



Department
for Environment
Food & Rural Affairs

www.defra.gov.uk

Quality Action Plan

**Proposals to promote high quality recycling of dry
recyclates**

February 2013

© Crown copyright 2013

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk

This document/publication is also available on our website at:

www.defra.gov.uk/

Any enquiries regarding this document/publication should be sent to us at:

QAP@defra.gsi.gov.uk

PB13875

Contents

1. Introduction	1
2. Ambition.....	3
What is our vision for recycling in England?.....	3
What do we mean by 'high quality recycling and why does it matter?.....	3
The importance of recycle quality.....	5
3. Case for action	7
Legal drivers.....	7
Environmental and economic benefits.....	9
Market failures.....	10
4. How we will deliver	12
Annex A: The Action Plan	13
Working with Residents, Businesses and Local Authorities	13
Working with the Waste and Resource Management Industry.....	15
Working with the Reprocessing Industry and Manufacturers	20
Action on Exports	21
Annex B: Measuring Success	23

1. Introduction

1.1 This Quality Action Plan sets out:

- the vision and ambition of where we want to get to on improving the quality of recyclates, and how we can help grow the recycling industry. Using waste as a resource and something to be valued as a tradeable commodity is a major part of greening our economy (**Section 2**);
- why it is important for the Government to take action to improve the quality of recyclates, and how we will deliver (**Sections 3 & 4**);
- what measures we are planning to explore and implement over the next few years to work towards our objective of promoting high quality recycling – the plan contains some new ideas plus proposals to amend / further develop existing policies (**Annex A**); and
- how we will measure success – the Quality Action Plan is far from the complete story and so we will monitor progress and reflect on whether the proposed actions need to be amended or supplemented. A review of progress is planned for 2015 (**Annex B**).

1.2 The Action Plan is about the quality of “dry” recyclates (i.e. paper, glass, metal and plastic), though many of its principles also apply to the recycling of our food and garden wastes. The waste streams it is addressing are household and commercial waste. As the challenges are different for industrial, construction and demolition waste, these waste streams are not within scope.

1.3 The Action Plan is for England. Whilst working within the same EU legislative framework, Wales, Northern Ireland and Scotland, are responsible for their own waste policies and delivery. However, all four parts of the United Kingdom work closely together on the issue of quality and we will take forward action in some of the areas covered in the plan in agreement and partnership with the other administrations.

1.4 All actors within the supply chain need to take responsibility for making improvements on transparency, co-operation and efficiencies. Government can solve some of the problems, by regulating and enforcing, or providing a clear framework, but it cannot and should not do everything. The consultation on the proposed MRF regulations and the Quality Action Plan are aimed at all elements of the supply chain that can influence and benefit from high quality dry recyclates. This includes local authorities, waste management companies, MRF operators, and reprocessors.

1.5 In drawing up the Action Plan we have sought views from certain organisations representing each part of the supply chain. Through this engagement we identified:

- Some good practices already adopted by Local Authorities, waste management companies, MRF operators and reprocessors;

- Wide variability in quality of recyclate achieved;
- Real issues being faced by reprocessors because of poor quality recyclate.

1.6 This Action Plan reflects the Government's drive to improve the quality of recyclates. We invite views on the detail of this plan, particularly with regard to the actions identified for others. If you have any comments on how those actions might best be delivered, then please contact:

By email: QAP@defra.gsi.gov.uk

By post: Quality Action Plan
Defra
Area 6D Ergon House
Horseferry Road
London SW1P 2AL

2. Ambition

What is our vision for recycling in England?

2.1 Recycling has been one of the environmental successes of the last decade, as waste management companies, local councils, reprocessors and the public have worked together to dramatically increase levels of recycling. Nationally, around 43% of household waste and 52% of business waste is collected for recycling.

2.2 With recycling commonplace, there is an increasing interest in issues such as: what happens to the recyclate collected? Is everything collected for recycling actually recycled? What is it recycled into? Why is some recycling sent overseas? There is a certain amount of cynicism amongst the public about what happens to their recycling and therefore the actual environmental benefits attached to their efforts. It is vital the Government, local authorities and the waste and resource management sector work together to overcome these concerns, to maintain public participation in recycling and support efforts to increase levels ever higher.

2.3 In addition, business is generally recognising the value of recyclate as a resource to use in its manufacturing processes. Like any resource input, therefore, it is important to those involved in reprocessing to have good quality material to use as this can have a big impact on the process and the end product.

2.4 The vision therefore is to not only increase the quantity of material recycled, but also promote the quality of recycling. This will help maximise the environmental and economic benefits of reprocessing these raw materials as part of a global market, and will deliver a robust recycling supply chain that meets the needs and expectations of local communities.

What do we mean by 'high quality recycling and why does it matter?'

