

CONTENTS

PART A

1	<i>INTRODUCTION</i>	1
2	<i>WORKSHOP STRUCTURE</i>	2
2.1	<i>INTRODUCTION</i>	2
2.2	<i>WORKSHOP 1</i>	2
2.3	<i>WORKSHOP 2</i>	5
<i>PART A</i>		
3	<i>DRY RECYCLATE COLLECTIONS</i>	8
3.1	<i>CURRENT SITUATION</i>	8
3.2	<i>KEY ISSUES</i>	8
3.3	<i>WORKGROUP FINDINGS</i>	9
4	<i>RECYCLING CENTRES AND POINTS</i>	13
4.1	<i>CURRENT SITUATION</i>	13
4.2	<i>FACTORS AFFECTING CAPTURE RATES</i>	13
4.3	<i>WORKGROUP FINDINGS</i>	14
5	<i>BIODEGRADABLE WASTE</i>	20
5.1	<i>CURRENT SITUATION</i>	20
5.2	<i>KEY ISSUES</i>	20
5.3	<i>WORKGROUP FINDINGS</i>	21
6	<i>IMPROVING RECYCLATE QUALITY</i>	26
6.1	<i>KEY ISSUES</i>	26
6.2	<i>SOURCES OF FURTHER INFORMATION</i>	27
6.3	<i>WORKGROUP FINDINGS</i>	27
7	<i>ALTERNATE WEEKLY COLLECTIONS</i>	31
7.1	<i>CURRENT SITUATION</i>	31
7.2	<i>KEY ISSUES</i>	31
7.3	<i>WORKGROUP FINDINGS</i>	33
8	<i>LOCAL AUTHORITY ACTION</i>	37

8.1	<i>CURRENT SITUATION</i>	37
8.2	<i>KEY ISSUES</i>	37
8.3	<i>WORKGROUP FINDINGS</i>	38
9	<i>TRADE WASTE</i>	42
9.1	<i>INTRODUCTION</i>	42
9.2	<i>THE BUSINESS WASTE FRAMEWORK</i>	42
9.3	<i>WORKGROUP FINDINGS</i>	43
10	<i>MATERIAL RECYCLING FACILITIES (MRF)</i>	46
10.1	<i>SHORT TERM/PREPARATORY ACTIONS</i>	46
10.2	<i>LONGER TERM/IMPLEMENTATION ACTIONS</i>	46
11	<i>INFORMATION NEEDS</i>	47
<i>ANNEX A</i>	<i>WORKSHOP FINDINGS</i>	
<i>ANNEX B</i>	<i>LOCAL AUTHORITY WASTE AUDITS – WASTE PREVENTION ACTION PLAN CHECKLIST</i>	

PART A

Introduction and Structure of Programme

This report is a summary of two workshops facilitated by ERM and SEPA for the Scottish Executive Waste and Pollution Reduction Division. The workshops identified potential actions for increasing the recycling rate in Scotland to 40% by 2010. This target has been identified as the rate of diversion from landfill required through source segregated recycling and composting in order to meet the 2010 landfill directive target.

Part A of this report describes the structure of the workshops and presents the results of Workshop 1. All the actions suggested during the Workshop were loosely grouped into topics to inform the planning for Workshop 2.

Part B presents the results of Workshop 2 with *Chapters 3 to 10* addressing eight separate topics identified from the outcome of Workshop 1 as the subject for more detailed consideration in Workshop 2. A brief introduction is given to the topic before examples of successful approaches are given. Following this, the actions identified during the workshop are presented. These are divided into short term/preparatory actions and long term/implementation actions. The Workshop 2 participants were also asked to identify actions relating to information provision and communication and these have been collated in *Chapter 11*.

2.1 INTRODUCTION

Two workshops were facilitated in order to identify potential actions for increasing the recycling rate in Scotland. Participants attended from local authorities, COSLA, SEPA, WRAP, SWAG, SESA, Remade Scotland and VALPAK. The workshops were structured as described below.

2.2 WORKSHOP 1

The first workshop was held on the 15th February 2007 and was informed by a series of papers circulated prior to the workshop. Participants were tasked with developing a menu of options for improving recycling rates in Scotland. The morning session was used to brainstorm barriers to achieving high levels of source segregated recycling and composting before going on to identify possible actions. The actions were then loosely grouped into five categories according to whether they addressed practicalities and logistics; public attitudes, behaviour and participation; legal and financial issues; recycling points and centres; and information and awareness.

The afternoon session began with a brief discussion of the criteria to be used to evaluate the suggested actions. Four criteria were defined: impact on recycling rate, cost, practicality and acceptability (political and public). Actions under each of the five categories were evaluated in relation to the four criteria.

The end result of the first workshop was a long list of potentially practicable actions to increase recycling rates in Scotland, presented in *Table 2.1*.

Table 2.1 *Potential Solutions identified in Workshop 1*

Action	Already Happening?
New Technology	
Enable new technologies for tertiary treatment.	
Enable new technology for collection of materials that are hard to collect.	
Embrace existing technologies instead of running pilot trials eg food waste.	
Storage and containers	
Introduce building standards for houses – storage space for containers, use of recyclates.	√
Increase the volume of recycle containers.	
Decrease the volume of residual bin.	
Collection	
Increase the frequency of collection service.	
Develop a target for the number of households covered per recycling centre.	
Make planning easier for mini recycling centres.	
Introduce re-use facilities (eg reuse cabins).	√
Change LA delivery structures for waste services as part of LA reform.	
Provide better training for recycling centre staff, including bulking and sorting.	

Action	Already Happening?
Allow the free collection of some materials from local authorities by the private sector.	
Provide more user friendly opening hours at recycling centres.	√
Introduce shared/mini recycling points in rural areas <i>eg</i> Norway.	
Purchase waste such as metal from households at recycling centres.	
Make commercial users pay by weight.	
Allow existing commercial customers to use recycling centres for recyclate material only.	
Make it compulsory for households to recycle.	
Make recycling systems an opt out rather than opt in service.	
Introduce roaming recyclate skips (like the roaming library/banks).	
Encourage supermarket delivery take back scheme for recyclable materials.	√
Draw other groups into collection such as community/charity/private.	√
Materials	
Collect a wider range of materials.	
Split food out from other materials.	
Give community sector/recycling/re-use schemes first access to household clearances and bulky uplifts.	
Introduce collection of materials such as: food waste, plastics and tetra pack.	
Enable more litter waste segregation.	
Ban the use of non recyclable material/uneconomic to recycle material by manufacturers <i>eg</i> the shift from glass to plastic milk bottles.	
Promote community composting.	√
Waste Prevention	
Legitimise waste prevention.	
Incentivise take-back schemes (in Denmark 20percent household waste goes back to the retailer).	
Provide an incentive scale for waste hierarchy within local authorities.	
Make the cost of waste management clear in the council tax bill.	
Establish targets for public bodies.	
Include recycling and composting targets in PPP contracts for schools etc.	
Link different targets <i>eg</i> packaging, landfill diversion, recycling and composting targets.	
Ensure producer responsibility funding filters down to local authorities	
Take out commercial waste and giving to private sector	
Residual treatment	
Create a national strategic body for tertiary treatment	
Build 4-5 large facilities across Scotland	
Financial Incentives / Charging	
Pay participants or the community for recyclable material collected.	
Introduce smart direct variable charging schemes (polluter pays).	
Introduce recycling rebate scheme	
Offer personal incentives <i>eg</i> loyalty points, reward participation.	
Restrict household residual waste capacity.	
Materials	
Encourage the recycling of plastics as this has a knock on benefit for other materials.	
Focus on materials where big numbers can be achieved <i>eg</i> paper, cardboard.	
Place a limit on residual waste materials collected.	
Provide street level recycling facilities.	
Encourage a change of behaviour in the public sector and promote recycling/prevention in house.	
Communications, Messages and Awareness	
Tie in recycling with climate change.	
Promote the message that what the individual does counts and highlight the multiplier effects.	
Promote the lifestyle benefits of taking responsibility for waste.	

Action	Already Happening?
Effective and proactive countering of media scares.	
Feedback positive messages to the public.	√
Ensure the basic message of the need to recycle is conveyed and concentrate on dispelling myths.	
Release positive news stories to counteract the negative ones.	√
Raise awareness of the integrated waste management journey to the public <i>ie</i> expand the 3 R's (reduce, reuse, recycle).	
Maintain credibility on what happens to recyclates/waste.	
Promote a consistent message UK wide & nationally.	
Ensure the message reaches non-householders.	
Normalise recycling by providing facilities at school, work leisure and home.	√
Increase participation by using systems smartly <i>ie</i> persuading people not to put out in the first place.	
Raise awareness on quality of recycle, as well as quantity.	
Use targeted campaigns in areas of contamination.	
Ensure the message is communicate specifically for different for age groups and socio-economic groups.	
Target cultural attitudes. Different social groups will respond to different strategies.	
Recognise accessibility issues <i>eg</i> language barriers need to be addressed.	
Maintain SWAG campaigns in all LA areas.	
Use Face to face Recycling Awareness Officers.	√
Use intense campaigns around alternate weekly collection.	
Use negative rather than positive campaigning.	
Conduct material specific campaigns.	
Ensure householders know what can be collected kerbside and what can be accepted at recycling centres.	√
Transfer 3Rs household awareness to the commercial sector.	
Mechanisms to communicate and raise awareness	
Use the mass media <i>eg</i> TV adverts on the impact of waste.	√
Use mass producers to fund TV adverts.	
Use recycling as a plot in TV programme <i>eg</i> Coronation Street, Eastenders.	
Break into using the electronic form of media <i>eg</i> internet video clips	
School education, eco-schools, national curriculum.	√
Retailers	
Link shopping with recycling.	
Offer a discount if reusable containers are refilled.	√
Reduce mixed messages from retailers regarding 'recycle' labels as in some instances it is only "theoretically" recyclable.	
Promote messages on sustainable shopping and consumption as this will lead to less being thrown away.	
Encourage joint working between local authorities and retailers.	
Encourage retailers to take more responsibility for front shop recycling points.	
Establish a good service agreement for recycle points.	
Encourage standard retailer design (statutory).	
Collection Systems and Services	
Ensure efficient and reliable service delivery.	√
Improve the image of the waste industry by providing a consistent message about what the industry is doing.	
Promote the image of a clean and safe operation.	
Encourage operators to pass recycling message to public.	
Secure alternative funding for improvements/campaigns/training of staff.	
Improve cleanliness & signage.	√
Locate recycle points in accessible and visible locations to increase participation and raise awareness <i>eg</i> garage forecourts.	
Provide guidance on a standard for alternative weekly collections based on those who perform this well.	

