



ZERO WASTE PLAN - GUIDANCE FOR LOCAL AUTHORITIES

Use of Data to Support the Zero Waste Plan - Local Authority Recycling Targets, Landfill Diversion and the Landfill Allowance Scheme

MARCH 2011

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1.0 Introduction

1.1 Background

The actions proposed in the Zero Waste Plan¹ aim to minimise primary resource use and ensure that most waste is sorted into separate streams for high quality reprocessing and recycling, leaving only limited amounts of unsorted waste to be managed and minimal amounts of waste being disposed of in landfill.

The Zero Waste Plan describes a package of complementary measures to drive this:

- ambitious recycling targets.
- use of a carbon metric to encourage recycling of materials which will result in the greatest benefit to the environment.
- mandatory requirements to separately collect recyclable materials and food waste.
- landfill bans for recyclable material.
- a landfill ban on mixed unsorted waste through a biodegradability threshold.
- restricting inputs to thermal treatment facilities.

Annex A to the Zero Waste Plan provides detail on the definitions, targets, data and measurements that will underpin delivery of Zero Waste aims and objectives. In order that Scotland's progress towards becoming a "recycling society" can be measured the correct information must be captured.

The primary purpose of data collection is for the achievement of targets to be monitored effectively. Data can also be used to ensure that waste is managed in a way that is appropriate in terms of environmental protection, to inform policy and to influence investment decisions.

1.2 Definitions

This guidance introduces a number of new terms. These arise from DEFRA's February 2011 note² and are defined here as;

Local Authority Collected Waste (LACW) means all waste collected by or on behalf of the local authority. This includes household waste and all other waste coming under the control of the Local Authority.

Local Authority Collected Municipal Waste (LACMW) refers to the previous 'municipal' element of the waste collected by local authorities and means household waste and similar business waste collected by or on behalf of local authorities. It is a slightly narrower category than LACW and includes all waste types included under European Waste Catalogue Code 20 and some wastes under Codes 15 and 19. This is the definition which will be used for the Landfill Allowance Scheme Biodegradable Municipal Waste (BMW) to landfill allocations.

¹ <http://www.scotland.gov.uk/Publications/2010/06/08092645/0>

² <http://www.defra.gov.uk/evidence/statistics/environment/wastats/download/110203-wastats-definitions.pdf>

Municipal Solid Waste (MSW) means LACMW plus commercial and industrial waste similar to that generated by households which is collected by commercial operators (i.e. not by or on behalf of the local authority). This is the definition which will be used by Scotland and the UK for reporting against EU landfill diversion targets.

Household Waste means waste generated by households (and not as defined by the Controlled Waste Regulations 1992 which are concerned with charging for collection). Waste from households includes household collection rounds, other household collections such as bulky waste collections, waste deposited by householders at Household Waste Recycling Centres (HWRCs) and recycling points / bring banks.

1.3 Scope

This guidance replaces the following guidance document:

- Landfill Allowance Scheme (Scotland) Regulations 2005: SEPA Guidance on Operational Procedures.

This guidance relates solely to waste managed by local authorities and describes how data entered by local authorities into WasteDataFlow will be used by SEPA and Scottish Government to monitor and report progress towards:

- Zero Waste Plan recycling and composting targets for household waste.
- Zero Waste Plan recycling and composting targets for all waste.
- Landfill Allowance Scheme (LAS) targets for diversion of biodegradable LACMW from landfill
- Landfill Directive targets for diversion of biodegradable municipal solid waste.

