#### AGENDA ITEM NO. 7

#### TITLE: TEEP ASSESSMENT OF RECYCLING SERVICES

Committee: Regulatory & Support Services Committee

Date: 16<sup>th</sup> February 2015

Author: Dave White, Waste Services Team Leader

[P191]

#### 1.0 <u>ISSUE</u>

1.1 To consider if the Council's comingled recycling collection service complies with requirements of the revised Waste Framework Directive.

#### 2.0 <u>RECOMMENDATION(S)</u>

- 2.1 That Members endorse conclusions that current services do comply with requirements of the revised Waste Framework Directive.
- 2.2 That authority is given for minor amendments to the assessment to be made in consultation with the Member Champion for Waste following comments received through a `peer review' of the assessment.

#### 3.0 BACKGROUND/OPTIONS

- 3.1 The EU's revised Waste Framework Directive requires that Member States have in place separate collections of paper, glass, metal & plastic by 1<sup>st</sup> January 2015.
- 3.2 The UK Government transposed the revised Waste Framework Directive into UK Law through the Waste Regulations (England and Wales) 2011, which came into force on 1<sup>st</sup> October 2012.
- 3.3 The UK's interpretation was that comingled recycling collections comply with the requirement for separate collections as long as separate collections are not technically, environmentally & economically practicable (TEEP), and that good quality recyclate is achieved.
- 3.4 This interpretation was challenged by The Campaign for Real Recycling, an organisation representing UK Recyclate end users, resulting in a Judicial Review, which found in favour of the UK Government's interpretation.
- 3.5 During 2012, the Council submitted an application to DCLG's `Weekly Collection Support Scheme' to change its recycling and food & garden waste to wheeled bin services. Previously paper glass & cans were collected separately using a recycling box, and food & garden waste were collected in single use paper sacks.

- 3.6 Approval for submission of a finalised bid was given by the Council's Community & Environment Committee on 17<sup>th</sup> July 2012, the day before the outcome of the Judicial Review was announced.
- 3.7 In November of 2012 it was announced that East Cambridgeshire's funding bid had been successful, with the Council being awarded £5 million to implement proposed changes to recycling collection services.
- 3.8 Service changes were implemented across the District between September & November of 2013.
- 3.9 It was announced that DEFRA would produce guidance on how to carry out a TEEP Assessment, but the Council produced an interim TEEP Assessment in support of its decision to move to a comingled recycling collection. This was presented to, and approved by the Council's Waste & Environment Sub-Committee on 25<sup>th</sup> September 2013.
- 3.10 Subsequently DEFRA decided that further guidance was not required, and a Waste Regulations Route Map was produced by the Local Authority Waste Network to assist councils in completing their assessments. This was launched in April 2014.
- 3.11 In December of 2014, the Environment Agency, which is responsible for monitoring compliance with TEEP announced that they would not commence checks until the end of March 2015, to give councils longer to complete their assessments.
- 3.12 East Cambridgeshire's TEEP Assessment has now been completed following the suggested process included within the Waste Regulations Route Map and is presented for approval.

#### 4.0 ARGUMENTS/CONCLUSIONS

- 4.1 As part of a TEEP Assessment, a Council is required to consider if it is necessary to collect materials separately in order to achieve the quality requirements of reprocessors. This is termed `the necessity test'. Material collected mixed by East Cambridgeshire is taken to a recycling facility (MRF) at Waterbeach. Output material is analysed for levels of contamination in accordance with national standards (The MRF Code of Practice). Results are provided to material off-takers before they accept material, and all material produced is accepted by legitimate recyclers. It is therefore concluded that it is not necessary to collect materials separately to meet the needs of reprocessors.
- 4.2 Having reached this conclusion, a council could decide that no further assessment was required, but guidance suggests that a further test should still be undertaken to decide if it would be `Technically, Environmentally & Economically Practicable (TEEP) to collect materials separately.

- 4.3 A TEEP Assessment has been carried out for East Cambridgeshire. This concludes that it would be technically practicable to carry out separate collections, but would not be environmentally or economically practicable. As the requirement is that all three criteria need to be met, it has been decided that separate collections of recyclables would not be TEEP for East Cambridgeshire.
- 4.4 The above conclusions mean that the Council believes that its current comingled recycling collection service does meet the requirements of the revised Waste Framework Directive, and that unless successfully challenged regarding these outcomes needs take no further action.

#### 5.0 FINANCIAL IMPLICATIONS/EQUALITY IMPACT ASSESSMENT

- 5.1 A range of alternative collection methods based on varying degrees of separation of materials have been modelled as part of the TEEP Assessment. All options were found to be significantly more expensive than the Council's current service. The cheapest option based on separate collection of paper & mixed collections of other materials was expected to cost in the region of £260,000/year more than the current £320,000 cost, whilst being expected to collect less material for recycling. Other options were more expensive, with the cheapest wholly separate collection service being in the region of £420,000/year more expensive
- 5.2 Equality Impact Assessment (INRA) not required as no changes to current services are proposed.
- 6.0 <u>APPENDICES</u>
- 6.1 Appendix 1 TEEP Assessment

•	Background Documents Background calculations Waste Regulations Route Map Defra EV0801 National compositional estimates for local authority collected waste and recycling in England, 2010/11 – prepared by Resource Futures Review of Kerbside Recycling Collection Schemes in the UK in 2011/12 – Produced by WYG Group	Location Room FF113 The Grange, Ely	Contact Officer Dave White Waste Services Team Leader (01353) 616232 E-mail: dave.white@eastcambs.gov.uk
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## **East Cambridgeshire District Council**



# Waste Collection Services TEEP Assessment

January 2015

## Contents

Step	Content	Page
1	What waste is collected & how?	
	<ul> <li>Waste collection services currently offered by East Cambridgeshire District Council</li> </ul>	4
	<ul> <li>Waste Composition &amp; disposal routes</li> </ul>	5
	<ul> <li>Service Operating Costs &amp; income</li> </ul>	7
	<ul> <li>Costs of exiting or amending current contract</li> </ul>	7
2	How are collected materials managed?	
	<ul> <li>Collection &amp; disposal routes for collected waste types</li> </ul>	9
	<ul> <li>Recycled material outlets, end uses &amp; purity</li> </ul>	12
	<ul> <li>Waste Prevention Measures</li> </ul>	15
	<ul> <li>Composition of material supplied to Materials Recycling Facility</li> </ul>	16
	<ul> <li>Gate fees for recycling &amp; disposal options</li> </ul>	17
	<ul> <li>Comparison of old separate material collection service performance</li> </ul>	17
	and new comingled service	
3	Apply the Waste Hierarchy to materials to assess the options	
	<ul> <li>Level of the Waste Hierarchy at which materials are currently treated</li> </ul>	19
	& waste prevention measures in place	
4	Apply the necessity and TEEP tests to paper, glass, plastic & metal collections	23
	<ul> <li>Necessity test</li> </ul>	24
	<ul> <li>TEEP Test</li> </ul>	24
5	Propose & agree an approach for all materials	31
6	Retain evidence to support the rationale for decisions	32
7	Review process to ensure continuing compliance	33

#### Documents used in preparation of assessment:

Document	Use
Background calculations	Calculations used to produce
	information included within this
	Assessment
Waste Regulations Route Map	Process guidance
Defra EV0801 National compositional estimates for local	Waste composition estimates
authority collected waste and recycling in England,	
2010/11 – prepared by Resource Futures	
Review of Kerbside Recycling Collection Schemes in the	Material yield information for collection
UK in 2011/12 – Produced by WYG Group	service alternatives modelled

#### Acknowledgements

Thanks are due to the following organisations for their assistance in preparing this assessment:

- o Amey Cespa (East) Ltd
- Dennis Eagle Ltd
- $\circ$  Veolia

## East Cambridgeshire District Council

## **TEEP Assessment**

This assessment has been completed following the process & guidance included within the `Waste Regulations Route Map' released in April 2014. In many places, headline information is provided based on more in depth calculations that have been retained in a `Background Calculations' document that is not included, but is available for inspection. Other source material used in production of this assessment & relevant contract documents have also been retained, but not included.