Action	Already Happening?
Bench mark international best practice elements on recycling/composting infrastructure.	
Enforcement	
Use enforcement powers more.	
Through the planning system, enforce conditions on the developments <i>eg</i> fast food developments to employ litter pickers.	
Strengthen legislative tools <i>eg</i> environmental courts, tighter regulation guidelines, level of fines.	
Dealing with the Media	
Be proactive about providing information.	√
Manage information releases by the press.	
Produce a communications strategy.	
Develop a consistent line for all government related organisations.	
Measure success of education and awareness	
Measure participation success, not just participation rate and link with recycling capture.	
Commission an independent study of efficiency of local authorities recycling/composting services.	
Carry out additional qualitative waste analysis focusing on why waste ends up as residual.	
Staff Training	
Encourage a positive mentality within the workforce.	
Encourage workforce to promote a positive image.	
Change image to public service providers and information providers.	

2.3

WORKSHOP 2

Workshop 2 was held on the 16th of March 2007. Prior to this the results of Workshop 1 were reviewed and eight topics were identified as worthy of more detailed consideration:

- Dry Recyclate Collections
- Recycling Centres
- Biodegradable Waste
- Improving Recyclate Quality
- Alternate Weekly Collections
- Local Authority Action
- Trade Waste
- Materials Recycling Facilities.

Each participant was asked to sign up for workgroups on two of these topics. Four workgroups were held in the morning and four in the afternoon. Each workgroup started with a brief introductory presentation on the topic prepared by one of the participants. This was followed by a discussion around what currently works, where it is working and why and then participants were invited to formulate an action plan for increasing recycling rates in Scotland through action in each topic area. Actions were considered over two timescales, short term/preparatory and long term/implementation. All participants had the opportunity to add comments to any of the topics.

The introductory presentations and the results for each workgroup are presented in *Part B* in *Chapters 3 to 10*.

Each workgroup was also asked to highlight actions relating to information and public awareness and the recommendations are collated in *Chapter 11*.

PART B

Workshop Findings

This part of the report presents the results of Workshop 2. A brief introduction is given to each topic summarising key data and issues arising, mainly derived from the presentations given on the day. The full presentations are presented in *Annex A*. Examples of successful approaches are summarised and the actions recommended by each group are then presented. These are divided into short term/preparatory actions and long term/implementation actions. Finally, actions relating to information provision and communication are presented in *Chapter 11*.

Alongside the actions identified, an indication of the time needed and the cost of completing the action has been suggested using the symbols below:

£	Low	⊕	Short term
££	Medium	⊕⊕	Medium term
£££	High	⊕⊕⊕	Long term

3.1 CURRENT SITUATION

73 percent of Scottish households have access to a dry recyclate kerbside collection ⁽¹⁾. Some further roll-out is currently planned which will bring the roll-out across Scotland to nearer 80%. On an individual council basis, coverage ranges from 32 percent to 100 percent of households. 21 percent of schemes collect dry recyclates on a weekly basis, 47 percent fortnightly; and 32 percent every 4 weeks. 31 percent of schemes collect dry recyclates source-segregated, 36 percent kerbside sorted and 33 percent co-mingled with sorting at a material recovery facility. Approximately 50 percent of the material collected for recycling at the kerbside in 2005/06 was dry recyclates. Individual council performance ranged from 10 percent recycling/composting to 40 percent.

At 5.88kg/hh/wk Moray has the highest dry recyclate kerbside capture, compared to the mean of 2 kg/hh/wk. Schemes offering up to 50 litres weekly capacity averaged capture rates of 1.9 kg/hh/wk; 50-100 litres 2.65 kg and over 100 litres 4.14 kg. Single material schemes averaged 1.24 kg/hh/wk whilst 3.21 kg/hh/wk was captured by local authorities that collected 4-6 materials.

3.2 KEY ISSUES

3.2.1 *Extending Roll-out*

Questions remain as to whether extending roll-out may be as effective as optimising existing schemes. However, possibilities for extending roll-out of dry recycling systems might include:

- servicing rural properties;
- servicing the remainder of multi-occupancy properties; and
- providing a dry recyclate service (or where appropriate, extension of service) to householders located within areas currently covered by residual waste treatment provision.

3.2.2 *Collection of additional materials*

The principal materials collected at kerbside include ⁽²⁾: cans (74 percent of properties provided with a kerbside service); glass (45 percent); plastic bottles (60 percent); paper (nearing 100 percent); card (75 percent); and textiles (17

(1) Key data on schemes provided by Remade Scotland based on a preliminary analysis of 2005/6 survey of kerbside collections and presented in Gordon Jackson's workshop paper.

(2) Figures in this section have been derived from Gordon Jackson's workshop paper and presentation .

percent). There is the potential to increase the range of materials collected by DRC systems and not doing so is considered to severely constrain recycle capture efficiency.

3.2.3 Scenarios

The table below shows the quantity of recycle required per household to meet various capture rates. The left hand three columns show the breakdown of household waste by constituent material and the average Kg/hh/wk ⁽¹⁾. The right hand four columns show the predicted kg/hh required to meet four capture rate scenarios. If 50 percent capture is achieved it is not inconceivable that 40 percent recycling/composting could be achieved without food waste collections and that food waste collections could be used to move beyond a new 40 percent recycling baseline.

Principal material	% of total	Average per household	Capture Rate			
		Kg/hh/wk	60%	50%	40%	30%
Paper and card	18	5.2	3.1	2.6	2.1	1.5
Glass	7	2.0	1.2	1.0	0.8	0.6
Metals	7	2.0	1.2	1.0	0.8	0.6
Plastics	7	2.0	1.2	1.0	0.8	0.6
Textiles	3	0.9	0.5	0.4	0.3	0.3
		12.0	7.2	6.0	4.8	3.6
Garden	22	6.3	3.8	3.1	2.5	1.9

3.3 WORKGROUP FINDINGS

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 3.1 (What Works?)* and *Table 3.2 (Recommended Actions)*.

(1) Source: Dry Recyclate Workshop Presentation Paper

Table 3.1 *What Works and Where – Dry Recyclate Collections*

What works?	Where?	Why does it work?	But ...
Well managed co-mingled collection.	South Lanarkshire	Bespoke solution – good management of contamination via face to face resources (waste aware recycling officers) Involved other Council departments to enforce eg housing department contacting associated housing schemes to support cleansing enforcement	Face to face contact – very resource intensive. Not necessarily seen much of an impact for similar approach in other areas (Glasgow City) Heavy handed “enforcement” approach requires careful handling not to “turn off” participation
Provision of communal collection for flatted properties, especially new developments.		Makes recycling accessible at no extra effort than disposal	Potential for contamination from other sources if not secured for the properties the containers serve
Residual bin collected fortnightly and box provided for dry recycling collection for paper, textiles and cans and glass.	Highlands	Greater range of dry recyclate collected More than one box can be requested by householder (10 percent of householders have more than 1 box)	Box does limit storage capacity for recyclate, householders do not always know they can ask for more (new householders joining old scheme). This can be dealt with through information provision. Adding glass to dry recycling systems or co-mingled collection creates contamination and health and safety issues (good practice requested for local authorities)

Table 3.2 *Recommended Actions - Dry Recyclate Collections*

No.	Short term/ Preparatory Actions	Why	Who	Additional Comments	Time	Cost
1	Undertake a study of why householders are not willing to participate in recycling. Target waste management operational staff who are collecting the material and have regular contact with householders and disaffected members of the public.	Target areas to improve current services	Task and Finish Group to review operational and communication issues related to achieving higher recycling rates. Group to target waste management operational staff rather than strategy/management staff Local authorities to interview operational staff Scottish Executive/SEPA - Check if	Requires targeted funding Decisions being made by local authorities based on good practice and actual local knowledge	⊕	£

No.	Short term / Preparatory Actions	Why	Who	Additional Comments	Time	Cost
			SWAG national household survey included questions on why householders don't recycle			
2	Establish Local Authority Working Group to discuss collection systems, what has worked and why, optimisation activities that can be taken forward to increase materials collected etc.		Ewan Huc, Highland Council to scope out proposal to cluster local authorities in similar services / collection systems Discuss with Jo Muse and Kenny Boag how to progress			
3	Investigate options for defining service specifications according to the type of area <i>ie</i> urban/rural. Linda Crichton (WRAP) to send specification of study to be undertaken in England to the Scottish Executive (Gordon Jackson).	To establish if Scotland wants to buy into UK project or by a different means	Scottish Executive Benchmark group		⊕	£
4	Organise event with reprocessors and local authorities in order to inform councils what they are expecting in terms of presentation of materials for market, standards and contamination levels.	May impact on how materials are collected To ensure an improved quality of material is presented for reprocessing	WRAP (Linda Crichton) to send information on similar event held in England to Scottish Executive Scottish Executive to liaise with Remade	A lot of local authorities work with 3 rd party recyclate handling companies, and don't really have much direct contact with the reprocessors, and an opportunity to understand the issues they are facing	⊕	£
5	Review materials collected and markets eg how have other local authorities been successful with collection of textiles? Encourage the community sector to target the more challenging/ specialist collection materials.		Scottish Executive	Support will be required for community projects MRF can be the determining factor regarding the type of collection system and material eg textiles can clog up machinery	⊕	£
6	Carry out further analysis as set out in the recently published Best Practice Report.	REMADE				
7	Review latest position on Remade's consortium proposal letter, sent to all Local Authorities requesting information regarding where recyclate is going.		Scottish Executive to get update from REMADE		⊕	£
8	Communicate changes to service	Increase tonnages	Recycling Advisors (refer to Forth Valley Model) for increased participation through reducing contamination			

No.	Longer Term/ Implementation Actions	Why	Who	Additional Comments	Time	Cost
9	Implement recommendations of working groups from preparatory action 2 above		Local authorities, Scottish Executive	Funding dependant on working group	⊕⊕	££
10	Introduce glass and textiles to kerbside collection.		Scottish Executive		⊕⊕	££
11	Improve recycle markets and local authority communication.		Scottish Executive, WRAP and SWAG	<p>Inform markets through joint communication to try and stimulate investment to absorb increasing capacity</p> <p>More recycle collected and bulked with other local authority contracts would lead to greater demand and expanding markets, however no economies of scale.</p>	⊕⊕	££

4.1 CURRENT SITUATION

There are 171 household waste recycling centres (HWRCs) in Scotland. Recycling centre provision varies between 1 per 5,000 households in Moray to 1 per 75,000 in Edinburgh ⁽¹⁾. There are over 2,500 recycling points with provision varying from 1 per 212 properties in Western Isles to 1 per 3,700 properties in East Renfrewshire.

In 2004, 587,000 tonnes of waste was brought to HWRCs which accounts for 17 percent of all municipal waste ⁽²⁾. The diversion rate was 49 percent, which equals a diversion contribution of 8.5 percent of all municipal solid waste (MSW). If average site diversion were increased to 70 percent, the potential contribution of recycling centres would be 11.8 percent, whilst 80 percent diversion would be 13.5 percent of all MSW. HWRCs can therefore play a substantial role in diverting MSW from landfill, however, whether a site is successful is dependent on a number of factors.

The spatial distribution and frequency of recycling centres and points varies significantly in Scotland and the optimal mix to maximise recycling in any particular situation is not clear. There is a lack of centrally held management information on the performance of centres and points for each material in each area and this is not helpful.