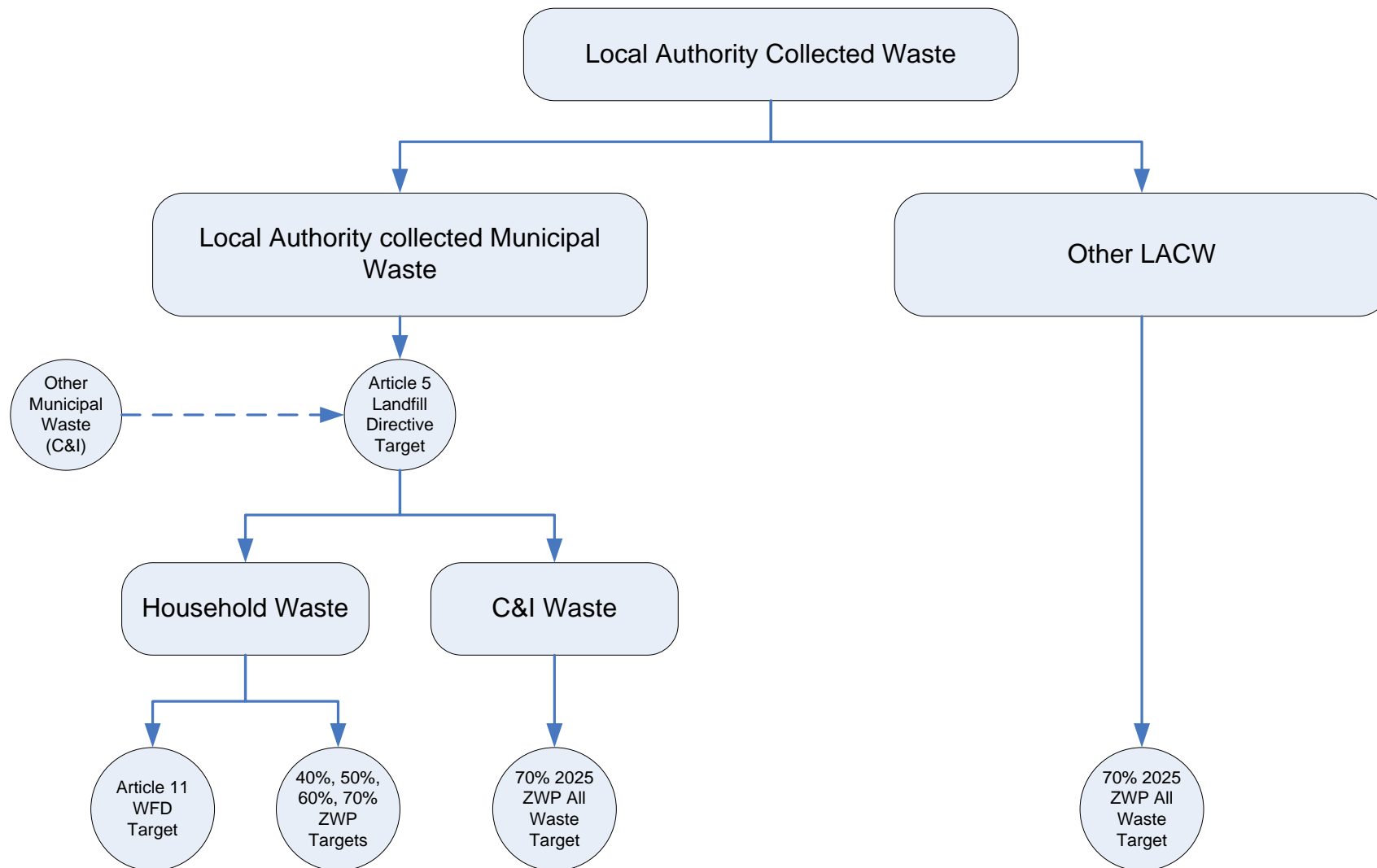
Table 1 summarises how the use of data will change on implementation of this guidance.

Target	Up to January-March 2011	From April-June 2011
LAS	LACMW	LACMW
Recycling	LACMW	Household Waste
Total Recycling (2025)	N/A	LACW

Local authorities should continue to report all their waste management activities using WasteDataFlow®. Revised WasteDataFlow reporting guidance will be published separately on the WasteDataFlow website (www.wastedataflow.org).

SEPA will verify the data reported by Local Authorities in WasteDataFlow on a quarterly basis and reconcile it at the end of a reporting year.

The following diagram illustrates the definitions set out in 1.2 and how the data reported in WasteDataFlow will be used by SEPA to calculate the various European and domestic targets.

