

Title: The Environmental Permitting Regulations (England and Wales) 2016 Schedule 9, Part 2 – Material Facilities

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Original IA/RPC No: DEFRA 1481 / RPC-DEFRA-5201(1)

Lead department or agency: Defra

Other departments or agencies:

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Contact for enquiries: tara.kelly@defra.gov.uk

Post Implementation Review

Date: 29/06/2020

Type of regulation: Domestic

Type of review: Statutory

Date measure came into force:
01/10/2014

Recommendation: Amend

RPC Opinion: Green

1. What were the policy objectives of the measure? (Maximum 5 lines)

The regulations require Materials Recovery Facilities (MFs) to sample the quality of their input and output material streams for mixed or comingled recycling and to provide transparent information on quality of this material across the sector. The key objective of the regulations was to provide information to stimulate the market conditions to improve recyclate quality. Other objectives included maximising the economic value of the waste material collected, help to increase industry confidence in comingled recycling, help to increase the environmental benefits of recycling through lower contamination levels in recyclates. Finally, the last objective was to help demonstrate compliance with the Waste Framework Directive (WFD) and Waste Shipments Regulations.

Policy objectives were built on the idea that higher quality recyclate with less contamination can help to support the growth of the recycling industry through increased confidence in the materials available. The regulations were also implemented to minimise the amount of recyclate collected that would end up in landfill by helping to increase industry confidence in recycling and maximise the environmental benefits of recycling.

2. What evidence has informed the PIR? (Maximum 5 lines)


Defra commissioned Resource Futures to review Part 2 of Schedule 9 to the Environmental Permitting (England and Wales) Regulations 2016 and to analyse and present the findings in a written report. The principal data collection method for this PIR include a combination of a desk-based review of published data and reports, alongside stakeholder engagement through interviews with twenty stakeholders across the value chain. A cost-to-business analysis for MF operators was also conducted. The review aimed to assess the impact of implementing the regulations in terms of CAPEX and OPEX costs, to provide evidence on opportunities for reducing the burden on business.

3. To what extent have the policy objectives been achieved? (Maximum 5 lines)

The regulations have improved the consistency and transparency of data with structures in place mandating the amount of sampling that is required for MFs that receive a minimum of 1000 tonnes of mixed waste per year. However, the reported data on the MF Portal does not show an improvement in the quality of collected material or of output material¹. No published reports were found that used the Part 2, Schedule 9 data to assess the quality of collected co-mingled material against the revised WFD or in export material meeting Trans Frontier Shipments (TFS) quality requirements. Similarly, the industry did not appear to use the data in an active sense to inform contracts with waste suppliers.

Sign-off for Post Implementation Review:

I have read the PIR and I am satisfied that it represents a fair and proportionate assessment of the impact of the measure.



Signed:

Date: 12/06/2023

¹ Following the production of the report by Resource Futures, a number of data errors were identified in the Environment Agency data base figures and these were carried over into in the WRAP MF quarterly reports and Reporting Portal, a website managed by WRAP (Waste and Resources Action Programme). These data errors resulted in the duplication of some figures inputted into the EA database and was due to a fault in the IT system as opposed to reporting procedure undertaken by the MF. Resource Futures report mainly focused on stakeholder feedback and therefore these errors do not impact this feedback. Nor were the errors on the system large enough to create a significant trend that has failed to be reflected in this report. EA has taken steps to correct errors in their database and WRAP will distribute revised versions of the quarters that were affected.

Further information sheet

Please provide additional evidence in subsequent sheets, as required.

4. What were the original assumptions?(Maximum 5 lines)

It was assumed that 167 MFs are in scope of the regulations in England and Wales. These were classified by size; small facilities (less than 20,000 tonnes per annum [tpa] throughput), medium facilities (between 20,000 and 75,000tpa) and large facilities (over 75,000tpa). For the 167 sites in scope, it was assumed that the overall output (target waste removed) was 3.31m tonnes (mainly 2011 date, using 2012 and 2013 where necessary) with a tonnage growth rate estimated to range between 0 - 5% per year (2.5% best estimate). An initial one-off cost to business was assumed for the acquisition of testing equipment and system costs. Annual costs were also estimated related to the requirement sample input and output material to a given frequency, these were based on Wrap estimates and the Environment Services Association. The total impact on businesses was estimated in the IA to be £8.49 million over 10 years, this figure includes enforcement costs to the public sector which are assumed to be passed on to business. Therefore, the figure represents the total cost of the policy.