4.2 FACTORS AFFECTING CAPTURE RATES

Network Recycling's National Assessment of Civic Amenity Sites Report can you provide a footnote reference examines issues relating to recycling centre design and management. The report identifies nine factors as having a large influence on the recycling rate at recycling centres:

Infrastructure factors:

- number of bulk recyclables collected;
- number of small recyclables collected; and
- presence of a system for reuse which collects a substantial range of reusable items.

People factors:

- signage: quality, clarity & completeness;
- staffing numbers & efficiency;
- presence of contract incentives;
- presence of a high coverage of kerbside dry recycling (over 66 percent of district covered);

(1) Data taken from Scottish Executive Quarterly roll-out monitoring forms submitted by Local authorities

(2) Data from SEPA Waste Data Digest No6 2004 & 2004/05

- a negative effect was caused by height barriers affecting public mood; and
- a decrease in the rate of recycling was observed in areas of increased deprivation.

The major finding of the study was that recycling rates can be greatly improved at the majority of sites without a large financial outlay.

Network Recycling have carried out extensive survey work and have produced a Best Practice Guide and Recycling Centre Toolkit ⁽¹⁾.

4.3

WORKGROUP FINDINGS

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 4.1 (What Works?)* and *Table 4.2 (Recommended Actions)*.

(1) National Assessment of Civic Amenity Sites Report Report: - Overcoming Barriers to Improved Performance and Assessing the Cost Benefits of Investment funded by Defra's Waste Implementation programme local Authority Support Unit 2005/05.
NACAS Report and toolkit available at <http://www.networkrecycling.co.uk/downloadable-reports.htm#national>

Table 4.1 *What Works and Where? – Recycling Centres and Points*

What works?	Where?	Why does it work?	But ...
Staff training which includes conflict management training.	North Berwickshire; Clackmannanshire; South Lanarkshire – Enviroscot	Staff become more helpful, enthusiastic and knowledgeable	Staff intensive
Use of a barrier at entrance to intercept visitors. Staff ‘meet and greet’ directing users to the correct skip.	South and North Lanarkshire; East Dunbartonshire; Clackmannanshire.	Barriers enable discussion and direction before entering site Filming at barriers used to distinguish trade waste Controls overflow at peak times	Queuing traffic Need intercept staff to reinforce message and ensure that initial instructions are followed
Standard and user friendly opening hours.	Some centres open 9am and have late opening to accommodate householders	Consistency	8 – 9 am seen as ‘white van man’ time
Improving the initial design of recycling centres <i>eg</i> improved containers, materials accepted, or a ‘reuse cabin’.	East Dunbartonshire ‘reuse cabin’ at Edinburgh Seafield and Craigmillar	<ul style="list-style-type: none"> • Makes recycling easy and safe • One way system • Gate control • Increased range of materials • Compaction • Increase re-use, furniture re-use • Community partnerships 	<ul style="list-style-type: none"> • Retrofit restrictions for old sites • Must manage capacity • Expensive • Site space/footprint • Not accessible to non-car drivers • Right contractor for efficient servicing • ‘totting’ (staff benefiting from materials brought to site)
Clear signage, external and internal to the site.		<ul style="list-style-type: none"> • Site users know what to put into containers – avoid contamination due to uncertainty • well organised site with improved flow of traffic • meets health and safety requirements 	<ul style="list-style-type: none"> • Lead in signage can be poor • Restrictions on road signage • WEEE signage to be developed
Information provision <i>ie</i> education centre at site.	Perth & Kinross and New Zealand	<ul style="list-style-type: none"> • Saves wasted journeys • Increase participation/promote recycling message • Maps for householders to identify site layout and materials • Feedback performance signs at site can encourage ‘competition’ between sites and encourage more people to use the facility • Recognition and congratulatory messages to the public for their efforts 	Information required before visit

What works?	Where?	Why does it work?	But ...
		<ul style="list-style-type: none"> • People can see how there are contributing to the bigger picture of diverting waste from landfill 	
Composting and wormeries on site.		Act as education/ demonstration sites. Involvement of public and practical learning resource on the composting process	Wormeries can be quite complex to maintain Could be more suitable for localised / community sector facilities rather than for larger scale local authority facilities
CCTV		<ul style="list-style-type: none"> • Protects staff • Stops abuse • When site closed, stops fly-tipping • Number plate recognition 	<ul style="list-style-type: none"> • Expensive • Needs support of police
Charging for residual disposal at recycling centres	Toronto	<ul style="list-style-type: none"> • Clear idea of cost • Encourages recycling 	<ul style="list-style-type: none"> • Fly-tipping • Definition of waste permitted
Analysis of materials received.	Clackmannanshire	<ul style="list-style-type: none"> • Understand waste types • Good intelligence - know what is being missed • Leads to design improvements • Allows for seasonal variation 	Do local authorities monitor performance at their recycling centres? Useful for a national methodology for waste analysis (SEPA ?)
Permitting of commercial traders for the use of recycling centres.	Perth & Kinross Council	<ul style="list-style-type: none"> • Prepay permit on evidence of waste carrier licence • No cash at site • Diverts any conflict away from the site to the councils office • Controls the commercial waste and can provide cost incentive to recycling if differential charging for disposal/recycling 	Can be difficult to distinguish between traders and householders
Planning for the location of smaller decentralised sites.	Moray	<ul style="list-style-type: none"> • Closer to residential areas • Reduce travel impact • More accessible to all (eg disabled non-car driver) 	<ul style="list-style-type: none"> • Planning • High premium land • NIMBY • Less scope to segregate wide range of materials

Table 4.2 Recommended Actions – Recycling Centres and Points

No.	Short term/ Preparatory Actions	Why	Who	Additional Comments	Time	Cost
12	(1) Commission an assessment and report on Civic Amenity Sites with respect to Scotland (speak to Network Recycling) (2) Develop site assessment indicators using the above report as the basis (3) Identify and categorise for urban and rural scenarios (4) Compare good performance to act as baseline (5) Develop implementation plan.	<ul style="list-style-type: none"> • Improve cost effectiveness • Efficiency • Prioritise spend across Scotland • Identify the contribution recycling centres can make to Scotland's figures 	<p>Scottish Executive to fund</p> <p>Will require tender process to carry out research</p>	<p>Time required to identify funding, draw up tender specification, carry out research and write report may be prohibitive under short term action</p> <p>Should include trade waste element of municipal waste as well as household waste</p>	⊕⊕	££
13	SWAG to provide guidance for recycling points and centres regarding: <ul style="list-style-type: none"> • Marketing recycling centres to the public. • Increasing awareness of how recycling centres operate. 	Improve education and awareness	SWAG and local authorities	<p>What to do with contractors and third parties (eg waste management companies)</p> <p>Who has control of road signage directing to recycling centres?</p>	⊕⊕	£
14	Review existing training programmes for recycling centre staff and identify the most appropriate points for inclusion within national training guidance.	Topics might include how to be helpful to customers, how to handle conflict and how to manage the site to achieve high performance levels	<p>Establish a Steering Group – local authorities, SEPA, Scottish Executive, CIWM, SESA</p> <p>local authority and trainer (Wamitab?)</p>	<p>Training should not cover the usual operation aspects to recycling centres (already covered in numerous other training programmes). Should focus on issues such as :</p> <ul style="list-style-type: none"> • Customer service • Encouraging improved site performance • The wider impact of their job on the local authorities recycling performance and environmental impact • Managing conflict at the site • Incentivising personal responsibility for site performance and operation 	⊕	££
15	Produce clearer consistent guidance to assess the effects of WEEE Directive on recycling rates.		Scottish Executive	This may already be being done by COSLA	⊕	£
16	Examine/ review legislation on definition of waste received at recycling centres as municipal solid	In Scotland Recycling Centres are allowed to accept trade	Scottish Executive/SEPA – possibly as part of the trade waste survey with local		⊕	£

No.	Short term / Preparatory Actions	Why	Who	Additional Comments	Time	Cost
	waste between England and Scotland (and the other UK regions), and identify, variations in practice.	waste which is not the case in England. Waste received at the recycling centre is then defined as MSW. This can be particularly problematic if significant quantities of heavy/inert wastes are deposited at the site, resulting in higher levels of overall MSW generation and increasing the requirement for diversion from landfill. Practice regarding acceptance of trade waste at recycling centres varies between authorities	authorities			
17	Produce good practice guide for the inclusion of more re-use cabins at Recycling Centres. .	Increase the amount of higher value / re-useable items to be diverted away from the disposal route. Also provides community benefit providing useful items that would otherwise be thrown away.	Scottish Executive, SEPA, CRNS	The Waste Prevention Plan has an action to develop a Framework by Dec '07 Would need to be clear on how these items are counted -	⊕⊕	£

No.	Longer Term / Implementation Actions	Why	Who	Additional Comments	Time	Cost
18	National Assessment of Civic Amenity Sites Report review (see action 12) Roll out the implementation plan. Set targets.	<ul style="list-style-type: none"> • Improve cost effectiveness • Improve efficiency of sites • More consistent approach to the operation of recycling centres 	Local authorities	Dependency on the completion and outputs of action (ref number) above Local political / public acceptability dimension may inhibit consistent approach throughout Scotland	⊕⊕	££
19	Measure impact of SWAG guidance roll-out (see action 13) <ul style="list-style-type: none"> • review 	Monitor the impact of improved marketing and awareness activities	Local authorities and SWAG, independent third party could be used for verification	Keep scope simple Not all local authorities may implement guidance	⊕⊕	£

No.	Longer Term/ Implementation Actions		Who	Additional Comments	Time	Cost
	<ul style="list-style-type: none"> • measure tonnages • assess site performance • measure site efficiency 					
20	<p>Deliver training programme for recycling centre staff (using national training guidance, see action 14). All recycling centre staff to achieve standard for training.</p>		Local authorities, WaMITAB, CIWM	<p>Hard to maintain motivation</p> <p>Need to identify mechanism to ensure standard achieved</p> <p>Build into career progression and create opportunities and incentives for staff to take on the training points in their daily jobs</p>	⊕⊕	££

5 BIODEGRADABLE WASTE

5.1 CURRENT SITUATION

Biodegradable waste represents 63 percent of municipal solid waste ⁽¹⁾. 79 percent of this biodegradable waste consists of green waste, paper and card and food waste. Food waste equals on average 17 percent of all household waste of which 8 percent consists of vegetable peelings/fruit scraps, 3 percent tea bags, tea, coffee, egg shells, bread and 6 percent cooked food, meat and dairy ⁽²⁾. Waste analysis recently conducted by Stirling Council ⁽³⁾ found that fruit and vegetable waste made up 16.3 percent of household waste but 32 percent of the residual bin.

5.2 KEY ISSUES

5.2.1 Capture rates

Total food waste arisings in Scotland equal 250 kg/hhld/yr. Approximately 61 percent of properties are currently served with green waste collection services ⁽²⁾. The average capture rates for a collection of combined garden and food waste equals 30 to 50 kg/hhld/yr ⁽⁴⁾. This is far less than the capture rate for the separate collection of food waste combined with a fortnightly collection of residual waste where results of 100 to 120 kg/hhld/yr can be recorded.