The Route Map is made up of seven stages, which are intended to test compliance with requirements of the revised Waste Framework Directive, and put in place a review process in case circumstances change. The stages of the review are shown below:



Unless otherwise stated, collections data for the period November 2013 to October 2014 has been used as the first full year following collection service changes, so being more representative of the current situation than data for previous full financial or calendar years.

## Step 1 – What waste is collected & how?

East Cambridgeshire District Council Waste Collection Services

Service	Frequency	Container	Materials collected
Dry Recycling	Fortnightly	240 litre wheeled bin	<ul> <li>Paper</li> <li>Cardboard</li> <li>Container glass</li> <li>Food &amp; drinks cans</li> <li>Foil</li> <li>Aerosols</li> <li>Plastic bottles, pots tubs &amp; trays</li> <li>Food &amp; drinks cartons</li> </ul>
Food & Garden Waste Collection	Fortnightly	240 litre wheeled bin	<ul><li>Food</li><li>Garden waste</li><li>Natural bedding from vegetarian pets</li></ul>
Residual waste	Weekly	60 litre black sack	Other household waste produced on a daily basis & not accepted through recycling collections
Bulky Waste	Weekly	N/A	Bulky household items
Clinical	Weekly	Sharps box/ yellow sack	<ul> <li>Sharps</li> <li>Other healthcare waste requiring separate disposal by incineration</li> </ul>
Recycling banks	Resident required to take materials to sites	Various	<ul> <li>Paper</li> <li>Glass</li> <li>Mixed cans &amp; plastic bottles</li> <li>Textiles</li> <li>Media</li> </ul>

#### **Exclusions from assessment**

- **Household Recycling Centres** within East Cambridgeshire are operated by Cambridgeshire County Council. As This Council has no control over these, material passing through them has been excluded from this assessment. Cambridgeshire County Council will be carrying out a separate TEEP Assessment in relation to these sites.
- **Trade Waste** is not directly collected by The Council. Business customers are directed towards the commercial arm of Veolia, the Council's waste service provider, or to South Cambridgeshire District Council or Fenland District Council, who offer trade waste services within East Cambridgeshire. In order to satisfy its legal obligation, the Council would if requested to do so organise collections for a business through a commercial provider. As the Council has no control over, or information about this collection stream, it has been excluded from this assessment.

#### Waste Composition & disposal routes (November 2013-October 2014)

Primary level waste type	% of waste	Secondary level waste type	% of waste	Tonnes in East Cambs. Waste Stream	Collected separately or mixed	Collection stream	Targeted for recycling by waste collections
Food waste	21.7%	Food waste	21.7%	7066.29	Mixed – separate from residual	Food & garden waste collections	Y
Garden waste	15.45%	Garden waste	15.45%	5031.07	Mixed – separate from residual	Food & garden waste collections	Y
Other organic	3.23%	Organic pet bedding/litter	2.58%	840.14	Mixed – separate from residual	Food & garden waste collections	Ŷ
		Other organics	0.65%	211.66	Mixed with residual	Residual waste collections	N
Paper	17.25%	Newspapers	6.09%	1983.12	Mixed –	Dry recycling	Y
		Magazines Recyclable paper excluding news & magazines	3.56% 4.47%	1159.26	separate from residual	collections or recycling banks	
Oand	4.00/	Other paper	3.13%	1019.24	Missed	Description	X
Card	4.9%	Other card	4.33%	1410.00	Mixed – separate	collections	Y
Glass	7 13%	Packaging glass	6 6 1 %	2162.22	Mixed -	Dry recycling	V
Ciass	7.1070		0.0478	2102.22	separate from residual	collections or recycling banks	
		Non-packaging glass	0.49%	159.56	Mixed – with residual	Residual waste collections	N
Metals	3.17%	Ferrous food & drinks cans	1.45%	472.17	Mixed – separate from residual	Dry recycling collections or recycling banks	Y
		Other ferrous metal	0.59%	192.13	Mixed with residual	Residual waste collections or bulky waste collections	N
		Non-ferrous drinks cans (excl. non-ferrous food cans	0.29%	94.43	Mixed – separate from residual	Dry recycling collections or recycling banks	Y
		Foil	0.43%	140.02	Mixed – separate from residual	Dry recycling collections or recycling banks	Y
		Other non- ferrous metal	0.41%	133.51	Mixed -with residual	Residual waste collections or bulky waste collections	N
Plastic	11.43%	Plastic film	4.55%	1481.64	Mixed – with residual	Residual waste collections	N
		Dense plastic	6.88%	2240.37	Mixed – separate from residual	Dry recycling collections or recycling banks	Y
Textiles	2.69%	Artificial textiles, excluding shoes	0.79%	257.25	Separate in recycling	Residual waste collections/ textile	Y
		Natural textiles excluding shoes	1.46%	475.43	banks or mixed with	banks	
14/	0.000/	Shoes	0.44%	143.28	residual	D III I	X
Wood	0.83%	I reated & composite wood	0.53%	172.59	Separate	Bulky waste collection or	Y
		Untreated wood	0.3%	97.69		Recycling Centres	

	0.010/	M/bito goodo	0.010/	0.00	Concrete	Dullaumosta	V
VVEEE	0.81%	VVIIIte goods	0.01%	3.20	Separate	bulky waste	Ŷ
		Large electronic	0.08%	26.05		Collection or	
		goods (excluding ODT				necycling Centres	
			0.400/	01.07			
		CRI IV'S &	0.19%	61.87			
			0 500/	170.50			
Llozordour	0.500/		0.53%	172.59	Mixed	Desugling st	N
Hazardous	0.50%	Datteries	0.08%	26.05		Recycling at	IN
					residual	recycling Centres &	
					waste	recallers otherwise	
		Clinical wasta	0 150/	10 OF	Soparato	Clinical waste	N
		Cillical waste	0.15%	40.00	Separate	collection	IN
		Paint/varnich	0.10%	61.87	Separato	Becycling centros	N
			0.19/0	3.26	Separate	Recycling contros	N
		Garden	0.01%	22 70	Separate	Recycling centres	N
		herbicides &	0.07 /8	22.19	Separate	riecycling centres	IN
		nesticides					
Sanitary	4 27%	Disposable	3 94%	1283.00	Mixed with	Residual waste	N
Cumury	7.2770	nappies	0.0770	1200.00	residual	collections	
		nappioo			waste		
		Other (Sanpro	0.33%	107 47	Separate	Clinical waste	N
		& dressings)	0.0070	107.47	Sopulato	collection	
Furniture	0.09%	Furniture	0.09%	29.31	Separate	Bulky waste	Y
	0.0070		0.0070	10.01	Jopanato	collection or	
						Recycling Centres	
Mattresses	0.00%	Mattresses	0.00%	0.00	Separate	Bulky waste	N
					1	collection or	
						Recycling Centres	
Misc.	1.39%	Carpet/underlay	0.33%	107.46	Separate	Bulky waste	N
combustibl						collection or	
е						Recycling Centres	
		Other	1.06%	345.17	Mixed or	Bulky waste	N
		combustibles			separate	collection, residual	
						waste collection or	
						Recycling Centre	
Misc. non-	1.72%	Bricks, blocks,	0.77%	250.74	Separate	Recycling Centre	N
combustibl		plaster					
es		Other non-	0.95%	309.35	Mixed or	Bulky waste	N
		combustible			separate	collection, residual	
						waste collection or	
0.1	0.540/	0	0.540/	100.07	0	Recycling Centre	
Soll	0.51%	Soll	0.51%	166.07	Separate	Recycling Centre	N
Other	1.51%	Other wastes	1.51%	491.71	Mixed or	Bulky waste	N
wastes					separate	collection, residual	
						waste collection or	
Fines	1.400/	Lineneoified fire	1 400/	460.40	Mixed ar	Recycling Centre	N
Fines	1.42%	Unspecified fine	1.42%	462.40	wixed or	residual waste	N
		than 10mm			separate	Collection of Recycling Contro	
	100.00%		100.00	22562 57		Recycling Centre	
	100.00%		0.00	32303.37			
			/0				