2.5 The **basic value of recycling** is easily grasped. We can make more use of products that have ended their useful life by collecting, treating and using the material as an input in the production of more goods. Using the materials in discarded products avoids extracting and treating virgin material. Although there are costs with recovering material and making it suitable for recycling, the alternative financial and environmental cost of having to extract and use new resources can be much higher. Recycling ensures we try and make as much use of our resources as possible. The costs associated with using virgin material can be influenced by several factors:

- Sometimes the virgin alternative causes environmental damage (e.g. deforestation or water pollution) in its extraction or manufacture, and the benefit of using recyclate is the avoidance of these impacts;

- Sometimes the virgin alternative is energy intensive to extract, manufacture or transport, and so the benefit is the avoidance of greenhouse gas emissions;
- Sometimes the virgin alternative is running out or is hard to access for geo-political reasons. In this case the benefits are more in terms of financial savings or improved resource security.

2.6 A further complication is that a single type of **recyclate can often be used for different purposes**. In general, there are more environmental benefits in turning recyclate back into a product of similar quality to what it was originally. This is often referred to as ‘closed loop’ recycling, and examples include:

- The use of recovered glass in remelt applications to create new glass products (rather than for aggregate in construction);
- The separation of recovered plastic into individual polymers to produce, for example, new food and drinks containers (rather than the use of mixed polymers for low grade construction products);
- The use of recovered paper for the production of new paper products (rather than other uses such as animal bedding, insulation etc.).

2.7 **For a given amount and cost of recovered material, the aim must be to maximize the benefit of using the recovered material, compared to having to extract and treat virgin material.** The higher the financial and environmental cost of using virgin material, the greater the benefit of recycling. In most cases this would occur when the recovered material is being used for high quality applications¹. Indeed, the revised Waste Framework Directive (rWFD) requires us to promote high quality recycling as a way of maximizing the environmental benefits of recycling. The example in Text Box 1 illustrates the greater environmental benefit of high quality recycling.

2.8 Furthermore, high quality recycling is important because it can help **support growth and the economy** by maximising the economic value of the waste material collected. Higher income levels from the sale of quality recyclates can return value to local authorities, householders and businesses. Targeting high quality recycling can deliver confidence amongst the UK waste and resource management sector of a reliable stream of recovered material and may encourage investment in the sector.

2.9 High quality recycling can also help **increase public confidence and participation in recycling**. Householders and businesses want to know that the action they are taking is making a genuine contribution towards protecting the environment and improving resource efficiency. If it transpires that material collected for recycling is sent to landfill or illegally exported, this can undermine confidence and damage efforts to increase recycling.

¹ This is not to say that there isn't a place for ‘down-cycling’, and it is recognised there will be limitations, such as cost, market demand/capacity and food contact issues, to the amount of material that can be subject to closed-loop recycling.

Text Box 1: relative carbon benefits of a sample of recycling methods

To achieve the best environmental outcome from the recovery of glass, the aim should be to encourage more glass to go to re-melt applications and reduce the amount of glass going into aggregates over time. Aggregates is an open loop application, and in carbon terms a sub-optimal one (see table below).

1 tonne of...	Saves...
glass recycled into containers	0.263-0.315t of CO ₂ eq
glass recycled into aggregates	on average 0

The importance of recyclate quality

2.10 The revised Waste Framework Directive recognises that high quality recycling operations, which turn waste back into the same product as it came from, need good quality material as feedstock. Specifically, Article 11 states:

*Member States shall take measures to promote high quality recycling and, to this end, shall set up separate collections of waste where technically, environmentally and economically practicable and appropriate **to meet the necessary quality standards for the relevant recycling sectors.***

2.11 When we talk about the quality of recyclates we are generally referring to its grade (e.g. polymer type) and composition (i.e. how much of the consignment is made up of **target material** compared to the amount of **non-target material** and other **non-recyclable material**)².

2.12 Only target material is likely to be recycled, so a high proportion of non-target and non-recyclable material will reduce the quantity of recycling, or yield. A high proportion of non-target and non-recyclable material can also make it more difficult for reprocessors to achieve 'high-quality' recycling and if the recyclate is of poor quality it is more likely to end up being down-cycled or, in more extreme cases, sent to other recovery or landfill. For example, to enable the manufacture of clear glass products there are tight tolerances for coloured glass going into the remelt process.

2.13 The Waste Review recognised quality of recyclates as one of the principal challenges that need to be addressed if we are to realise our longer-term vision of a green, zero waste economy. The Waste Review states that we want to:

² A more detailed description of these terms can be seen in Table 1 of the consultation on amendments to the Environmental Permitting (England and Wales) Regulations 2010.

Ensure our approach to extracting recyclables, such as paper and plastic, from our waste generates material of sufficiently high quality to meet the needs of reprocessors here and abroad and to comply with the international rules on waste shipments. (para 32 of the Waste Review)

3. Case for action

3.1 The Government is committed to only intervening where necessary, where there are clear market failures and barriers. It is our belief that the market should deliver recyclates of sufficient quality to meet the necessary quality standards for the relevant recycling sectors. However, although buyers and sellers are agreeing prices in the market for recyclates, there are strong indications that market signals regarding quality appear not to be working in the way they should. This is resulting in inefficiencies in both economic and environmental terms, and delivering material of sub-standard quality in some cases. The rationale for Government intervention is outlined below.

Legal drivers

3.2 The two main legal drivers for Government intervention are the EU revised Waste Framework Directive and the EU Waste Shipments Regulation.

