

# PORTSMOUTH CITY COUNCIL

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

Including TEEP Analysis

December 2014

By following the 'Waste Regulations Route Map', this document demonstrates Portsmouth City Council's compliance with the Waste Regulations 2011 (amended 2012) in relation to separate collection of paper, glass, plastic and metal.

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## Portsmouth City Council

### Introduction - Legislative Context

The requirements for separate collection originate from the revised Waste Framework Directive, via the Waste (England and Wales) Regulations 2011. These pieces of legislation, plus the subsequent judicial review and Defra guidance, are outlined below.

#### Revised Waste Framework Directive (2008/98/EC) – found [here](#)

The revised Waste Framework Directive (2008/98/EC) places particular emphasis on need to move materials up the waste hierarchy, and to maximise “high quality” recycling. The following articles are of particular relevance to the issue of separate collections.

Article 4 refers to the principle of the waste hierarchy:

#### “Article 4

1. *The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:*
  - a) *Prevention*
  - b) *Preparing for re-use*
  - c) *Recycling*
  - d) *Other recovery e.g. energy recovery; and*
  - e) *Disposal*
2. *When applying the waste hierarchy referred to in paragraph 1, Member States shall take measures to encourage the options that deliver the best overall environmental outcome. This may require specific waste streams departing from the hierarchy where this is justified by life-cycle thinking on the overall impacts of the generation and management of such waste. Member States shall take into account the general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources as well as the overall environmental, human health, economic and social impacts, in accordance with Articles 1 and 13.”*

Article 10 refers to “recovery” and links back to article 4 (the principle of the waste hierarchy) and article 13 (meaning a manner which does not endanger human health or the environment). It introduces the formal requirement for separate collections. It also refers to “waste” – meaning all waste streams are applicable here:

#### “Article 10:

1. *Member States shall take the necessary measures to ensure that waste undergoes recovery operations, in accordance with articles 4 and 13.*

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2. *Where necessary to comply with paragraph 1 and to facilitate or improve recovery, waste shall be collected separately if technically, environmentally and economically practicable and shall not be mixed with other waste or other material with different properties.”*

Article 11 (paragraph 1) refers for the first time to “high quality recycling.” The below introduces what is now known as the “practicability” (TEEP) requirement and the “necessity” requirement:

*“Article 11:*

*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.”*

Article 11 also specifies the key materials, as outlined below:

*“Subject to Article 10(2), by 2015 separate collection shall be set up for at least the following: paper, metal, plastic and glass.”*

Note that “separate collection is defined elsewhere (article 3) as:

*“a collection where a waste stream is kept separately by type and nature so as to facilitate a specific treatment.”*

## **Revised Waste Framework Directive (2008/98/EC) Guidance – found [here](#)**

This guidance document is not legally binding, but does describe what is meant by “technically, environmentally and economically practicable” in paragraph 4.4:

*“‘Technically practicable’ means that the separate collection may be implemented through a system which has been technically developed and proven to function in practice. ‘Environmentally practicable’ should be understood such that the added value of ecological benefits justify possible negative environmental effects of the separate collection (e. g. additional emissions from transport). ‘Economically practicable’ refers to a separate collection which does not cause excessive costs in comparison with the treatment of a non-separated waste stream, considering the added value of recovery and recycling and the principle of proportionality.”*

The guidance says the following about the possibility of co-mingling (paragraph 4.3.4):

*“The WFD does not include an explicit statement covering the co-mingled collection of different recyclable waste streams (as one co-mingled stream). As a starting point, it should be borne in mind that in accordance with Article 11(1), paragraph 3 WFD, and subject to the conditions set out in this provision, there is an obligation to have in place by 2015 separate collection for paper, metal, plastic and glass. Separate collection is defined as waste-stream-specific separate collection (see above).*

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*On the other hand, setting up a separate collection is also subject to the principle of proportionality (subject to Article 10(2) WFD: necessity and technical, environmental and economic practicability). Considering that the aim of separate collection is high-quality recycling, the introduction of a separate collection system is not necessary if the aim of high-quality recycling can be achieved just as well with a form of co-mingled collection.*

*So, co-mingled collection of more than one single waste streams may be accepted as meeting the requirement for separate collection, but the benchmark of 'high-quality recycling' of separately collected single waste streams has to be examined; if subsequent separation can achieve high-quality recycling similar to that achieved with separate collection, then co-mingling would be in line with Article 11 WFD and the principles of the waste hierarchy. Practically, this usually excludes co-mingled collection of bio-waste and other wet waste fractions with dry fractions such as e.g. paper. On the other hand, subject to available separation technology, the co-mingled collection of certain dry recyclables (e.g. metal and plastic) should be possible, if these materials are being separated to high quality standards in a subsequent treatment process."*

**Waste (England and Wales) Regulations 2011 (as amended 2012) – found [here](#) with amendment [here](#)**

These regulations are the transposition of the WFD into national legislation. Regulation 12 transposes Article 4 (waste hierarchy) as follows:

**12.—***(1) An establishment or undertaking which imports, produces, collects, transports, recovers or disposes of waste, or which as a dealer or broker has control of waste must, on the transfer of waste, take all such measures available to it as are reasonable in the circumstances to apply the following waste hierarchy as a priority order—*

- (a) prevention;*
- (b) preparing for re-use;*
- (c) recycling;*
- (d) other recovery (for example energy recovery);*
- (e) disposal.*

*(2) But an establishment or undertaking may depart from the priority order in paragraph (1) so as to achieve the best overall environmental outcome where this is justified by life-cycle thinking on the overall impacts of the generation and management of the waste.*

*(3) When considering the overall impacts mentioned in paragraph (2), the following considerations must be taken into account—*

- (a) the general environmental protection principles of precaution and sustainability;*
- (b) technical feasibility and economic viability;*
- (c) protection of resources;*
- (d) the overall environmental, human health, economic and social impacts.*

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Note there is no definition of “reasonable in the circumstances” – this is open to interpretation.

Regulation 13 transposes article 11 (as amended in 2012) as follows:

- 13.—**(1) *This regulation applies from 1st January 2015.*  
(2) *Subject to paragraph (4), an establishment or undertaking which collects waste paper, metal, plastic or glass must do so by way of separate collection.*  
(3) *Subject to paragraph (4), every waste collection authority must, when making arrangements for the collection of waste paper, metal, plastic or glass, ensure that those arrangements are by way of separate collection.*  
(4) *The duties in this regulation apply where separate collection—*  
(a) *is necessary to ensure that waste undergoes recovery operations in accordance with Articles 4 and 13 of the Waste Framework Directive and to facilitate or improve recovery; and*  
(b) *is technically, environmentally and economically practicable.”.*

## Judicial review – judgement found [here](#)

The Campaign for Real Recycling (CRR), representing various UK reprocessors, applied for a judicial review of the transposition of the WFD into national law. Their objection concerned four key points, and included an insistence that the separate collection of waste met the Practicability Test in all possible circumstances of collection throughout England and Wales (and by implication, separate collection was in all instances required). This claim was dismissed by Mr Justice Hickinbottom, as were the other three points.

Parts of the judgement which are of interest include:

When referring to the EU WFD Guidance (paragraph 19):

*“This guidance suggests that the phrase “technically, environmentally and economically practicable” is used in the Directive as a term of art, importing the principle of proportionality and demanding a sophisticated context-driven exercise of judgment, balancing (amongst other things) the positive and negative environmental and economic effects of separate collection.”*

When considering glass (paragraph 62):

*“It appears to be common ground that, whilst glass is a well-recognised potential contaminant, metal and plastic can be separated at a stage later than kerb-side without any significant contamination or other relevant disadvantage.”*

## Guidance from Central Government

In response to the uncertainty surrounding the Judicial Review, Defra minister Lord de Mauley issued a letter in October 2013 found [here](#).

The letter re-emphasised the legal position, stating that:



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*“It appears that some local authorities may be taking the view that co-mingled collections of paper, glass, plastic and metal waste streams will remain permissible in all circumstances after 1st January 2015. I therefore thought it would be helpful now to remind local authorities of the effect of the Regulations.”*

The letter also referred to the issue of glass, in a similar vein to the JR judgement:

*“It is clear that the intention is that these requirements should represent a high hurdle. I am aware that co-mingled metal and plastic are relatively easy to separate at a MRF. However, at present many of our existing MRFs struggle to keep glass shards out of the paper stream. In addition many MRFs produce low quality mixed glass which needs further sorting and can be uneconomic to re-smelt.”*

Finally, the letter was clear that this is an issue in particular for any authorities considering making changes to existing collection arrangements:

*“Any local authorities considering new collection or disposal plans should take care to ensure that they are placing themselves in a position to fulfil their legal duties from 2015. This is particularly important for local authorities who may be considering moving away from separate collection, or including glass within a co-mingled stream. Local authorities should consult their own lawyers as necessary, and should keep a clear audit trail given the potential for legal challenge.”*

Defra had been intending to issue detailed guidance for local authorities when considering the implications of the Regulations. However, in January they announced (see [here](#)) that they would not be doing so.

### **Waste Regulations Route Map – found [here](#)**

In response to this statement from Defra, a national working group was formed to prepare a document that could help local authorities. The working group consisted of members from Waste and Resources Action Programme (WRAP), London Waste and Recycling Board (LWARB) and the Waste Network Chairs, which itself comprises representation from 10 national and regional waste networks.

This document became known as the Route Map. The Route Map was:

*“commissioned in order to reduce the extent to which individual authorities need to invest in advice, and to help bring consistency and clarity to the way that the Waste England and Wales Regulations 2011 (as amended)<sup>1</sup> (‘the Regulations’) are interpreted.”*

The published Route Map is not legal advice, but is designed to help authorities understand their legal obligations. The Route Map is clear for authorities that separate collections are required and this should be the starting point for the work required. You are applying the necessity and practicability tests to separate collections, not co-mingled collections. An excellent summary of the key points of the Route Map is provided in the legal advice obtained by PI in Appendix I – point 22.

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## Environment Agency Briefing Note on Separate Collections, June 2014 – found [here](#)

The EA issued this briefing in June 2014. It sets out the background and includes key points such as:

- The Environment Agency is the enforcement authority and it will be their responsibility to see that the legislation is applied. They are working with Defra and WRAP to develop a risk-based regime for regulation
- It will be their aim that the regime will help collection authorities to meet their obligations, and for them to wish to do so willingly. They will take enforcement action where necessary, but want to keep that to an absolute minimum

Of the Waste Regulations Route Map, the EA says:

*“We think this is an excellent move and regard it as good practice. If collectors follow it, we will believe this will give them high assurance of acting reasonably.”*

When considering local circumstances as part of their enforcement, the EA says:

*“It is clear that practicable solutions will vary according to the type, size and make-up etc of each Waste Collection Authority.”*

## **PI Partners Separate Waste Collection from 2015, Legal Advice – see appendix I**

PI, through Basingstoke and Deane Borough Council, appointed Francis Taylor Building (FTB), a public law set with particular expertise in planning, land valuation, infrastructure, environmental, public law, licensing, religious liberty and ecclesiastical law and regulatory law.

As well as responding to some specific queries, FTB were also asked to comment on the robustness of the Waste Regulations Route Map, and the proposed PI approach, which is outlined within this pack.

The full advice received is included as appendix I, and where appropriate the judgements from it have been incorporated into the overall pack. In summary, subject to some recommended alterations which have been made, the QC was:

*“satisfied that the Route Map provides a sound framework for the relevant assessments”.*



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## Introduction to the Project Integra approach to the Waste Regulations

The Head of PI (Chris Noble) presented this issue to Board Members in February 2014, and outlined the approach suggested at the Strategic Board meeting in June 2014.

Following the endorsement given to the Route Map by both the EA and the independent legal advice obtained by PI, this PI approach is based on the same 7 steps as the Route Map, and should be read in conjunction with the Route Map itself.

Individual PI partners, in this case Portsmouth City Council (PCC), will come to their **own decision** about whether they feel they are compliant with these regulations. The Waste Regulations Route Map has created a framework for how to carry out the required work. Some of the required work has been facilitated and collated by the PI Exec and the RCTR Steering Group with input from all partners, but **local analysis, data gathering and decision making** is carried out by PCC.

