, and it will take time for the sampling and reporting processes to bed in.

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 data returned by the MFs to the Regulators. Where a facility has responded to queries from The Regulator by resubmitting their 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.

Users should observe caution when attempting to draw conclusions from the data. This is still a new process for MFs to comply with and the data suggests continued inconsistency in reporting. Queries have been raised by The Regulator, however not all have been resolved. Consequently users of The Portal are discouraged at this stage from isolating individual MF responses and comparing these to other sites.

The Regulator has commenced their programme of annual compliance inspections of each site, which should help with improving the quality and consistency of sampling and data provided. Therefore data quality is expected to improve over the coming quarters.

## General observations

Taking into account the continued newness of sampling requirements and supplying this data, along with the considerations regarding data quality outlined above, it is still appropriate to show only general observations on the data. The summary statistics presented in this commentary are intended to be representative of MFs who have submitted the quarterly return. No estimates have been made for any facility that did not submit data or who have not notified The Regulator as being a MF.

The data displayed in The Portal and summarised here is the latest supplied by the facility for Q1 2015. Since the Portal displays the data as provided by the facility, submitted data that appears extreme have not been removed or adjusted.

## MF Input stream analysis

The Portal displays the following input stream data for each MF-supplier pairing<sup>2</sup>:

- Tonnes of mixed material entering facility;
- Number of samples taken;
- Total sample weight;
- Average percentage composition of target material<sup>3</sup>, broken down (where targeted) by:
  - Paper
  - Plastic

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<sup>1</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>2</sup> Where the input tonnage from the supplier reaches the sampling thresholds as stated in The Regulations.

<sup>3</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>4</sup>; and
- Average percentage composition of non-recyclable material.<sup>5</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>6</sup>.

### *MF Input stream analysis: England*

The waste supplied to the 85 responding MFs in England was attributed directly to 219 local authorities (LAs) and 282 other suppliers (such as waste management companies or other waste facilities)<sup>7</sup>.

The total tonnage of material entering the MFs in Q1 2015 was 876,744 tonnes. This is an increase of 87,349 tonnes compared to the previous quarter<sup>8</sup>. The MFs provided data based on a total of 7,878 samples totalling 563 tonnes (6,864 samples totalling 490 tonnes in Q4 2014).

Table 1 below shows that the average percentage (by weight) of target material received by responding MFs in Q1 2015 was 86.8% which is very similar to the previous quarter (86.6%).

*Table 1: Breakdown of waste received by responding MFs, split by material type , Q1 2015 England*

| <b>Material Type</b>    | <b>Percentage of waste received</b>   |
|-------------------------|---|
| Target material         | <b>86.8%</b> <sup>9</sup><br>(Inter-quartile range <sup>10</sup> 81.0% – 92.7%) |
| Of which:               |   |
| • Paper                 | 48.4%   |
| • Plastics              | 14.6%   |
| • Metals                | 6.6%  |
| • Glass                 | 16.9%   |
| Non-target material     | <b>5.6%</b>   |
| Non-recyclable material | <b>7.7%</b>   |
| All material received   | 100% <sup>11</sup>  |

<sup>4</sup> Material that is capable of being recycled but is not a target material for that facility.

<sup>5</sup>Waste material that is not capable of being recycled (e.g. disposable nappies).

<sup>6</sup> <http://www.wrap.org.uk/sites/files/wrap/MF%20Sampling%20Guidance%20April%202014.pdf>

<sup>7</sup> Listed as either "other supplier" or "Another MF or Waste Facility" in the waste return.