#### Notes

- No local waste analysis has been recently carried out, so waste composition is based on the most recent national waste analysis results that could be identified (Defra EV0801 National compositional estimates for local authority collected waste and recycling in England, 2010/11 – prepared by Resource Futures).
- Collected tonnage data is produced by Cambridgeshire County Council as East Cambridgeshire's Waste Disposal Authority.

#### Service operating costs & income for current collection services

2014/15 estimated outcomes are:

			Income			
Service	Operating Cost	Charges to service users	Income from materials & Recycling Credits	Total income	Net Service Cost	Cost/ household
Dry Recycling	£723,048.95		£389,794.79	£389,794.79	£333,254.16	£9.14
Food & Garden waste	£467,908.40	£0.00	£0.00	£0.00	£467,908.40	£12.83
Residual (including clinical)	£1,374,670.45	£0.00	£0.00	£0.00	£1,374,670.45	£37.69
Bulky waste	£31,829.50	£18,342.00	£0.00	£18,342.00	£13,487.50	£0.37
Total	£2,597,457.30	£18,342.00	£389,794.79	£408,136.79	£2,189,320.51	£60.03

#### Note

• Residual waste collections are more expensive than recycling because collection frequency is weekly rather than fortnightly and no income is received to off-set costs.

#### Costs of exiting or amending current contract

East Cambridgeshire District Council's waste collections are contracted out to Veolia. The initial contract period is 7 years from 1<sup>st</sup> April 2008 to 31<sup>st</sup> March 2015, with an extension period of up to 4 years available. A 3 year extension has recently been agreed to 31<sup>st</sup> March 2018 following soft market testing that suggested that retendering would result in additional annual costs in the region of £800k.

Amendments to the contract might be possible to allow kerbside sort of paper, glass cans & plastic, but it is predicted that this would incur additional costs as outlined in the table below. A range of collection options have been considered with varying degrees of material separation. A more detailed assessment of options is included in Step 4, when considering whether separate collection of materials is Technically, Environmentally & Economically Practicable (TEEP).

Option	Service description	Net annual change to current service costs
1	<b>Current comingled service</b> – all materials collected mixed by a standard Refuse Collection Vehicle (RCV)	N/A
2	<b>Previous service, materials collected separately -</b> Paper, glass & cans collected in separate bays of kerbsider, plastic in separate RCV's	+£421,256.21
3	<b>Paper separate, other materials mixed</b> - Split bodied RCV, paper in one side, glass, cans & plastic mixed in the other	+£260,713.36
4	<b>Glass separate, other materials mixed</b> - Split bodied RCV, glass in one side, paper, cans & plastic in the other	+£340,428.27
5	All materials collected separately in separate vehicles – standard RCV used to collect each material type – paper, glass, cans & plastic	+£1,256,297.04
6	<b>Single pass collection</b> - Split bodied RCV with pod. Paper in one side of the body, mixed cans & plastic in the other, glass in the pod	+£428,068.76

#### **Notes**

- For options 1, 3 & 4 it is assumed that the currently collected wider range of materials is accepted. . For options 2, 5 & 6 it is assumed that only paper, glass, cans & plastic are collected.
- Current service, costs are calculated using actual yield of material. Income for other service formats is based on 2011/12 median yield data, this being the most recent analysis identified.
- Costs do not allow for the fact that split bodied RCV's, split bodied RCV's with pods & kerbsiders have a lower payload than standard RCV's, so would need to make more journeys to the MRF to empty. An approximation of the effect that this would have is included in Step 4.

If service changes require retendering of the Council's waste collection contract, an early termination cost of  $\pounds$ 1,276,467.55 has been provided by the contractor, assuming termination on 31<sup>st</sup> March 2015.

## Step 2 – How are collected materials managed?

Collection & disposal routes for collected waste types (November 2013-October 2014)

			Recycling							Disposal				
Primary level waste type	Secondary level waste type	Tonnes in East Cambs Waste Stream	Kerbside dry recycling collection	Bring banks	Kerbside food & garden waste collection	Bulky waste collection	Household Waste Recycling Centre	Pre- treatment at disposal site	Total recycled	Mechanical Biological Treatment Plant	Non- hazardous landfill	Hazardous Iandfill	Incineration without energy recovery	Total disposal
Food waste	Food waste	7066.29												
Garden														
waste	Garden waste	5031.07												
Other	Organic pet	04044												
organic	Other organics	840.14			10363 24				10363 24	2785.02				2785.03
Paper	Newspapers	1983.12			10505.24				10505.24	2705.55				2705.55
	Magazines	1159.26												
	Recyclable paper (excl. news & magazines)	1455.59	2148.88	93.89					2242.77	2355.21				2355.21
	Other paper	1019.24	276.00						276.00	743.24				743.24
Card	Card packaging	1410.00	1218.56						1218.56	191.44				191.44
	Other card	185.61	293.05						293.05	-107.44				-107.44
Glass	Packaging glass	2162.22	2092.11	160.16					2252.27	-90.04				-90.04
	Non-packaging glass	159.56							0.00	159.56				159.56
Metals	Ferrous food & drinks cans	472.17	308.23	16.20					324.43	147.74				147.74
	Other ferrous metal	192.13						96.06	96.06	96.06				96.06
	Non-ferrous drinks cans (excl non- ferrous food tins)	94.43	118.80	4.05					122.85	-28.42				-28.42
	Foil	140.02	29.70						29.70	110.32				110.32
	Other non-ferrous metal	133.51						66.76	66.76	66.76				66.76

Plastics	Plastic film	1481.64	105.79					105.79	1375.85				1375.85
	Dense plastic	2240.37	990.38	13.48				1003.86	1236.51				1236.51
	Artificial textiles excluding shoes	257.25											
Textiles	Natural textiles excluding shoes	475.43											
	Shoes	143.28		122.71				122.71	753.25				753.25
Wood	Treated & composite wood	172.59					17.26	17.26		155.33			155.33
	Untreated wood	97.69					9.77	9.77		87.92			87.92
WEEE	White goods	3.26			3.26			3.26					0.00
	Large electronic goods (excluding CRT TV's &												
	monitors	26.05			 26.05			26.05					0.00
	monitors	61.87			61.87			61.87					0.00
	Other WEEE	172.59						0.00	172.59				172.59
Hazardous	Batteries	26.05						0.00	26.05				26.05
	Clinical waste	48.85						0.00	38.32			10.53	48.85
	Paint/varnish	61.87						0.00			61.87		61.87
	Oil	3.26				3.26		3.26					0.00
	Garden herbicides & pesticides	22.79						0.00		22.79			22.79
Sanitary	Disposable nappies	1283.00						0.00	1283.00				1283.00
	Other (Sanpro & dressings)	107.46						0.00	107.46				107.46
Furniture	Furniture	29.31					2.93	2.93		26.38			26.38
Mattresses	Mattresses	0.00						0.00					0.00
Misc.	Carpet/underlay	107.46						0.00		107.46			107.46
Compustible	Other combustibles	345.17						0.00		345.17			345.17
Misc. non- combustible	Bricks, blocks, plaster	250.74					125.37	125.37		125.37			125.37
	Other non- combustible	309.35						0.00		309.35			309.35
Soil	Soil	166.07					83.04	83.04		83.04			83.04

