

South Cambridgeshire District Council - TEEP Assessment

Background

The Waste (England and Wales) (Amendment) Regulations 2012 were laid before Parliament and the Welsh Assembly on 19 July 2012 and came into force on 1 October 2012. The amended regulations relate to the separate collection of waste and amended the Waste (England and Wales) Regulations 2011 by replacing Regulation 13.

From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. The Regulations also impose a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.

These duties apply where separate collection is necessary to ensure that waste undergoes recovery operations in accordance with the EU Waste Framework Directive of 2008 and to facilitate or improve recovery; and where it is technically, environmentally and economically practicable. The duties apply to waste classified as waste from households and waste that is classified as commercial or industrial waste.

The Waste Regulations Route Map has been developed as a step by step guide for local authorities that collect waste to understand the legal requirements under the new Regulations. It focuses on Regulation 13, which concerns the separate collection of glass, metal, paper and plastic.

In order to determine South Cambridgeshire District Council's compliance with the Regulations the Route Map has been followed and each step completed. The evidence and documentation to support the comingled recycling collection system chosen is contained within this report or has been retained in the electronic 'Evidence Folder'.



The WRAP Route Map

Step 1

This step determines what waste is collected and how it is collected as a point of comparison for separate collections.

The composition analysis relied upon in your work and how it was derived

M.E.L Research conducted an analysis of kerbside collected residual and recycling waste collected during a two week period in March and September 2013. The combined waste analysis results are shown in in Table 1.

The research showed high capture rates for all targeted materials with around 91% of glass, 87% of plastic bottles, 80% of card, 76% of metals, 54% of plastic containers and 36% of plastic film captured using blue bins.

Table 1 – summary extract from waste composition carried out in March and September 2013 (combined results).

%	Black Bin	Blue Bin	Caddy	Green bin
Paper	8.87	10.63	98.42	2.27
Card	2.83	20.87	1.42	0.36
Plastic	11.85	21.26	0.11	0.05
Textiles	5.95	0.20	0.00	0.01
Misc. Combustibles	15.26	1.33	0.05	1.45
Misc. Non-combustibles	5.94	0.07	0.00	0.09
Glass	2.41	34.78	0.00	0.20
Ferrous Metal	1.09	5.49	0.00	0.00
Non-Ferrous Metal	0.84	1.96	0.00	0.01
Garden Waste	2.85	0.02	0.00	74.19
Putrescibles	39.11	2.89	0.00	21.32
Other	3.02	0.50	0.00	0.05
Total	100.00	100.00	100.00	100.00

The following data has been saved in the 'Evidence Folder':

- Analysis of waste collected, and respective tonnages for 2013/14
- An example of periodic dry recycling waste analysis conducted by MRF operator in September 2014 operator.

A description of your collection method(s), the costs and income

The waste collections being covered are household waste. The current waste collection system does collect the four materials (glass, metal, paper and plastic) for recycling but only paper is collected as a separate waste stream.

The current methodology for collecting waste at the kerbside is:

- Residual household waste is collected alternate weekly in 240 litre wheeled bins
- Dry recyclables are collected alternate weekly using a two-stream co-mingled scheme

- Co-mingled dry recyclables (including glass, plastics, card, cartons, cans) are collected in 240 litre wheeled bins
- Paper is collected separately in 40 litre inner caddies
- Garden and food waste is collected alternate weekly in 240 litre wheeled bins
- Bulky waste is collected when requested on a chargeable basis
- Clinical waste is collected and disposed of in line with current legislation

Trade waste is also collected by SCDC and recycling services are offered to trade customers. In 2013/14, 509 tonnes (20.44%) of the 2,488 tonnes of trade waste collected were recycled; and this was collected in two ways:

- Co-mingled in a wheeled bin; and
- Paper collected separately in a wheeled bin

Bring sites are used to collect additional materials in the form of textiles, books and Waste Electrical and Electronic Equipment (WEEE) as well as separate paper.