Waste Framework Directive

3.3 The revised Waste Framework Directive sees separate collection of recyclates as the mechanism for:

- further promoting the move towards a recycling society,
- increasing the volume of recycling, and
- setting the benchmark for producing the quality of recyclate which meets the standards of the relevant recycling sectors.

3.4 The Government fully supports the Directive's ambition to move towards a recycling society. It believes there should be flexibility about the choice of particular collection systems employed in any given area as each system has its strengths and weaknesses taking technical, economic, environmental and practical aspects and areas of operation of each system into account. For example:

- Co-mingled³ systems can be considered easiest for householders and businesses to use leading to increased participation.
- Kerbside sort⁴ can make it easier to minimise inadvertent collection of non-target material, but can require more lorry movements and cause more traffic congestion, and also can raise health and safety challenges for operatives.

³ Where recycling is collected together in one receptacle, but separate from other waste, for subsequent separation at a Material Recovery Facility (MRF) into separate material streams. A variation on this is twin/triple stream co-mingled collection where one or two recycling streams (often glass and/or paper) is/are separated by the customer into a receptacle while the remaining recyclates are collected together in another receptacle for subsequent separation at a MRF.

- Source segregated systems⁵ are also good for minimising non-target material, but require more householder co-operation and effort, and assume householders have space to store different bins.

3.5 If collection systems, involving some degree of co-mingling, are employed then it is important they deliver the requirements of the Waste Framework Directive and promote high quality recycling.

3.6 Recyclates collected co-mingled and sorted at MRFs can meet the quality specifications of reprocessors, but there is evidence that this does not always appear to be the case, suggesting a need for an improvement in performance.

3.7 Table 1 summarises the results of WRAP research⁶ which identified a broad range in quality with some good quality outputs but also some with high levels of non-target and non-recyclable material. A WRAP survey⁷ indicated that reprocessors saw the need for there to be improvements in the quality of material from UK MRFs:

- Over 60% said only “some” or “hardly any” output from MRFs met their quality specification
- Over 75% said the quality of outputs from MRFs was worse than material from other sources.

3.8 That said, the reprocessors surveyed stated that, while outputs from MRFs were generally of a lower quality, this was not universally the case, and that no collection method was in itself a guarantee of a quality product.

Table 1: Percentage of MRF non-target and non-recyclable material

Target material	Min %	Mean %	Max %
Aluminium	0.0	2.5	8.1
Steel	0.4	6.2	23.8
News and PAM	1.9	9.8	22.0
Mixed Paper	2.1	15.8	36.7
Card	1.9	12.0	57.4
Mixed Plastic	0.6	18.2	43.5
Mixed Plastic Bottles	0.5	12.2	23.0
HDPE Coloured Plastic Bottles	3.3	8.7	12.2
HDPE Natural Plastic Bottles	0.8	4.5	14.6
PET Clear	0.5	7.5	20.1
PET Coloured	3.0	8.1	13.2

⁴ Where recycling is placed into one (or more) receptacles by the customer which is then hand sorted by the waste collector at the roadside into different compartments of the waste collection vehicle.

⁵ Where recycling is kept separate by the customer in discrete material streams (e.g. paper, glass, plastic bottles) in different receptacles prior to collection

⁶ MRF Quality Assessment Study, 2009

⁷ MRF Output Material Quality Thresholds, 2009

EU Waste Shipments Regulation

3.9 The UK needs to meet the requirements of the waste shipment controls. It is illegal to export waste for disposal,⁸ but the controls allow for so-called “green list” recyclates to be exported for recovery overseas in a manner that represents a broadly equivalent standard of environmentally sound management. Recyclates can only be exported as “green list” if they are classifiable under one entry under Annex II (Green List) of the Waste Shipment Regulations. This effectively means that no further sorting is necessary to separate out different entries in the Green List once it reaches its overseas reprocessing facility – e.g. paper being exported for recovery should not require further sorting, and as such should not include other materials such as glass, metal or plastic. The export of such recyclate does not require notification to the Environment Agency (EA), but paperwork accompanying the shipment must be completed by the person or company exporting the recyclates.

3.10 Exporting recyclate contaminated to the extent that any would need to be disposed of in the receiving country or pre-sorted before recycling, would mean that we were exporting our rubbish for someone else to deal with. Exports for disposal are prohibited, so if a significant amount of the shipment would need disposing of, this would be banned. Some countries may not have the equivalent controls on wastes that are disposed of, leading to pollution. Consequently the environmental externalities – such as the cost of disposal, where in the UK this is captured by the landfill tax – would not be captured. Such exports are illegal and the EA will take action against such activity.

Environmental and economic benefits

3.11 As mentioned earlier, high quality recycling helps maximise the environmental and economic value of recycling a given amount of waste material. And the quality of recyclate not only supports high quality recycling, but it can deliver significant environmental and economic benefits in its own right. Indeed, the Impact Assessment for amendments to the Environmental Permitting (England and Wales) Regulations 2010 analysed a scenario in which an improvement in performance by the MRFs in the lowest quartile of quality, with subsequent improvement in quality of recyclate, could result in a benefit of £22.0m - £50.2m to businesses, and a total net benefit of £30.9m (£13.1m to £51.5m) to society because:

- Minimising the amount of non-target and non-recyclable material in a consignment of recyclate will help minimise resource loss and maximise yields.
- Higher quality material should attract a price differential and can return value to local authorities, householders and businesses.