5.2.2 Treating food waste and Current Facilities in Scotland

Any facility composting food waste must have state veterinary service approval to treat animal by-products. At present there are 3 licensed facilities in Scotland to treat this waste stream (including one with a temporary licence).

Food waste collection trials are already being carried out in Perth where Perth & Kinross Council has a local plant that is ABPR approved. Proximity to a treatment facility is an issue for a number of Councils. The central belt could be served by Scottish Water's composting plant in Cumbernauld (capacity 18,000 tonnes) with the potential to add to this capacity, however, there remains a deficit in capacity.

(1) 2,151,824 Tonnes (LAS 05/06)

(2) Dealing with Food Waste in the UK. Eunomia for WRAP (2007)

(3) A Review Of Scottish Kerbside Recycling Schemes To Identify Factors Supporting High Recyclate Recovery Rates, Remade Scotland, February 2007

(4) Perth pilot (combined garden and food) recorded 25 kg/hhld/yr. Data from Perth and Kinross report; calculations by Scottish Executive.

5.2.3 *Cost of composting*

The costs of the three composting techniques are shown below.

Technique	Cost
In Vessel Composting	£35 to £45 per tonne
Anaerobic Digestion	£45 to £55 per tonne
Windrow (garden waste only)	£20 to £25 per tonne

5.2.4 *Food waste and ABPR*

It may appear that the addition of food waste to the brown bin is the best option for food waste collection, as the collection infrastructure is already in place. The problem with this, however, is that all green waste that comes into contact with animal by products needs to be treated as ABP ⁽¹⁾ making the treatment costs higher and causing more problems for treatment operators in terms of mix ratios. Analysis of existing schemes shows that Councils in Europe have a preference for separate collection of food waste for the following reasons ⁽²⁾:

- Garden waste is often bulky and if there is no room for the food waste then the food waste will be disposed of in the residual bin.
- Processors of the waste have strict controls on mix ratios.

5.3 *WORKGROUP FINDINGS*

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 5.1 (What Works?)* and *Table 5.2 (Recommended Actions)*.

(1) Latest guidance December 2004

(2) Workshop 1 paper

Table 5.1 *What Works and Where? – Biodegradable Waste*

What works?	Where?	Why does it work?	But...
posting and output used for landfill restoration.	Viridor in Offcombe	End use available in landfill restoration	Landfill restoration should only be a short/medium term option, should be looking to improve quality of end product and look for alternative longer term uses.
Green waste input and output used for Landscaping.	GP plantscape in East Kilbride.	End use available in landscaping	
In vessel composting and open windrow composts food and green waste.	Scottish Water, Deerdykes in Cumbernauld		No market for end product, and has outstanding permitting issues.
MBT, in vessel composting and anaerobic digestion. Output used for material land spreading and “sales”.	Viridor in Beddington		Short term market option for lower grade materials. Regulatory issues with use of outputs on land
In vessel composting of black bag waste and output used for landfill restoration.	Viridor in Heathfield	End use available in landfill restoration	End use of outputs not infinite
Green and food waste through in vessel composting used for material restoring of landfill and “sales” to public.	Biffa on Isle of Wight		Limited longer term market opportunities Composting green and food waste is expensive way of dealing with waste (garden waste) that could be dealt with through much cheaper option eg open windrow
Farmers collecting in a community and open windrow composting on their farms.		Business for farmers Buy in from the community	Likely only to work in small communities and rural areas ABPR issues to consider
Municipal garden and food waste collected together. This is then taken to anaerobic digestion and composting plants.	Denmark	Mixed collection – food and garden waste	Expensive way to treat garden waste
Collecting food waste frequently	Small Italian waste authorities	<ul style="list-style-type: none"> • Food waste collected separately and frequently so public don’t have their food waste for more than a few days • Smaller vehicles are cheaper to operate • Local community subsequently pays less waste tax (in Italy) 	Not necessarily appropriate for larger authorities
Collect biowaste on a fortnightly basis for composting.	Fife Council	Before ABPR issues so able to use non compliant facilities	Now need to consider ABPR and use compliant facilities

What works?	Where?	Why does it work?	But...
Joint collection of food and garden waste.	Canada	Funding provided Ban on energy from waste so this is a driver to collect segregated waste to treat in appropriate facilities	
Mixed waste to in-vessel composting. Used for landfill restoration.	Argyll and Bute		Legislation and material is an issue
Combined food and garden waste collected fortnightly. Composted in-vessel and then windrow. Vegetable and fruit matter only is collected and there is a simple pre-sort.	St Edmundsbury Council, Suffolk	Well implemented and well managed	No meat/cooked food May need use of biobags Contamination issues with inclusion of other food wastes by the householder
Weekly box collection of food waste.	Somerset county	<ul style="list-style-type: none"> Operated and managed effectively High profile with good PR 	Additional cost of another weekly collection Contamination issues with inclusion of other food wastes by the householder

Table 5.2 Recommended Actions – Biodegradable Waste

No.	Short term/preparatory actions	Why	Who	Additional Comments	Time	Cost
21	Produce a user friendly guide (case study portfolio) of examples of different collection and treatment techniques using existing data (draw on eumonia report ⁽¹⁾).		Remade, SEPA		⊕⊕	££
22	Analysis of the risk of markets for compost. Review of treatment and end product to identify how others are using the end product and addressing regulatory issues.	Identify long term market stability for composted materials	WRAP, Remade, SEPA, Scottish Executive	Include ABPR and attitudes of retailers (eg tesco not buying from farmers who have applied waste derived composts on their land.	⊕⊕	£
23	Specify waste derived compost content in soils for purchasers and include this in planning conditions/contract specification.	Provide end use for recycle	Scottish Executive COSLA	Relate to biowaste Standards	⊕	££
24	Cost benefit analysis of the whole composting system with all options included. This would address best value and include life cycle analysis/BPEO.	Identify wider environmental impact of systems. Extent they can contribute to issues such as climate change	WRAP, REMADE, SEPA, Waste Industry – all stakeholders	Whole life cost to compare separate and combined collection Should be integrated into work of the food waste pilots funded by Scottish Executive – carried out by WRAP, REMADE and SWAG	⊕	££
25	Waste analysis of residual waste during food	Establish the bio waste	REMADE / WRAP	DEFRA working on Waste Analyses	⊕	£

(1) Dealing with Food Waste in the UK. Eumonia for WRAP (2007)

No.	Short term/preparatory actions	Why	Who	Additional Comments	Time	Cost
	waste trials.	content to inform LAS calculations		and Bio Waste Calculations under LATS. WRAP also working on Food Waste Composition analysis		
26	Guidance for compost producers detailing how to produce high quality compost	Ensure compost meets PAS 100	WRAP	Check that guidance isn't already available – also with the Composting Association	⊕	£
27	Develop small scale composting (eg community, local authorities, business). Could be encouraged through incentives for farmers.	Reduces compost miles Increases diversion from landfill	CRNS, Local authorities, Could the Scottish Executive look at business incentives for farmers?	Provides local diversification opportunities for local farmers	⊕⊕	££
28	Provide clear guidance on the most effective measures for progressing with biowaste collections quickly.	LAS targets looming, need to divert increasing amounts of this waste from landfill sooner rather than later	Scottish Executive	Best to get guidance right to avoid abortive action rather than rush recommendations through. Sufficient guidance already out there for green waste.	⊕	£
29	Promote the use of allotments and on-allotment composting	Provide an additional outlet for the use for compost	Local authorities/ composting association	Probably limited tonnage impact, as most allotment owners already compost their waste as common practice by keen gardeners Check if there is any specific allotment / composting guidance available already	⊕	£
30	Encourage local authorities to use existing power to charge householders for green waste collections.	Charging for bio waste, can financially support the processing of these wastes. Charging also promotes better use of the service / greater ownership by the householder, and may also encourage composting at home rather than paying for the service if their garden has sufficient space	Scottish Executive / Local Authorities		⊕	£

No.	Longer Term/ Implementation Actions	Why	Who	Additional Comments	Time	Cost
31	Ban organics to landfill and investigate the alternatives – review European bans and establish mechanisms and effectiveness.	Could use Climate Change Strategy as a driver	Scottish Executive, SEPA	Biomass Action Plan Need well established alternatives to landfill in place – or announce future ban with enough time for alternatives to be developed	⌚⌚	££
32	Peat tax/peat ban for horticultural use. Investigate what is happening in the Western Isles and Ireland.	To make compost a more appealing option	UK Government	Also link to climate change, and depleting peat resources are having an impact on CO ₂ sinks	⌚⌚	£

6.1 KEY ISSUES

The introductory presentation covered a number of points regarding recyclate quality in general and in relation to specific materials. In general:

- recyclate quality is affected by the level and nature of contamination and how well systems cope with this depending on the methods of collecting, bulking, baling or reprocessing;
- prices for Recyclate are highly dependent on the quality, for example in relation to the various grades of paper;
- demand also varies with quality *eg* colour separated glass;
- high recyclate quality and capture rates are essential for a financially viable collection schemes;
- there is increasing dependence on foreign markets;
- effective promotion of existing good practice is necessary; and
- education and monitoring are essential and must be maintained over time.

In relation to specific materials:

Paper - 'The introduction of large scale recyclate sorting plants in the UK has simply diverted clean, quality recovered paper into a more problematic recovery route with the introduction of a further processing step and increased risks to quality' (Confederation of Paper Industries) ⁽¹⁾

Plastics - Currently limited types collected (mainly HDPE) but as more types collected there is a growing risk of cross contamination if over dependent on source segregation by the public.

Metals - Some issues with contamination with food waste, which can lower the price of bales. Most robust of all materials to contamination.

Compost - Needs to be high quality in order to have a product. High contaminant risk from a wide range of materials. Nervousness by food industry and retailers poses a long term risk to use in food production systems/agriculture.

Glass - Contamination with Pyrex and colour contamination. Shortages of high quality colour-separated cullet are growing due to an increase in mixed

(1) Workshop paper

colour collections. There is a need for the market to focus on ways to increase the quantity of high quality colour-separated cullet.

Concerns about Recyclate quality from properties in multiple occupation have been investigated in a trial collection in high rise flats and tenements in Falkirk. One of the main findings of this trial was that:

“Recyclate collected was of exceptional quality. It is considered that as recyclates are stored within households they are thoroughly washed to avoid odour. Quality issues were immediately addressed by collection operatives, who returned any contaminates. Repeated contamination (or non participation) was followed up by a consultation with a waste officer.”

Other key conclusions focussed on the need for:

- ongoing education and monitoring;
- training in market and quality issues for local authority recycling officers;
- development of an all materials quality issues guide (with industry, WRAP and Remade input);
- national monitoring of market trends and issues (by WRAP/Remade).

6.2 SOURCES OF FURTHER INFORMATION

WRAP has published guidance for monitoring contamination ⁽¹⁾, including kerbside monitoring; monitoring at bulking station or Material Recovery facility (MRF) and seasonality.