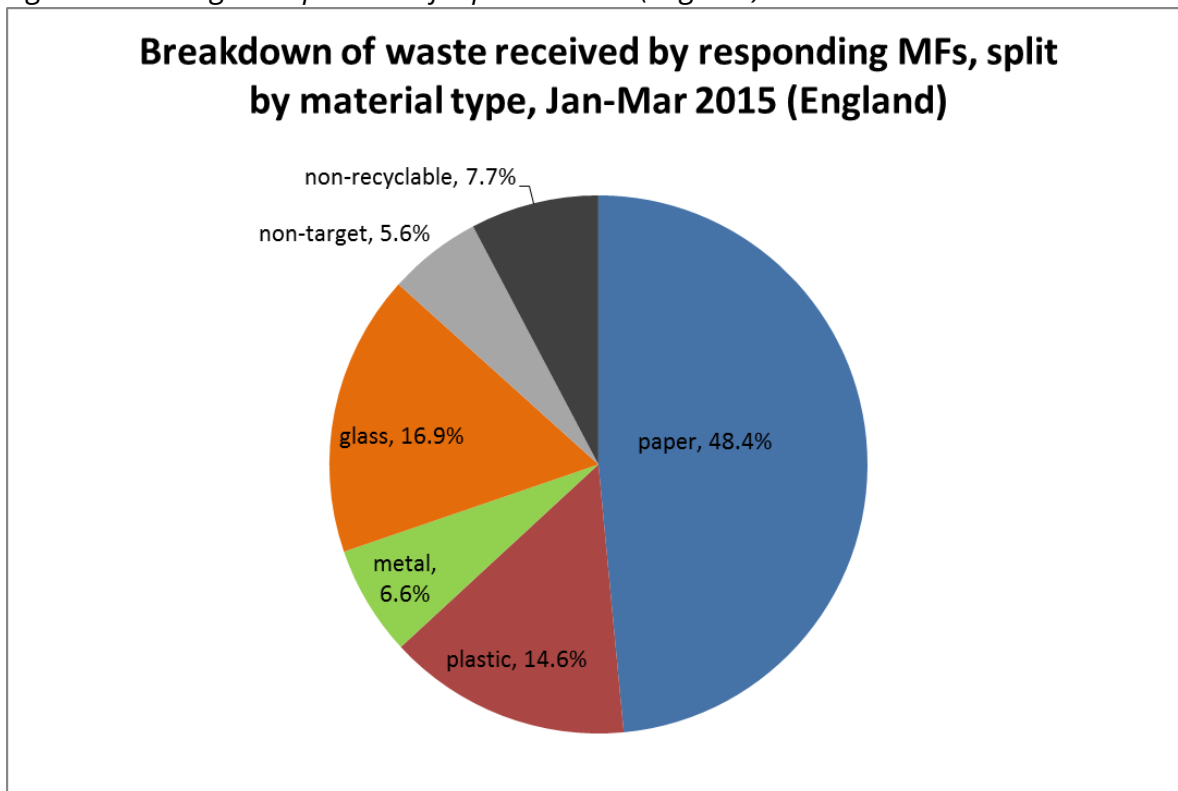
<sup>8</sup> One suggestion for the difference is the increase in recyclable waste generated around the Christmas period which is collected in January.

<sup>9</sup> Average weighted by the total sample tonnage of each MF-supplier pairing

<sup>10</sup> The inter-quartile range shows the distribution of the middle 50% of the sample.

<sup>11</sup> Numeric total adds to 99.7% due to rounding within the dataset.

Figure 1 – average composition of input material (England)



#### MF Input stream analysis: Wales

The total tonnage of material entering the MFs in Q1 2015 was 74,473 tonnes. This is an increase of 11,345 tonnes compared to the previous quarter.