⁸ Exports for disposal are prohibited save for the exceptions identified in the UK Plan for Shipments of Waste.

3.12 Other benefits of high quality recyclate include improving the resilience of the waste management industry to fluctuations in demand; during the downturn in 2008, the market for high quality material experienced less price volatility. It can also improve public confidence and participation in recycling and so help the UK hit its 50% recycling target under the rWFD by 2020.

Market failures

3.13 In a perfect market, good quality material should attract a significant price differential that reflects the higher proportion of the material that can be used in making a high quality product and lower associated processing costs.

3.14 However, we are not seeing this in any structured way because information on quality is not readily available to reprocessors. There are a number of MRFs that do not assess the quality of the recyclable material they produce. Consequently, there is a lack of robust and consistent information on quality of outputs. This undermines the ability of reprocessors to confidently identify the composition of material they are purchasing (i.e. relative proportions of target, non-target and non-recyclable) and means the price paid for material does not necessarily reflect its composition and can lead to unwanted disposal costs for non-recyclable material.

3.15 In a market where there can be a wide variation in quality, and if it cannot be immediately identified at the point of purchase, there can be a bias towards customers only being willing to pay a lower price, as they would rather not risk overpaying. At the same time sellers may not be willing to produce higher quality material if they are not certain that it will fetch a higher price. This lack of information for buyers and sellers creates a bias towards lower quality output, even though both parties could benefit from selling higher quality output. For example, the sellers could obtain a higher price, and the buyers would receive more recovered material in each batch thus reducing the volume of material that would need to be purchased and potentially making processing more efficient. This issue of imperfect information leads to market inefficiency, as both parties could see an improvement in their revenue and/or costs from a move to higher quality recyclate.

3.16 This market failure is exacerbated by a further two risks:

- **Pricing of environmental externalities⁹** is not consistently reflected in material prices. Although the UK landfill tax influences behaviour at the point of disposal, it may not maintain this influence throughout the whole chain of waste management and recycling activity. For example, exports of material outside the UK/Europe represent a potential loophole in UK/European waste policies which aim to correct many of these environmental externalities. Non EU reprocessors may not be subject to the same interventions to price in externalities and may be less

⁹ Environmental externalities include increased emissions from landfill, energy consumed during further sorting, and loss of resource and reliance on virgin raw materials (with associated energy consumption during processing, environmental degradation during extraction etc.)

incentivised to fully recover the value of recyclates. In an international market, the business benefit of high quality recyclate applies to all reprocessors, but there is a risk that differential treatment of environmental externalities may affect how willing some overseas operators are prepared to accept low quality material.

- **Illegal exports** can also undermine the domestic market. As identified above, there is a risk that overseas reprocessors may be willing to accept recyclate with such a degree of non-target and non-recyclable material that it may no longer be considered suitable for legal export by the EA. UK reprocessors would not only find such quality prohibitively expensive to process but may be subject to more rigorous inspection for adherence to permitting or accreditation requirements.

3.17 The resulting market conditions can potentially create a strong bias towards lower quality material that does not make the most of the efforts we are putting into recycling.

4. How we will deliver

4.1 The measures outlined in this Action Plan aim to support a market environment which is capable of promoting high quality recycling and delivering recyclates of sufficient quality to meet the standards of the relevant recycling sectors. We want:

- relationships and transactions between the different actors in the supply chain to be based upon and informed by robust, consistent and transparent information on quality and end destination. This information flow will improve confidence and participation in recycling, and resilience in the recycle market;
- existing best practices, in terms of managing quality and contracts, to be recognised, celebrated and become more widespread throughout the supply chain;
- to make things as easy as possible for residents and businesses to improve the quantity and quality of the materials they put out for recycling;
- to be confident that exports are recycled achieving the same environmental benefits as recycling domestically;
- high quality recycling to be properly incentivised;
- to make down-cycling the least attractive recycling option and only to take place as a last resort; and
- for co-mingled collections and outputs from Materials Recovery Facilities in particular, the quality of recycle to be transparent and meet the necessary standards for the relevant recycling sectors.

Annex A: The Action Plan

5.1 This Action Plan sets out what measures we are planning to explore and implement over the next few years to work towards our objective of promoting high quality recycling. The focus is on the quality of “dry” recyclates (i.e. paper, glass, metal and plastic), though many of its principles also apply to the recycling of our food and garden wastes.

5.2 We consider each part of the supply chain in turn.

Working with Residents, Businesses and Local Authorities

5.3 Local authorities play an important role in promoting high quality recycling. We are starting to see good practices being adopted by local authorities in relation to managing quality. For example, some authorities have specified in their tenders the need for the MRF to implement a quality management system and even the level of quality to be achieved. Furthermore, some authorities and MRFs have agreed to share the revenue from the sale of recyclates; this means they have a shared interest in the quality of the product delivered to reprocessors and acts as a powerful incentive to play their part in improving the quality of inputs.