The issue of separate collection is not the only consideration for local authorities regarding the Waste Regulations. There is also an important requirement regarding the waste hierarchy (Reg 12). The waste hierarchy must be applied to each type of material collected, regardless of current collection/treatment method. Waste should be dealt with as high as possible in the hierarchy. Departure from it is only allowed where it would not be “reasonable in the circumstances,” to move waste up the hierarchy or by taking into account environmental protection principles, technical feasibility, economic viability, protection of resources, overall environmental, human health, economic and social impacts.

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## Step 1 - Determine what waste is collected and how

### 1.1 Waste Composition

A national analysis of municipal waste was carried out by DEFRA in 2008/9 using data from 2006/7 - found [here](#). This is referenced in the Waste Regulations Routemap.

There has not been a comprehensive waste compositional analysis for in Hampshire since the early 2000s. Such a study, if done comprehensively and with statistical significance across the county, is prohibitively expensive at the current time.

A 2008 HCC review of waste composition analyses highlighted the many issues associated with taking data from other LA studies and using it to draw conclusions about PI waste composition, namely the differences in:

- Sampling methodologies and time of year sampling was carried out between different compositional analyses
- Categorisation of different waste streams
- Collection systems available which will affect capture and waste generation levels
- Demographics and other factors which affect waste generation and composition

However, in the absence of Hampshire specific information, a very recent (13-14) compositional analysis carried out in a south-east authority has been used as a basis for estimating Hampshire waste composition. These figures relate to the composition of household:

- Kerbside collected residual waste
- Kerbside collected recyclables/organics waste
- Bring site material

But they do not include composition of:

- Commercial waste
- Street cleansing, litter or fly-tipped material
- HWRC waste
- Bulky waste

Table 1 below is a comparison between % composition for the DEFRA study and the estimated composition of waste in Hampshire.

*Table 1. Waste composition data*

Material	Estimated composition of municipal waste (Defra compositional analysis, 2006/7 )	Estimated composition of kerbside collected household waste, PI,	Estimated composition of kerbside collected residual waste, PI
Food waste	17.84	29.92	31.16

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Garden waste	14.08	3.57	14.06
Paper & Card	22.69	13.73	16.50
Glass	6.64	3.41	3.94
Metals	4.30	2.87	2.17
Plastic	9.99	14.08	11.04
Textiles	2.83	5.57	3.24
Wood	3.73	1.44	0.96
WEEE	2.19	0.94	0.62
Hazardous	0.53	0.43	0.29
Sanitary	2.51	10.20	6.83
Furniture	1.34	0	0
Mattresses	0.25	0.13	0.09
Misc combustible	2.37	4.69	3.11
Misc non-combustible	2.82	0.32	0.21
Soil	0.18	1.75	1.17
Other waste	4.05	5.66	3.75
Fines	1.66	1.29	0.86
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

### 1.2 Which materials to focus on?

The key fractions in terms of 'separate collection' are paper, metal, plastic and glass. However, Defra's "Guidance on applying the Waste Hierarchy" found [here](#) focuses on the following:

- Paper and card
- Glass
- Metal
- Plastic
- Food
- Garden waste
- Textiles
- Wood
- WEEE
- Black bag (residual) waste

The first 9 above account for almost 84% of household waste composition in Hampshire, according to the composition calculation.

### 1.4 How is waste collected?

The waste collection service provided by Portsmouth City Council as at 2013-14 can be summarised in the table below. Note that:

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1. All waste collected by the authority are subject to the Regulations, including commercial waste, and street cleansing waste. Unless otherwise stated, tonnages include material from all sources.

2. On the subject of HWRCs, the legal advice obtained for PI states that:

*“I see no reason why the Partners cannot rely on evidence provided by the operators of household waste recycling centres to demonstrate compliance with the Regulations. What matters is not the source of the evidence i.e. who provides it but whether it is relevant evidence demonstrating either that (a) waste is being separately collected or, to the extent that it is not, further separate collection arrangements would enhance neither the quality nor quantity of the waste stream being recycled or (b) would fail the practicability test e.g. because the costs of providing a further collection service would far outweigh any environmental benefit of doing so”.*

Table 2. Collection methods

Collection Method	Targeted Materials	Collection Frequency	Predominant Container Types/Sizes	No. Households offered scheme	Tonnes collected 13-14
<b>Kerbside Co-mingled recycling from households</b>	Paper & card, metal cans and aerosols, plastic bottles.	Fortnightly - houses Weekly - flats	<b>Houses</b> - 240l wheeled bin, 140l wheeled bin or 55l box <b>Flats</b> - 360l, 660l or 1100l wheeled bin	89,110	<b>9,047.86</b>
<b>Kerbside Separate collection from households</b>	Green garden waste	Fortnightly	240l wheeled bin, or compostable sacks	89,110 - opt in; chargeable	<b>723.15</b>
<b>Kerbside Refuse from households</b>	Mixed non-recyclable household waste	Weekly	<b>Houses</b> - black sack <b>Flats</b> - 360l, 660l or 1100l wheeled bin	89,110	<b>47,240.00</b>
<b>Bring sites for household use</b>	Textiles, glass	Variable	<b>Glass</b> - 1280l wheeled bin	89,110	<b>2,694.00</b>
<b>Bulky waste collections from households</b>	Mixed household materials, including WEEE, furniture etc	By appointment	n/a	89,110	<b>1,607.30</b>
<b>Clinical waste</b>	Sharps, infectious waste	As required	Bags, sharps boxes	89,110	<b>8.08</b>

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<b>Household Waste Recycling Centre</b>	Segregated containers for a range of materials. Including garden waste, WEEE, rubble, soil, wood, and residual waste	n/a	n/a	89,110	Garden waste - <b>2,441.09</b>  Total - <b>12,781.00</b>
<b>Street cleaning material</b>	Mixed material from street cleansing operations (litter, flytipping, street sweepings)	n/a	n/a	n/a	<b>3,563.00</b>
<b>Total</b>					<b>77,663.61</b>

### 1.5 Collection methods used (by material) – household waste

Table 3. Collection materials and tonnages

	Material	Collection Channel	Tonnes 13-14	Separately collected from other recycle?	Collected in sub-streams?
<b>Material collected for recycling or reuse</b>	Paper & card	Kerbside co-mingled recycling	6,785.43	N	N
		Bring sites	83.86	Y	N
		HWRC	346.04	Y	N
		<b>Total</b>	<b>7,215.33</b>		
	Glass bottles and jars	Bring sites	2,185.26	Y	N - mixed colours
		HWRC	190.51	Y	N - mixed colours
		<b>Total</b>	<b>2,375.77</b>		
	Plastic bottles	Kerbside co-mingled recycling	653.45	N	N
		Bring sites	1.75	Y	N
		<b>Total</b>	<b>655.20</b>		
	Metal cans	Kerbside co-mingled recycling	435.99	N	N
		Bring site	0.47	Y	N
		<b>Total</b>	<b>436.46</b>		
	Garden waste	Kerbside garden waste	723.15	Y	N
		HWRC	2,441.09	Y	N
<b>Total</b>		<b>3,164.24</b>			

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	Batteries	Bring site	N/A		
		HWRC	23.94	Y	N
		<b>Total</b>	<b>23.94</b>		
	Books	Bring sites	<b>197.59</b>	Y	N
	Bric a brac	HWRC	<b>354.99</b>	Y	N
	Scrap metal	HWRC	<b>649.64</b>	Y	N
	Soil and rubble	HWRC	<b>2,494.12</b>	Y	N
	Hazardous waste	HWRC	<b>143.33</b>	Y	N
	Textiles	Bring sites	207.00	Y	Y - separate shoe banks available
		HWRC	93.58	Y	Y - separate shoe banks available
		<b>Total</b>	<b>300.58</b>		
	WEEE	Bulky waste collection	102.64	Y	N
		Bring sites	17.70	Y	
		HWRC	339.65	Y	Y
<b>Total</b>		<b>459.99</b>			
<b>Material collected for disposal or recovery</b>	Mixed residual waste	Kerbside residual waste collection	47,239.96	N/A	N
		HWRC	3,168.87	N/A	
		<b>Total</b>	<b>50,408.83</b>		
	Bulky waste (mostly furniture and non-WEEE)	Kerbside collection	<b>1,504.66</b>	N/A	
	Healthcare waste	Kerbside collection	<b>8.08</b>	N/A	N
	Street cleaning material		<b>3,563.07</b>	N/A	
	Hazardous material	HWRC	<b>138.36</b>	N/A	
	Wood	HWRC	<b>2,396.44</b>	Y	
	MRF residue	Kerbside co-mingled	<b>1,172.99</b>	N/A	

### 1.6 Collection Contract Costs

The table below is populated locally based on financial data held, applicable to 13-14:

*Table 4. Expenditure - contracted waste collection per year*

		<b>Amount (£)</b>	<b>Amount per Household</b>
(a)	Transport	33,350	0.368
(b)	Staffing	411,941	4.551



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(c)	Supplies and services	138,165	1.526
(d)	Recharges	27,817	0.307
(e)	Premises	51,002	0.563
(f)	Contractor costs	3,266,706	36.096
(g)	Gross expenditure	3,928,981	43.414
(h)	Income	181,722	2.007
(i)	Net expenditure	3,747,259	41.406

Table 5. Breakdown of material income 2013-14

Material	Income from material sale		Income from Recycling credit		Total income	
	Per tonne	Total	Per tonne	Total	Per tonne	Total
Glass	Ave £32.65	£ 2,116.32	N/A	N/A		£ 65,959.00
Co-mingled recycling	Ave £45.29	£ 358,331	N/A	N/A		£ 358,331.00
Other materials:						
Textiles	Ave £482.50	£ 42,656.96	N/A	N/A		£ 42,656.96
<b>Total</b>						<b>£ 466,946.96</b>

### 1.7 Waste Collection Contract

The Route Map makes it clear that the requirements for separate collection need to be considered if there is a fundamental change in service provision – e.g. a new collection system, new collection contract etc. Whilst existing contract may make changing collection systems (i.e. from co-mingled to source segregated) difficult, when a contract is up for renewal or re-letting, that position needs to be revisited. Below demonstrates Portsmouth City Council's current position:

Table 6. Waste contract details

<b>Contract Provider</b>	Biffa Municipal Ltd
<b>Contract Start Date</b>	1 <sup>st</sup> October 2011
<b>Contract length</b>	8 years
<b>Projected End date (no extension)</b>	30 <sup>th</sup> September 2019
<b>Extension Options</b>	Up to 2 years
<b>Details of process for extension (enter contract clauses)</b>	1.2.2 The Authority shall have the option to extend the Initial Term for a period of 2 years by giving written notice to such effect to the Provider no later than 6 months prior to the expiry of the Initial Term.
<b>Projected End date (with extension)</b>	30 <sup>th</sup> September 2021
<b>Contract clauses associated with significant changes in collection systems.</b>	<u>Major Variation</u>  3. A Major Variation is a Variation that satisfies at least one of the following criteria:

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- estimated implementation costs of £20,000 or above
  - estimated onward annual costs or savings of £20,000 or above
  - permanent service changes to an entire round, or across more than one round
  - changes to the Authority Premises which will last longer than the lifetime of the Agreement
  - changes to the Performance Standards (a “Major Variation”)
- 3.1. Major Variations are likely to involve significant impacts on services or finances and therefore they need to be properly researched via a project management approach, prior to decisions being made. Partnership working and using expertise from both Authority and Provider is likely to achieve the best possible outcome.
- 3.2. Examples of Major Variations could include the following:
- change in number or type of vehicle, staff, depot (location or facilities), collection rounds bin type and start and finish times
  - change in the IT systems required to deliver the contract
  - change to residual and/or recycling collection frequency
  - change of waste receptacle
  - change of acceptable recyclable material
  - introduction of new services
  - change of collection day
  - restriction or withdrawal of non-statutory services such as bulky waste collection
  - changes to contract Price
  - changes to communications such as calendars, hangers etc (this could also be a Minor Variation)
- 3.3. The process of carrying out a Major Variation is set out in the flow diagram shown in Appendix 2.
- 3.4. A Major Variation could be initiated as a result of:
- a desire for change by the Authority
  - a desire for change by the Provider
  - an enforced change, such as legislative changes
- 3.5. A provisional Major Variation Notice (“pMaj”) can be initiated by either party using a standard format which will act as a record. It should include the following:
- date of initiation
  - name of initiator - Authorised Officer or Provider’s Manager
  - details of the proposed Variation, including date of start
  - anticipated impact of the proposed Variation on:
    - o residents
    - o the Service
    - o the Authority
    - o the Provider
    - o the environment (e.g. with regard to fuel efficiencies or improved waste recycling / recovery outcomes)