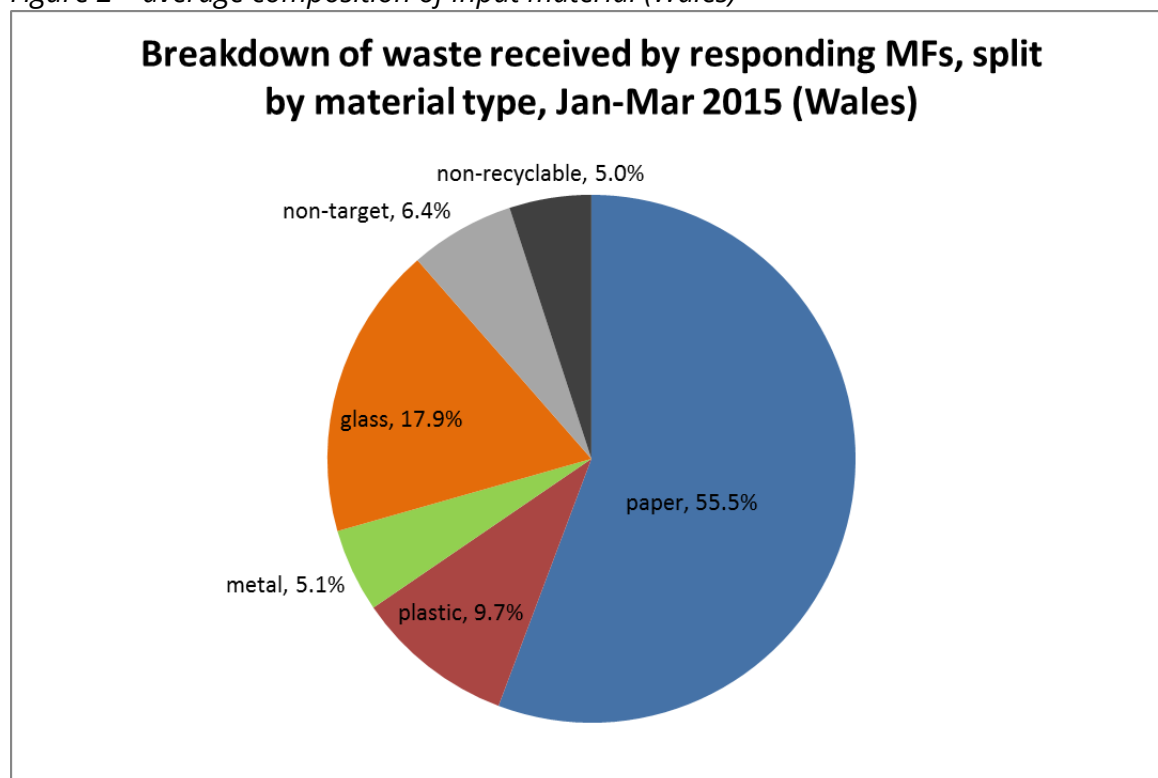
Table 2 below shows that the average percentage of target material received by responding MFs in Q1 2015 was 88.3%, which is a slight reduction compared to the previous quarter (90.6%).

Table 2: Breakdown of waste received by responding MFs, split by material type ,Q1 2015 Wales

| Material Type           | Percentage of waste received |
|-------------------------|------------------------------|
| Target material         | <b>88.3%</b>                 |
| Of which:               |                              |
| • Paper                 | 55.5%                        |
| • Plastics              | 9.7%                         |
| • Metals                | 5.1%                         |
| • Glass                 | 17.9%                        |
| Non-target material     | <b>6.4%</b>                  |
| Non-recyclable material | <b>5.0%</b>                  |
| All material received   | 100% <sup>12</sup>           |

<sup>12</sup> Numeric total adds to 99.7% due to rounding within the dataset.

Figure 2 – average composition of input material (Wales)



### MF Output stream analysis

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.

### *MF Output stream analysis: England*

The total tonnage of SOM leaving the responding MFs in Q1 2015 was 638,894 tonnes. This is an increase of 56,787 tonnes compared to the previous quarter. The MFs provided data based on a total of 16,742 samples totalling 648 tonnes (14,399 samples totalling 570 tonnes in Q4 2014).

SOM produced by MFs contain some materials that are non-targeted and non-recyclable. Table 3 below shows that the average percentage of target material in the outputs of responding MFs is 91.4% or higher for all of the four main SOM. Figure 3 displays the target material percentage and inter-quartile range for each material.