Paper, card, plastics bottles, cartons, cans are collected co-mingled in recycling litter bins.

Table 2 - Net cost of South Cambridgeshire's household waste and recycling collection services in 2013/14

Service	Net Cost
Residual, recyclable and compostable waste collections	£3,184,456
Bulky waste collections	£43,335
Street cleansing	£830,548

Key Waste Contract Documents / Decisions

SCDCs contract with AmeyCespa for the bulking, sorting and onward sale of co-mingled recycling will end 9 October 2015. SCDC will enter a contract jointly procured with the RECAP authorities on 10 October 2015.

SCDC is instructed by the WDA as to where food and garden waste is delivered.

In 2009, the Waste and Recycling Task and Finish Group carried out a review in relation to the future configuration of the Council's Integrated Recycling and Refuse Service and recommended an optimum service configuration. This work informed the decision to replace the green box scheme (kerbside sort – paper, glass, cans and plastic bottles) with a two stream co-mingled recycling collection using a 240 litre wheeled bin and 40 litre inner caddy for separately collected paper (blue bin scheme). The options appraisal and costed options along with the meeting minutes, reports and decision are saved in the Evidence Folder.

Step 2

This step requires the Council to consider how each waste stream is currently managed and what waste is recycled.

Table 3 – tonnage of material by treatment route (2013/14)

Waste stream	Treatment route/site	Tonnage 2013/14
Residual waste	AmeyCespa, MBT	21,220
Co-mingled dry recyclables	AmeyCespa, MRF	11,285
Paper	Aylesford Newsprint (reprocessor) via AmeyCespa (bulking)	4,341
Green waste	AmeyCespa, IVC	19,287
Street cleansing	AmeyCespa, MBT	2,951

Residual household waste is processed through AmeyCespa's Mechanical and Biological Treatment (MBT) facility at Waterbeach (Cambridgeshire County Council Waste PFI contract).

Co-mingled dry recyclables are processed through AmeyCespa's Materials Recycling Facility (MRF) at Waterbeach.

The collection of paper as a separate stream optimises the quality of paper being sent for producing newsprint. The paper is tipped and bulked at AmeyCespa in Waterbeach and sent to Aylesford Newsprint in Kent.

Food and garden waste, collected through the green bin scheme, is treated through AmeyCespa's in-vessel composting facility at Waterbeach (Cambridgeshire County Council Waste PFI contract).

Materials from bring sites, which includes textiles/shoes, Waste Electrical and Electronic Equipment and Media (books, CD's and DVD's) are reused or recycled. Contaminants are not recycled or reused.

Information about how much recycled material is used for open and closed loop recycling

AmeyCespa produce high quality goods and the majority of the materials are used for Closed Loop Recycling. Closed Loop Recycling is where the waste material is recycled into new products of similar characteristics with equal or greater value. The following materials from Waterbeach MRF are used for Closed Loop Recycling:

- Glass – Recresco, Ellesmere Port
- News and Pams – Aylesford, Kent
- Steel cans – European Metal Recycling, London
- Aluminium cans and aerosols – Alutrade, Oldbury
- Plastic bottles – Jayplas, Corby
- Scrap Metal
- Tetrapak/UBC – ACE, Stainland, Halifax

Open Loop Recycling is where waste is recycled into something else that makes the materials non-recyclable in future - commonly referred to as down-cycling. Some of the materials produced from the MRF are of a lower quality, e.g. plastic films which due to the consumer use can be contaminated with food; this is not due to the collection method and as such are used for Open Loop Recycling.

Key contract documents, records of decisions taken in the course of adopting your current waste recycling, treatment and disposal contracts

MRF Contract documents

In 2013, AmeyCespa were awarded a five year jointly procured contract to process dry recyclables from households in the Cambridgeshire and Peterborough Waste Partnership (RECAP). Documents related to the MRF contract are saved in the 'Evidence Folder'.