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	<p style="text-align: center;">(it is possible that the impact could be nil for some or all of these)</p> <p>3.6. Both parties should agree that the proposed variation is a Major Variation. Agreement to this delivers buy-in from both parties and formalises the process. This is important for major changes as the costs and implications are likely to be significant.</p> <p>3.7. If any party does not accept the proposal as a Major Variation, either party may have recourse to clause 17 (<i>Dispute Resolution</i>) of the Agreement.</p> <p>3.8. If, after due consideration, both parties believe the proposal should not be treated as a Major Variation, the process stops. The Partnership will then decide whether the proposal should instead be treated as:</p> <ul style="list-style-type: none"> <li>• a Minor Variation</li> <li>• a non-contract variation (i.e. day to day management)</li> </ul> <p>3.9. Once a proposal is accepted as a pMaj, the project process begins. Both parties will agree the extent of each party's involvement, the potential resources required, a target timetable and who will manage the project. The standard position is that the Authority will provide the project manager.</p> <p>3.10. Following an appropriate project management approach, either the Authority or the Provider will then produce a business case.</p> <p>3.11. Providing both parties approve the business case, a Variation Notice will be signed by both parties who will then commit resources to the project.</p> <p>3.12. To minimise the chances of the business case being rejected its initiator should consult with decision-makers of both parties to understand likely issues of concern that may inform their decision.</p> <p>3.13. If one of the parties rejects the business case, the initiator will decide if the proposed Variation is to be withdrawn or whether they wish to proceed to dispute resolution.</p> <p>3.14. If either party rejects the proposed Variation, they should identify the reasons why. These could include:</p> <ul style="list-style-type: none"> <li>• unacceptable financial implications (either positive or negative)</li> <li>• unacceptable impact on customers</li> <li>• contradictory to other policies/strategies</li> </ul> <p>Alternatives can be proposed for further consideration by both parties.</p> <p>3.15. If both parties reject the proposed Variation, the reasons should be identified.</p> <p>3.16. An alternative Variation may be produced. In this instance a new pMaj is raised and the process begins anew.</p> <p>3.17. Dispute resolution is the final option if agreement cannot be reached via the partnering structure.</p>
<b>Contract clauses associated with early</b>	<p><u>16.5</u> Voluntary Termination by the Authority</p> <p>16.5.1 The Authority may, subject to clause 15.6 (Compensation on</p>

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

<b>termination of contracts</b>	<p>Termination) terminate the Agreement at any time on or before expiry of the Term by complying with its obligations under this clause 15.5.</p> <p>16.5.2 Where the Authority wishes to terminate the Agreement under this clause 15.5, it must give written notice to the Provider stating:</p> <p>(a) that the Authority is terminating the Agreement under this clause 15.5 (Voluntary Termination by the Authority);</p> <p>(b) that the Agreement will terminate on the date falling 90 calendar days after the date of receipt of the notice; and</p> <p>(c) the amount of the Compensation Sum payable to the Provider.</p> <p>15.5.3 The Agreement shall terminate on the date falling 90 calendar days after the date of receipt of the notice referred to in clause 15.5.2 above.</p> <p>16.6 Compensation on Termination</p> <p>16.6.1 Where the Authority serves written notice on the Provider of its intention to terminate in accordance with clause 15.5 (Voluntary Termination by the Authority) then the Authority shall pay the Compensation Sum to the Provider on or before the Termination Date.</p> <p>16.6.2 If there is partial termination of the Agreement then the Compensation Sum will be reduced proportionately to reflect that part of the Services that has been retained and not terminated.</p> <p>16.6.3 The Compensation Sum paid pursuant to this clause 15.6 shall be in full and final settlement of any claim, demand and/or proceedings of the Provider and shall be the sole remedy of the Provider in relation to termination of the Agreement or any part of it (and the circumstances leading to such termination) and the Provider shall be excluded from all other rights and remedies in respect of any such termination, save in respect of any antecedent claims, including claims for payment.</p> <p>16.7 Termination Upon Force Majeure</p> <p>16.7.1 If a Force Majeure Event prevents either party from performing its obligations under the Agreement in any material respect for a period of 3 consecutive months then provided the notification requirements set out in clause 4 (Force Majeure) have been complied with without prejudice to any accrued rights or remedies under the Agreement, either party may terminate the Agreement by giving 30 calendar days' notice in writing to the other party. For the avoidance of doubt, the provisions of clause 15.6 shall not apply to any termination by the Authority under this clause 15.7.1.</p> <p>16.8 Expiry</p> <p>16.8.1 The Agreement shall terminate automatically on expiry of the Term unless it shall have been terminated earlier in accordance with the provisions of the Agreement. The Provider shall not be entitled to any compensation on expiry of the Term.</p> <p>16.9 Effect of Termination</p> <p>16.9.1 Notwithstanding that a party may have a right to terminate the Agreement that party may elect to continue to treat the Agreement as being in full force and effect and to enforce its rights under the Agreement.</p> <p>16.10 Survival</p> <p>16.10.1 Termination of the Agreement for any reason shall not affect this clause 15.10 and the following clauses which shall continue in force after such termination: clause 1.1 (Definitions and Interpretation); clause 5.4 (Assistance in Legal Proceedings); clause 6.2 (Authority Liability to be</p>
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## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

	<p>Excluded); clause 7.6 (Transfer of Assets) clause 9.5 (Confidentiality); clause 9.7 (Information Laws); clause 11.1 (Indemnities) clause 13.3 (Disputed Invoices); clause 13.4 (Interest on Late Payments); clause 14.4 (Provider's Obligations and Indemnities); clause 14.5 (Measures on Termination of Agreement); clause 15 (Termination); clause 16.3.2 (Sub-Contracting); clause 17 (Problem Solving, Dispute Avoidance and Resolution); clause 18.5 (Notices); clause 18.8 (Duty to Co-operate and Transfer of Responsibility); clause 18.11 (Set-off); clause 18.13 (Law of Agreement and Jurisdiction).</p>
<p><b>Costs incurred as result of exiting/amending collection contracts</b></p>	<p><u>Schedule 7 - compensation on termination</u>  As set out in clause 15.6 of the Agreement:  Where the Authority serves written notice on the Provider of its intention to terminate in accordance with 15.5 (Voluntary Termination by the Authority) then the Authority shall pay the Compensation Sum to the Provider on or before the Termination Date.  The Compensation Sum shall be payable within ninety (90) days of the Termination Date,  The Compensation Sum shall be made up of the following elements:</p> <ol style="list-style-type: none"> <li>1. The Authority shall pay the Provider Assets at net book value;</li> <li>2. The Authority shall pay the Provider a sum equal to a 5% margin on all costs (Target Cost of Service, Target Risk and Target Overheads) that make up the prevailing Target Price from the Termination Date until expiry of the Term</li> </ol> <p>15.6 Compensation on Termination  15.6.1 Where the Authority serves written notice on the Provider of its intention to terminate in accordance with clause 15.5 (Voluntary Termination by the Authority) then the Authority shall pay the Compensation Sum to the Provider on or before the Termination Date.  15.6.2 If there is partial termination of the Agreement then the Compensation Sum will be reduced proportionately to reflect that part of the Services that has been retained and not terminated.  15.6.3 The Compensation Sum paid pursuant to this clause 15.6 shall be in full and final settlement of any claim, demand and/or proceedings of the Provider and shall be the sole remedy of the Provider in relation to termination of the Agreement or any part of it (and the circumstances leading to such termination) and the Provider shall be excluded from all other rights and remedies in respect of any such termination, save in respect of any antecedent claims, including claims for payment.</p>

Any change to the contract due to legislation, ie. separate collections, would be classed as a major variation within the contract details demonstrated above.

### 1.8 Other contracts or agreements

Portsmouth City Council is both a Waste Collection Authority (WCA) and Waste Disposal Authority (WDC).

All Hampshire authorities are partners in Project Integra. The partnership is underpinned by two documents:

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

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1. Joint Municipal Waste Management Strategy (JMWMS), found [here](#) – this document was produced by the PI partnership in 2006 and refreshed in 2012. The 2012 refresh outlined the strategic direction for PI authorities, re-affirming the existing collection and processing regime for DMR. Further information on the JMWMS is included under section 1.9 below
2. Project Integra Strategic Board Constitution, found [here](#) – details how the partnership is governed and how the decision making body operates

The collection systems used in PCC are closely linked to the processing arrangements currently in place - this is explored under [Step 2](#).

## 1.9 Records of decisions taken in the course of adopting current collection systems

PI partners adopted the co-mingled collection of paper, card, plastic bottles and cans during the 1990s. [Individual PCC record of decisions from here??](#)

PI wide decisions include:

- JMWMS
  - Original strategy produced in 2006 and covering period to 2020 - All 5 options presented (Option 5 was chosen) included continuing with kerbside collection of dry mixed recyclables. This strategy was approved by the PI board and all individual PI partners
  - Refresh of core strategy in 2012 - This reaffirmed the commitment to Option 5, and again was approved by the PI board and all PI partners individually

In 2009-10, PI carried out a Collections and Processing Review. The final report concluded that, because of existing infrastructure, separate collections were not a viable option.

[Any other decision making available from PCC?](#)