6.3 WORKGROUP FINDINGS

The results of the Workgroup on Dry Recyclate Collection are summarised in Tables 6.1 (*What Works?*) and Table 6.2 (*Recommended Actions*).

(1)http://www.wrap.org.uk/local_authorities/toolkits_good_practice/monitoring_and_evaluation_guidance/chapter_6.html

Table 6.1 *What Works and Where? - Improving Recyclate Quality*

What works?	Where?	Why does it work?	But ...
Kerbside management - checking bins and addressing contamination issues with a waste aware officer visit.	South Lanarkshire	Maintains awareness and addresses a lack of knowledge	<ul style="list-style-type: none"> • Resource and labour intensive • Difficult process and there are also health and safety issues • Pros and cons of the Council tag
Education, awareness and training for the frontline workers.	Fife, Perth and Kinross	Frontline workers begin to feel that they have a stake in the process and raise awareness	
Powerful and prolific announcements about waste management in the media.	Nova Scotia and Christchurch		Depends on the choice of message
Messages on collection vehicles <i>eg</i> tonnages of glass collected per week, levels of contamination.	Chester	Maintains awareness and encourages engagement	

Table 6.2 Recommended Actions - Improving Recyclate Quality (see also actions in section 4, dry recyclate systems)

No.	Short term / Preparatory Actions	Why	Who	Additional Comments	Time	Cost
33	Produce guidance for local authorities on measuring contamination and reject tonnages.	Figures could be used to highlight reject tonnages and recyclate quality. Improve data reporting on actual recycling performance	Scottish Executive	How to ensure consistency across the local authorities on measuring contamination	⊕⊕	££
34	Augment WRAP's guidance on recyclate quality to highlight quality issues eg how high quality recyclate is achieved.	This information can be used to underpin training. Knowledgeable staff can help to reduce contamination	WRAP		⊕	£
35	Review/assess solutions and causes of contamination and collect supporting data. Produce best practice report		WRAP and Remade		⊕⊕	££
36	Produce a guide/toolkit on training and training resources	Reduce contamination	SEPA, SWAG		⊕⊕	££
37	Create a body to undertake spot checks and door stopping in areas of high contamination	Maximise existing systems by reducing contamination	Group supported by COSLA, SEPA, SWAG, REMADE		⊕⊕	££

No.	Longer Term / Implementation Actions	Why	Who	Additional Comments	Time	Cost
38	Encourage any attempt to move towards promoting waste as a service activity.	Encourages the public to take on board their responsibilities and view waste	SEPA/SWAG /Scottish Executive		⊕⊕⊕	£

No.	Longer Term / Implementation Actions	Why	Who	Additional Comments	Time	Cost
		management as a service, not as a nuisance				
40	<p>Scottish Executive to set out guidance on the full range of local authority powers including variable charging/incentives.</p> <p>Local authorities to implement guidance and measure impact.</p>	<p>Improve the quality of materials presented by the householder / business for collection by the local authority</p>	<p>Scottish Executive</p>		⊕⊕⊕	£

7.1 CURRENT SITUATION

Over 150 authorities in the UK are operating alternate weekly collections including the following Scottish local authorities (as of April 2007):

South Lanarkshire	Angus	Inverclyde
Falkirk	Moray	Stirling
Perth & Kinross	West Lothian	Clackmannanshire
South Ayrshire	East Ayrshire	Midlothian

7.2 KEY ISSUES

7.2.1 *The benefits*

Fortnightly collection of residual waste has been found to contribute to high recycle recovery rates ⁽¹⁾. There is the opportunity to enforce some kind of limit on the amount of refuse being put out by householders. Local authorities in Scotland offering a weekly collection of residual waste collect on average 1.6 kg/hh/wk of recycle ⁽²⁾ whereas those with a fortnightly collection average 2.7kg/hh/wk of recycle.

7.2.2 *Legislation*

The Environmental Protection Act (EPA) (1990) requires local authorities to collect and dispose of household rubbish. Despite this, each collection authority determines the method and timing of waste collection. EPA Section 46 ⁽¹⁾ requires the occupier to place the waste for collection in receptacles of a kind and number specified by the waste collection authority. There is no legal determination of the minimum frequency of household residual waste collection.

7.2.3 *Health Impacts*

A recent study for Wycombe District Council ⁽³⁾ found that:

"[there is] no evidence that alternate week waste collection will cause any significant health impacts for residents, or that any health impacts are likely to be significantly greater than those associated with weekly collections."

The study makes the following recommendations:

(1) A review of Scottish Kerbside Recycling Schemes to identify factors supporting high recycle recovery rates. Remade Scotland, Feb 2007

(2) Remade Scotland - Feb 2007

(3) Health impact of Scottish Kerbside Recycling Schemes to identify factors supporting high recycle recovery rates. Remade Scotland, Feb 2007

- Maintain high hygiene standards in the waste containers (eg washing and disinfection) to reduce the risks of flies or mould.
- Reduce moisture in waste containers. This will help to control fly infestations and prevent anaerobic conditions in the waste container that could lead to odour problems.
- Keep the waste container outdoors where possible. Containers should be kept out of direct sunlight to reduce any fly infestations and also help reduce micro-organism activity.
- Ensure no opportunities exist for rodents to shelter in the area inside or outside the house.
- Ensure no waste is kept exposed *ie* all waste is kept tightly wrapped or in containers.

7.2.4 *Further Sources of Information*

SWAG has provided guidance on information campaigns regarding alternate week collections ⁽¹⁾. In addition, WRAP provide good practice advice for authorities considering the introduction of alternate weekly collection ⁽²⁾. These sets of guidance are summarised below.

- Ensure clear and effective communication with householders.
- Feedback to householders.
- Educate residents and produce clear fact sheets.
- Elected members and public informed of services and reasons for any changes to services.
- SWAG Sort-it-tool to be advertised/communicated to raise awareness and to right audience.
- Use information stickers on bins.
- Hire staff to visit residents to give advice and help.
- Phase in the scheme.
- Ensure good political support for the scheme.
- Hold open days, site visits, school visits.
- Use community forums to share information about changes to waste collection arrangements, and receive feedback/suggestions for improvements.
- Communicate with the media before a bad report is published on services.
- Provide a quick response to complaints.

(1) www.wrap.org.uk/local_authorities/toolkits_good_practice/alternate_week.html (currently under review)

(2) www.wasteawarescotland.org.uk/pdf/bestPractice/Alternate%20Weekly.pdf

7.3

WORKGROUP FINDINGS

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 7.1 (What Works?)* and *Table 7.2 (Recommended Actions)*.

Table 7.1 *What Works and Where? – Alternate Weekly Collections*

What works?	Where?	Why does it work?	But...
Introducing weekly dry recycling collection alongside fortnightly residual	Local authorities listed in <i>section 7.3</i> above	No perceived loss in service provided by the local authority. Not therefore referred to as alternate weekly collection (as this feeds the notion that collections are reducing – when actually just changing the types of waste that are still collected on a weekly basis)	Collection transport may have to change Manage residual fortnightly collection so no extra presentation and costs (double counting)
Review lessons learned and build service on what householders need – learn from others	West Lothian have produced a lessons learned report	Not making the same mistakes again	
Collection of specific materials throughout week			

Table 7.2 *Recommended Actions - Alternate Weekly Collections*

No.	Short term/Preparatory Actions	Why	Who	Additional Comments	Time	Cost
41	Carry out a review of all local authorities to determine: <ul style="list-style-type: none"> Why local authorities are not rolling out alternate weekly collections Existing schemes best practice 	To inform future actions required	Scottish Executive/SEPA to facilitate discussions review. This could be integrated with dry recycling collection actions (see <i>Section 4</i>)	This could be incorporated within additional Remade analysis identified in best practice report Get a copy of the Alternate Weekly Collection report by WRAP and see if a Scottish version of services and gaps can be developed Review to address the following <ul style="list-style-type: none"> Is it working? Is there more that can be done? Is there a more effective and efficient ways of delivery for current local 	⊕⊕	££

No.	Short term/Preparatory Actions	Why	Who	Additional Comments	Time	Cost
				<p>authority practices?</p> <ul style="list-style-type: none"> • Can local authorities use existing powers more effectively? • Do alternate weekly collections work for mixed areas (urban and rural)? 		
42	<p>Produce standard guidance on enforcement of residual waste collections for local authorities (standard messages, legislative powers etc).</p> <p>Link with action 41 above</p>	<p>Support local authorities in the consistent implementation of alternate weekly collections</p> <p>Standard alternate weekly collection messages throughout Scotland</p>	Scottish Executive COSLA	<p>Still likely to face political and public opposition so unlikely it will be applied throughout Scotland</p>	⊕⊕	££
43	<p>Action on profiling different types of alternate weekly collections and assessing LCA impact - identifying best options.</p>	<p>Link to climate change schemes delivered to improve wider environmental performance, help support argument to introduce instead of maintaining weekly collections</p>	SEPA	<p>Compare alternate weekly collection with maintaining weekly collections</p>	⊕⊕	££

No.	Longer Term / Implementation Actions	Why	Who	Additional Comments	Time	Cost
44	<p>Produce targeted guidance on campaigns - working with local authority and Waste Strategy Area Group when best practice options have been identified.</p>	<p>Alternate weekly collection will attract a lot of media coverage and public interest. Make sure reporting is informed and householders properly understand why they are having a change in service and how that change will impact on them, well before implementing the scheme.</p>	SWAG	<p>SWAG have already produced guidance on implementation of alternate weekly collection</p> <p>Useful to take on board public concerns and aim to address through information provision, changes to the proposed service before it is implemented.</p>	⊕⊕	££
45	<p>Organise event with reprocessors and local authorities, inform councils what they are expecting</p>	<p>May impact on how materials are collected to ensure</p>	WRAP (Linda Crichton) to send	<p>Many local authorities work with third party recycle</p>	⊕	£

No.	Longer Term / Implementation Actions	Why	Who	Additional Comments	Time	Cost
	in terms of presentation of materials for market, standards, contamination levels, forecast state of markets (as action 4).	improved quality of material is presented for reprocessing	information on similar event held in England to Scottish Executive Event to be organised by Remade, Scottish Executive to liaise with Remade	handling companies and don't have an opportunity to understand the issues reprocessors are facing		

8.1 CURRENT SITUATION

It is estimated that the 32 Scottish local authorities generate 121,357 tonnes solid waste per year ⁽¹⁾ derived from schools, offices, resource and community centres, care homes and leisure centres. This equates to around 3.5 percent of total municipal solid waste arisings. As well as the tonnage benefits of reducing the amount of local authority waste being sent to landfill, public bodies can be seen to set a good example to the public.

8.2 KEY ISSUES

8.2.1 Waste Audits

In October 2004, the Scottish Executive announced funding of £2 million for local authority internal waste audits (£62,500 for each authority). All authorities in Scotland took up this offer. Remade Scotland has worked with twenty-one local authorities to help conduct waste audits and develop waste prevention plans. The sources of local authority waste and the composition are shown below.