Step 3

This step places an ongoing requirement on the Council to apply the waste hierarchy to the material we collect in accordance with Regulation 12, which came into force in 2011.

Applying the Waste Hierarchy

The waste hierarchy ranks waste management options according to what is best for the environment, it gives priority to preventing waste in the first place, preparing for re-use, and then recycling, then recovery and finally disposal e.g. landfill.

The Waste Hierarchy has been an integral part of the RECP (Recycling in Cambridgeshire and Peterborough) waste management strategy adopted by South Cambridgeshire District Council.

In 2002 the RECAP Joint Municipal Waste Management Strategy (JMWMS) was issued and subsequently was reviewed in 2007/08. The JMWMS sets out how RECAP will develop closer working between authorities and the community sector to collectively tackle the challenges facing waste management over the next 20 years. The aspirational targets set out in the JMWMS are difficult to meet without waste prevention initiatives, continued commitment and investment in services.

A Waste Prevention Strategy supplemented the updated JMWMS and aims to:

- acknowledge the need for waste prevention activities
- investigate the most effective waste prevention activities
- outline the options to be considered by RECAP partners
- set long-term targets for waste prevention

Table 4 outlines how the waste hierarchy is applied to waste collected in South Cambridgeshire.

Table 4- Application of Waste Hierarchy in South Cambridgeshire

Waste Type	Hierarchy Level	Treatment method	Prevention methods	Reason not higher up the waste hierarchy
Garden Waste	Prevention and Recycling	Home composting and In-vessel Composting	Reduced rate home composters offered to residents	Limited uptake of home composting
Food Waste	Prevention and Recycling	Home Composting and In-vessel Composting	Smart Shopping advice, Love Food Hate Waste	Not all material can be home composted so requires an element of treatment

			Campaign & Reduced rate home composters offered to residents	
Books and Media	Re-use		-	Prevention beyond the control of LA's.
Fridges	Re-use and Recycling	Recycling		Limited number suitable for re-use due to condition.
Textiles	Re-use and Recycling	Charity Re-use and Recycling for rags	'Wear it, Love it, Share it' campaign	Prevention beyond the control of LA's
Paper	Recycling	Recycling		Limited re-use applications
Card	Recycling	Recycling		Limited re-use applications
Plastic	Recycling	Recycling		Limited re-use applications
Glass	Recycling	Recycling		Limited re-use applications
Metal	Recycling	Recycling		Limited re-use applications
Batteries (household)	Prevention and Recycling	Recycling	Use of rechargeable batteries	Limited prevention influence No re-use methods

Bulky waste is collected and the waste hierarchy is applied where possible, often the items collected are not suitable for reuse due to poor condition. Items are taken to AmeyCespa and items suitable for recycling are extracted, this includes, hard plastics, carpets, mattresses, wood, metal and WEEE. South Cambridgeshire District Council refers residents with re-usable good quality bulky items to charities who collect items in the local area for re-use.

Step 4

This step requires the Council to make a decision as to whether separate collection of the four materials (glass, metal, paper and plastic) is required.

The Regulations require local authorities to separately collect at least paper, metal, plastic and glass, unless it is not technically, environmentally practicable (TEEP) for them to do so, or not necessary to allow high quality recycling of the material. Therefore the co-mingling of any four of the materials is acceptable if:

- The quality and quantity of the recyclate produced is similar to that achievable through separate collections; (**Necessity Test**) or
- It's not technically, economically or environmentally practicable to collect it separately (**the practicability or "TEEP" Test**).

Following the Route Map, at this stage a number of questions are asked in relation to the four materials (paper, glass, metals and plastics). The questions are answered below:

- Does South Cambridgeshire District Council collect glass, metal, paper and plastic for recycling? Yes
- Are separate collections in place? Yes for paper (so likely to be compliant). No for other materials (so necessity and practicability questions to be answered)
- Are separate collections necessary to ensure that waste is recycled and to facilitate or improve recovery? No – waste collected for recycling (apart from contaminants etc.) is recycled.