TEEP Assessment – page 10

Other wastes	Other wastes	491.71				0.00	468.51	23.20	491.71
<b>-</b>	Unspecified fine material less than	162.10	101 70			404 70	200.01		200.64
Fines	10mm	462.40	181.79			181.79	280.61		280.61
		32563.57				19032.64			13530.93

#### Notes:

- This table has been produced using tonnage estimates from the `Waste Composition & Disposal Routes' table produced in step 1.
- For some materials, more is shown as being recycled than is in the total waste stream, indicating a difference between the composition of East Cambridgeshire's waste stream & results from the national analysis, however, as no recent local analysis has been carried out there is no better option available.

#### Recycled material outlets, end uses & purity

MRF Material Outlets (January to October 2014):

Material type	Outlet	Processing facility	Where reprocessed	Material use	Tonnage supplied
Aluminium		Oldbury, West		Various metals	
cans	Alutrade	Midlands	UK		497.12
Ferrous metals	Alutrade	Oldbury, West Midlands	UK	Various metals	23.74
Mixed metal	EMR	Liverpool	υк	Various metals	12.76
Glass	Recresco	Swanscombe or Ellesmere Port	UK	Container glass	13782.88
GIdSS	Dojan	Belgium/ Germany/China	Europe or Asia	Container glass	959.22
News &	Aylesford Newsprint	Aylesford, Kent	UK	-	5230.76
Pams	Edwards Recycling	Barking, Essex	Europe or Asia	Newsprint	151.9
	Aylesford Newsprint	Aylesford, Kent	UK		239.04
	Datashredders	Wimblington, Cambs	Europe or Asia		4468.1
Mixed paper	Mol Fiber Ltd	West Malling, Kent	Europe or Asia	Paper product	1592.56
	Why Not Recycle Ltd	Kent	Europe or Asia		396.68
	Datashredders	Wimblington, Cambs	Europe or Asia		570.88
	Edwards Recycling	Barking, Essex	Europe or Asia	Card product	234.14
Card	Freedom Recycling	Hockwold	Europe or Asia		2787.52
	ACE UK	Sonoco Recycling, Halifax	UK	Fibre	95.52
		Corby or South			
Cartons	Jayplas	Normanton	UK	Plastic pellets	95.52
	Datashredders	Wimblington, Cambs	Europe or Asia	Plastic pellets	1091.32
Plastic	Eco Plastics	Hemswell, Lincs	UK	Plastic pellets	203.54
bottles	J & A Young	Corby, Northants	UK	Plastic pellets	741.78
	JFC Plastics Ltd	Runcorn, Cheshire	UK	Plastic pellets	663.62
	Asia Global	Belgium/ Germany	Europe	Various plastics	921.16

Plastic film	Datashredders	Wimblington, Cambs	Europe or Asia		238.5
	Dojan	Belgium/ Germany/China	Europe or Asia		20.94
	Freedom Recycling Ltd	Hockwold, Norfolk	Europe or Asia	plastics	312.7
	Asia Global	Belgium/ Germany	Europe		87.14
	Clearpoint Recycling	Europe/China	Europe/Asia		42.06
					37094.02

#### Bring Bank Outlets (November 2013 – October 2014)

Material	Outlet	Processing facility	Where reprocessed	Material use	Tonnage supplied
Paper	Palm Recycling Ltd	Kings Lynn	UK	Newsprint manufacture	89.35
Glass	FCC Recycling UK Ltd	West Yorkshire	UK	Glass container manufacture	160.16
Cans & plastic bottles	Amey Cespa (East) Ltd	Waterbeach, Cambs.	AS MRF outlets	AS MRF outlets	33.74
Textiles	FCC Recycling UK Ltd/Wilcox	West Bromwich	UK	Reuse or industrial rags	122.71
Media	FCC Recycling UK Ltd/Wilcox	West Bromwich	UK	Reuse or recycling	4.41
Books	World of Books	Goring by Sea	UK	Reuse or recycling	4.53

#### Percentage of material going to `Closed Loop' Recycling

It has not been possible to obtain sufficient information about end uses to state the percentage of material that goes to `closed loop recycling' in its truest form. It is, however, understood that all materials collected by the Council are used to produce new products that could themselves be recycled. Glass is used for container manufacture & not as road base or other lower level uses.

#### **Purity of materials**

The below table shows contamination levels of MRF outputs for December 2014 compared to Resource Association target contamination levels. The Resource Association acts as an Advocate on behalf of reprocessors with the aim of improving the quality of material supplied to its members. Testing of input & output material is carried out in accordance with MRF Code of Practice requirements.

Material	% contamination	Resource Association target contamination level
Aluminium cans	5.56%	3%
Steel cans	5.75%	N/A
Glass	8.76%	< 5%
Cardboard	6.11%	4.50%
Mixed paper	7.84%	4.50%
News & pams	14.60%	1.50%
Plastic pots, tubs &		
trays	10.93%	5%
Plastic bottles	7.38%	6%
Plastic film	28.3%	3%

The table demonstrates that Resource Association target levels are not currently being achieved. Materials do, however, achieve the specifications of companies that accept the material for reprocessing. These companies are made aware of contamination levels prior to purchase so that they are aware of the quality of material that they are accepting & to avoid disputes once material is delivered. In the last year only a single load of `news & pams' grade paper has been rejected, this being due to high moisture content, rather than contamination.

Although particularly plastics show high contamination levels, the output is accepted by reprocessors as it is recognised that most contamination is other types of plastic that can be tolerated. The Council's MRF contract does allow for inclusion of plastic film, but this has not been publicised in an attempt to keep overall contamination levels down, & reduce the risk of materials being presented for collection within bags, making it harder to spot contamination within.

Approximately 45% of paper is sold to Aylesford Newsprint Ltd mainly as news & pams grade, but some as mixed paper, which is used for newsprint manufacture after a further sorting process. Paper is considered the most contamination sensitive material collected, and this high grade use suggests that it is not necessary to collect materials separately to achieve good quality recyclable material.

Glass is used for container glass manufacture & is not used for lower level uses such as road base. Details of material outlets are provided in Step 2 of this assessment.

#### **Waste Prevention Measures**

The following waste prevention measures are currently promoted by the Council.