5. Were there any unintended consequences? (Maximum 5 lines)

There is a lack of consistency in being able to confidently compare the data from one MF to another on a like for like basis. The definition of target material as well as non-target material and non-recyclable material is subject to a wide range of interpretations, resulting in a lack of consistency between MFs reporting the percentage of target material in each sample. A shortcoming of the regulations is a gap in the data on MF to MF materials transfers and residual waste transfer. These are excluded from the sampling and testing regime, meaning that a detailed analysis of the overall performance and efficiency of the facility is unable to be conducted.

6. Has the evidence identified any opportunities for reducing the burden on business? (Maximum 5 lines)

The total number of facilities reporting on the MF Portal is significantly less than the IA estimate of 167 MFs. This is mostly a result of the number of small facilities reporting (41-47 over the period 2015-2017) is much lower than the estimated 113 facilities from the IA. This significantly reduces the total costs to business figures in the IA. Through research conducted on behalf of Defra, stakeholders confirmed that the one-off and annual costs modelled in the IA for individual facilities are representative of the costs they have faced in implementing the regulations. Facilities receiving less than 1,000 tonnes of mixed waste in a year are not required to report.

7. For EU measures, how does the UK's implementation compare with that in other EU member states in terms of costs to business? (Maximum 5 lines)

Part 2 of Schedule 9 was introduced as a domestic measure and is therefore not an EU measure.

Introduction

This document provides a Post Implementation Review (PIR) of the requirements under Part 2 of Schedule 9 to the Environmental Permitting (England and Wales) Regulations 2016 for Materials Facilities. Part 2 of Schedule 9 regulates how Material Recycling Facilities (MFs) of a certain size must sample, test, and report the quality of input and output recycling streams they receive and process.

The Regulations mandate the sampling frequency and weight for input and output materials and stipulate how the data must be reported. They also set out the requirements regarding the type and size of MFs that are in scope. A qualifying MF can be defined as a regulated facility that receives mixed waste material to separate it into specified output material for the purpose of selling it or transferring it to other facilities to enable that material to be recycled by those facilities (Wrap, commentary). Qualifying MFs are those that receive or are likely to receive 1,000 tonnes or more of mixed waste material over a twelve-month period.

For each reporting period, qualifying MFs are mandated to sample and test incoming mixed recycling received at that facility from each supplier (e.g. local authority) and processed output material that is produced from a separating process at the MF. The data is reported on a quarterly basis to the regulator and made publicly available through the MF Reporting Portal, a website managed by WRAP (Waste and Resources Action Programme)².

Q1 What were the policy objectives of the measure?)

The IA states that although recycling policies have traditionally addressed the market failure related to environmental externalities, the presence of non-environmental market failures can also reduce the efficiency of recycling activities. Considering this, the key rationale for intervention was to address the market failure of imperfect information in the MF market as it was assumed that the absence of transparent accurate information was leading to inefficiencies in the market.

Many MFs did not measure the quality of their output material and those that did were not always making this information transparent to the market, resulting in a lack of consistency in the data being reported. The reason why MFs were not generally willing to reveal the quality of their output material was due to competitive pressure on operating costs, those MFs that did measure quality and make the information available could be undermined by those that either did not measure quality or provided inaccurate information. Reprocessors are often conflicted between a desire for high quality recycle, and concern about maintaining their suppliers, where demand exceeds supply. Of those MFs that were measuring quality, very few were transparent about this information due to concern about revealing information that competitors could capitalise on. It was also acknowledged in the IA that in the absence of standardised sampling and reporting, MFs transparently reporting the quality of their output material might not be seen as credible. Consequently, leading to inadequate information on the quality of output material.