- Is there an approach to separate collection that is technically, environmentally and economically practicable? To be addressed in the following tests.

The Necessity Test

The Necessity Test (Regulation 13) has been carried out to find out whether separate collection is necessary to ensure that our waste recovery operation is compliant with the legislation and “to facilitate or improve recovery”. If separate collection is necessary to facilitate (make it possible or easier) or improve (achieving better results) recovery, the Necessity test is passed. However, if both of these aims can be achieved just as well with one or more streams of material collected co-mingled, then separate collection is not necessary. Recovery is improved if more waste is recycled and/or more of the recycling is ‘high quality’.

This section will consider the quality and quantity of the glass, metals and plastics materials. As paper is separately collected the Necessity Test will not be applied to this material stream.

Quality

The evidence to demonstrate how the current two-stream co-mingled collection scheme produces a high quality¹ recycling is outlined below:

- **Contamination** – In 2013/14, input contamination levels were 2.7%, equating to only 305 tonnes of co-mingled recycling collected not being recycled.
- **Closed-loop recycling** – The current quality achieved is good with the majority of materials being collected for closed-loop recycling.
- **New MRF Contract** – The jointly procured RECAP MRF contract with AmeyCespa, which South Cambridgeshire joins in October 2015, is a quality driven contract focussing on quality throughout. It ensures quality is considered at all stages and investment is made from the MRF operator to continually increase quality and maximise price for both parties. Income generated from the sale of recyclables is split 50/50 and therefore is a key financial driver for all to achieve high quality recycling. Method Statement 2, submitted as part of AmeyCespa’s tender, details the approach taken to maximise quality and value of materials (Evidence Folder).
- **Purity of output** - MRF outputs are analysed in line with requirements of the ‘MRF Code of Practice’. Results are then made available to reprocessors as part of the materials sales process. It is also worth noting that reprocessors themselves will further sort individual materials and therefore require that the material is delivered to them within a specification determined by the technology they have in place.
- **MRF Investment** – In Spring 2015 an upgrade of AmeyCespa’s MRF is planned. This upgrade will involve installation of additional Near Infra Red (NIR) detectors which will increase the quality of plastics by providing further separation of polymer types.

It is therefore concluded that in terms of quality the current system, collecting glass, plastic and metals co-mingled, achieves high quality materials which are suitable for closed loop recycling. A separate collection of glass, plastic and metals is not necessary in order to produce high quality material.

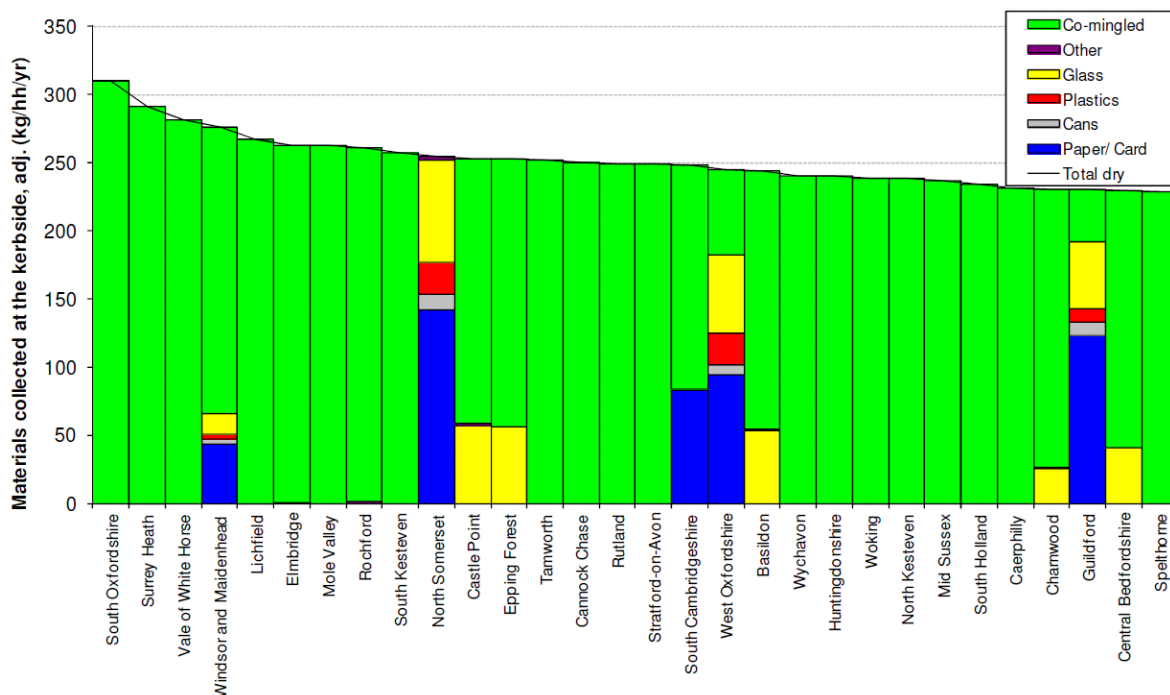
¹ High quality, for this assessment, is deemed that material can be processed back into a product of similar quality to what it was originally – what is known as ‘closed loop’ recycling.