Primary	Secondary	
type	type	Waste Prevention Measures
Food waste	Food waste	Promotion of WRAP's`Love Food Hate Waste' campaign
Garden waste	Garden waste	Promotion of home composting & sale of reduced price compost bins through countywide RECAP group
Paper	Other paper	Promotion of Mailing Preference Service to remove residents from junk mailing lists
Plastics	Plastic film	Residents encouraged to re-use carrier bags or use bag for life option
	Dense plastic	Residents encouraged to donate reusable children's toys to charity shops
Textiles	All	Promotion of re-use measures - donation through charity shops, sale through local & national web based sales & donation sites. Provision of information to help make clothes last longer.
WEEE	White goods Large electronic goods (excluding CRT TV's & monitors CRT TV's & monitors Other WEEE	Encourage donation of reusable items to charities, sale through on-line sale or donation sites, or disposal through Recycling Centres where reusable items will be separated.
Hazardous	Batteries	Encourage use of rechargeable batteries.
	Paint/varnish Garden herbicides &	Promotion of Cambridgeshire Community Repaint Scheme. Paints & varnishes collected through Household Waste Recycling Centres for resale.
Consider	pesticides	Encourage natural pest/ weed control alternatives
Sanitary	Disposable nappies	Promotion of reusable nappies
Furniture	Furniture	Promotion of re-use measures - donation through charity shops, sale through local & national web based sales & donation sites. Sale of re-usable items collected at Household Waste Recycling Centres.

Composition of material supplied to the Materials Recycling Facility (November 2013 –October 2014)

	estimate of annual tonnes supplied to	% of material supplied
Material type	MRF	to MRF
Newspapers	2148.88	26.79
Office paper	191.43	2.39
Condhoond commission	F1F 07	C 42
Cardboard - corrugated	515.87	0.43
cardboard - boxboard/grey card	702.69	0.70
other recyclable card & paper	212.09	2.04
Cartons	80.96	1.01
	00.50	1.01
Books	84.57	1.05
plastic film	105.79	1.32
PET clear	232.02	2.89
PET coloured	38.69	0.48
HDPE clear	149.81	1.87
HDPE coloured	121.86	1.52
other dense plastics, including black		
PET	448.00	5.59
Church	2272.0	20.20
Glass	22/3.9	28.36
Forrous motal	200 72	2 9/
	506.25	5.04
Non-ferrous metal	148.50	1.85
Reject material		
Putrescibles	90.52	1.13
Textiles	33.87	0.42
WEEE	12.16	0.15
Potentially hazardous	0.55	0.00
Processed wood	33.08	0.41
Inert & stones	31.41	0.39
Garden waste	3.60	0.04
Other	51.38	0.64
Total	8019.86	100

#### Gate fees for recycling & disposal options

Recycling or disposal option	Materials accepted	Gate Fee, including recyclate income	Variables	Contract variation or exit options & costs. Constraints (eg min. tonnage)
MRF	Mixed dry recyclables	Withheld as contractually sensitive information	Material with more than 10% contamination will be rejected	The contractor is permitted to charge costs incurred as a result of early termination of the contract.
In-Vessel composting	Mixed food & garden waste, natural bedding from vegetarian pets	Withheld as contractually	Withheld as contractually	This is a Cambridgeshire County Council PFI agreement. ECDC has no opportunity to vary or exit this contract, and has signed a Partnering Agreement to deliver material to the
MBT	Collected residual waste	sensitive information	sensitive information	site.
Non- hazardous landfill	MRF contaminants, non-recyclable material from bulky waste collections & fly tips, street sweepings			
Hazardous landfill	Asbestos	Withheld as contractually sensitive information	None – per tonne disposal cost	Disposal is through a Cambridgeshire County Council contract. ECDC has no opportunity to vary or exit this contract, and has signed a Partnering Agreement to deliver material to the site.
Incineration without energy recovery	Clinical waste	Withheld as contractually sensitive information	None – per tonne disposal cost	Disposal is through a Cambridgeshire County Council contract. ECDC has no opportunity to vary or exit this contract, and has signed a Partnering Agreement to deliver material to the site.

#### Comparison of old separate material collection service performance and new comingled service

A comparison has been made to 2009/10 as the last year that separate collections included plastic bottles, and 2012/13 as the last full year of the old service collecting materials separately.

			Comparis servic 200	on current e with 9/10	Compari service w	son current /ith 2012/13	
Matavial	2009/10	2012/13	2014/15	Increase	%	Increase	0/ :
waterial	tonnes	tonnes	tonnes	(tonnes)	Increase	(tonnes)	% Increase
Paper	1912.84	1602.04	2424.88	512.04	27	822.84	51
Glass	1204.92	1151.46	2273.90	1068.98	89	1122.44	97
Cans	182.00	178.24	456.73	274.73	151	278.49	156
Plastic	274.6	0	1096.17	821.57	299	1096.17	
Cardboard	0	0	1430.65	1430.65		1430.65	
Cartons	0	0	80.96	80.96		80.96	
Total	3574.36	2931.74	7763.29	4188.93	117	4831.55	165

#### Notes

- 2014/15 data is an estimate based on November 2013 to October 2014 results.
- 2014/15 tonnage is less than on the `Materials presented to Materials Recycling Facility' table because it excludes contamination.

## Step 3 – Apply the Waste Hierarchy

#### Level of the Waste Hierarchy at which materials are currently treated & waste prevention measures in place

Waste Prevention measures currently in use are outlined in Step 2 of this Assessment.

Primary level waste type	Secondary level waste type	Current level of treatment	Reasonable level of management of material	Reason material is not at higher level of hierarchy
Food waste	Food waste	Prevention/ In- vessel composting	Anaerobic digestion/ composting	Limited uptake of home composting & disposal requirement from public
Garden waste	Garden waste	Prevention/ In- vessel Composting	Dry Anaerobic Digestion/Composting	Limited uptake of home composting & disposal requirement from public.
Other organic	Organic pet bedding/litter	Recycling	Recycling	No reuse option available
	Other organics	recycling/recovery (depending on collection route)	Disposal	Some organic material such as dog faeces, cat litter etc are not acceptable for composting process, so are collected in residual waste & passed through the MBT process to produce `Compost Like Output'. Separate collection & treatment would be prohibitively expensive.
Paper	Newspapers	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities
	Magazines	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities
	Recyclable paper (excl. news & magazines)	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities
	Other paper	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities
Card	Card packaging	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities
	Other card	Recycling	Recycling	limited reuse applications, reduction opportunities beyond scope of local authorities

TEEP Assessment – page 19

Glass	Dackaging glass	Populing	Closed lean Resulting	limited reuse applications, reduction options largely beyond
	Packaging glass	Recycling		Glass reprocessors will not permit inclusion of non-container
	Non-packaging		Collected through	glass because of the effect on quality of the end product.
	glass	Disposal	HWS for recycling	Separate collection would be prohibitively expensive.
Metals	Ferrous food &			
	drinks cans	Recycling	Recycling	Not suitable for reuse
				Recovered for recycling through MBT if collected in residual
	Other ferrous			waste or at transfer yard if collected as fly tipping or bulky
	metal	Recycling	Recycling	waste.
	Non-ferrous drinks			
	cans (excl non-	Docusing	Decuding	Not suitable for rouse
		Recycling	Recycling	Not suitable for reuse
	FUII	Recycling	Recycling	
	Other was famous			Recovered for recycling through MBT if collected in residual
	other non-terrous	Recycling	Recycling	waste of at transfer yard if collected as hy tipping of bulky
Plastics		Recycling		Not targeted through recycling collections as limited
				markets & risk of reduced quality of other plastic collected
	Plastic film	Recycling/Disposal		for recycling.
	Dense plastic	Recycling	Pocycling	Food & drinks packaging not suitable for reuse. Other items
	Artificial taxtilac	Recycling	Recycling	recycled at household waste hecycling centres
	excluding shoes			
	Natural textiles			
Textiles	excluding shoes			
	Chase			No demand for textiles collected mixed with other
Wood	Shoes	Re-use/Recycling		recyclables & separate collection not financially viable.
woou	Ireated &	Recycling	Recycling	
		Recycling	Recycling	
	Untreated wood	Recycling	Recycling	Not economically viable to collect