Within a market with a wide variability in the quality of output and no way of assessing this quality from one MF to another, there can be impediments to improving market efficiency. For parts of the recycling supply chain, with the absence of standardised reporting there is less, or in some cases no, incentive to improve material output, rather the incentive is on costs rather

² WRAP no longer host this data, it now sits with the Environment Agency exclusively

than quality. In the worst case, the lack of information could have been causing a bias towards lower quality recyclate, which occurs if customers are only willing to pay a lower price, regardless of quality as they would rather not risk overpaying. Government intervention was therefore necessary to address this market failure of imperfect information and to demonstrate where co-mingling can support the revised Waste Framework Directive³ (rWFD) objective of high-quality recycling.

Within the Impact Assessment (IA) report on the Amendment to the Environmental Permitting Regulations – new schedule for Materials Recovery Facilities, it states that the key objective of the regulation was to *“help stimulate the market conditions necessary to achieve an improvement in recyclate quality, and support the objective in the rWFD to promote high quality recycling, by establishing a consistent, industry-wide method for sampling and compositionally testing the quality of input and output material streams from MFs in a robust manner”*. Within the same document, it lists three key reasons why delivering high quality recyclate is important: (1) it can help support growth and the economy by maximising the economic value of the waste material collected, (2) it can help increase public confidence and participation in recycling and (3) it can help to increase the environmental benefits of recycling.

In more detail, the regulations were brought in to achieve the following objectives:

- Correct market failure of either no or poor data on the quality of material going to and leaving MFs through the collection of consistent and robust data and transparency reporting.
- The market could use the data to improve the quality of the material collected and produced and increase the amount of recycling.
- To allow the Government to make an assessment on the quality of co-mingled dry materials collected for recycling as required by the WFD and Waste Shipments Regulation.

This PIR will refer to these three key objectives when assessing the extent to which policy objectives have been achieved.

Methodology

Q2 What evidence has informed the PIR?

Defra commissioned Resource Futures to review Part 2 of Schedule 9 to the Environmental Permitting (England and Wales) Regulations 2016 and to analyse and present the findings in a written report on the aspects of the Regulations that have worked, what could be enhanced and what, if anything, could be eliminated in any future review.

Principle data collection approaches that have been used to gather evidence for this PIR include a combination of desk-based review of published data and reports alongside stakeholder engagement through interviews with twenty stakeholders across the value chain to obtain their views on the regulation.

The desk-based review comprised of a review of Part 2 of Schedule 9, published reports and guidance, analysis of Wrap’s quarterly data reports, scrutiny of the MF Reporting Portal and interrogation of the portal data.

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L0851&from=EN>

Twenty interviews were held with stakeholders from across the dry recycling material value chain from LAs through to reprocessors. Interviews were structured and followed pro-forma that covered the following areas:

- What interviewees thought/hoped the objectives of the Regulations were
- What their view was of the impact and why
- If they thought the aims of the Regulations were still relevant
- The cost of compliance
- If they would change anything

A cost-to-business analysis for MF operators was also conducted to review the impact of implementing the regulations in terms of one-off and annual costs to provide evidence on any opportunities for reducing the burden on business. Additional questions were asked regarding whether there was a financial benefit in implementing the regulations and in what manner. The original policy impact assessment was reviewed with the aim of updating estimates if required and appropriate.

Findings

Q3 What extent have the policy objectives been achieved?

As stated in the previous section, data was gathered by Resource Futures through a desk-based review of documented evidence, which included a review of Part 2 of Schedule 9, published reports and guidance analysis of Wrap's reports and MF reporting portal and data. Results from this desk-based review are provided in the second column in Table 1 below. Data was also collected through twenty interviews held with stakeholders from across the value chain. The interviews focused on stakeholders' views on the extent to which the objectives of Part 2 of Schedule 9 to the Environmental Permitting (England and Wales) Regulations 2016, as set out in the Introduction of this report, have been met.

Table 1 shows the results from the desk-based review (2nd column) and stakeholders views (3rd column) on the extent to which the objectives have been achieved.