Table 8.1 Sources of local authority waste

Source	Percentage of total ⁽²⁾
Schools	33%
Building Services	31%
Depots	13%
Resource Centres	9%
Offices	6%
Community Centres	3%
Libraries	2%
Leisure centres	2%

Table 8.2 Composition of local authority waste

Material	Percentage of total
Paper	45%
Organic	22%
Glass	14%
Card	10%
Plastic	6%
Cans	3%

(1) A Review Of Scottish Kerbside Recycling Schemes To Identify Factors Supporting High Recyclate Recovery Rates,

REMADE Scotland, February 2007

(2) Figures from workshop paper and sourced from REMADE Scotland

8.2.2 *Costs*

No further funding will be made available to local authorities to implement waste audits. However, it is recognised that there may be issues in relation to joint working across local authority departments. Under paragraph 6 of schedule 4 to the Controlled Waste Regulations 1992, waste from premises occupied by local authorities is to be treated as commercial waste (unless by virtue of other provisions of the regulations or by the Environmental Protection Act 1990 it is to be treated as household waste or industrial waste). Local authorities are empowered to charge for the collection and disposal of commercial waste.

Internal waste minimisation by local authorities, and increased recycling, can help reduce the amount of municipal waste sent to landfill, can reduce costs and shows that public bodies can act as “exemplars”. The Scottish Executive does not intend to spend further financial resources in this area but could take a number of administrative steps to encourage the implementation of findings relating to the waste audits.

8.2.3 *Sources of Further Information*

The Local Authority Waste Audits – Waste Prevention Action Plan Checklist and Barriers to Implementation (from discussions between Remade and project officers) are provided in *Annex B*.

8.3 *WORKGROUP FINDINGS*

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 8.1 (What Works?)* and *Table 8.2 (Recommended Actions)*.

Table 8.1 *What Works and Where? – Local Authority Action*

What works?	Where?	Why does it work?	But...
Ensure links are made between Household waste aware messages and recycling at work messages Establishing a committee to assist with corporate buy in and tie in with wider sustainable development strategies.	Inverclyde	This helps ensure that the internal message correlates with the wider household kerbside campaign	Not all councils have corporate drive & buy in
Dedicated officer to take internal local authority actions forward.	Inverclyde	Not just seen as an add on to someone's existing job that would have to compete for time and resources.	Lack of funding so work not continuing and other local authorities cannot replicate this
Attach a sustainability checklist to committee reports.	Clackmannanshire	Encourages greater consideration of recycling implications and opportunities for all council activities	Report writers may just pay lip-service to completing the checklist without actually realising any actual actions
Charge other departments for waste collection then offer incentives for recycling.	Aberdeenshire, Clackmannanshire		Dependent on corporate buy in and if departments pay for their waste through internal charging systems. .
Introducing Eco-Schools in all schools under Local Authority control	Over 2,500 schools registered in Scotland	Encourages good environmental behaviour at an early age – one of the key modules is waste and recycling	Not many secondary schools sign up to Eco-schools, usually targeted at primary schools
Get buy in from janitors/cleaners. Tie into contracts if contracted out.	Inverclyde	They are the ones dealing with the waste, should be part of the general cleaning/servicing contract.	Local authority dependent. For PPP buildings, must ensure this is part of the PPP contract and built in at an early stage – segregation of recyclable materials and collection for recycling
Centralised catering for schools.	Clackmannanshire	Reduces overall waste volume per pupil Less preparation waste	Difficult to change existing contracts Not suitable for rural local authorities

Table 8.2 Recommended Actions – Local Authority Action

No.	Short term/preparatory actions	Why	Who	Additional Comments	Time	Cost
46	Attach a sustainability checklist on committee reports.	Encourage a greater consideration of waste	Local authorities	Ensures all departments consider waste implications	⊕	£
47	Use existing corporate buy ins eg Area Waste Plans and Climate Change Declaration.		Local authorities /COSLA	Requires corporate buy in Useful to tie in with the councils Environmental Policy and if they are working towards an environmental management system	⊕	£
48	Local authority/public sector in-house recycling league table. This performance indicator could be included in the Audit Scotland PI reports.		Audit Scotland	Need to be clear how this will be measured Local authority waste often mixed with household waste so difficult to measure	⊕	£

No.	Long term/Implementation actions	Why	Who	Additional comments	Time	Cost
49	Influence public procurement work as part of Mclelland Report		Scottish Executive (P. Brown)	Closes the loop between demand for recycled products and supply of recycle t o market. Local authorities are significant purchasers of materials and can have a significant impact on improving markets for recycled materials Check local authority environmental policies and any env management systems they may be working to. Green procurement guidance has been produced already by a number of sources – how is this promoted and used? how can it be further promoted ? is local authority procurement specific guidance required ?	⊕⊕	££

9.1

INTRODUCTION

In 2006 500,000 tonnes of trade waste was collected in Scotland which equals 14% of total municipal solid waste ⁽¹⁾. 21% of trade waste was recycled, accounting for 3% of the municipal solid waste recycling rate. Trade waste ranges between 0 – 38% within local authorities whilst the recycling rate ranges between 0 - 89%. Recycling all trade waste could increase the recycling rate in Scotland by 11%.

Local authorities have certain obligations under the Environmental Protection Act 1990, Section 45 as shown below:

Trade Waste Obligations

Commercial	Must arrange for collection if asked Can waive charges for collection and disposal (but authorities are expected to recover costs)
Industrial	May collect if asked If waste is collected, authorities must charge collection and disposal costs

9.2

THE BUSINESS WASTE FRAMEWORK

The Scottish Executive and SEPA published the Business Waste Framework during March 2007. The Framework contains a number of actions for each of the key issues below:

- Commitment to help small and medium enterprises to recycle.
- Directing businesses to advice and help already out there – local authorities, Envirowise and BEP.
- SEPA to research existing local authority collection systems –and what would be beneficial for local authorities.
- Scottish Executive and SEPA to have discussions with COSLA about support for trade waste officers.

The Scottish Executive and SEPA will review progress on the actions twice a year and will publish revisions to show progress. Consideration will also be given to adding any further appropriate actions.

(1) Figures from Scottish Executive workshop paper

9.3

WORKGROUP FINDINGS

The results of the Workgroup on Dry Recyclate Collection are summarised in *Tables 9.1 (What Works?)* and *Table 9.2 (Recommended Actions)*.

Table 9.1 **What Works and Where? - Trade Waste**

What works?	Where?	Why does it work?	But ...
<p>Proposal to implement recycling scheme to all 900 existing trade waste customers from 01/04/08.</p>	<p>Falkirk</p>	<ul style="list-style-type: none"> • Already implemented for 200 council owned properties • Using internal costs as pilot • Green credentials 	<ul style="list-style-type: none"> • One charge for recycling (single charge but must segregate) • Same charge can only be maintained if collection frequency remains as it is • Need to build in business loss rate (<i>ie</i> unit cost will increase but advertised cost will remain the same) • Stuck with the worst customers (private sector takes the others) • Trade waste seeps into household waste • Difficult to accurately estimate trade waste and need to cost trade waste accordingly • Need to sort out the anomalies associated with rural logistics
<p>Introducing a composite trade waste service by:</p> <ul style="list-style-type: none"> • Allowing access to recycling centre sites; • subsidising glass collection; and • subsidising paper collection. 	<p>Fife</p>	<ul style="list-style-type: none"> • Fully recovers cost and a small margin of composite service • More environmentally sustainable • Reduces friction (and back-handers) between white van man and recycling centre staff • Prevents fly-tipping • Season tickets to white van, ticket has van details • Two types season ticket: higher cost for rubble and garden soil; and lower cost for materials such as glass, metal, cardboard • General waste: separate fee and higher cost than season ticket • Sub-contract some waste to community sector • Private sector does not service rural areas, although some private businesses are starting to market their services) 	<p>No real compulsion on private waste management companies to sort waste prior to landfill, but collection risk because of associated higher cost and can lose business.</p> <p>Private companies go into town centres but do not go into the rural areas.</p> <p>Requires one charge across a council area to accommodate this issue (<i>ie</i> cross subsidisation necessary)</p>

Table 9.2 Recommended Actions - Trade Waste

No.	Short term/ Preparatory Actions	Why	Who	Additional Comments	Time	Cost
50	Put producer responsibility onto business to reduce/re-use/recycle. Could do as part of operating licence.		Scottish Executive		⊕⊕	££
51	Review recycling centres and investigate whether trade waste can be accepted Is this duplication with action above under recycling centres? if so just cross ref to action number rather than repeat	Investigate whether trade waste can be accepted	Scottish Executive		⊕⊕	£
52	Review trade waste collection services and costs, particularly in rural areas and produce best practice guidance. Evaluate/analyse the cost of trade waste versus household waste through pilots	Identify variations in commercial recycling services and rates charged rates is wide	SEPA - carry out survey Scottish Executive - produce guidance		⊕⊕	£
53	Establish differential charging schemes for segregated waste (mixed waste costs should be higher than recycling costs eg waste collected for recycling doesn't include landfill tax charge, just a collection and processing charge (This could be an output of the best practice guidance proposed in action 52 above)	Provide financial incentive to businesses to recycle their waste	Local authorities	If the link is made with landfill tax, then proposed significant increases from £3 to £8 per tonne per year will start to realise quite a significant cost incentive to businesses	⊕	£
54	Encourage back haul from businesses to cash and carry.	Minimise transport of waste via additional collection vehicles, takes waste packaging back to the producer	This is probably an action more suited to an organisation like Envirowise	Requires buy-in by cash and carry organisations	⊕⊕	£
55	Additional actions identified in the business waste framework					

During workshop 2 delegates were given the option to suggest additional topics for discussion. A small group of delegates chose to discuss MRFs. The main points arising are summarised below.

10.1 *SHORT TERM/PREPARATORY ACTIONS*

Investigate MRF processes and what they produce.

Gap analysis comparing recyclate generation with capacity/capability to process to quality for markets.

Solutions: Organic v strategic
Public/private v private

10.2 *LONGER TERM/IMPLEMENTATION ACTIONS*

- Address through - 2010, LAS.
- Look at risk of early redundancy.
- Urgent need for short term target solutions (OK post 2013) - strategic approach.
- Local authority trading strategy.
- Short term - futures system.
- Merchant facilities.

Effective communication will be central to the successful implementation of many of the actions set out in the previous chapters. The following table sets out actions noted by the workgroups relating to effective communication.