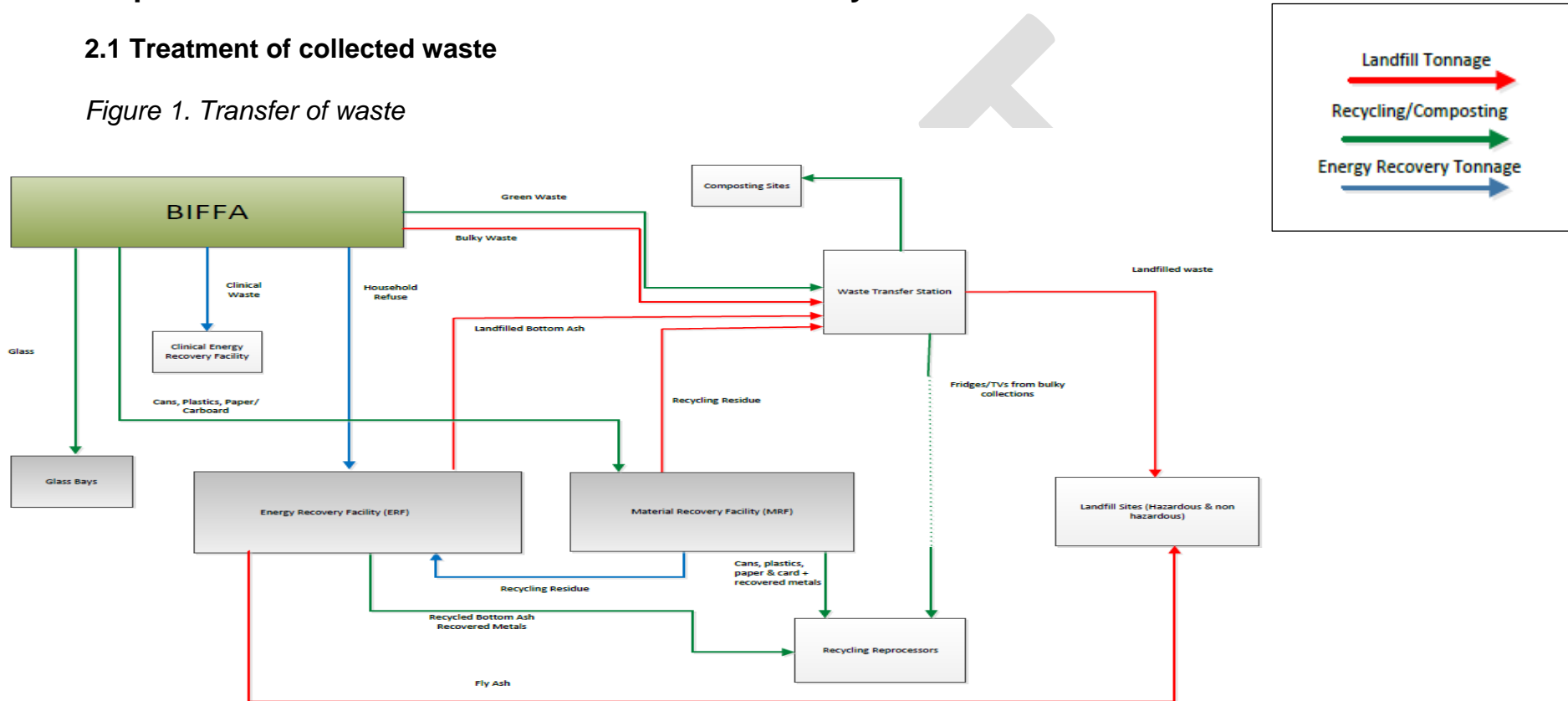


# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

## Step 2 - How are collected materials treated and recycled?

### 2.1 Treatment of collected waste

Figure 1. Transfer of waste



## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

Table 7. Summary of waste treatment

	Material	Collection Channel	Sent straight to re-processor?	Separated from other recyclables in a MRF?	Where on the waste hierarchy does this lie?	Are closed loop processes used for some, all or none of the material?
<b>Material collected for recycling or reuse</b>	Paper & card	Kerbside co-mingled recycling	N	Y	Recycling	Some
		Bring sites	Y	N	Recycling	Some
		HWRC	Y	N	Recycling	Some
	Glass Bottles and Jars	Kerbside separate collection	N/A	N/A	N/A	N/A
		Bring sites	Y	N	Recycling	All
		HWRC	Y			
	Plastic Bottles	Kerbside separate collection	N	Y	Recycling	Some
		Bring sites	Y	Y	Recycling	Some
	Metal Cans	Kerbside separate collection	N	Y	Recycling	Some
		Bring sites	Y	N	Recycling	Some
	Garden waste	Kerbside separate collection	Y	N	Recycling	N/A
		HWRC	Y	N	Recycling	N/A
	Bulky waste (WEEE)	Kerbside collection	Y	N	Re-use/Recycling	N/A
	Textiles	Bring Sites	Y	N	Re-use	N/A
		HWRC	Y	N	Re-use	N/A
	Batteries	HWRC	Y	N	Recycling	None
	Bric a Brac	HWRC	Y	N	Re-use	N/A
Scrap metal	HWRC	Y	N	Recycling	N/A	
Soil and rubble	HWRC	Y	N	Recycling	N/A	
Hazardous waste	HWRC	Y	N	Recycling	N/A	
<b>Material collected for disposal or recovery</b>	Mixed residual Waste	Kerbside collection	Y	N	Recovery – Incineration with energy recovery	N/A
		HWRC	Y	N	Incineration with energy recovery	N/A

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

					(30.5%), Landfill (59.5%)	
	MRF Residue	Kerbside co-mingled recycling	N	Y	Incineration with energy recovery (82%), Landfill (18%)	N/A
	Bulky waste	Kerbside collection	Y	N	Landfill	N/A
	Healthcare Waste	Kerbside collection	Y	N	Incineration with energy recovery	N/A
	Street cleaning material	Street cleansing	Y	N	Incineration with energy recovery (16%), Landfill (84%)	N/A
	Hazardous waste	HWRC	Y	N	Incineration with energy recovery (1.5%), Landfill (98.5%)	N/A
	Wood	HWRC	Y	N	Incineration with energy recovery	N/A

Table 8. Summary of NI indicators

### 2013-14 Summary of NI indicators

<b>N191 Total Residual Household Waste per Household (kg/household)</b> 673.35	<b>NI192 Percentage HH waste sent for Reuse, Recycling or Composting</b> 22.17%	<b>NI193 Percentage of Municipal Waste Sent To Landfill</b> 9.18%
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### 2.2 How is co-mingled material handled?

As a unitary authority, PCC is responsible for both collection and disposal of waste. PCC along with Southampton City Council and Hampshire County Council are in a tri-partite agreement with HCC (PCC decision report attached in Appendix IV), and have a joint contract for waste disposal with Veolia Environmental Services.

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

This long term contract included provision of Materials Recovery Facilities (MRFs) for the sorting of co-mingled recycling.

*Table 9. Waste disposal contractual arrangements*

<b>Contract Provider</b>	Veolia Environmental Services
<b>Contract Start Date</b>	1 <sup>st</sup> April 1997
<b>Contract length</b>	33 years
<b>Projected End date (no extension)</b>	8 <sup>th</sup> April 2025
<b>Projected End date (with extension)</b>	31 <sup>st</sup> December 2030
<b>Contract clauses associated with significant changes in collection systems.</b>	<p>1.2.2 The service shall not relate to any of the following: -</p> <ul style="list-style-type: none"> <li>- any specific materials retained by the WCAs for recycling</li> <li>- any specific materials (such as paper, cans and textiles) collected in banks supplied and serviced by the industries using those materials</li> <li>- any specific materials collected by voluntary, charitable and school groups as part of schemes supported by the WCAs</li> <li>- home composted material (including material composted as a result of home composting initiatives supported by the WCAs</li> <li>- dry recyclables arising from HWRCs provided/managed under separate contract arrangements</li> <li>- amenity waste arising from HWRCs which are provided under separate package contract arrangements</li> </ul> <p>The waste to be excluded from the Service under the above provisions shall be notified to the Contractor prior to the commencement of the of the Contract and may be varied subsequently by giving 12 months written notice to the Contractor.</p> <p>Where the cumulative net effect of any changes in waste deliveries in any year (determined from the anniversary of the commencement date) results in a reduction of more than 12.5% in the quantity of waste delivered under the contract from that delivered during the previous year as a result of an increase in the quantities of waste excluded from the service under this paragraph 1.2 of schedule 2, the contract price shall be adjusted having regard to the principles set down in paragraph 4 of schedule 9 applied to the actual financial impact on the contractor of the said changes in quantity and accommodating such changes. For the avoidance of doubt, only the exclusions of waste from the service under the provisions set down in paragraph 1.2 of schedule 3 shall be considered in determining changes in waste quantities, save that any reduction shall be set off against organic growth in waste arisings generally. Reference in this paragraph to waste delivered includes all waste delivered to the Contractor by the Authority and all other waste handled by</p>

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

	the Contractor under the Contract.
<b>Procurement considerations i.e. would a change in collection/processing systems dramatically alter the original contract which was let.</b>	No
<b>Contract clauses associated with early termination of contracts</b>	Clause 10 of Conditions of Agreement deals with early termination. However this is only due to significant breach by the Contractor. There is no provision for the Authorities to terminate the contract without incurring significant penalties.
<b>Costs incurred as result of exiting/amending processing contracts</b>	As above (1.2.2)

Any withdrawal of DMR to the MRF would require 12 months' notice to Veolia. There would be no penalty if it doesn't affect over 12% of the PI contract tonnages, but fixed fees would still be payable.

- The WDA is responsible for the arranging of the processing of collected DMR
- Income from the sale of recyclables is shared 50:50 between VES and the WCA. The WCA half is split between each WCA proportionately based on inputs to the MRF minus contamination

VES are responsible for the marketing of DMR, in conjunction with the WDA and WCA. Per tonne values of material produced will vary based on market conditions at that time.

*Table 10. HWRC contract details*

Contract	Start date	End date	Extension	Company
HWRC contract	February 2008	31 <sup>st</sup> January 2013	2 year extension already activated	Hopkins Recycling Ltd

### 2.4 Composition for material supplied to MRF

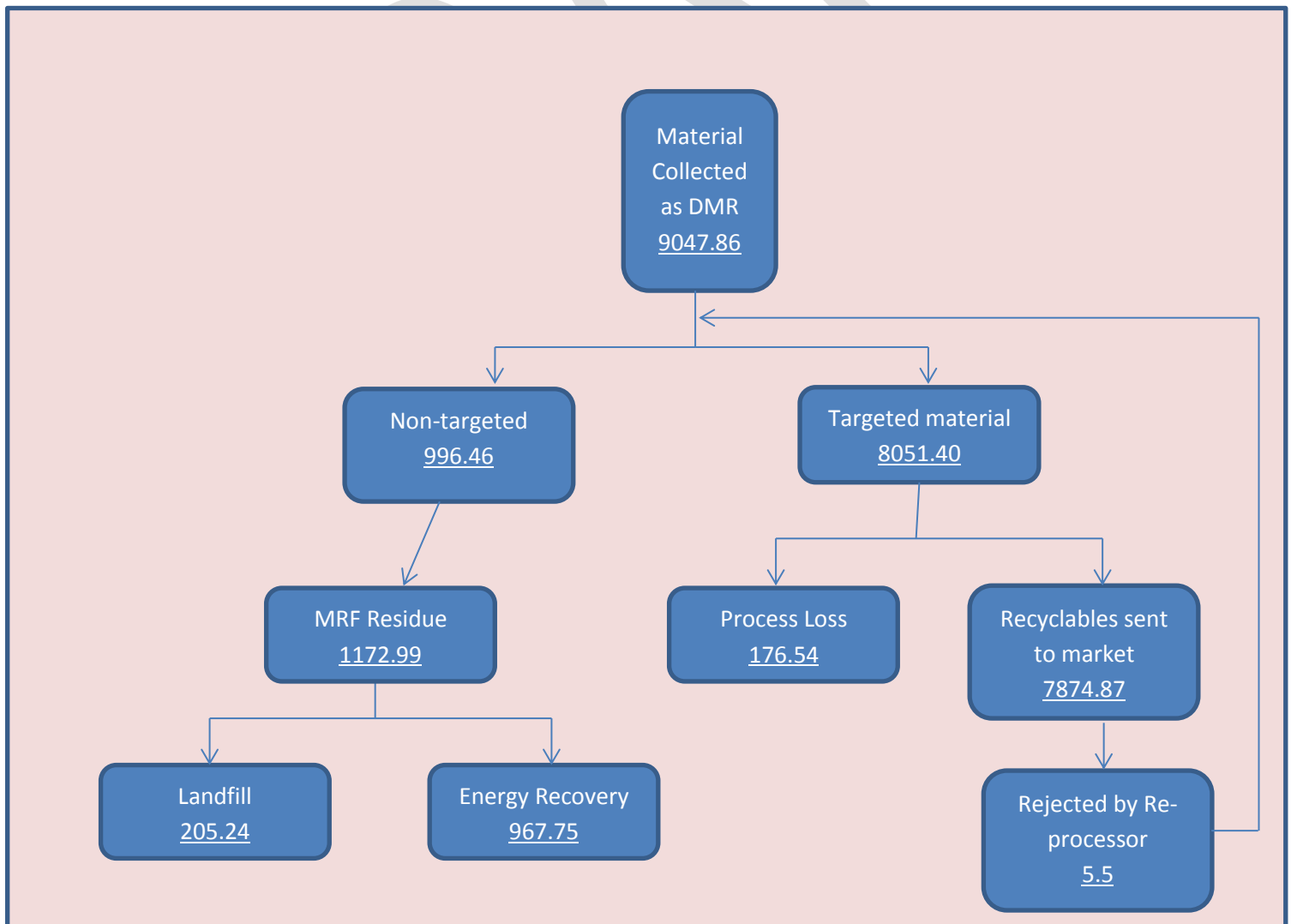
*Table 11. MRF composition (based on 2008)*

Material		Tonnage	% of MRF inputs
<b>Material Collected as DMR</b>		<b>9,047.86</b>	<b>100</b>
<b>Total Targeted materials collected</b>	<b>Paper &amp; Card</b>	6,909.18	76.36
	<b>Metal</b>	447.14	4.94
	<b>Plastic bottles</b>	695.09	7.68
	<b>Total</b>	8,051.40	88.99
<b>Targeted</b>	<b>Paper &amp; Card</b>	6,785.43	74.99

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

Material – sent to market	Metal	435.99	4.82
	Plastic bottles	653.45	7.22
	<b>Total</b>	<b>7,874.87</b>	<b>87.04</b>
<b>Total MRF Residue</b>		<b>1,172.99</b>	<b>12.96</b>
Targeted Material – process loss	Paper & Card	123.75	1.37
	Metal	11.14	0.12
	Plastic bottles	41.64	0.46
	<b>Total</b>	<b>176.54</b>	<b>1.95</b>
Non-Targeted material	Other Plastic	429.04	4.74
	Beverage Cartons	50.48	0.56
	Glass	45.81	0.51
	Food waste	47.00	0.52
	Undesirable DMR	50.29	0.56
	Other	373.83	4.13
	<b>Total</b>	<b>996.46</b>	<b>11.01</b>
Destination of MRF Residue	Landfill	205.24	2.27
	Energy Recovery	967.75	10.70
Rejected by re-processor		5.51	0.06

Figure 2. Visual tonnages





# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

## 2.5 Destination of residual waste and efficiency of the ERF

The Waste Framework Directive sets out criteria for classification of waste operations, the two relevant classifications for incineration being:

- R1 – Use principally as a fuel or other means to generate energy
- D10 – Incineration on land

The ERF in Portsmouth is classed at R1, meaning that it is classed as a recovery operation rather than a disposal operation. As such, residual waste is dealt with under recovery on the waste hierarchy. Portsmouth City Council only sent 9.18% of municipal waste to landfill in 2012-13.