5.4 There are also examples of local authorities taking greater responsibility for identifying the end destination of their waste and reporting back to householders. And in June 2012, the Resource Association and Local Authority Recycling Advisory Committee (LARAC) launched an End Destinations of Recycling Charter for local authorities to sign-up to on a voluntary basis.

5.5 We are looking at ways in which we can support adoption of these good practices and how input quality can be improved.

Increasing awareness amongst householders

5.6 A significant proportion of non-target and non-recyclable material originates from the householder putting material that cannot be recycled into the recycling bin(s), and often reflects a lack of understanding of what material is being targeted by the waste collector.

To help address this, WRAP will continue working with industry on clearer labelling on the recyclability of primary packaging through the voluntary ‘on pack recycling label’ scheme (OPRL). Additionally, the feedback that local authorities will receive from MRFs following implementation of the MRF Code of Practice (see Annex A (2a)) will enable them to run targeted communications campaigns with householders where problems with non-target and non-recyclable material are identified.

The Waste (England and Wales) Regulations 2011

5.7 Defra recently consulted on amendments to The Waste (England and Wales) Regulations 2011 to ensure proper transposition of the rWFD requirement to set up separate collections by 1st January 2015.

5.8 We anticipate this requirement for separate collections will drive up interest amongst waste collectors (e.g. local authorities) in the quality of recyclates delivered by their collection systems and will lead to greater adoption of some of the good practices described above. In particular, we expect to see more waste collectors demanding access to information on quality within their contracts with MRFs. Waste collectors may even decide to stipulate the level of quality required in order to help them demonstrate they are meeting the requirements of the legislation.

5.9 We will be issuing statutory guidance to support waste collectors' implementation of the separate collection requirement.

ACTION : Defra

DELIVERABLE : Statutory Guidance

PLANNED COMPLETION : to be confirmed

Reporting on recycling rates

5.10 Current recycling rates reported to Waste Data Flow are likely to be overestimates as many do not account for material rejected by the MRF during the sorting process in a robust manner. We will amend guidance to local authorities to clarify that they should ask MRFs to provide robust information on reject rates when reporting recycling rates to WasteDataFlow. This will incentivise local authorities to request robust information from MRFs on quality and reject rates, and take greater interest in the performance of their collection systems and the MRFs with whom they contract.

ACTION : Defra

DELIVERABLE : More accurate recycling data in Waste Data Flow

PLANNED COMPLETION : Spring 2014

Support for local authorities

5.11 WRAP and iESE promote better procurement and contract management practices for local authorities. There is already a range of guidance and case studies available to local authorities to support them in managing relationships and contracts with waste management companies, identifying and reducing non-target and non-recyclable material arising during collections, and managing relationships and communications between Waste Disposal Authorities and Waste Collection Authorities to ensure effective management of quality.

5.12 WRAP will further develop and promote this guidance, to ensure it reflects policy developments and new examples of best practice, and will raise awareness of the issue of quality and the important role local authorities have to play.

Designing collection rounds to deliver good service and good quality

5.13 The way in which waste collection rounds are designed and managed can influence quality. For example, compacting materials during collection breaks glass and can cause different materials to bind together. WRAP will further develop guidance to local authorities on good practices for managing collection rounds to ensure good quality inputs, whilst making it as clear and easy as possible for householders.

Working with the Waste and Resource Management Industry

The MRF Code of Practice

5.14 Transparent, robust and consistent information on quality is of vital importance to the proper functioning of recyclate markets. Measuring quality can help MRF operators control the quality of their input and output material and help them manage their relationships with their customers. If information on quality is made available to customers of MRFs, both local authorities and reprocessors, it can enable them to exercise effective choice when it comes to identifying which MRF to contract with. This information can also help local authorities demonstrate how their collection systems are supporting the rWFD objective of high quality recycling.

5.15 However, a WRAP study, examining existing approaches to assessing material quality across MRFs and reprocessors, found that a significant proportion of MRFs did not monitor the quality of their outputs at all and the majority of those that did relied solely on visual inspection (although it is worth noting that the study found a small number of MRFs had excellent material testing facilities). WRAP estimate that less than 30% of MRF operators have robust quality monitoring processes (i.e. weight / volume based testing) in place at present. Furthermore, the study found there was inconsistency in the methods employed, and that many were not formally written down or available for inspection. This information asymmetry leads to market inefficiency.

5.16 Improving the sector's approach to measuring quality to address this market failure is therefore a key objective of our Action Plan. We have been working with the Environmental Services Association (ESA), WRAP, EA and others to develop a "MRF Code of Practice". This requires MRFs to put in place robust quality management systems and checks which will yield information on non-target and non-recyclable levels of the

inputs and outputs to the facility by material type (i.e. paper, glass, plastic and metal). It will also ensure that outputs from MRFs meet the quality specifications of their customers and that there are requirements for the quality management systems to be audited by an independent auditor.