Table 1: Documented evidence and stakeholders views on the extent to which the objectives have been achieved

Objective	Results from the desk-based review	Stakeholder views	Regulator Views (EA)
<p>Correct market failure of imperfect information:</p> <p>Either no or poor data on the quality of material going to and leaving MFs through the collection of consistent and robust data and transparency reporting.</p>	<p>The regulations have improved the consistency and transparency of the data, however, there are aspects which could be developed to improve the robustness of the data provided. The regulations set out what data the operators are required to report to the regulator on a quarterly basis. The Environment Agency, acting as the Regulator, undertakes an assessment on the validity of the data. Once all checks have been completed the data is sent to WRAP where it is published through the MF Portal⁴, where users of the Portal can interrogate the data. Summary reports for each quarter are produced by Wrap.</p>	<p>The consensus was that the Regulations have resulted in more consistent data being collected and reported with structure in place mandating the amount of sampling that is required.</p> <p>However, there were varying views on the robustness of the reported data:</p> <ul style="list-style-type: none"> The view from the reproducers was that they did not always recognise the reported quality of material outputs from MFs compared to their own testing which 	<p>The view from the regulator is that confidence in quality can only be underpinned by frequent and robust inspection of the results and procedures.</p> <p>Operators being able to define target material leads to inconsistency in data and reporting. Target material definition for inputs varies to outputs and has the potential to confuse and create inconsistencies in reporting.</p> <p>The regulator still points to inconsistencies and gaps in data and suspect that there is issues</p>

⁴ <https://mfrrp.wrap.org.uk/>

The Regulations clearly define what each term means, however, they also include the following paragraph in section 2 on interpretation: “*target material*” means 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. This means there is the potential for a wide range of interpretations and potential abuse / misuse of this aspect all resulting in a lack of consistency in one MF reporting target % compared to another.

It is the job of the Regulator to conduct 2 compliance audits per MF per year. There has been little publication of information around the process.

The Regulations simply state that input materials need to be sampled and tested for each supplier. Some operators have chosen to anonymise the supplier’s name using systems such as Supplier A, Supplier B etc. The regulations do stipulate that this information needs to be collected for “each supplier”, therefore we would expect the MF to provide details of the supplier as part of their audit trail during an inspection. However, anonymization could be used as a way of undermining the requirement to name suppliers

they carry out on the material.
Caution was expressed by MF operators where LAs have quoted contamination levels and when the material arrives there is a gap between the stated level by the LA and the observed level.
The lack of centrally set definitions for ‘target’, ‘non-target’ and ‘non-recyclability’ as a result of this being ultimately set by the MF operator was recognised as a weakness in the data produced.

In regard to the inspections from the Regulator, some MF operators stated that they had not received the compliance (x2) inspections from the Regulator. The quality of the inspections was deemed to vary.

with smaller operation reporting and suspect a correlation between materials that move outside the registered sites and poor quality exports. Some investigations on behalf of the EA has been conducted regarding smaller operators, however more work is already underway to look in to whether or not some of those smaller operators who are not notifying the EA (and therefore not submitting MF returns), are in scope and should be reporting.

<p>The market using the data to improve the quality of the collected and output material and increase the amount of recycling.</p>	<p>The regulations did not set quality standards for either the input or output materials, rather an aim of the regulations is that the market would use the data to improve the quality of collected and sorted (produced) recycling.</p> <p>Input material (collected) The reported data on the MF Portal does not show an improvement in the quality of collected material. The average percentage (by weight) of target material⁵ received by responding MFs in Q3 2018⁶ was 84.2% for England of a total of 838,894 tonnes of input material reported in this quarter. The granular picture at the MF and supplier level is a mixed one with cases of significant improvements and decreases in the quality. Small (<20,000tps and medium 20,000-75,000tpa) MFs appear to have a higher average input contamination rate than large >75,000tpa MFs.</p> <p>Output material (produced)</p> <ul style="list-style-type: none"> The reported quality (target material) of the headline SOM for Q3 2018 was: Glass 92.2%, Metal 	<p>Input material (collected) Stakeholders did not think the implementation of the Regulations had resulted in an improvement in the quality of collected material, which would be an indirect impact if value chain stakeholders used the data. The fact that the Regulations did not include targets for the quality of collected material meant that there are no direct mechanisms within the Regulations to drive improvement over time. MF operators are using the information collected to inform contract review and negotiations, enforce contamination rebate clauses etc.</p> <p>Output material (produced) As with input quality, stakeholders did not think the Regulations had resulted in an improvement in the quality of output material. They highlighted that there are no quality standards or requirements for continual improvement attached to the</p>	<p>The regulator did stress that the regulations were seen as essential in making sure inputs and outputs are sampled. However, as the regulations only set up a sampling and reporting regime, it was not surprising to the regulator that without strict criteria this reporting regime alone, has not been sufficient to overcome other barriers to quality within the system.</p> <p>The EA stated that they had been taking a risk-based approach conducting inspections of different sites as sites may present differing issues would need addressing, therefore visits between sites could be very different depending upon the issues identified through risk profiling even though there could be a standardised compliance model/ approach to inspections, although these could be multi-faceted and include both site based and desk based evaluations of compliance.</p>
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⁵ Schedule 9A defines target material as “‘target material’ means 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.”