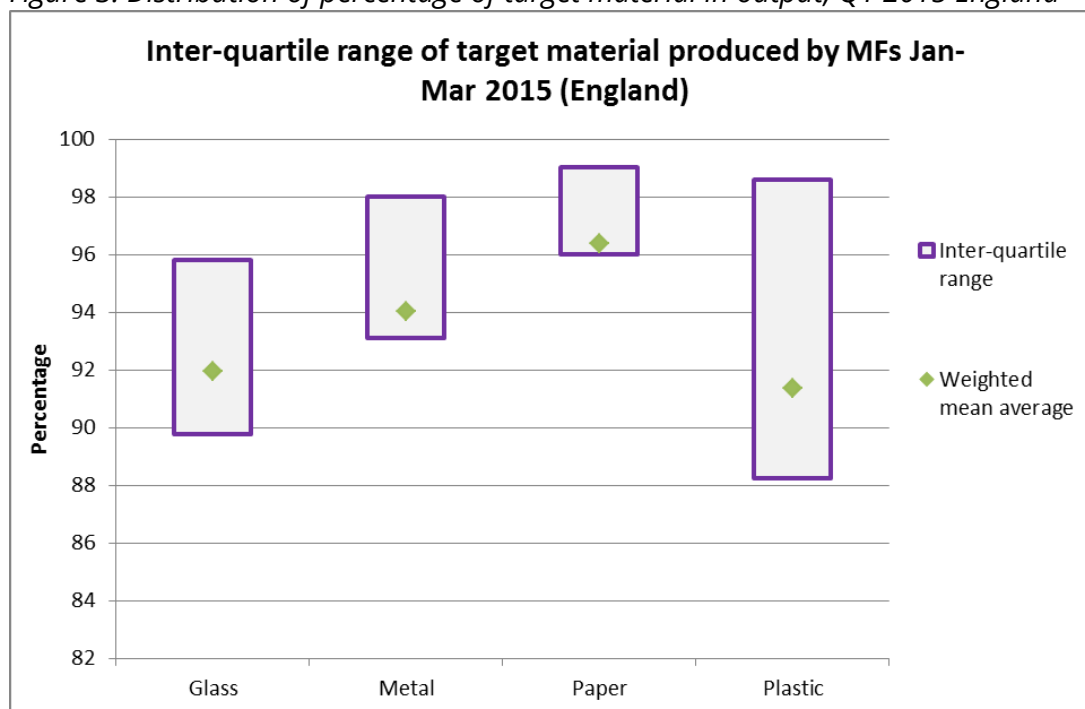
This shows that the targeted material percentage is least variable (across samples) for paper and most variable for plastic, which is the same as the previous quarter.

*Table 3: Summary of Specified Output Materials (SOM) produced by responding facilities, Q1 2015 England*

| <b>SOM</b> | <b>Grades included</b>  | <b>Percentage targeted material in output<sup>13</sup></b> | <b>Inter-quartile Range</b> |
|------------|---|--|-----------------------------|
| Paper      | Cardboard, Newspapers and Magazines, Paper – Mixed  | 96.4%  | 96.0% – 99.0%               |
| 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) | 91.4%  | 88.2% – 98.6%               |
| Metal      | Aluminium, Scrap metal, Steel   | 94.0%  | 93.1% – 98.0%               |
| Glass      | Glass – Clear, Glass – Brown, Glass – Green, Glass – Mixed (Aggregate/Glass Sand), Glass – Mixed (Container / Glass fibre)  | 91.9%  | 89.8% – 95.8%               |

<sup>13</sup> Average weighted by total tonnage of each MF-SOM grade combination.

Figure 3: Distribution of percentage of target material in output, Q1 2015 England



#### MF Output stream analysis: Wales

The total tonnage of SOM leaving the responding MFs in Q1 2015 was 60,439 tonnes. This is an increase of 3,196 tonnes compared to the previous quarter.

SOM produced by MFs contain some materials that are non-targeted and non-recyclable. Table 4 below shows that the average percentage of target material in the outputs of responding MFs is 85.7% or higher for all of the four main SOM which is similar to the previous quarter.

Table 4: Summary of Specified Output Materials (SOM) produced by responding facilities, Q1 2015 Wales

| SOM     | Grades included   | Average percentage targeted material |
|---------|---|--------------------------------------|
| Paper   | Cardboard, Newspapers and Magazines, Paper - Mixed  | 97.3%                                |
| 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) | 94.9%                                |
| Metal   | Aluminium, Scrap metal, Steel   | 90.6%                                |
| Glass   | Glass - Clear, Glass - Brown, Glass - Green, Glass - Mixed (Aggregate/Glass Sand), Glass - Mixed (Container / Glass fibre)  | 85.7%                                |

The smaller number of facilities compared to England make the calculation of inter-quartile ranges for the specific materials less meaningful.

**Date of next release**

The release of Apr-Jun 2015 data will be November 2015. There will be a similar commentary on the data at this time.

*Date of analysis – 26/08/15*

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



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