## 2.7 End re-processors of recyclable materials

Table 12. End re-processors

<b>Kerbside collections</b>	<b>End re-processors</b>
Aluminium cans	Novellis UK Ltd, Cheshire
Steel cans	AMG Resources Ltd, Carmarthenshire
Plastic bottles	Closed Loop Recycling Ltd, Dagenham
Newspapers & magazines	Aylesford Newsprint, Kent
Newspapers & magazines	UPM Kymmene (UK) Ltd, Flintshire
Mixed papers	DS Smith, Kent
Mixed papers	UPM Kymmene (UK) Ltd, Flintshire
Cardboard	Cycle Link UK Ltd, Essex
Cardboard	Mark Lyndon paper (UK) Ltd
<b>HWRC materials</b>	<b>End re-processors</b>
Cardboard	DS Smith, Kent
Ferrous metals	Simms metals
Non-ferrous metals	Hopkins Recycling Ltd
Car Batteries	Vinton Metals
Household batteries	Loddon Holdings, Petersfield
Oil	Eco Oil, Southampton
Glass	Berryman's, London via Portsmouth MRF glass bays
Hard plastics	Associated Polymer Resources, Southampton
WEEE Items – Fridges & freezers	EMR – White City, London
WEEE Items – CRTs	Computer Salvage, West Berkshire
WEEE Items – Small items	Simms, Hampshire
WEEE Items – Fluorescent tubes	Mercury Recycling, Manchester
Plasterboard	Mid UK Recycling, Lincolnshire via Warren Farm transfer station

Further information on the reprocessing of materials is available in Step 4.

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

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## 2.8 Records of decisions taken in the course of adopting current treatment systems

Detail given in 1.8 also applies here. Insert PCC records of decisions around long term waste contract with VES.

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# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

## Step 3 - Apply the waste hierarchy

### 3.1 Demonstrating compliance with the waste hierarchy

Table 13. The waste hierarchy application in Portsmouth

Material	Current position on waste hierarchy	Details	Options for moving material up the waste hierarchy	Amount of waste that could potentially be diverted	
Food waste	<b>Prevention</b>	Love Food Hate Waste promotion, Portsmouth Waste Prevention Plan created			
	Preparing for reuse				
	Recycling				
	<b>Other recovery</b>	Energy from waste with residual	Food waste collection - anaerobic digestion	PI estimate composition of 30% = 14,138 tonnes (based on 13/14 residual tonnage data)	
	Disposal				
Paper and card	Prevention				
	Preparing for reuse				
	<b>Recycling</b>	Kerbside co-mingled to MRF			
	Other recovery				
	Disposal				
Glass	Prevention				
	Preparing for reuse				
	<b>Recycling</b>	Mixed colours - bring sites & HWRC			
	<b>Other recovery</b>	EfW in residual	Kerbside glass collection		4,545 tonnes based on doubling the current yield
	Disposal				
Metal	Prevention				
	Preparing for reuse				

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	<b>Recycling</b>	Cans, tins & aerosols - kerbside co-mingled to MRF		
	Other recovery			
	Disposal			
Plastic	Prevention			
	Preparing for reuse			
	<b>Recycling</b>	Plastic bottles only - kerbside co-mingled to MRF		
	<b>Other recovery</b>	Other plastics - EfW in residual	Current PI resource capture and treatment review is considering introducing mixed plastics into recycling (outcome in Feb 2015)	PI estimate 3,500 - 4,500 tonnes of PTT (pots, tubs & trays) could be captured
	Disposal			
Garden Waste	Prevention			
	Preparing for reuse			
	<b>Recycling</b>	Composted from kerbside & HWRC	Promotion of home composting	4,000 tonnes based on 25,000 composters
	Other recovery			
	Disposal			
Textiles	<b>Prevention</b>	Swishing events		
	<b>Preparing for reuse</b>	Textile banks		
	Recycling			
	Other recovery			
	Disposal			
WEEE	Prevention			
	<b>Preparing for reuse</b>	HWRC, bulky waste collections (+ proposed kerbside collection to commence 2015)		Kerbside collection estimate of 30,000 tonnes per year based on trial period results
	<b>Recycling</b>	As above		
	Other recovery			
	Disposal			
Black Bag (residual waste)	<b>Prevention</b>	Waste Prevention Plan for		

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

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		Portsmouth created		
	Preparing for reuse			
	Recycling			
	<b>Other recovery</b>	EfW - electricity only	Plans to look into CHP	n/a
	Disposal			

Figure 3 below demonstrates where Portsmouth's main disposal routes stand on the waste hierarchy according to DEFRA. The results show we already achieve 'green' status for 90% of the disposal methods explained in Table 13 above, with only residual waste entering the 'yellow' zone.

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# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

Figure 3. DEFRA waste hierarchy guidance - where Portsmouth stands (through main methods of disposal):

Paper and Card	Food	Garden Waste	Textiles	Wood	Glass	Metals	Plastics±	WEEE	Other	Residual 'black bag'
Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention	Prevention
Preparation for re-use			Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Preparation for re-use	Re-treading	
Recycling	Anaerobic Digestion	Anaerobic Digestion (dry) <sup>2</sup>	Recycling	Recycling; energy recovery♦ (preferable to recycling for lower grade materials)	Recycling in a remelt process	Recycling	Closed loop recycling Other recycling	Recycling (esp. suitable for metals and high quality plastic)	Recovery: use in road surfaces	Solid recovered fuel derived from MHT or MBT, where it replaces coal*
Energy recovery♦ (esp. suitable for short fibres or contaminated materials)	Composting; other energy recovery technologies	Composting; other energy recovery technologies			Other recycling			Energy recovery♦ (esp. suitable for non-hazardous mixed plastic)	Energy recovery in cement kilns	Energy Recovery, all technologies (Heat Only)
Disposal	Disposal	Disposal	Energy recovery♦	Disposal	Energy recovery♦	Recycling after energy recovery	Disposal	Disposal	Energy recovery through pyrolysis	Energy Recovery, all technologies (CHP)
									Other recovery (eg drainage fill & sea defences)	Energy Recovery, all technologies (Electricity Only)
									Gasification/incineration with EfW	MBT or MHT outputs used as fuel (but do not replace coal) or *
									Microwave treatment	Disposal

\*the impact of CHP technology, which can improve the efficiency of each of these options, is not illustrated here

± the hierarchy may be different for some forms of bio-based plastics

♦ 'energy recovery' covers a range of technologies, some of which will be more environmentally beneficial than others. Future versions will differentiate between technologies as more scientific evidence becomes available.

\*2009 AEA Report to the Welsh Assembly Government: Modelling of Impacts for Selected Residual Waste Plant Options using WDATE



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## 3.2 Lifecycle thinking

The [PI JMWMS](#) chose option 5 from a range of others, which is as followed:

**"Collection** – Kerbside collection of dry mixed recyclables, glass and textiles; promote home composting and the use of food digesters; introduce an incentivised scheme for kerb-side collection of green waste (i.e. charge for green waste collections) and facilitate the provision of enhanced waste electrical and electronic equipment (WEEE) 'bring' facilities at household waste recycling centres (HWRCs)."

The [Strategic Environmental Assessment](#) conducted alongside stated:

*"The JMWMS policies are a very positive move towards the more sustainable management of waste in accordance with the waste hierarchy. The policies support waste minimisation, recycling, composting and recovery of value from waste, and major facets of recent, national and European waste policy such as the proximity principle and self-sufficiency."*

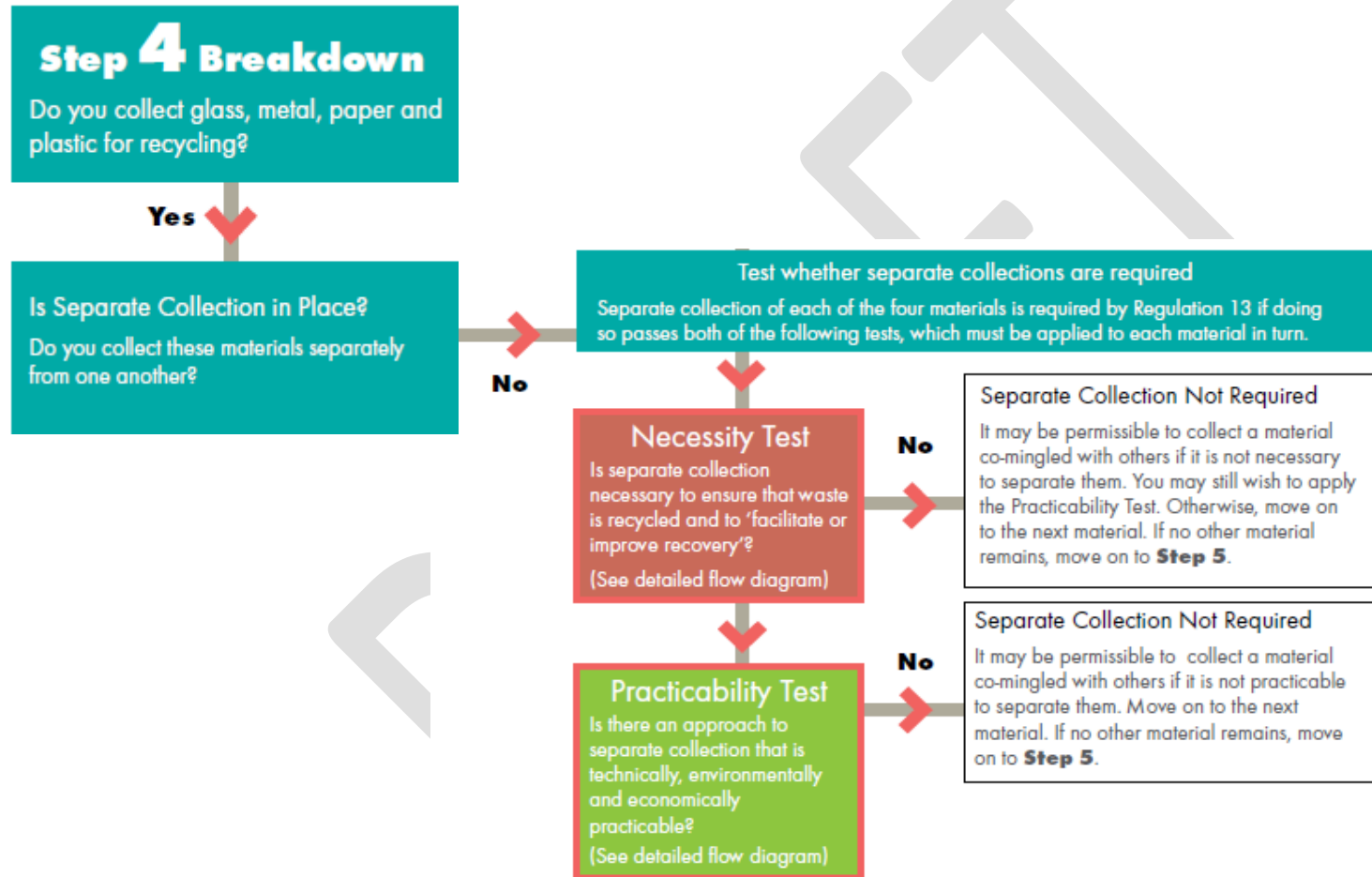
*"Option 5 has the most beneficial effect on emissions to air from the perspective of global climate change and local environmental quality."*

The current PI resource and Capture Treatment Review will be considering all waste types in the context of the waste hierarchy requirements - this will be complete in February 2015.

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

## Step 4 - Decide whether separate collection of the four materials is required

Figure 4. Portsmouth decision route breakdown



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## 4.1 Glass in Portsmouth

Glass bottles and jars are already separately collected via bring sites, it is not accepted co-mingled in the kerbside recycling bin.

Separate collection according to the route map means collecting material so as to keep different types separate from one another - bring banks and HWRCs are a form of separate collection.