⁶ WRAP, *Materials Facility Reporting Portal Q3 2018 – Commentary*, http://www.wrap.org.uk/sites/files/wrap/WRAP_MF2018_Q3Commentary.pdf [accessed online 23/07/2020].

	<p>94.4%, Paper 97.9%, Plastic 89.7%.</p> <ul style="list-style-type: none"> The data does not show an improvement in the quality of output material. There is some evidence that specific material grades e.g., mixed fibre have improved over the reporting period. There are cases where individual MFs have improved the quality of some or all of their outputs and also the converse is true where quality seems to have decreased. What is clear is that the end users of the material in the UK do not have great confidence in the data, however, it is recognised that reproducers are very likely to always verify the data independently. There is scope to align the definitions of target and non-target with what the market requires and improve the transparency through increased granularity of categories used in the sort process. 	<p>Regulations and so there are no drivers for change.</p> <p>It was also a commonly held view that the demands of the market are the real driver for change in output quality. The majority of stakeholders referenced the Chinese export restrictions on quality as a driver for improving quality in materials particularly paper, cardboard and plastics, however, a time series analysis of data from the MF Portal does not clearly support this view.</p> <p>The information published through the MF Portal did not allow the market to make an assessment on the quality of material easily and with confidence.</p> <p>Operators felt that too little information has been made available on EA regulatory effort, particularly in terms of site inspections/audits. Some multi-site operators report inconsistencies in quality and frequency of inspections/audits. The report does note that EA has changed the way this is delivered through Pan Area Teams. There is a suggestion from stakeholders that Defra</p>	<p>Finally, the EA commented on the suggestion of introducing a system for naming suppliers for input material, the aim of this would be to remove the ability for MF operators to 'game' the system. Linking it to a LA name or business name in the first instance. The EA suggest that this data could be reported via Waste Dataflow / be a function of the waste tracking system.</p>
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		<p>should require the EA to report on the level of compliance inspections carried out each quarter including what actions impacts have been taken. This information could be included in the quarterly commentary reports.</p> <p>The EA have stated that they would be in favour of reporting compliance and inspection effort undertaken by the EA, however, the EA do question the point of reporting their effort and whether it would lead to any improvement in overall quality and/or improve intelligence in this area. They caution against reporting for the sake of it.</p>	
<p>To allow the Government to make an assessment on the quality of co-mingled dry materials collected for recycling as required by the revised Waste Framework Directive and Waste Shipments Regulation.</p>	<p>No published reports were found that used the MF Regulations data to assess the quality of collected co-mingled material against the rWFD or in export material meeting TFS quality requirements.</p> <p>The MF Regulations data can be assessed based on the quality standards stated in the Resource Association, Recycling Quality Information Point (ReQIP), these levels are significantly higher than the restrictions imposed by the Chinese authorities where contamination levels of <1% are required.</p>	<p>Stakeholders were not aware of any information or reports published that assess the quality of collected co-mingled material against the rWFD. Instead, Defra were going to use the data for such a purpose as that was one of the objectives behind the formation of the Regulations.</p>	<p>No comment on this</p>

- The ReQIP contamination levels for plastics are set at 6% for HDPE, 6% for PET, 8% for LDPE/Film and 5% for PTT. In Q3 2018, the number of MFs within the ReQIP standards contamination level for plastics was 96 while the number of MFs outside this contamination level was 44.
- The ReQIP contamination levels for fibres are set at 0.5% for cardboard, 1% for news and pams and 0.5% for mixed papers. In Q3 2018, the number of MFs within the ReQIP standards contamination level for fibres was 40 while the number of MFs outside this contamination level was 110.