Action	Who
SWAG to provide guidance for recycling points and centres covering: <ul style="list-style-type: none"> • Public promotion and marketing to public • Increasing awareness of how recycling centre site operation 	SWAG and local authorities
Promote the use of allotments	Local authorities and SWAG
Review operational and communication issues related to achieving higher recycling rates.	Scottish Executive and SWAG
Encourage any attempt to move towards promoting waste as a service activity	SEPA/SWAG /Scottish Executive
Produce targeted guidance on alternate weekly collection campaigns - working with local authority and Waste Strategy Area Group when best practice options have been identified	SWAG
Review operational and communication issues related to achieving higher recycling rates	Scottish Executive and SWAG
Improve communication between local authorities and processors communication	Scottish Executive, WRAP and SWAG
Communicate changes to service	Local authorities

Annex A

Workshop Findings



Improving Recycling Rates in Scotland Workshop

Edinburgh Zoo
16'th March, 2007

Session 5 – Improving Recyclate
Quality

John Ferguson

www.sepa.org.uk



Key Issues By Materials

- **Paper:** *'The introduction of large scale recyclate sorting plants in the UK has simply diverted clean, quality recovered paper into a more problematic recovery route with the introduction of a further processing step and increased risks to quality'. (Confederation of Paper Industries).*
- **Plastics:** Currently limited types collected (mainly HDPE) but as this changes there is a growing risk of cross contamination if over dependent on source segregation by the public.

www.sepa.org.uk

Key Issues By Materials

- **Metals:** Limited issues. Some issues with contamination with food waste, which can lower the price of bales. Most robust of all materials to contamination.
- **Compost:** Quality = Product. High contaminant risk from a wide range of materials. Nervousness by food industry and retailers poses a long term risk to use in food production systems / agriculture.
- **Glass:** Contamination with Pyrex and colour contamination are the main issues. Shortages of high quality colour-separated cullet were growing due to an increase in mixed colour collections. There is a need for the market to focus on ways to increase the quantity of high quality colour-separated cullet.

www.sepa.org.uk

Guidance and Solutions

- WRAP has published guidance on monitoring contamination, including:
 - Kerbside monitoring;
 - Monitoring at bulking station or MRF;
 - Seasonality;
 - Use of survey to monitor public levels of understanding of collection system.
- http://www.wrap.org.uk/local_authorities/toolkits_good_practice/monitoring_and_evaluation_guidance/chapter_6.html

www.sepa.org.uk

Guidance and Solutions

High-Rise /Tenement Collections: Falkirk Trial, December 2005:

- *“Recyclate collected was of exceptional quality. It is considered that as recyclates are stored within households they are thoroughly washed to avoid odour. Quality issues were immediately addressed by collection operatives, who returned any contaminates. Repeated contamination (or non participation) was followed up by a consultation with a waste officer.”*
- Ongoing Education and Monitoring.
- Training in market issues (including quality issues) for LA Recycling Officers.
- Development of an all materials Quality Issues Guide (with industry input –WRAP / ReMaDe).
- National monitoring of market trends and issues (WRAP / ReMaDe).

www.sepa.org.uk

Key Issues Summary

- The quality of recyclate is based largely on:
 - the level and nature of contamination in relation to the method of collecting, bulking, baling or reprocessing.
- Materials such as paper are highly dependent on the quality, as prices differ for the various grades of paper.
- Quality and demand relationship e.g. colour separated glass.
- High recyclate quality and capture rate are essential for a financially viable collection scheme.
- Increasing dependence on foreign markets (e.g. paper, plastics = competition for markets based on quality).
- Effective promotion of existing guidance necessary.
- Education and monitoring are essential and must be maintained over time.
- More support needed.

www.sepa.org.uk

FOOD WASTE

BASIC STATISTICS

- Food waste 17% of household waste
 - Of 17%
 - 8% veg peelings, fruit scraps
 - 3% tea bags, tea, coffee, egg shells, bread
 - 6% cooked food, meat, dairy

[source: WRAP]
 - Fruit and veg waste 16.3% of h/hold waste
 - But 32% of residual bin
- [source: Stirling Council]

LEGISLATION

- Treatment of food waste subject to Animal By-Products Regulations (ABPR)
- Latest guidance Dec 2004
- Catering waste with meat requires 2 composting stages
- Meat excluded catering waste requires only 1 composting stage but must be closed vessel
- Veg peelings etc from domestic kitchens part of meat excl catering waste
- Green waste not subject to ABPR

FOOD WASTE – CAPTURE RATES

- Total food waste arisings – 250 kg/hhld/yr
- Av capture rates for combined garden and food waste – 30 to 50 kg/hhld/yr
- Av capture rates for separate collection + fortnightly resid waste – 100 to 120 kg/hhld/yr
[source: WRAP and Remade]
- Perth pilot (combined garden and food) – 25 kg/hhld/yr
[source: data from Perth and Kinross report; calculations by SE]

FOOD WASTE TREATMENT - COSTS

- IVCs - £35 to £45 per tonne
- Anaerobic Digestion - £45 to £55 per tonne

BUT

- Windrow (garden waste only) £20 to £25 per tonne
- Additional cost for food waste when combined with garden waste - £95 per tonne

[source: WRAP]

FOOD WASTE: KEY ISSUES

- Is it a priority for 40% or beyond
- Should we be considering trying to collect vegetable peelings only
- If all food waste to be targeted, should it be collected separately or with green waste bearing in mind
 - Ease of collection/practicality
 - Contamination
 - Cost of treatment
- Best way of providing food waste treatment facilities
- Information requirements linked to food waste collections
- Other linkages e.g. AWC

Alternate Weekly Collections (AWC)

Jo Muse
SEPA

www.sepa.org.uk

Why Alternate Weekly Collections ?

- Improving recycling performance substantially without doubling the costs of refuse collection
- Use the same vehicle fleet to collect recyclable/compostable wastes
- Opportunity to enforce some kind of limit on the amount of refuse being put out by householders

CIWM Journal – Jan 2007

www.sepa.org.uk

Legislation

- Environmental Protection Act (1990) requires local authorities to collect and dispose of household rubbish. This requirement has its origins in the need to protect the health of the population. Despite this, each collection authority can make its own decisions as to the method and timing of waste collection.
- EPA Section 46(1) : requires the occupier to place the waste for collection in receptacles of a kind and number specified [*by the waste collection authority*]
- EPA Section 46(2) : separate receptacles or compartments of receptacles may be required to be used for waste which is to be recycled and waste which is not
- There is no legal determination of the minimum frequency of household residual waste collection

www.sepa.org.uk

Implementation of AWC systems

- Implemented alongside introduction of new integrated kerbside recycling service, or alongside an established recycling system
- Should not be seen as a reduction in service
- Residual Waste Bins are generally 240 litre wheeled containers
- “Forcing” householders to recycle due to decreased residual capacity (collection frequency rather than container size)

www.sepa.org.uk

Impact of AWC on Recycling Rates

- Reading Council – introduced AWC and green waste scheme, 2 weeks into the scheme 41% increase in RC/Comp performance
- North Lincolnshire Council – increased recycling rate from 24% to 42% in 8 months of introduction of AWC

CIWM – Jan 2007

- Scottish LA Fortnightly collection of residual waste
 - average of 2.7 kg/hh/wk recyclate collected
- Scottish LA Weekly collection of residual waste
 - average of 1.67 kg/hh/wk recyclate collected

ReMaDe Scotland - Feb 2007

www.sepa.org.uk

Who has implemented AWC of Residual Waste

- South Lanarkshire
- Falkirk
- Perth & Kinross
- Angus
- Falkirk
- West Lothian
- Inverclyde
- Stirling
- Clackmannanshire
- South Ayrshire
- East Ayrshire
- Midlothian
- Moray

over 150 authorities in the UK are operating alternate weekly collections

www.sepa.org.uk

Health Impacts ?

There is “***no evidence that alternate week waste collection will cause any significant health impacts for residents, or that any health impacts are likely to be significantly greater than those associated with weekly collections***”

Recommendations (*Enviros & Cranfield University 2007*) :

- Maintain high hygiene standards in the waste containers (e.g. washing and disinfection) to reduce the risks of flies or mould
- Reduce moisture in waste containers. This will help to control fly infestations and prevent anaerobic conditions in the waste container that could lead to odour problems
- Keep the waste container outdoors where possible. Containers should be kept out of direct sunlight to reduce any fly infestations. This would also help reduce micro-organism activity
- Ensure no shelter opportunities for rodents in the area inside or outside the house
- No waste is kept exposed i.e. all waste is kept tightly wrapped or in containers

www.sepa.org.uk

Education, communication & political support are the key elements of a successful alternate week waste collection scheme WRAP 2005

- Communication with Householders is essential
- Educating residents and production of clear fact sheets
- Website with postcode search facility to inform residents of when their collection occurs
- Information stickers on bins
- Staff to visit residents to give advice and help
- Phasing in the scheme
- Good political support for the scheme
- Open days, site visits, school visits
- Use of community forums to share information about changes to waste collection arrangements, and receive feedback/suggestions for improvements
- Provide quick response to complaints

www.sepa.org.uk

Issues to consider

- Public and political acceptability
 - Housing type and multiple waste container storage
 - Size of residual waste bin
 - Cost
 - Potential to reduce carbon impact of waste collection systems – fewer collection vehicles
 - Suitability to modify current collection systems
 - Review of how LA's currently undertaking AWC's – identify lessons to be learned
-
- Information campaigns - SWAG Guidance
www.wasteawareScotland.org.uk/pdf/bestPractice/Alternate%20Weekly.pdf
 - WRAP Guidance :good practice advice for authorities considering the introduction of AWC (*currently under review*)
www.wrap.org.uk/local_authorities/toolkits_good_practice/alternate_week.html

Issues to consider

- Public and political acceptability
 - Housing type and multiple waste container storage
 - Size of residual waste bin
 - Cost
 - Potential to reduce carbon impact of waste collection systems – fewer collection vehicles
 - Suitability to modify current collection systems
 - Review of how LA's currently undertaking AWC's – identify lessons to be learned
-
- Information campaigns - SWAG Guidance
www.wasteawareScotland.org.uk/pdf/bestPractice/Alternate%20Weekly.pdf
 - WRAP Guidance :good practice advice for authorities considering the introduction of AWC (*currently under review*)
www.wrap.org.uk/local_authorities/toolkits_good_practice/alternate_week.html

Local Authority Action

Internal waste audits to reduce waste
and increase recycling

Gillian Smith
Scottish Executive

Local Authority Waste Arisings

- Estimated 32 authorities generate **121,357** tonnes solid waste per year
- Equates to around **3.5%** of total municipal waste arisings (one LA est. 7.9%)
- **Composition:**
 - Paper – 54,600 tonnes (45%)
 - Organic – 26,700 tonnes (22%)
 - Glass – 16,700 tonnes (14%)
 - Card – 12,100 tonnes (10%)
 - Plastic – 7,300 tonnes (6%)
 - Cans – 3,600 tonnes (3%)

{source: REMADE}

Sources of LA Waste

- Schools – 33%
- Building Services – 31%
- Depots – 13%
- Resource Centres – 9%
- Offices – 6%
- Community Centres – 3%
- Libraries – 2%
- Leisure centres – 2%
- Care Homes – 1%

Action already taken

- Partnership Agreement 358 : Require Public Bodies to conduct Waste Minimisation Audits
- £2 million for LA Waste Audits and waste prevention plans announced Oct 2004 (£62,500 per authority)
- REMADE working with 21 authorities
- 6 Waste Prevention Plans received to date

Potential for reduction / recycling

- One LA estimated 60% of materials going to landfill are recyclable and around 15% could be composted.
- Another estimated it could reduce its own waste by around 600 tonnes
- Another – 50% of waste recyclable but only 20% achieved
- Range of actions identified (quick wins and longer term)

Schools

- Largest waste stream (33%)
- Mainly catering waste / paper / card
- Potential for waste awareness / education
- Legislation – Schedule 2 of Controlled Waste Regulations 1992
- Secondary schools more problematic?
- PPP – pro's and con's

Issues arising from first workshop

- LA's need to lead by example
- Develop a waste prevention action plan based on findings of recent audits
- Prioritise actions to be implemented
- Discuss how to measure performance of LA's
- Sharing best practice

RECYCLING FROM HOUSEHOLD WASTE RECYCLING CENTRES

Scottish Executive
Waste and Pollution Reduction Division

INTRODUCTION

- 171 HHWRCs (SWAG Sort It)
- Key Role in Recycling
- HWRC provision varies from 1 per 5,000 in Moray to 1 per 75,000 in Edinburgh
- SWF has funded upgrading of former CA sites to HHWRCs status – However, slippage due to lack of availability of sites and/or planning issues in some areas
- New sites being explored by some LAs - SOC's

FACTS & STATS

- Anecdotal evidence suggests possible max performance can be 70%+
- HWRCs throughput 547,736 tonnes of in 2006 (WDD7) – (WDD6 = 586,917)
- If we assume that HWRC performance was 45% then recycling = 7.2%.
- If we then assume that performance =
 - 65% then RR = 10.2% MSW
 - 70% RR = 11.2%
 - 75% RR = 12%

WHAT DOES SCOTLAND COLLECT?