PI legal advice states;

*"I do not consider that reliance on the bring sites alone...satisfies the requirements.... For those who choose not to use a bring site, the alternative will be to use their residual household waste disposal route...it would not be consistent with the objectives of the WFD."*

The potential option for capturing those who do not use bring banks is considered in Table 13 of Step 3 (separate kerbside glass collection). Details on the estimated cost and other impacts are examined under the 'practicability test' in section 4.3.3

Table 14. Glass capture statistics - Portsmouth City Council

Total glass not being recycled - tonnage	Total glass collected for recycling - tonnage	Total glass in overall waste stream - tonnage	Glass capture - %
2401.05	2375.77	4776.82	49.74

Portsmouth has 60 glass recycling points (including HWRC) located in different areas across the whole city. All residents have access to a local bring site within 1,000m (less than 1 mile) from their home. The most densely built up areas have sites available within 500m (less than ½ mile).

## 4.2 The necessity test

Regulation 13 of the Waste Framework Directive:

*"The duties in this regulation apply where separate collection -*

*(a) Is necessary to ensure waste undergoes recovery operations....and to facilitate or improve recovery"*

The Route Map Guidance:

Is separate collection proposed?

**No** → Examine the quantity & quality of recycling

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

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## 4.2.1 Facilitating recovery (quantity)

The route map states *"if a measure 'facilitates' recovery it might be expected to result in the amount of material recovered, rather than sent for disposal, being increased."*

Existing studies are relied upon to inform on estimates of the likely yields obtainable via different collection systems.

### **Kerbside Recycling: Indicative costs and performance (ICAP) - WRAP found [here](#)**

This study found that there is little variation in material yields between the three main scheme types (kerbside sort, co-mingled & twin-stream). It does however mention that high yields are likely for schemes which are easy and convenient ie. they:

- Provide residents with an appropriate method of containment
- Minimise the effort required for residents to engage with and use the service
- Provide adequate capacity
- Maximise the range of materials targeted

The study gives indicative yields for different types of collection system. This data has been used with adjustments according to:

- Current performance levels
- Differences in materials collected
- Differences in collection frequencies

The summary in table 14 below shows that separate collection in Portsmouth would lead to a lower yield of paper, cans and plastic than that already achieved through a co-mingled service. These figures using the WRAP ICAP report support predictions of residents' behaviour with a separate collection. The main likelihood of the lower yields would be down to containment problems. Boxes are the most suitable method for a kerbside sort system (ie. Using a stillage vehicle, sorted manually by collection crew) as there would be no bin lift mechanism on the vehicle. Therefore to provide residents with maximum capacity, or the equivalent of a standard 240l bin, up to 4-5 boxes would need to be provided to residents. If a 2 stream co-mingled system was put in place (separating some materials), bins could be used, however would still mean double the containers than at present. Section [4.3.1](#) looks at this as a technical practicability issue further.

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

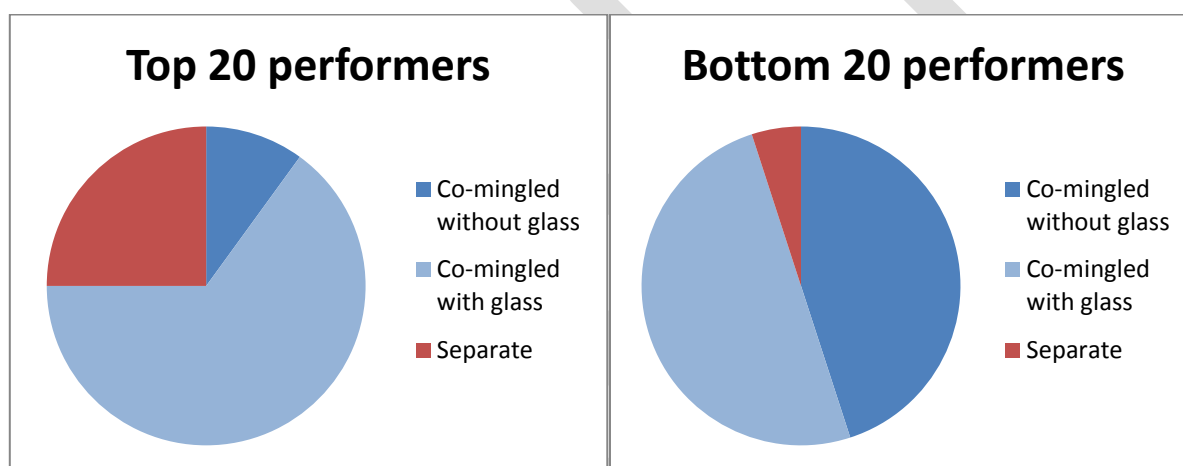
Table 14. Current (2013-14) and forecast yields (using ICAP report) for Portsmouth City Council

Current kerbside yield paper, cans, plastic (kg/hh/yr)	WRAP forecast paper, metal, plastic yield via kerbside sort (kg/hh/yr)	Difference between WRAP forecast and existing yields (kg/hh/yr)
88.65	55.73	-32.92

## Kerbside recycling collection schemes in England 2012/13

The 2012/13 recycling rate league table identifies the best and worst performing local authorities (Portsmouth City Council falls within the bottom 20). By comparing their collection methods in Figure 5 below, the following can be deduced:

Figure 5. Top and bottom recycling rate performers - collection method comparisons



- 75% ( $15/20$ ) of the top performers collect recycling co-mingled, with 13 of these including glass
- 95% ( $19/20$ ) of the bottom performers collect co-mingled, with 10 including glass
- All 20 of the top performers collect residual waste fortnightly whereas  $14/20$  (70%) of the bottom authorities collect it weekly

Additionally, the top 10 most improved authorities (largest increase in recycling) from 2011/12 to 2012/13 offer differing services with  $1/2$  collecting co-mingled and the other  $1/2$  with some form of separation. The common denominator appears to be that  $9/10$  councils provide a food waste collection.

From this analysis, it is highlighting that the majority of councils currently have in place a co-mingled recycling collection service (85% of the 40 example authorities).

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

The number of councils using separate collections in the top 20 and bottom 20 performers is not largely different. The top 20 performers have only a slightly greater number of separate collection services than the bottom 20. Interestingly, the top performers have significantly more co-mingled collections containing glass - the most common contaminant responsible for reducing quality of material - than the bottom 20.

Co-mingled collections do not appear to have a negative effect on recycling yields amongst the top 20 authorities.

## 4.2.2 Improving recovery (quality)

The route map states; *"Recovery may...be improved if...more of the recycling is high quality"*.

The WFD makes a clear reference to high quality being the *"necessary quality standards for the relevant recycling sectors."*

Several documents surrounding the Waste Regulations make specific reference to the problems associated with mixing glass with other recyclables. As discussed in 4.1. The separate collection of glass via bring sites is able to go to re-melt applications rather than an open loop/aggregate outlet.

In particular the Judicial Review supports co-mingled collections that exclude glass; *"...whilst glass is a well-recognised potential contaminant, metal and plastic can be separated at a stage later than kerbside without any significant contamination or other... disadvantage."*

Quality of Portsmouth's MRF input and output material is monitored via Veolia's Materials Analysis Facility (MAF) at Alton, with samples taken from the Portsmouth MRF. This can then be grouped into targeted and non-targeted materials giving a contamination rate.

### Input

Table 15 below shows Portsmouth's MRF input contamination rate over the years since 2006/7.

Table 15. Contamination into MRF - Portsmouth City Council

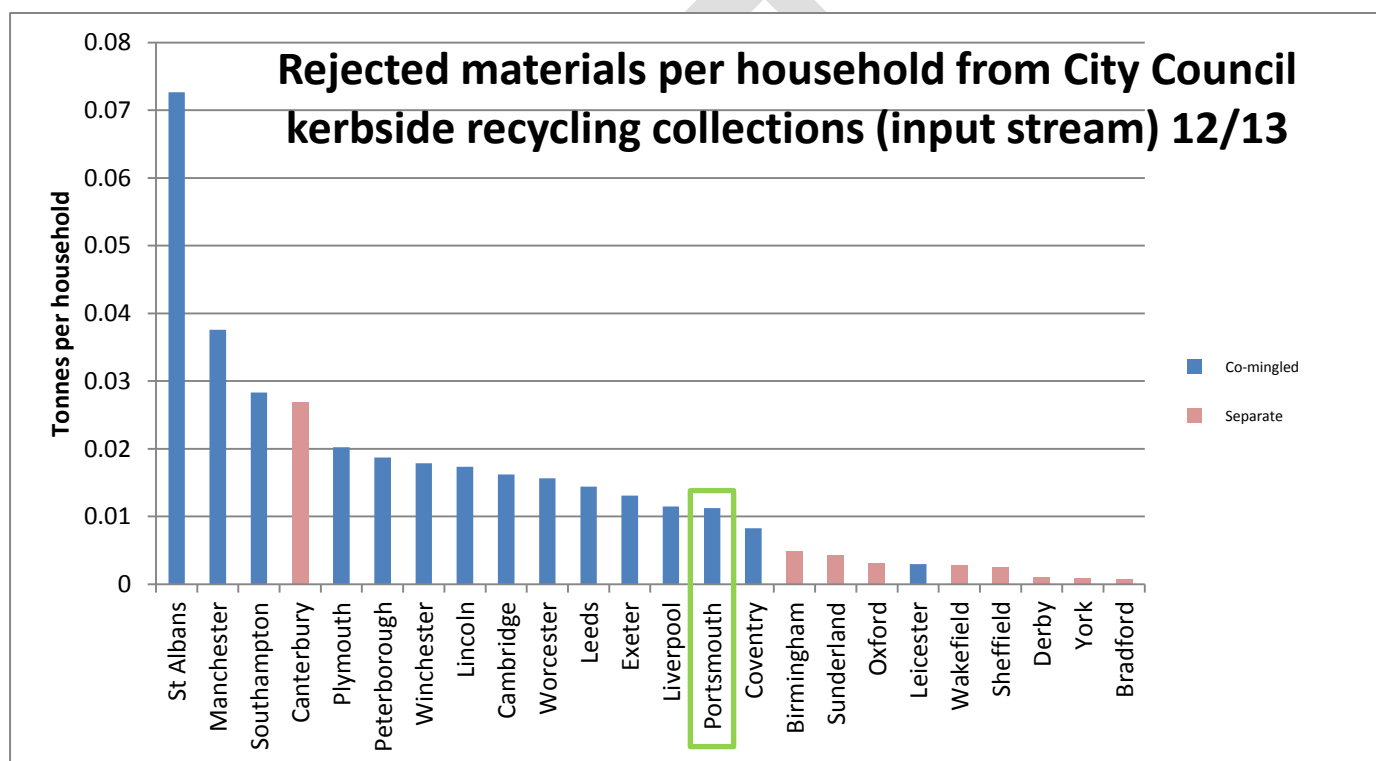
	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11	2011/ 12	2012/ 13	2013/ 14	Average
<b>PCC</b>	8.71%	5.89%	5.45%	4.96%	5.50%	6.34%	7.13%	7.41%	<b>6.42%</b>

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

Figure 6 compares 24 English city councils' rejected material tonnages (per household) from input streams. Portsmouth's low contamination rate is reflected:

- Of the 10 councils with the lowest rejection tonnages, 8 carry out separate collections
- Portsmouth falls just outside of the lowest 10, but has the third lowest tonnage rejections of the 15 co-mingled councils
- All separate collections (except Canterbury) fall below 0.01 tonnes per household, Portsmouth is just above this mark

Figure 6. Comparison of rejected material (non-targeted input) tonnages per household from City Council kerbside recycling collections



## Output

The output sampling is designed to ensure the standards produced by the Resource Association are met. Outputs are also sampled on arrival at re-processors.

In 2013/14, 93% of PI MRF outputs were sent to members of the Resource Association. The members accept recyclate from a range of sources, including both co-mingled and source separated collections. In 2014, the RA launched [ReQip](#) - Recycling Quality Information Point containing specifications from key recyclate re-processors. The Information Point provides the 'necessary quality standards for the relevant recycling sectors' as stated in the WFD. The RA defines quality recycling as material that can be collected and re-processed into the same or a similar product.

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Between July 2012 and July 2014, only 0.07% of PI MRF outputs were rejected by re-processors because they did not meet the required specification.

In instances where it was rejected, it was returned to a PI MRF for further sorting. Portsmouth's rejected tonnage of 5.5 tonnes per annum is visualised in Figure 2 (Step 2).

Further detailed information on specifications Veolia's sampling aims to achieve is included in Appendix V.