From these results we can conclude that a significant portion of output material is not meeting the quality standards required by the reprocessing sector in the UK.

Q4 What were the original assumptions?

Original assumptions referred to are the analytical assumptions that underpin the methodology of the IA. Within the IA, it was assumed that 167 MFs are in scope of the regulations in England and Wales, and these were classified by size, small (less than 20,000tpa throughput), medium (between 20,000 and 75,000tpa) and large (over 75,000tpa). It was estimated that 68% of MFs within scope are small facilities, 28% medium sized facilities and 4% are large facilities. As these figures were based on data provided by operator's returns as well as permit information and data held by the Environment Agency (EA), the number of sites in scope was an estimate in the IA.⁷

It was assumed that for the 167 sites in scope of the Regulations, the overall output (target waste removed) was 3.31m tonnes (mainly 2011 date, using 2012 and 2013 where necessary) with a growth rate estimated to range between 0 - 5% (2.5% best estimate). In the absence of government intervention, it was assumed that the level and range of quality of MF output was not expected to change.

An initial one-off cost to business was assumed for the acquisition of testing equipment and system costs. Annual costs were also estimated in the IA and relate to the requirement sample input and output material to a given frequency and were based on Wrap estimates and the Environment Services Association. The maximum one-off costs to business by size of MF were estimated as £5,823 for small facilities, £16,025 for medium sized facilities and £33,975 for large facilities. Annual labour costs were estimated to be £2,137 in the first two years of policy and £2,664 for all subsequent years for small facilities, £9,599 in the first two years of policy and £12,000 for subsequent years for medium sized facilities, and £21,313 in the first two years increasing to £26,664 for subsequent years for large facilities. These assumptions were based on the view that it takes 0.67 hours to capture, weigh, sort, weigh sorted, empty and record a 40kg input sample.⁸

Q5 Were there any unintended consequences?

There have been no unintended environmental or social consequences arising from the report. There is a lack of consistency in the quality of reporting undermining the ability to confidently compare the data from MF to MF on a like for like basis. In Chapter 1 of Part 2 of Schedule 9 under paragraph 2 on interpretation, the Regulations clearly define "target material", "non-target material" and "non-recyclable material". The definition for target material is included as the following: *"target material" means a material that is identified by the operator of a materials facility as destined to be separated out from mixed waste material to produce bulk quantities of that identified material.* Here the operator defines "target material", "non-target material" and "non-recyclable material". This definition could lead to a wide range of interpretations and abuse or misuse of the definitions, resulting in a lack of consistency of one MF reporting the percentage of target material in each sample compared to another. Several of the reprocessors interviewed expressed this concern as well as the operators themselves.

A second unintended consequence is a gap in the data. The decision to exclude the MF to MF material transfers from the sampling and testing regime along with the residual waste means that a detailed analysis of the overall performance and efficiency of the facility is unable to be conducted. The result of this lack of transparency in the MF portal on the tonnages of these material flows is that it is very difficult to produce a mass flow for a facility and impossible to

⁷ Defra, *Amendment to the Environmental Permitting (England and Wales) Regulations 2010 - new schedule for Materials Recovery Facilities (MRFs)*, 2014, https://www.legislation.gov.uk/ukia/2014/429/pdfs/ukia_20140429_en.pdf, [accessed online 23/07/2020], p12.

⁸ Ibid, p14.

produce a detailed material specific mass flow as there is no information on the composition of these streams.

The impact of these unintended consequences, expressed by several of the stakeholders interviewed, is a reduced market confidence in the consistency and robustness of the reported data. This may have led stakeholders to rely on other indicators for estimating quality of material sorting at facilities.

Opportunities for reducing the burden on business

Q6 Has the evidence identified any opportunities for reducing the burden on business?