Quantity

The evidence to demonstrate how the current two-stream co-mingled collection scheme produces a higher quantity of recycling is:

- **Range of materials** – The range of materials accepted for recycling is extensive. It would be difficult to collect such a range without some degree of co-mingling and subsequent treatment through a MRF with advanced sorting processes.
- **Performance nationally** – Research conducted by WYG in June 2013² shows that nationally the highest performing authorities operate some form of co-mingled collection. Figure 1 focuses on the top 30 authorities for kerbside recycling performance in 2011/12 of which South Cambridgeshire is 17th. Of the 30 top authorities, 20 collected fully co-mingled and six collected two-stream co-mingled with either paper or glass separate. Three authorities used a combination of collection methods and only one collected all materials separately. Conversely, the same study showed that within the 30 bottom performers only five collected materials co-mingled. Therefore suggesting that a co-mingled collection method or two stream co-mingled scheme produced higher yields per household than separate collections.

Figure 1 – Top performing Kerbside Recycling Authorities in 2011/12



- **Blue Bin Evaluation** – The findings of the ‘Blue Bin evaluation’ further reinforces that switching from kerbside sort collections in October 2010 to a two-stream co-mingled scheme improved the quantity of materials collected for recycling and has maintained quality. The dry recycling rate increased from an already high 19% dry recycling rate in 2009/10 to 23% in 2010/11 following the introduction of two-stream co-mingled collections (i.e. blue bin and paper caddy scheme). The full evaluation report is saved in ‘Evidence Folder’.

It is therefore concluded that in terms of quantity the current two stream co-mingled system achieves a greater quantity of recycling than a kerbside sort scheme.

² Review of kerbside recycling collection schemes in the UK in 2011/12, WYG Group. June 2013

Although, the results of the Necessity test show that separate collections are not required, for robustness the Practicability Test will now be applied to demonstrate clear compliance.

Practicability Test (the “TEEP” test)

This section will address the Regulation 13 Practicability test and consider whether the separate collection of each material stream is technically, economically or environmentally practicable. **Separate collections must meet all three elements of the Practicability Test to be required and if it fails any one, co-mingled collection of the material(s) is permissible.**

Technically Practicable

Separate collections are technically practicable, as previously demonstrated with the separate collection of paper, metal and plastic through the green box scheme. They have therefore been technically developed and proven to function in practice

Environmentally Practicable

This test evaluates whether the benefits from increased or improved recycling outweigh any negative impacts of separate collection such as additional emissions from transport..