5.17 The Code is heavily based upon the provisions of the existing ESA's 'Recycling Registration Service' (<http://rrsuk.org>) which was launched in April 2007. Unfortunately the RRS failed to attract significant uptake (only about 20 MRFs, 15% of total MRFs). Feedback to the ESA from its members suggests that this was because it was a voluntary scheme; many MRF operators felt compliance with the code would leave them at a competitive disadvantage.

5.18 In relation to the new Code, the Responsibility Deal with the waste and resource management sector establishes the following commitment and related target:

- *The ESA and the Government will work together to promote take-up of [the MRF Code] across the sector, either through mandating [its] use, or through creating very strong incentives for adoption through procurement and regulatory enforcement policy. The Government recognises that in the absence of such measures to ensure widespread take up, firms which do adopt the Code of Practice may be vulnerable to price undercutting by MRFs not complying with the code.*
- *By 2014, over 90% of the industry in terms of share of the market, proportion of sites, and number of operators are in verified compliance with the MRF Code of Practice on quality.*

5.19 We explored the use of a range of voluntary measures to promote uptake of the Code but concluded that these were not strong enough to provide confidence of a level playing field, or the certainty, speed and scale of uptake that we are seeking.

5.20 Therefore, early in 2013, we will consult on making elements of the MRF code of practice mandatory. Our proposal will be to amend the Environmental Permitting (England and Wales) Regulations 2010 to make compliance with some of the technical requirements of the Code a requirement of the existing environmental permit. Mandatory compliance with the Code will be targeted to those permitted MRFs with an output of more than 1000 tonnes per annum. The Environment Agency will use an intelligence and risk based approach to facilities incorrectly operating under an exemption. The amendment Regulations could potentially come into force in October 2013, with MRFs required to measure quality from April 2014, if this is supported by responses to the consultation. The costs and benefits of making this amendment to the EP Regulations are described in the Impact Assessment accompanying the consultation.

5.21 It will also be important to ensure that MRF information on quality is transparent and available to customers. We are exploring whether it will be possible to establish a

webportal with a list of accredited MRFs together with some high-level performance information (e.g. average composition of output materials)¹⁰.

ACTION : Defra

DELIVERABLE : Consultation on making elements of the MRF Code of Practice mandatory

PLANNED COMPLETION : Consultation 1 February – 26 April 2013

Grading quality

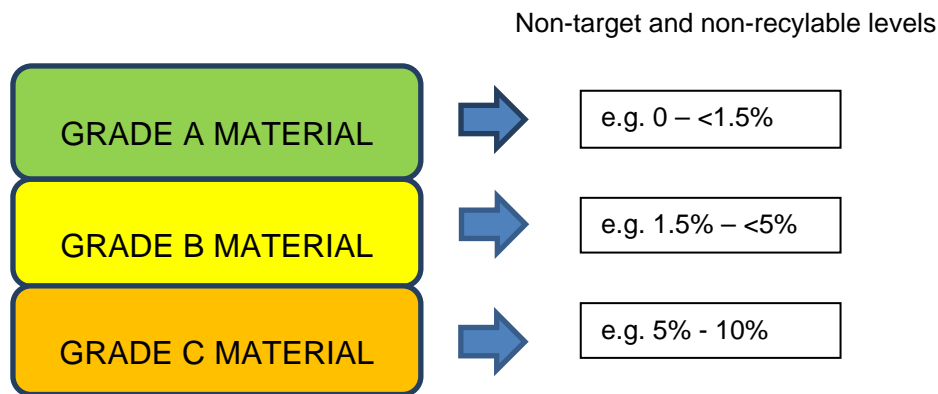
5.22 A logical extension of the MRF Code of Practice is the use of the monitoring results to grade MRF outputs according to their quality. Indeed, a number of well-established and mature markets for other types of raw material function on the basis of quality being measured and communicated within the framework of well-defined grades which have been agreed by industry.

5.23 Such grading systems can have a range of benefits. It can provide the market with the means to differentiate recycle quality in a simple, easy to use manner, aiding communication regarding quality specifications between buyers and sellers entering contracts. Prices negotiated are likely to reflect the quality differentials between grades, hence providing stronger signals to suppliers that quality matters. It also reflects the fact that markets can have a range of different demands when it comes to quality.

5.24 UK reprocessors do have quality specifications for the material they wish to purchase from suppliers. However, these tend to set extremely low non-target and non-recyclable limits, which are not always measurable or are set at a challenging level. UK reprocessors sometimes take material that is outside their desired specification simply to secure a supply of raw material.

5.25 In order to provide a more practical and realistic basis for suppliers and reprocessors to engage on quality specifications, WRAP will develop, in discussion with reprocessors, local authorities and the waste management industry, a voluntary system for grading the quality of recycle for each of the main material streams (paper, plastic, glass and metal). Figure 1 provides an example of how this could be presented (additional grades could be added if necessary and the non-target and non-recyclable levels cited are illustrative only and will be specific to each material stream).

¹⁰ Item 3.26 in the consultation document to amend the Environmental Permitting (England and Wales) Regulations 2010 provides more information on transparency and specifically asks a question on how this could be achieved.