WEEE	White goods	Reuse/Recycling	Reuse/Recycling	Recovered for recycling at transfer yard if collected as fly
	Large electronic goods (excluding CRT TV's & monitors	Reuse/Recycling	Reuse/Recycling	Recovered for recycling at transfer yard if collected as fly tipping or bulky waste.
	CRT TV's & monitors	Reuse/Recycling	Reuse/Recycling	Recovered for recycling at transfer yard if collected as fly tipping or bulky waste.
	Other WEEE	Reuse/Recycling	Reuse/Recycling	Recovered for recycling at transfer yard if collected as fly tipping or bulky waste.
Hazardous	Batteries	recycling/recovery (depending on collection route)	Recycling	Collection for recycling through retail & Council collection points. Excluded from mixed collections by MRF operator. Separate collections not economically viable.
	Clinical waste	Disposal	Disposal	Contaminated material needs safe disposal
	Paint/varnish	Reuse	Reuse/Disposal	Usable paint/varnish collected through Household Waste Recycling Centres donated to Community Repaint Scheme.
	Oil	Recycling	Recycling	Recovered through Household Waste Recycling Centres for recycling
	Garden herbicides & pesticides	Disposal		Collected in residual waste or presented at Household Waste Recycling Centres. Separate collection costs prohibitive.
Sanitary	Disposable nappies	Recovery	Recovery	Collected in residual waste & processed through MBT facility. Some reduction through composting process. Limited & expensive recycling options
	Other (Sanpro & dressings)	Disposal		No recycling option economically available
Furniture	Furniture	Reuse/Recycling/ disposal	Reuse/Recycling/ recovery	Range of options depending on condition & construction of item.
Mattresses	Mattresses	Disposal	Recycling/Recovery	limited recycling options, disposal directed to landfill
Misc. combustable	Carpet/underlay	Disposal	Recycling/Recovery	limited recycling options, disposal directed to landfill

TEEP Assessment – page 21

	Other combustables	Disposal	Recovery	Small amounts of various materials, not economically viable to collect for recycling. Disposal directed to landfill
Misc. non- combustable	Bricks, blocks, plaster	Recycling	Recycling	Recycled where separated from fly tipped or bulky waste collections
	Other non-			small amounts of various materials, not economically viable
	combustable	disposal	disposal	to collect for recycling
		Disposal/landfill		
Soil	Soil	сар	Reuse	Potential contamination
Other wastes	Other wastes	Disposal	Disposal	small amounts of various materials, not economically viable
Fines	Unspecified fine material less than 10mm	Disposal	Recycling	Variety of materials

## Step 4 – Is separate collections of the four materials required?

#### Are paper, glass, metal & plastic collected for recycling?

The following materials are currently accepted by kerbside recycling collections:

Material type	Acceptable materials	Excluded materials	Reason for exclusion
Paper	<ul> <li>Newspapers</li> <li>Magazines</li> <li>Recyclable paper (other than newspapers &amp; magazines)</li> <li>Other paper</li> <li>Cardboard</li> </ul>		
Glass	<ul> <li>Container glass</li> </ul>	<ul><li>Sheet glass</li><li>Drinking glasses</li><li>Pyrex</li></ul>	All have higher melting point than container glass, causing lumps when recycled into new container glass
Metal	<ul> <li>Ferrous food &amp; drinks cans</li> <li>Aluminium food &amp; drinks cans</li> <li>Foil</li> <li>Metal bottle &amp; jar tops</li> </ul>	Other metals	Reprocessor requirements & risk of damage to MRF.
Plastic	<ul> <li>Plastic bottles</li> <li>Hard plastic food containers</li> </ul>	<ul> <li>Film</li> <li>Other plastics</li> </ul>	<ul> <li>Film is recycled if included, but not targeted to avoid materials being put into the bin in bags, making it harder to spot contamination.</li> <li>Reprocessor requirements &amp; MRF sorting capability.</li> </ul>

#### Contamination levels of material presented processed through MRF

For the period of November 2013 to October 2014 used for this assessment, the average contamination rate for material presented to the MRF was 3.2%. Although it is accepted that a low contamination rate can result from an inefficient MRF that is unable to extract contaminants, it is not believed that this applies for East Cambridgeshire's material. The MRF used is modern, opening in January 2013, and uses the latest available sorting technology, separating glass at the front end of the process to reduce contamination of other materials.

#### **Contamination levels of MRF outputs**

Contamination levels of MRF outputs are reviewed as part of Step 2 on page 14. During 2015, £3.5 million of improvements are planned to the MRF. This will include provision of additional quality control cabins, and installation of 4 additional Near Infra Red (NIR) Separators. 2 of the separators will be on the paper line & 2 on the polymer line to improve the quality of paper & plastic material outputs.

#### Necessity Test – Is separate collection necessary to ensure that waste is recycled & to facilitate or improve recovery?

Article 11(1) of the revised Waste Framework Directive states that:

"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."

All MRF output material is analysed to MRF Code of Practice standards. Reprocessors are made aware of contamination levels prior to accepting materials, & legitimate recycling outlets have been found for all materials produced. Much of the paper collected continues to be provided to Aylesford Newsprint Limited for high quality use in newsprint manufacture, and all glass is used to produce container glass, rather than being sent for lower level use as aggregate. These uses are the same as when the Council collected materials separately, suggesting that the quality of material has been maintained through comingled collections. The Council does not, therefore, consider it necessary to collect materials separately to `meet the necessary quality standards for the relevant recycling sectors'.

The quality of output material is expected to improve following MRF improvements during 2015. If, however, markets change so that there is no longer a requirement for material produced, it is accepted that collection methods would need to change to meet market requirements.

In accordance with guidance within the Waste Regulations Route Map, although the Council believes separate collections of materials are not required, a TEEP Assessment has been completed in support of its case for retaining comingled recycling collections.

# Practicability Test – Is there an approach to separate collections that is technically, environmentally & economically practicable (TEEP)?

A comparison has been made of current comingled collection services to a range of alternative services in which some or all materials are collected separately. The service options have been compared in following charts in relation to the yield of recyclable material that they would generate, the level of resource required & the costs of operation.

Vehicle types used for modelling purposes are:

- Refuse Collection Vehicle (RCV) Standard 26 tonne, 6 wheeled refuse freighter.
- Split Bodied Refuse Collection Vehicle As standard RCV, but waste storage area split into 2 to allow separate collection of 2 material types.
- Split Bodied Refuse Collection Vehicle with Pod As split bodied RCV, but with main collection compartments reduced to allow for a further storage bay to be fitted behind the vehicle cab, allowing separate collection of up to 3 materials
- Kerbsider Rear of vehicle divided into 3 bays, hydraulic lifts tip materials into the top of each compartment, so keeping materials separate.

For the current comingled service, two options have been modelled, one based on current performance & one based on mean performance for comingled collection services from 2011/12 data, this being the most

recent identified. All other service formats are based on mean performance for that type of service format using the 2011/12 data.

Service Format	Collection method
Current comingled service	All materials collected mixed in a single bodied Refuse Collection Vehicle (RCV)
All materials collected separately as previous service	Paper, glass & cans collected in separate bays of a Kerbsider vehicle, plastics collected in a separate RCV. Addition of a 4 <sup>th</sup> bay to kerbsiders was trialled to prevent the need for separate plastic collections, but was found to be impractical due to reduced capacity for each material.
Comingled service, paper separate	Split bodied RCV, collecting paper in one compartment, glass, cans & plastics mixed in the other
Comingled service, glass separate	Split bodied RCV, collecting glass in one compartment, paper, cans & plastics mixed in the other
Paper, glass, cans & plastic collected in separate vehicles	Each material collected by a separate standard RCV
Single pass, glass & paper collected separately, cans & plastics mixed	Split bodied RCV, with pod behind cab. Glass collected in pod, paper in 1 compartment of the split body, cans & plastics collected mixed in the other compartment.