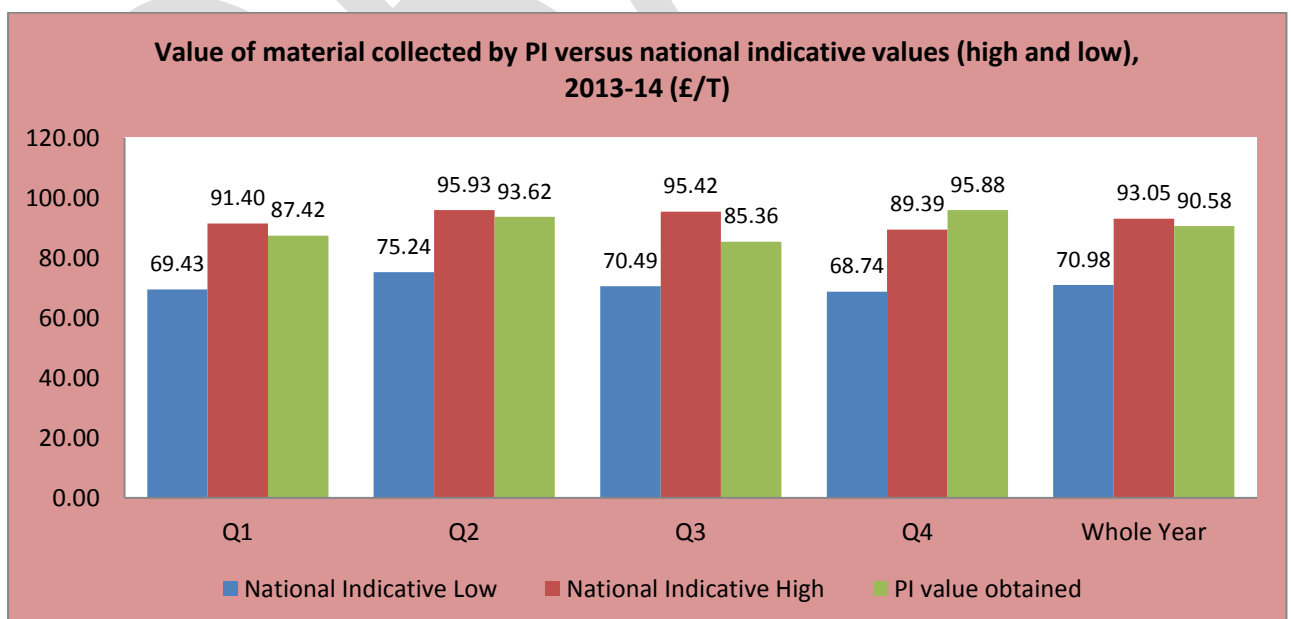
If 99.93% of PI material is meeting the specifications detailed under ReQip, then the material will:

- Satisfy re-processor demand for good quality material
- Have a good chance of being recycled via a closed loop recycling process
- Be accepted on the same terms as material that has been separately collected

## Value of recyclate

Figure 7 below compares the £/T value of material produced by PI MRFs with high and low values according to the price information available. It shows that over a course of the year, the value of PI material is at the high end of the national price range, and in one quarter even exceeds the high end. This indicates a good quality of material that re-processors are prepared to accept and pay for.

Figure 7. Comparison of the £/T value of PI material with high and low values 13-14





## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

The contractor states; *"Veolia strives to achieve the quality demands required by the market to ensure Hampshire recyclable materials from the MRF become part of the closed loop process for all commodities sent to market."*

The following reprocessing information in Table 16 can be taken into consideration:

*Table 16. Reprocessing of co-mingled material*

Commodity	Notes on reprocessing
<b>Plastic Bottles</b>	In 2013-14, 99.6% of PI plastic bottles were reprocessed by Closed Loop Recycling Limited. They reprocess post-consumer plastic bottles into food grade resin, as well as non-food grades.
<b>News and Pams</b>	In 2013-14, 99% of news and pams was sent to Aylesford Newsprint or UPM Kymmene. Aylesford state that they receive "500,000 tonnes of recovered fibre annually in order to manufacture on average 400,000 tonnes of 100% recycled newsprint." UPM state that they receive "640,000 tonnes of recovered paper per year. It is the largest newsprint mill in the UK, producing newsprint for the national and the regional press, with capacity to produce 500,000 tonnes a year."
<b>Aluminium</b>	100% of PI aluminium is recycled by Novelis UK Ltd. Ingots produced have a wide range of uses, including recycling back into beverage cans.
<b>Steel</b>	86% of PI steel is reprocessed by AMG Resources Ltd, into new steel products
<b>Cardboard</b>	Around 75% of PI material may be exported. This is subject to strict controls, and will be recycled back into a cardboard product.
<b>Mixed paper</b>	100% recycled by UK-based Aylesford or UPM (as detailed above) or DS Smith. Material is recycled into paper products

Whilst materials accepted by re-processors are often subject to further grading, with some process loss, the same can be said of all materials accepted regardless of source. All the processes described in Table 16 ensure that material is, as far as possible, recycled via a closed loop process.

As demonstrated in Figure 4, after completion of the necessity test, separate collection is considered as unnecessary. However, the route map advises undertaking the practicability test to ensure stronger evidence demonstrating compliance. The practicability test is examined in [4.3](#)

### 4.3 The practicability test

Regulation 13 states;

*"The duties in this regulation apply where separate collection -*

*(b) Is technically, environmentally and economically practicable."*

# Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

## The Route Map Guidance:

Are you planning to collect the four materials separately?

**No** —→ Is separate collection of each material **TEEP**?

The obligation for separate collection of the four materials stretches beyond the specific types (eg. plastic bottles only) collected as DMR in Portsmouth.

The most common other types are considered in the information below:

Table 17. Non-DMR types

Material	Examples	Comments
Paper	Books	There are sufficient charity shop and book bank outlets for books across Portsmouth, it is not likely that a separate collection provided by the council would achieve significant yield or be cost effective
	Beverage cartons (e.g. tetra pak)	The 2009-10 PI Collections and Processing Review found that it was not environmentally or economically viable to collect cartons. However this is under review via the PI Resource Capture and Treatment Review, due to report on findings in February 2015. It will be considered according to TEEP principles
Plastic	Toys and other non-packaging rigid plastic items	There are charity shop outlets for some of these materials, a separate collection provided by councils would not achieve significant yield nor be cost effective, due to the number of polymers in use and lack of markets and infrastructure for this type of plastic
	Non-bottle rigid packaging (pots, tubs, trays)	The 2009-10 PI Collections and Processing Review found that it was not environmentally or economically viable to collect more plastics. However this is under review via the PI Resource Capture and Treatment Review, due to report on findings in February 2015. It will be considered according to TEEP principles
Glass	Pyrex, drinking glasses etc	Cannot be recycled with glass bottles and jars because of different properties. Quantities in the waste stream are likely to be very small so separate collection would not be practical
	Window glass	Cannot be recycled with glass bottles and jars because of different properties. The window industry is best placed to offer solutions, no significant quantity currently handled by householders
DMR materials collected among street cleansing waste	e.g. papers, cans, glass bottles that are collect from litter bins, street litter, fly-tips etc.	WCAs have legal responsibilities for keeping streets clean. Some street litter will undoubtedly comprise paper, cans, metal and glass that should be collected separately unless not practicable. However, the operational effect of having to collect in this way would not be practicable in an economic sense, and this is not widely practised in the UK

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## 4.3.1 Technically practicable

EU Commission guidance: *"Technically practicable means that the separate collection may be implemented through a system which has been technically developed and proven to function in practice."*

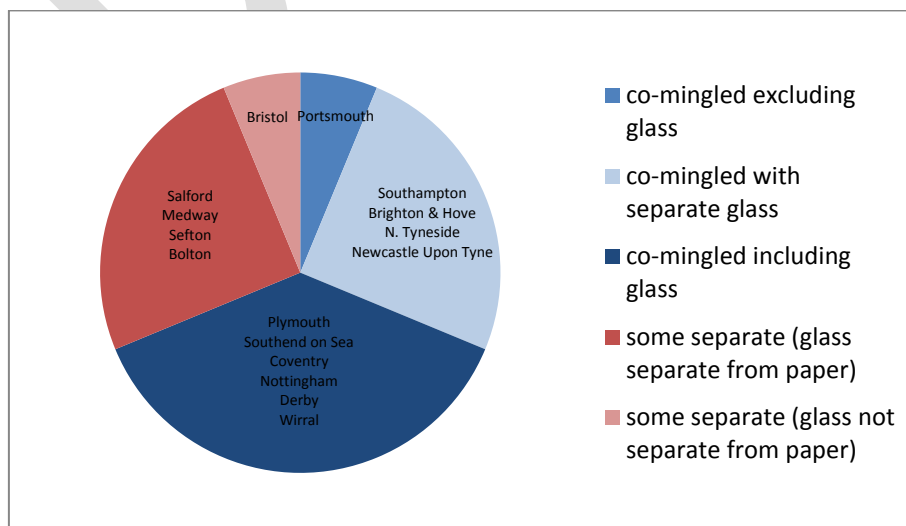
According to the route map, *"in order to establish whether separate collection is likely to be technically practicable for the Portsmouth area, any separate collection systems that have been developed and proven to function in an authority with similar characteristics should be identified."*

Table 18 below lists the 2014 Portsmouth comparative authorities (in order, according to APSE), along with their collection systems:

Table 18. Comparative authorities' collection systems

<b>Portsmouth</b>	Co-mingled	Excluding glass (no kerbside)
Southampton	Co-mingled	Separate glass
Bristol	Some separate	Glass not separate from paper
Brighton & Hove	Co-mingled	Separate glass
Plymouth	Co-mingled	Including glass
Southend on Sea	Co-mingled	Including glass
North Tyneside	Co-mingled	Separate glass
Newcastle upon Tyne	Co-mingled	Separate glass
Coventry	Co-mingled	Including glass
Nottingham	Co-mingled	Including glass
Salford	Some separate	Glass separated from paper
Derby	Co-mingled	Including glass
Medway	Some separate	Glass separated from paper
Sefton	Separate	Glass separated from paper
Bolton	Some separate	Glass separated from paper
Wirral	Co-mingled	Including glass

Figure 8. Comparative authorities' collection systems diagram



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- Portsmouth is unique as the only authority on the list not providing some form of kerbside glass collection (labelled as co-mingled excluding glass)
- 10 of the 15 other councils carry out co-mingled collections of which 6 include glass (the majority)
- Of the councils choosing separate collections, none collect all 4 materials completely separate from each other eg. Medway (some separate): Paper and card in one 'bag', glass, cans, plastics & foil in another 'bag'
- The larger cities within the comparator list (Southampton, Nottingham, Plymouth, Brighton, Newcastle) all have co-mingled collections with the exception of Bristol - however they do co-mingle glass with paper

## Portsmouth geography affecting technical practicability

Portsmouth has a population density greater than London of 5,100 people per square km - a population of approximately 205,400. The city is made up of around 88,000 properties serviced by PCC's household waste collections.

The dense urban island nature of Portsmouth is restricting for waste collections, in particular the storage of multiple containers for residents.

- 43% of Portsmouth is terrace housing
- 30% of Portsmouth housing is flats/maisonettes

Problem housing types:

- Flat fronted properties (no forecourt or front garden area) - 10% of housing
- Flats in tower blocks and purpose built flat blocks
- Flats in large converted houses
- Flats above shops
- Terrace properties (small sized forecourts)
- HMOs (majority students)

As mentioned in 4.2.1, the number of recycling boxes or bins would affect a resident's ability and willingness to recycle a large amount. Storing a number of containers would not be an option for many areas of the city, lowering the resident's chance of recycling and/or lowering the yield in general due to lack of capacity. The recycling participation rate is high at present at around 96%. Separate collections are viewed as making the scheme less user friendly for residents, therefore could see this affected negatively.

Further to the effect on participation, following a 2006 audit of Portsmouth City Council's domestic waste collections, the Health and Safety Executive (HSE) recommended phasing out of recycling boxes and more widespread use of wheeled bins due to the increased risk of operative manual handling and slip/trip injuries from using boxes:

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*"[Recycling] boxes have a higher manual handling risk associated with them (they require stooping and lifting) and a higher slip/trip risk (as the crews can't see their feet). Wheelie bins will also allow greater recycling volumes in accordance with government requirements. You should phase out the box where possible)."*

In the reply to this letter, PCC's Chief Executive stated: "...because of the topography of parts of the city and the nature of its housing mix, it is thought unlikely that 100% wheeled bin provision will be achieved, although every opportunity will be taken to maximise their usage", demonstrated the council's commitment to using wheeled bins (and their associated co-mingled recycling collection methods) wherever possible in order to reduce the injury risk as much as possible.