5.26 Uptake of the grading system will be on a voluntary basis. It should contain references and links to the MRF Code and so provide a clear and effective means of communicating the results of the sampling and quality measurement regime. The grading system could also be aligned with various waste policies (such as the End of Waste criteria being developed under the revised Waste Framework Directive (e.g. Grade A = end of waste material), enforcement of export controls, level of separate collection and the PRN/PERN system) and build upon / link to other industry standards on quality (e.g. PAS 101, EN 643). The lower limit of the bottom grade (10% in the example above) could represent what is broadly considered as the maximum amount of non-target and non-recyclable material that is acceptable. The system could also establish labelling requirements to make it easier to identify the quality of a consignment as it moves along the supply chain.

ACTION : WRAP.

DELIVERABLE : Provisional set of voluntary grading levels for paper, plastics, metals and glass

PLANNED COMPLETION : 2014

Incentivising quality outputs

5.27 Through the proposed grading system and MRF Code of Practice, we expect the market to better incentivise quality via clearer price signals. We will keep our waste policies under review to ensure they also incentivise quality, wherever possible, and as a minimum do not dis-incentivise quality. We have already identified a number of ways in which waste policy could incentivise quality.

The Packaging Regulations

5.28 We are exploring whether the Packaging Regulations could be amended to better incentivise high quality recycling.

5.29 Until 1st January 2013, Packaging Recovery Notes (PRNs) were issued on recovered glass whether it was of high quality (and went to re-melt) or was of poor quality

(and was only suitable for aggregate use). Last year we consulted on the introduction of a split target for glass to encourage more glass to go to re-melt applications and reduce the amount of glass going into aggregates over time. This split target was agreed and has now come into force on 1st January 2013. Whilst the aggregates market usefully provides a home for poor quality material that otherwise would go to landfill, it is suboptimal in carbon terms and is inconsistent with the objective of promoting high quality recycling.

5.30 A concern that emerged through the consultation on higher packaging targets was the perceived lack of a level playing field between PRNs and PERNs. PRNs are the domestic mechanism for demonstrating compliance with the Packaging Regulations whilst Packaging Waste Export Recovery Notes (PERNs) are issued by exporters as evidence of the amount of packaging waste recovered/recycled when the waste is exported rather than reprocessed domestically. UK reprocessors argue that they are at a disadvantage because, in some instances, they cannot issue PRNs for the total weight of material received due to the amount of non-target and non-recyclable material that has to be removed. They compare this with the material held by exporters who are able to obtain a PERN value at 100% of the weight of the material exported irrespective of its quality. They believe the system currently incentivises exports of poor quality material.

5.31 As part of the wider, ongoing review of the Packaging regime, we will explore making amendments to the PRN and PERN system to even out any disparity in the playing field, by applying the same quality criteria (to be determined) when issuing PRNs and PERNs. There may also be potential to link the quality of the material to the value of the PRN/PERN.

ACTION : Defra

DELIVERABLE : Consultation on amendments to the PRN/PERN system

PLANNED COMPLETION : 2013/14

End of waste criteria

5.32 End of Waste criteria are currently being developed for the four main dry recyclates (metals, paper, glass, plastic). Collected waste materials that meet defined quality criteria can cease to be classified as waste, and therefore waste controls can be removed. There are suggestions that material which reaches end of waste status may attract a price differential to reflect its high quality and that it is subject to robust quality assurance arrangements. This could incentivise MRFs to improve quality, implement robust quality management systems and strive to meet end of waste status. We will support development of the EoW Regulations and ensure implementation in the UK is supported by other policies.

Working with the Reprocessing Industry and Manufacturers

Improving the recyclability of waste

5.33 The nature of the waste itself can lead to problems with sorting at the MRF. For example, in relation to plastic, the sheer number of different polymers creates complexity, and the use of more than one polymer in a single piece of packaging makes it impossible to remove all non-target material.

5.34 As part of the Waste Review, the Government committed to increase the percentage of recycled content used in packaging and make packaging more recyclable. WRAP is working with industry to continue to improve the recyclability of certain types of packaging, such as changing the additives used to colour milk bottle caps so that it doesn't affect the colour of the recycled material and can be more easily used in new milk bottles, and providing guidance on plastic bottle and rigid plastic collection. Although the composition of packaging is primarily a business decision for the maker of that product, and is based on a consideration of various issues such as functionality, price, weight and health and safety, there is more that can be done to improve the sustainability of some packaging formats. To help businesses improve the recyclability of their packaging WRAP have developed guides which help producers make sustainable choices when specifying packaging formats. Specifically WRAP has an on-line recyclability categorisation tool¹¹ for PET drinks bottles, to enable the drinks sector to benchmark the recyclability of the bottles put onto market and also enable designers to predict the recyclability of a new bottle. In addition WRAP is to publish guidance on the recyclability of rigid packaging such as pots, tubs and trays and non-drink bottles.

5.35 The Advisory Committee on Packaging (ACP) is currently working to develop a responsibility deal between industry and Government that will help to support the delivery of the recycling targets for plastic packaging. This is likely to focus on increasing collection of easily recycled plastics such as plastic bottles in the short term. However, going forward the Department will continue working with industry to explore opportunities to improve the recycling and recyclability of harder to recycle plastics in order to help achieve the higher targets in future years.