#### Note

• For options 1, 3 & 4 it is assumed that the currently collected wider range of materials is accepted. For options 2, 5 & 6 it is assumed that only paper, glass, cans & plastic are collected.

### Comparison of comingled collection service to separate collection service options - Material Yields

				Paper glass		cans pl		pla	plastic card		dboard car		ons		
	Yield/ household (Kg)	households	Yield/ tonnes	% of recycling	Tonnes collected										
Comingled service East	220	36470	8020	31 24	2505	29.29	2349	5.88	472	14 12	1132	18 43	1478	1 04	83
Comingled service - mean yield	193	36470	7039	31.24	2199	29.29	2062	5.88	414	14.12	994	18.43	1297	1.04	73
Materials collected separately (previous service)	148	36470	5398	48.68	2628	34.99	1889	5.42	293	10.91	589				
Comingled service paper separate	163	36470	5945	31.24	1857	29.29	1741	5.88	350	14.12	839	18.43	1096	1.04	62
Comingled service glass separate	184	36470	6710	31.24	2096	29.29	1965	5.88	395	14.12	948	18.43	1237	1.04	70
Materials collected in separate vehicles	148	36470	5398	48.68	2628	34.99	1889	5.42	293	10.91	589				
Single pass separate collections, paper & glass separate, cans & plastics mixed	148	36470	5398	48.68	2628	34.99	1889	5,42	293	10.91	589				

#### Note

- Material yields for East Cambridgeshire's comingled service are based on performance from November 2013 to October 2014.
- Material yields for other options are based on mean yields for service options included within the `Review of Kerbside Recycling Collection Schemes in the UK in 2011/12' compiled using Waste Data Flow submissions.

#### Comparison of comingled collection service to separate collection service options – Resource requirements

	Resource requirements					ison to cu	Annual tonnes of Co2		
	Vehicles	Drivers	Loaders	Litres of				Litres of	emissions generated
				fuel/year	Vehicles	Drivers	Loaders	fuel/ year	by vehicles
Comingled Service									
– East									
Cambridgeshire	6	5	7	56875	-	-	-	-	150
Comingled service									
– mean yield	6	5	7	56875	-	-	-	-	150
Materials collected									
separately									
(previous service)	10	8	16	97500	+4	+3	+9	+40625	256
Comingled service									
paper separate	7	6	12	71094	+1	+1	+5	+14219	187
Comingled service	_						_		
glass separate	7	6	12	71094	+1	+1	+5	+14219	187
Each Material									
collected in									
separate venicles									
(paper, glass, cans,	10	16	16	227500	.12	. 11	10	170625	EOP
Single pace	10	10	10	227300	+12	+11	+9	+170023	536
single pass									
collection namer &									
glass separate.									
cans & plastics									
mixed	7	6	18	81250	+1	+1	+11	+24375	214

#### Notes

- Resource levels required for each service format have estimated in consultation with Veolia the Councils service provider.
- CO<sub>2</sub> emissions have been generated using information provided by Dennis Eagle Ltd, provider of most of the Council's collection vehicles.

#### Comparison of comingled collection service to separate collection service options – Service costs

	Total annual service cost	Income from material value & recycling credits	Net service cost	Net service cost/household
Comingled Service – East				
Cambridgeshire	£723,048.95	£402,684.20	£320,364.75	£8.78
Comingled service – mean				
yield	£723,048.95	£353,428.19	£369,620.76	£10.13
Material collected				
separately (previous service)	£1,330,344.13	£588,723.18	£741,620.95	£20.34
Comingled service paper	£003 845 66	£112 767 56		£15 02
separate	1995,845.00	1412,707.30	£581,078.10	115.55
Comingled service glass				
separate	£993,845.66	£333,052.65	£660,793.01	£18.12
Materials collected in				
separate vehicles (paper,				
glass, cans, plastic)	£2,165,384.97	£588,723.18	£1,576,661.79	£43.23
Single pass collection, paper				
& glass separate, cans &				
plastics mixed	£1,289,586.43	£487,152.93	£802,433.50	£22.00

#### Notes

- Materials income & Recycling Credit income have been combined to protect contractually confidential information.
- Material income calculations are based on the current value of material being processed through the MRF and Letsrecycle.com mid-point prices for October 2014. The value of mixed cans & plastics for option 6 is not quoted on Letsrecycle.com, so was provided by Veolia in January 2015 as an estimate of current market value. Calculations have been made using the value of materials processed through the MRF, but details have been withheld to protect contractually confidential information.

## Affect of different collection vehicle types on number of required visits to MRF

Calculations do not allow for the fact that split bodied RCV's, split bodied RCV's with pods & kerbsiders have a lower payload than standard RCV's, so would need to make more journeys to the MRF to empty. The table below shows an approximation of the effect that this would have, but has not been included in resource or cost requirement tables as it is a very basic calculations, so is intended for illustrative purposes only.

Collection vehicle type	Maximum payload	Number of tips/ year required	Annual miles travelled to MRF	miles travelled/ litre of fuel	Litres of fuel used	CO <sub>2</sub> emissions created (tonnes of CO <sub>2</sub> )	Additional litres of fuel used compared to current completely comingled service	Increase in tonnes of CO <sub>2</sub> compared to current completely comingled service
Standard 26 tonne RCV	11	729	21873	1.10	19904	52	-	-
Split bodied RCV	9	891	26733	0.88	30409	80	10505	28
Split bodied RCV with pod	8	1003	30075	0.77	39098	103	19193	50
Kerbsider	8	1003	30075	1.54	19549	51	-355	-1

#### The following assumptions have been used in preparing this table:

- Total estimated dry recyclate 8020 tonnes
- Assumed average return journey to MRF 30 miles
- CO2 emissions 2.63kg/litre of diesel
- It is assumed that all compartments on split collection vehicles fill at the same rate. Generally this is not the case.
- It is also assumed that vehicles only tip when full On most occasions vehicles tip on completion of collection rounds, so actual visits to tip would be higher.
- Assumed average journey to tip The largest population centre (Ely) is 10 miles from the MRF, but other significant population centres (Littleport, Burwell, Soham & Sutton) are further away Although number of tips on rural rounds is less, the return trip to MRF will in many cases be considerably more than the estimated 30 miles.

## Comparison of comingled collection service to separate collection service options – Disposal Authority Costs

Details of Disposal Authority costs have been withheld as contractually sensitive information. It can, however, be concluded that collection services achieving the highest recycling rates will achieve the greatest reduction in disposal costs.

### Is there an approach to separate collections that is technically, environmentally and economically practicable (TEEP)?

**Technically Practicable** - It would be difficult to say that it would not be technically practicable to collect materials separately as a range of collection options are available that provide varying degrees of separation.

#### Environmentally Practicable -

Analysis of Waste Data Flow returns included within the `Review of Kerbside Collection Schemes in the UK 2011/12' indicates that the mean material yield for services involving partial or complete separation of material streams is lower than for a completely comingled service, as operated by this Council.