- **Quantity of recycling** – as outlined within the Necessity Test the current two-stream co-mingled scheme recycles significantly more than collecting materials separately through the kerbside-sort scheme.
- **CO2 emissions** – As part of the Blue Bin Evaluation the degree to which the blue bin (two-stream co-mingled) scheme contributed to minimising environmental impact was evaluated against the change in CO2 equivalent from the previous green box scheme (kerbside-sort). The combination of fuel usage reduction and increased levels of recycling, resulted in the production of 24% less CO2 equivalents during the first seven months of the Blue Bin scheme.

Separate collections would achieve smaller net environmental benefits when compared with the current two-stream comingled scheme. Based on the evidence above, separate collections are not environmentally practicable.

Economically Practicable

“Economically practicable’ means that a separate collection would not cause excessive costs in comparison with the treatment [including recycling] of a non-separated [co-mingled or residual] waste stream, considering the added value of recovery and recycling and the principle of proportionality.

- **Recycling Credit** – when comparing Recycling Credit Payments in 2009/10 (kerbside sort) and 2011/12 (two-stream co-mingled) the amount received increased by over 50% due to the increased quantity of recyclables collected through the two-stream con-mingled scheme.

- **Scheme cost comparison** – The net cost of operating a two-stream comingled scheme is £569k per annum less than operating a kerbside sort scheme³.
- **MRF contract** - The joint RECAP MRF Contract with AmeyCespa runs until September 2019. The contract states that early exit of this contract would result in the authority incurring significant cost relative to that required to reimburse the contract for loss of income for the remaining life of the contract.
- **Vehicle leasing** – the current split-bodied recycling fleet under lease until October 2017 so it is not possible to change the current collection method without incurring significant costs.

Separate collections would result in excessive cost in comparison with alternative schemes using a degree of co-mingling. Based on the evidence above, separate collections are not economically practicable.

In addition to the evidence presented for environmental and economic practicability of separate collections, a strategic review carried out by South Cambridgeshire District Council in 2009 considered a number of future service configurations. The 'Review of Refuse and Recycling Configuration –September 2009' (saved in 'Evidence Folder') presents the evaluation methodology and results which support South Cambridgeshire's decision to switch from a kerbside sort to a two-stream co-mingled scheme. This review further reinforces the evidence for retaining the two-stream co-mingled scheme based on best environmental net benefit and scheme costs.

It is clear that the current two-stream co-mingled system has been chosen by South Cambridgeshire District Council because it is not economically or environmentally practicable to undertake separate collections of glass, metal or plastic.

Conclusion

This assessment demonstrates that South Cambridgeshire's two-stream co-mingled scheme, collecting glass, metals and plastics co-mingled and paper separate, complies with The Waste (England and Wales) (Amended) Regulations 2012 because:

- It captures high quality and quantity recyclables; and
- It is not environmentally or economically practicable to provide a separate collection of glass, metals and plastics.

Step 5

This step of the Route Map requires the Council's assessment to be signed off by the relevant senior officers in the Council and recommends this involves sign-off by both the head of service for waste and recycling and a senior Council lawyer.

It is proposed that this assessment is formally approved by the Director of Health and Environmental Services and the Environmental Services Portfolio Holder; and retained as a formal record. The Legal & Democratic Services Manager has reviewed this assessment and is satisfied that it takes full account of the council's obligations under the Regulations and will also sign it off.

Step 6

³ Based on 2009/10 versus 2011/12 figures.

This step requires the Council to ensure that it has retained all of the evidence needed to demonstrate the rationale for its decision. All evidence has been duly collated in the Evidence Folder.

Step 7

This step requires the Council to have a process in place to re-evaluate its positions to ensure our continuing compliance with the Regulations. The Council believes that this TEEP test is appropriate for the Joint RECAP MRF contract SCDC is entering into in October 2015. A review should take place just prior to the end of that contract or whenever waste services are generally reviewed, whichever is the earlier. This TEEP assessment may need reviewing depending upon the outcome of paper procurement exercise planned later this year.