The Impact Assessment (IA) for the Regulation was published in 2014. Within the IA it was assumed that 167 MFs would be subject to the regulation, while 46 MFs would not be captured by the regulation as these plants were likely to receive <1,000 tonnes of mixed waste material in a twelve-month period. Using the data from the MF Portal, it was possible to calculate the number of facilities reporting under the Regulations and their annual reprocessing throughput. These figures are provided in Table 2.

Table 2: Number of facilities in England reporting under the regulations and throughput

	IA MF No. assumed	2015 MF No.	2016 MF No.	2017 MF No.	2015 Tonnage (mtpa)	2016 Tonnage (mtpa)	2017 Tonnage (mtpa)
Small	113	47	41	42	0.39	0.32	0.26
Medium	47	38	35	36	1.74	1.56	1.54
Large	7	9	13	12	1.30	1.61	1.51
Total	167	94	89	90	3.43	3.49	1.51

Although the actual data for 2015, 2016 and 2017 is for England only, while the IA estimates are for both England and Wales, the total number of facilities reporting on the MF Portal is significantly less than the estimate of 167 MFs provided in the IA. This is mostly a result of the number of small facilities (41 - 47) is much lower than the estimated 113 facilities in the IA. Possible explanations are a miscalculation in the IA, misclassification from the Environment Agency's permitting database, or that smaller facilities are not reporting on the MF Portal. The uncertainty in the number of small facilities may be worthy of further investigation with the regulators to ensure all eligible small facilities are registered and reporting under the Regulation. The inclusion of dirty Material Recovery Facilities (MRF)⁹ as well as MFs in this classification also makes it difficult to readily identify qualifying MFs with definitive accuracy. Investigative work has been undertaken on the initial list of sites by the EA and we have verified that a significant proportion would not qualify as notifiable MFs.

Figures on the financial burden on MFs are also estimated in the IA. Costs include one-off costs that include capital expenditure costs for equipment, management and training as well as annual operational costs based on the time taken to separate out and sort samples as well as record the data.

Table 3: Costs to business by size of MF from the IA

Size of MF	Estimates in IA		
	One-off costs	Annual costs*	Regulatory costs** /inspection

⁹ A dirty MRF treats residual black bag waste rather a clean MF that deals with recycling only. It is different to an MBT which has a further organics treatment stage.

Small	5,823	2,664	1,884
Medium	16,025	12,000	1,884
Large	33,975	26,664	1,884

* Based on a labour cost of £0.27 per tonne

**Increased by 2.5% each year

Stakeholder responses implied that the one-off, annual and regulatory costs incurred by businesses were close in scale with the estimates made in the IA. Since a number of operators had already been sampling the input and outputs ahead of the regulation, most operators did not incur the full investment in sampling equipment within the one-off capital cost. Labour costs were reported as the main annual cost. Operators interviewed reported benefits in terms of improved understanding of contamination and supply chain discussions around contamination in collected recyclate, although they could not put a monetary value on these benefits.

Comparison with EU member states

Q7 For EU measures, how does the UK's implementation compare with that in other EU member states in terms of costs to business?

The Schedule 9A to what was then the Environmental Permitting (England and Wales) Regulations 2010 was introduced as a domestic measure and therefore was not an EU measure.

Conclusion/Recommendations

Having reviewed the evidence from stakeholder interviews and a desk-based review, we will consider amending the regulations in the future. We will consider amendments as we implement policies set out in the [Resources and Waste Strategy](#). This is to ensure any potential amendments are in line with the future workings of the waste sector.

Recommendations to consider when making amendments:

- 1) Review our stance on MF that are required to report and sample their target material, particularly reviewing small MFs and whether there should be moves to include them in the reporting requirements
- 2) Consider more frequent and robust audit of the results and procedures
- 3) Consider publishing the EA reporting compliance and inspection efforts
- 4) Consider more accountability in naming suppliers who input materials to MFs to increase transparency and waste tracking via the WRAP portal
- 5) Consider amending regulations to require waste transferred between MFs to be reported
- 6) Consider amending the 2016 EA guidance to provide clearer guidance on 'target' materials and how to sample and report 'target' materials for consistency across the system
- 7) Explore connections between MF data reporting and Extended Producer Responsibility data requirements