¹¹ <http://www.wrap.org.uk/content/pet-bottle-categorisation-tool>

Action on Exports

5.36 Similar to other raw material supply chains, the market for recyclates is global, with active domestic and export markets. The export trade in UK recyclate reflects a mixture of both demand from overseas reprocessors and, in some cases, collections of UK material in excess of the capacity of UK reprocessors to utilise it. Exporting material is a legitimate aspect of a global marketplace. It has many benefits including the global resource use of recyclable waste material, reducing global carbon emissions and helping to meet recycling targets. Exports of recyclates are permitted as “green list” waste under the EU Waste Shipments Regulation. This Regulation prohibits the export of waste for disposal. It also prohibits the export of waste that is contaminated to such an extent that it could not be recovered in an environmentally sound manner or should not be listed on the Regulation’s so-called “green list” of recyclable, non-hazardous waste. The Regulation does not set a limit for the level of contamination that is acceptable, with much depending on what is acceptable in the receiving country.

5.37 We believe that in some instances consignments which are too contaminated to be legitimately listed as “green list waste” are being exported, generally to the far east where the costs of labour and disposing of non-target and non-recyclable material are lower than the UK.

5.38 The environmental and economic impacts of exporting such low quality consignments are the same as identified earlier (e.g. increased emissions from landfill and additional transport, loss of resource, reliance on virgin materials). However, these impacts are exacerbated because the transport distances are greater (especially if the waste is contaminated to such an extent that the waste is rejected by the receiving country and repatriated to the UK). There is public concern on how well legal standards on environmental protection and health and safety are adhered to and enforced in some countries. Consequently the potential to damage consumer confidence and participation in recycling is also greater.

5.39 To improve confidence that exports of dry recyclates are legitimate and support our objective of high quality recycling and to ensure effective action is taken against those not complying with the law, we will:

- ask the Environment Agency to explore the potential for improving their enforcement of the waste shipment controls using information on the quality and destination of MRF outputs delivered by the proposed MRF regulations. For example, the Environment Agency may be able to use MRF records to help inform their risk-based approach to enforcement and identify if highly contaminated outputs are being sent overseas rather than relying solely on visual inspections at ports.
- explore with the EA, in liaison with SEPA, National Resource Wales and NIEA, how we can provide greater clarity as to what constitutes ‘very high levels of contamination’, potentially establishing in best practice guidance an upper threshold

- ask the Environment Agency to review their approach to the enforcement of the export of Green List wastes and give consideration to public reporting of their inspection methodology and inspection results, including the number of illegal consignments of Green List waste prevented from export. We believe improved transparency of this information can drive compliance improvement amongst the industry.
- work with industry to improve awareness of the importance of exercising due diligence in relation to where their recycling ends up. This will help improve confidence that recycling remains within the legal waste management chain and is properly handled and recycled (e.g. full and accurate completion of Annex VII forms).

5.40 Compliance monitoring of Green List exports by the environment agencies is currently funded by Defra. It might be possible to develop a registration system for exporters of Green List waste and waste derived products to improve the monitoring of green list exports in the future. Some exporters of waste operate within the hidden economy, a registration system could also support improved compliance monitoring by requiring everyone that exports waste or products derived from waste to be declared to the enforcement agencies. If such a registration system proves possible, any proposals would be subject to further formal consultation. Alternatively as those exporting waste are either processors operating under an environmental permit or registered exemption, or should be registered as waste brokers or dealers, they are subject to the permitting and registration procedures and subject to 'appropriate periodic inspection' under the Waste Framework Directive. There may therefore be potential (subject to consultation) to strengthen the regulation of exporters via the existing Waste Framework regime to bring about an appropriate level of compliance monitoring.

Annex B: Measuring Success

6.1 The success of this Action Plan will be measured on a number of levels. In itself, implementation of the various actions and policies in a timely fashion would represent success, as would a coming together of the range of actors in the supply chain to engage in constructive dialogue and develop a shared commitment and level of ambition.

6.2 The real world impacts of this Action Plan, and its success in promoting high quality recycling, can be measured in a number of ways. In particular we will develop KPIs to measure:

- Levels of non-target and non-recyclable material observed in the inputs and outputs of MRFs – we would expect to see an improvement in average output quality.
- Proportion of outputs meeting reprocessor quality specifications – almost all outputs should meet these specifications.
- The attitudes of reprocessors (UK and overseas) to the quality of outputs from MRFs.
- Number of MRFs implementing quality management systems – aim to get over 90% of MRFs measuring quality.
- Export quality and illegal exports – develop a measure of the effectiveness of EA work to tackle illegal exports.
- Number of Local Authorities which stipulate quality as a criteria within contracts
- Amount of material achieving End of Waste status

6.3 WRAP have undertaken considerable work relating to the performance of MRFs and we will consider whether this can be used as a baseline. We will also develop KPIs in relation to each of the measures in the Action Plan.

6.4 We will report on progress to implement the Action Plan and against each of the KPIs by 2015.