- Variety of materials collected: paper/card, wood, soil/rubble, textiles/shoes/handbags, oil, batteries, gas bottles etc
- A number of different designs exist – split level – better layouts more user friendly



BEST PRACTICE

- LA sites used to be open 9 to 4 but high performing sites are now open 8 to 8
- Becoming more user friendly
- High performing sites include forming partnerships with Community Sector Partners – The Re-Use Cabin?
- Added value in extracting white goods, furniture and re-usable household items



Issues

- Range of materials collected varies
- Standards of site design vary
- Training of site staff
- Signage
- Availability of sites/planning
- White van man
- No centrally held cost/performance data on each HWRC – Is the data available locally?

Summary for discussion



- Main factors influencing high capture are:
 - wide range of materials collected,
 - high volume of collection container;
 - Opening hours
 - Meet & Greet – Staff Training
 - Site Layout, Cleanliness & Signage
 - provision of underpinning education and awareness – sell your sites!



COMMERCIAL WASTE

Scottish Executive
Waste and Pollution Reduction Division



Trade Waste Obligations

- Environmental Protection Act 1990, Section 45:

Commercial:

- Must arrange for collection if asked.
- can waive charges for collection and disposal (but authorities are expected to recover costs).

Industrial:

- May collect if asked
- If waste is collected, authorities must charge collection and disposal costs.

- In April 2000 Audit Scotland indicated that local authorities should fully recover costs, estimating that councils were subsidising collection services by up to £9.7m per year

Trade Waste Statistics (WDD7 - 2005/06)

- 500,000 tonnes of trade waste collected
- 14% of total MSW (3,500,000 tonnes)
 - Range within local authorities of 0-38%
- 21% (105,000 tonnes) of this was recycled
 - Range within local authorities of 0-89%
- Accounts for 3% of MSW recycling rate
- Recycling all trade waste could add 11% to Scotland's recycling rate

Issues

- Currently a variety of approaches
 - Leave to the private/community sector
 - Combine with domestic collections
 - Charge for using recycling centres
 - Differential charging
- Interaction with LAS
- Measuring trade waste
 - Is data accurate?
 - Are costs recovered?



Business Waste Framework

- Committed to help SMEs recycle
- Lots of advice and help already out there – local authorities, Envirowise, BEP.
- SEPA to research existing local authority collection systems – what would be beneficial for local authorities? Guidance?
- Exec and SEPA to have discussions with Cosla about support for trade waste officers [not money though!]




Dry Recyclate Collections



Scottish Executive
Waste and Pollution Reduction Division



KEY FACTS 1 ROLL-OUT

- 
- Approximately 75% of properties are currently served by some form of kerbside DRC
 - Approximately 61% of properties are currently served with green waste collection services
 - Approximately 36% of households in Scotland are classed as multi-occupancy (including 4 in a block)
 - Approximately one third of multi-occupancy households are currently covered by existing schemes
 - Some further roll-out of DRC is currently planned in some areas – which will bring the roll-out across Scotland to nearer 80%

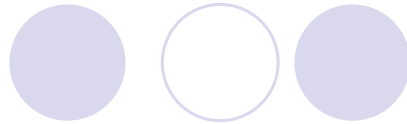
KEY FACTS 2 COLLECTION SYSTEMS

- Collection systems vary but most centre around use of either kerbside sort or co-mingled (approx 50/50).
- Frequencies of collection vary as do container types and volumes
- Most LAs allow householders to opt out but some have an opt in arrangement.
- As a generalisation, kerbside sort systems have high front end costs whilst co-mingled systems have additional processing costs.

KEY FACTS 2 - CONTINUED COLLECTION SYSTEMS

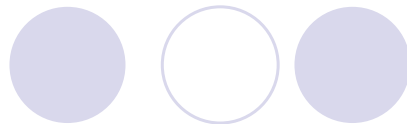
- Kerbside sort systems tend to have less contamination
- Box systems tend to be collected on a weekly basis whilst recycle bins tend to be collected on either a fortnightly (majority) or monthly basis
- Some LAs collect green waste all year round but most collect over a 7 to 9 month period - weekly by 2 LAs; fortnightly by 18 LAs; and monthly by 7 LAs – REMADE survey of 27 LAs

KEY FACTS 3 MATERIAL TYPES



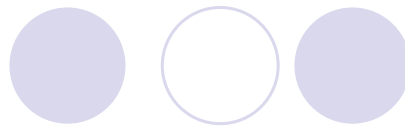
- Principal DRC materials include, in order of popularity: paper, card, cans, plastic bottles, glass and textiles
- The materials collected by LAs at kerbside range from 2 materials (paper/card only – Dundee, Fife, Perth) to all 6 (Renfrewshire)
- Less than a quarter of LAs collect textiles from kerbside and just over one third collect yellow pages/directories
- Only a few LAs attempt to recover value from bulky uplifts

KEY FACTS 4 BRING SITES



- Provision of Bring Sites and Mini Recycling Points varies from 1 per 212 households in Western Isles to 1 per 3,700 households in East Renfrewshire
- Provision varies depending on the type of area and kerbside collection system used
- Different designs and containers are used in different areas

KEY FACTS 5 PERFORMANCE



- Highest dry recyclate capture (kerbside) – Moray at 5.88kg/hh/wk – compared to mean of 2 kg/hh/wk (REMADE)
- Rural and urban authorities mean performance for DR was 1.6 kg/hh/wk whilst mixed rural/urban LAs mean performance was 2.6 kg/hh/wk
- Very little difference between performance of co-mingled and kerbside sort systems
- Schemes with up to 50 litres weekly capacity averaged capture rates of 1.9 kg/hh/wk; 50-100 litres: 2.65 kg; over 100 litres: 4.14kg.
- Single material schemes averaged 1.24 kg/hh/wk whilst 3.21 kg/hh/wk was captured by LAs that collected 4-6 materials.

KEY FACTS 6 MAIN FACTORS - PERFORMANCE



- Main factors influencing high capture are:
 - high frequency of collection,
 - wide range of materials collected,
 - high volume of collection container;
 - balancing recycling point and centre provision with kerbside DRC;
 - provision of underpinning education and awareness; and
 - integration of fortnightly residual collections.

KEY FACTS 7 SCENARIOS



PRINCIPAL DRC		kg/hh/wk	60% capture	50% capture	40% capture	30% capture
Paper and Card	18%	5.2	3.1	2.6	2.1	1.5
Glass	7%	2.0	1.2	1.0	0.8	0.6
Metals	7%	2.0	1.2	1.0	0.8	0.6
Plastics	7%	2.0	1.2	1.0	0.8	0.6
Textiles	3%	0.9	0.5	0.4	0.3	0.3
		12.0	7.2	6.0	4.8	3.6
Garden - Grass, wood, herbaceous	22%	6.3	3.8	3.1	2.5	1.9

If 50% capture was achieved in 2005/6 for the main DRs and Green (9.1 kg/hh/wk) then the recycling/composting rate would have been 32%

Soil/rubble, wood and other materials from Recycling Centres would have added to that and increased the recycling rate further.

If 50% capture was achieved it is not inconceivable that 40% recycling/composting could be achieved without food waste collections and that food waste collections could be used to build upon a new 40% recycling baseline.

INSERT WORKSHOP PRESENTATIONS

Annex B

Local Authority Waste
Audits – Waste Prevention
Action Plan Checklist

- Establish agreed responsibilities for implementing the plan.
- Improve communication.
- Sustainable/efficient procurement of stationery/equipment.
- Ensure suppliers provide packaging take-back schemes.
- Outlets for ICT and WEEE.
- Re-usable containers where possible.
- Avoid over ordering (including of food etc. for meetings).
- Stationery amnesty days.
- Communication of availability of surplus materials between departments.
- Using purchasing power to bulk buy to reduce packaging in materials supplied to offices.
- Double-sided printing/photocopying.
- Reusing paper that has only been printed on one side for notes.
- Ensure re-use of surplus furniture/equipment (within the authority; in other authorities or public bodies or through community groups).
- Refill cartridges rather than buy new and sending used for recycling.
- Awareness sessions with staff, including local waste “champions”.
- Rechargeable batteries.
- Reuse old envelopes or email for internal mail.
- Electronic transfer of information within the authority, rather than use written information.
- Encourage staff to provide their own cups/glasses instead of using disposable cups.
- Replacement of waste paper from washrooms with towel rollers or dryers.
- Training programmes for *eg* cleaners, janitors, supervisors.
- Returning pallets and other packaging waste to suppliers where possible.
- Paper/cardboard/cans/glass/toner/printer cartridge recycling.
- Review charging of other Council departments for provision of waste collection and disposal services.
- Ensure school kitchens have recycling collection of cardboard (school kitchens often have different waste contracts from schools).
- Collection of organic waste from schools/council buildings with catering facilities.
- Special uplifts – schemes with the community or private sector.

BARRIERS TO IMPLEMENTATION (FROM REMADE DISCUSSIONS WITH PROJECT OFFICERS)

- Poor communication between and within departments. Where does overall responsibility lie?
- Not seen as a priority in many cases.
- Potential loss of revenue to environmental services from collection income.
- Different services and departments sharing buildings. Who is responsible and who is paying for the scheme?
- Janitorial Services who handle waste within a building are a separate service from the rest of the employees in the building. Who is responsible for incorporating waste strategies into the terms and conditions of the janitorial staff if they are not part of the building's management hierarchy?