It could be technically practicable to employ a two system approach ie. introduce separate collections in areas where this could work (probably less than half of the city with a possible form of north/south divide). This will be examined further under **4.3.3** which deduces its economic practicability.

### Co-mingled versus separated

Using a mixture of evidence from a recent [study](#) on behalf of Aberdeen City Council in 2012, and PCC's own estimations, Table 19 below compares practicality between co-mingled and source separated/kerbside sort collections:

*Table 19. Co-mingled and source separated practical comparison*

	<b>Co-mingled</b>	<b>Source separated/kerbside sort</b>
<b>Container flexibility</b>	Easy to add new materials Easier storage for resident Less manual handling for crews Less pavement obstruction	Harder to add new materials Harder for resident to store multiple containers Extra manual handling for crews More pavement obstruction
<b>Ease of detecting contamination and communicating with household</b>	Harder to identify Easier to educate residents & force behaviour change (less effort)	Easier to identify Harder to force behaviour change in residents (more effort)
<b>Vehicle flexibility</b>	Easier to add new materials	Harder to add new materials
<b>Round coverage</b>	Greater coverage – vehicles compact material Less trips to tip Quicker collections - less hold up of traffic	Lesser coverage – no compaction and constrained by compartment capacities More trips to tip Slower collections - more traffic hold ups
<b>Vehicle utilisation</b>	Vehicles can also be used for other collection services Vehicles can collect from all property types Easier for 2 sided rear loading -	Vehicles can only be used for purpose of recycling collections May not be capable of servicing flats which may need a co-mingled collection?

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	quicker & safer	Harder for 2 sided rear loading - slower & more dangerous
<b>Bulking/sorting flexibility</b>	Specification at MRF may limit adding of new materials	May be more flexibility to bulk/sort new materials

Overall, co-mingled offers a more practicable collection method for Portsmouth.

Many of the issues highlighted in Table 19 link to economic practicability looked at in section 4.3.3

### 4.3.2 Environmentally practicable

*"Environmentally practicable should be understood such that the added value of ecological benefits justify possible negative environmental effects of the separate collection."*

Table 20 below demonstrates the environmental considerations, highlighting negative and positive effects of co-mingled and separate collections in Portsmouth.

*Table 20. Environmental analysis of co-mingled and separate collection systems in Portsmouth*

	Co-mingled 1 stream	Source separated	2 stream co-mingled
<b>Container</b>	1 x 240l bin taking up less space on the highway, can contain more recyclables	No. of 55l boxes (bins would not be suitable for sorting onto vehicle) providing the equivalent capacity to 240l bin = 4.3 meaning loss of capacity and less recyclables. Extra containers covering highway (bin blight)	No. of 55l boxes (bins might not be suitable for sorting onto vehicle) providing the equivalent capacity to 240l bin = 4.3 meaning loss of capacity and less recyclables. If bins could be used, 2 would be needed creating further bin blight to pavements. Extra containers covering highway
	Harder for bin to be knocked over - has a sturdier lid, less likely for contents to be spilt creating litter	Easier for boxes to be knocked over/blown over causing windblown litter to spread - dangerous, unsightly, attracts animals/vermin and spread of disease	Easier for boxes to be knocked over/blown over causing windblown litter to spread - dangerous, unsightly, attracts animals/vermin and spread of disease
<b>Vehicles</b>	More contamination, lower proportion recycled Less vehicles required per collection round, less emissions produced	Less contamination, higher proportion recycled More vehicles required per collection round, more emissions produced	Less contamination, higher proportion recycled More vehicles required per collection round, more emissions produced
	Compactor and bin lift uses more energy	No compactor or bin lift required (less technology) - less energy	Compactor and bin lift may be required - less or more energy



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<b>Disposal</b>	<p>Faster collections causes less traffic congestion and exhaust fumes (hold ups by collection vehicles; particularly in one way roads and narrow streets with parked cars either side) More capacity on vehicle for waste, less trips to tip - less transport emissions used More capacity makes the vehicle heavier when full, using more energy</p>	<p>Slower manual sorting collections - more traffic congestion hold ups by collection vehicle, more air quality issues with idling in residential areas Less capacity on vehicle for waste, more trips to tip - more transport emissions used Less capacity makes the vehicle lighter when full, using less energy</p>	<p>Slower manual sorting collections - more traffic congestion hold ups by collection vehicle, more air quality issues with idling in residential areas Less capacity on vehicle, more trips to tip - more transport emissions used Less capacity makes the vehicle lighter when full, using less energy</p>
	<p>MRF processes required using more energy</p>	<p>No MRF processes required using less energy</p>	<p>Some MRF processes required using less energy</p>
	<p>Removal of contaminants at the MRF uses more energy</p>	<p>Less removal of contaminants required, uses less energy</p>	<p>Some removal of contaminants required at a MRF -uses some energy</p>

Since 2011, Portsmouth has fuelled all collection vehicles with bio-diesel derived from recycled cooking oil; this has produced an estimated saving of 86% in overall CO<sub>2</sub> emissions. In 2013/14 the waste collection and disposal process produced 162 tonnes of CO<sub>2</sub> eq. in comparison to 635 tonnes in 2010/11 with mineral diesel. Bio-diesel would continue to be used in the event of vehicle changes wherever possible, however as demonstrated, extra vehicles would be required; resulting in extra fuel usage. Portsmouth has a legal responsibility under the Climate Change Act to reduce emissions.

The Eunomia Recycling Carbon Index [report](#) gives Portsmouth's recycling target index as a 50kg CO<sub>2</sub> eq. saving per person. This includes all collection, disposal and treatment processes. Five of the comparative authorities listed in [Table 18](#), all city disposal authorities like Portsmouth, also appear in the same saving band (between 34-53kg CO<sub>2</sub> eq.)

### 4.3.3 Economically practicable

The EC guidance states *"Economically practicable refers to a separate collection which does not cause excessive costs in comparison with the treatment of a non-separated waste stream, considering the added value of recovery and recycling and the principle of proportionality."*

WRAP's Kerbside Recycling: Indicative Costs and Performance (ICAP) 2008 report is a starting point for assessing component parts of a kerbside sort system. It identifies the following:

- Operational collection costs are greater for separate collection than for co-mingled

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- When income from material sale is taken into account, separate collection schemes show lower overall costs than single stream co-mingled
- The net costs of co-mingled schemes are heavily affected by MRF gate fees and the costs of kerbside sort by the income from the sale of materials

The ICAP report has been used to predict an approximate cost of a kerbside sort scheme per household. This is compared to an 'expected' cost of providing a co-mingled service based on ICAP.

*Table 21. Estimated costs per household, per year according to ICAP report (2008)*

	Forecast kerbside sort costs (£ per HH)	Comparative co-mingled costs (£ per HH)	Difference (£ per HH)
<b>PCC</b>	13.17	11.41	1.76

Based on this report (method of calculation in [Appendix vi](#)), including the top-level material income that could be expected, separate collection works out at around £1.76 per household/per year more than co-mingled.

### Portsmouth estimated costs of change from co-mingled to source separated collection system

Table 22 below looks at the main current collection system costs including the original set up costs of the co-mingled recycling service.

*Table 22. Current recycling collection system's main costs including original set-up*

Category	Type	No.	Cost	Total cost
<b>Vehicles</b>		5	£150,000	£750,000
<b>Staff</b>	Drivers	5	£33,642	£168,210
	Loaders	10	£21,627	£216,270
<b>Containers</b>	Original	50,000	£20 each	£1,000,000
	Original delivery etc	-	-	£124,000
	Replacements etc	-	-	£28,000
<b>Depot</b>		-	-	£26,000
<b>Other contract costs</b>		-	-	£40,000
<b>Fuel</b>		-	£12,000 per vehicle	£60,000
<b>Communications</b>	Ongoing	-	-	£18,000
	Temporary staff	4	£19,000	£76,000
<b>Gross Totals:</b>				<b>£1,847,000</b>
				<b>£623,480</b>

Key

	Capital
	Revenue (per year)



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Table 23 below estimates the additional comparable costs to the current collection contract that would be evident in a change of system (capital and revenue included).

*Table 23. Estimated costs for a city wide introduction of kerbside sort recycling*

Category	Type	No.	Cost	Total cost
<b>Vehicles</b>	Kerbside stillage	10	£55,000	£550,000
<b>Staff</b>	Additional drivers	5	£33,642	£168,210
	Additional loaders	10	£21,627	£216,270
<b>Fuel</b>		10	£12,000 per vehicle	£48,000
<b>Containers</b>	Boxes	4 or 5 per hh	£4 per box	£ 1,350,000 - £1,800,000
	Collection & delivery	88,000 hh	£2 per hh	£176,000
<b>Communications etc</b>	Temporary staff	4	£19,000	£76,000
	Advertising/leaflets etc	88,000 hh	£4 per hh	£352,000
<b>Depot</b>	Expansion	-	-	£20,000
<b>Other contract costs</b>		-	-	£40,000
<b>Transfer station</b>	Rent space	-	-	£20,000
	Baling, skips etc	-	-	£100,000
	Handling fee	9047.86 tonnes	£15 per tonne	£135,718
<b>Gross Totals:</b>				<b>£3,189,718</b> <b>£720,198</b>

Key

	Capital
	Revenue (per year)

In 2004 the co-mingled recycling bins were rolled out across the city with a capital cost of set up at around £1.8 million. Using comparative costs, Table 23 indicates a capital set up cost for kerbside sort at around £3.2 million. In 2004, £1.2 million was funded by Defra, today, without available funding the capital cost is unobtainable within tight local authority budgets.

The current contract revenue cost would more than double with implementation of kerbside sort due to extra vehicles, staff, new communications and disposal requirements. Fixed MRF fees would still need to be paid after a 12 month notice of cancellation period to Veolia, the current disposal contractor. There may be additional penalties if the overall contract tonnages (including other PI authorities) to the MRF are reduced by 12%.

Carrying out a half and half system, where half the city continues co-mingled and half take up separate collection, results in the following costs (all flat blocks with communal facilities would continue co-mingled for practicability):

Capital:        £1,105,000  
Revenue:       £502,859 additional to current costs

## Assessment of Compliance with Regulations 12 and 13 of the Waste (England and Wales) Regulations 2011 (amended 2012)

The half and half system would have a lesser financial impact than a citywide system, however still requires around £1million capital to implement.

### Separate kerbside glass collection costs

As detailed in section 3.1, collecting glass separately using a kerbside collection would not only keep glass separate from other materials, but offer a preferable option when linked to the waste hierarchy. This option could be put in place with the current co-mingled system.

Table 24. Estimated cost of implementing kerbside glass collection

		Baseline	Year 1
<b>Baseline</b>	No. of properties	88,000	-
	Tonnage	-	4,080.60
	Income per tonne	-	£14.07
<b>Capital</b>	Additional vehicles x 3	£450,000	-
	Boxes £2.60	£228,800	-
	Delivery £0.78 per hh	£68,640	-
<b>Revenue</b>	Communications £4 per hh	£352,000	
	Staff	£230,688	£285,957
	(Income from sale)	-	£57,414
	Fuel	-	£48,000
	Other contract costs		£40,000
	Ongoing communications		£18,000
	Gross:	<b>£1,330,128</b>	£391,157
	Net:		<b>£334,543</b>

The capital set up cost would be large, as with the introduction of a kerbside sort, this could only be possible in current financial times with grant funding. Estimated calculations indicate the main net cost in year 1 would be around £335,000 (additional to current waste and recycling costs). The kerbside glass collection could provide up to double the current yield in Portsmouth (according to other PI authority comparisons), however the practicability of introducing another container (particularly boxes) has been discussed in 4.3.1

The introduction of a kerbside glass collection would be more practical for Portsmouth than a change to all material being collected separately either by kerbside sort or separate containers. This is something that can be looked into further with regards to capital funding.

### 4.4 Conclusion

Guided by the route map, Portsmouth City Council has carried out the necessity and practicability tests in order to demonstrate compliance with the Waste Regulations 2012. The tests have indicated that separate collection is not necessary at this time, however the regulations will need to be considered again when any changes occur in

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the future, for example the introduction of mixed plastics. The re-evaluation process is detailed in section 5 for future implementation of the TEEP assessment process.

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