This finding is supported by the recent experiences of this Council. The previously operated collection service based on separate collection of materials yielded approximately 1/3 as much material for recycling as the new completely comingled service. It is suggested that this improvement is principally because of the greater range of materials that can be accepted through the comingled service, and that residents consider the service more convenient to use, without the need to separate materials into different containers.

Service changes from separate to comingled collections were introduced in East Cambridgeshire between September & November of 2014. This resulted in a significant improvement of recycling performance from 33.4% in 2012/13 to 45.5% in 2013/14, moving East Cambridgeshire from 257<sup>th</sup> of 320 English councils responsible for waste collections to 116<sup>th</sup>. As this only reflects a part year of new services, predicted performance for 2014/15 is in the region of 57%, this would elevate East Cambridgeshire to 24<sup>th</sup> position if compared to 2013/14 results. East Cambridgeshire achieved the 3<sup>rd</sup> highest increase in percentage recycling performance of English authorities for 2013/14 & expects to make similar progress in 2014/15.

Modelling of collections options also indicates that collecting materials separately would require more collection vehicles, use more fuel & increase Carbon Dioxide (CO<sub>2</sub>) emissions, so having a negative environmental impact.

#### **Economically Practicable**

The above analysis suggests that any of the alternative collection options considered would be significantly more expensive to operate than the current completely comingled service. The value of separately collected materials would be higher, but this would not compensate for additional collection costs & reduced material yields.

Reduction of the amount of material collected for recycling would also have financial implications to Cambridgeshire County Council as East Cambridgeshire's Disposal Authority. Although the County Council has asked for details to be withheld due to contractual confidentiality, modelling has been carried out, which indicates significant additional costs from any of the alternative collection services considered.

#### In conclusion

Dictionary definitions of `practicable' suggest that something merely needs to be achievable. Clearly it would be technically practicable to collect separately as a significant number of UK authorities collect materials with varying degrees of separation.

Considering if separate collections are environmentally practicable, it is suggested that although environmental reasons would not prevent separate collections, a good case has been made for the relative environmental benefits of comingled collections. It would seem nonsensical to move to a collection system that would need more collection vehicles, using more fuel & creating more CO<sub>2</sub> emissions, whilst collecting less material for recycling.

Economically, it is suggested that the additional costs that separate collections would entail are unsustainable in the current economic climate. Local authority funding has been progressively cut over a considerable number of years, and no authority is in a position to increase service costs without being able to make a good case for the benefits that would result. Of alternative collection services options modelled, it is estimated that the cheapest alternative option giving some separation of materials (paper collected separately in same vehicle) would incur additional annual costs in the region of £260,000, whilst delivering no benefits & reducing recycling performance. On this basis it is suggested that separate collections would not be economically practicable.

The Council is required to consider the case for separate collection of each of the four listed materials (paper, glass metal & plastic). Collection methods have been considered that collect paper or glass separately, and that collect each material separately. Although each of these options would be technically practicable, it is suggested that none would be environmentally or economically practicable.

As the requirement is for separate collections to be technically, environmentally <u>and</u> economically practicable, it is suggested that separate collections are not practicable. It is, however, accepted that this situation might change, and TEEP implications will be included when planning for service provision beyond the end of the Council's current collection services contract, due to end in March 2018.

## Step 5 - Sign-off

The following steps have been taken to sign off this TEEP assessment:

Peer Review

This assessment has been discussed with & circulated to other Cambridgeshire Authorities. Additionally a number of other local authorities have provided information about their own collection services to assist with preparation of the assessment. It has been circulated to each of these authorities & comments invited.

#### • Head of Service for Waste & Recycling

Following a restructure during 2013, the Council no longer has Heads of Service. The Assessment has been produced by the Waste Services Team Leader, who reports to the Director of Regulatory Services. The Director has approved the Assessment.

#### • Head of Legal

As above there is no longer a Head of Legal, so the Assessment has been approved by the Principal Solicitor, who now heads the Legal Team.

#### Committee Approval

The Assessment was submitted to the Council's Regulatory & Support Services Committee for approval on 16<sup>th</sup> February 2015.

#### • Evidence of sign-off

E-mail confirmation of approval has been obtained from the Director of Regulatory Services & Principal Solicitor.

The committee report & decision list are retained as proof of committee approval.

## **Step 6 - Retention of evidence**

#### 6.1 Current waste collections

- Composition analysis a copy of the national waste analysis produced by DEFRA & used in production of this assessment has been retained.
- Details of collection methods, costs & income are included within the `Background Calculations' document that supports this assessment.
- Analysis of how much material of each type is collected through each collection route is also included within `Background Calculations'.
- Key contract documents, costs associated with varying or ending contracts & records of decisions taken in adopting the current collection system – E-mail correspondence with Veolia the collections service provider has been retained. The approval process for changes to current collection services & bid to DCLG's Weekly Collection Reward Scheme, that funded changes has been retained.

#### 6.2 Current waste treatment & recycling processing

- All information used in preparation of this TEEP Assessment has been retained. Regrettably the Council has been asked to withhold some information on grounds of contractual confidentiality.
- Records of decisions taken when adopting recycling, treatment & disposal options Records
  relating to the Council's decision to move to comingled recycling collections & the DCLG grant
  application that funded changes are available. The Council has recently jointly retendered its MRF
  contract jointly with other Cambridgeshire authorities. Records of the process & contract documents
  are also available. As a 2 tier authority, decisions on other disposal routes are the responsibility of
  Cambridgeshire County Council as Disposal Authority & would need to be accessed through that
  Authority.
- If considering retaining comingled services, an assessment of likely environmental performance should be considered As the Council has recently changed from separate collection of materials to comingled collections, details of relative environmental performance are included within this assessment.

#### 6.3 Applying the waste hierarchy

• The proposed approach to applying the waste hierarchy is included within the `Background calculations' document. Additional materials will be added to recycling collections where permitted by the MRF operator, and considered economically viable.

#### 6.4 The four materials - necessity & practicability

#### Necessity

- Details of how much material is subject to disposal, recycling & other recovery Included within assessment with background material retained.
- A statement & supporting argument for each material regarding whether separate collection is necessary to facilitate or improve recovery, and if not, which materials can be collected comingled whilst securing this aim Included within Step 4.
- If using a MRF, MRF regulations sampling records Input & output material is sampled in accordance of the regulations. Records are retained by Amey Cespa.
- Details of outputs from secondary sorting facilities Details of reprocessors accepting MRF output have been provided by the MRF operator, with end destinations & uses. The Council has been unable to gain access to further records.
- End destinations of material collected & quality for recyclate expected to be achieved included within assessment.

#### Practicability

- Statement & supporting arguments for each material has been found to meet the Necessity Test, & which you wish to consider collecting comingled Included within assessment.
- Data used to support the practicability test Included within Assessment & Background Calculations.
- Key sensitivities that if changed could alter the outcome of the practicability test within Step 4 of the assessment.

#### Sign Off

• Assessment of the sign off process required – Included within Step 5.

## **Step 7 – Re-evaluation process**

The Council's waste collection contract is currently due to end on 31<sup>st</sup> March 2018. It is, therefore, intended to review the TEEP Assessment as part of the procurement process for services beyond this time.

An opportunity exists for a further 1 year extension period to 31<sup>st</sup> March 2019. If it is intended to agree this further extension period it would be necessary for the implications of TEEP to be considered.

Any significant changes to material markets or available collection methods prior to these dates would prompt earlier consideration of collection options. Cambridgeshire authorities are currently considering opportunities for joint working & shared provision of waste collection services, which could also influence decisions on future service provision. It is, however, unlikely that Council will be in a position to implement service changes before 31<sup>st</sup> March 2018.