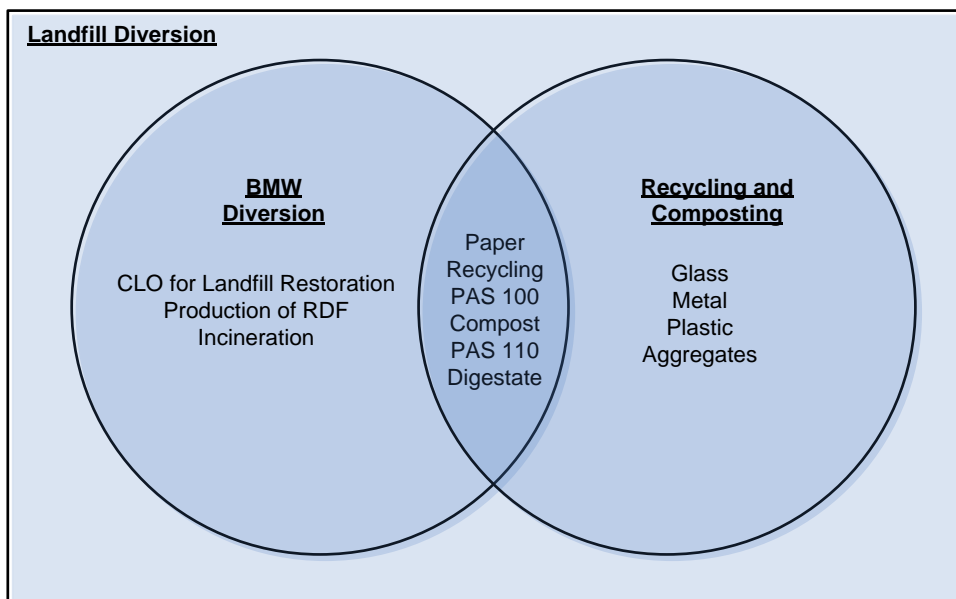


1.4 Interaction between Recycling and Landfill Diversion

There is a clear difference between recycling and landfill diversion. The Zero Waste Plan aims to focus attention on high quality closed loop recycling. Simply moving one step up the hierarchy from landfill to incineration would not be sufficient to achieve the resource management outcomes of the Zero Waste Plan or for Scotland to become a recycling society.

In data collection terms, landfill diversion can be any activity which reduces the total tonnage of waste sent to landfill. Diversion includes resource centred solutions such as recycling and composting of separately collected fractions but could also be as simple as drying waste to reduce tonnage prior to landfill disposal. From data recorded in WasteDataFlow, SEPA will report landfill diversion separately from recycling and composting.

This diagram illustrates the overlap, and the difference, between diversion of biodegradable municipal waste (Article 5 of the Landfill Directive) and recycling (Article 11 of the revised Waste Framework Directive). This shows that although manufacture of Refuse Derived Fuel, incineration and production of Compost Like Output (CLO) through biostabilisation of unsorted waste, contribute to meeting targets to divert biodegradable waste from landfill, they are not considered to be either recycling or composting.



Compliance with Article 5 of the Landfill Directive can be achieved without recycling biodegradable materials. Examples are to the left of the diagram. In order to meet the European and domestic recycling targets and move Scotland towards becoming a recycling society, it is necessary to focus activity on those options which *recycle* as well as *divert*. Examples are shown in the right hand circle of the diagram.

The policy focus has not only shifted from landfill diversion to recycling but also away from biodegradable waste and towards a wider set of key recyclable resources. The reporting and calculation methodologies will reflect that recycling is a subset of landfill diversion.

Additional guidance for local authorities in relation to reporting recycling, in addition to diversion of biodegradable waste, in WasteDataFlow will be published separately on the WasteDataFlow website - <http://www.wastedataflow.org/>

1.5 What are the European and Zero Waste Plan Recycling Targets?

When the announcement on Zero Waste was made to Parliament on 24 January 2008, the recycling and composting targets were applied to **municipal waste** and this was defined at the time as waste from households and commerce collected by or on behalf of local authorities. This was reflected in the consultation draft of the Zero Waste Plan.

The final Zero Waste Plan sets objectives which apply to all waste, regardless of source, not just those managed by local authorities. As a consequence, the domestic 50 and 60% Zero Waste carbon based recycling targets will now apply to **waste collected from households** rather than municipal waste collected by local authorities. The 70% recycling carbon based target for 2025 applies to all waste.

The Waste Framework Directive seeks to help Europe move closer to being a “recycling society” requiring Member States to put in place measures to ensure separate collection and recycling of priority waste streams. Article 11 of the Directive sets a recycling target of 50% by weight for key recyclable materials in order to support the recycling objectives of the Directive.

Recycling and composting data will be calculated and published by SEPA in terms of both tonnage and the carbon metric. The carbon metric will be calculated by applying material specific weightings to the tonnage of each material recycled. See section 5.0 for more information.

1.6 What are the European Landfill Directive and Scottish Landfill Allowance Scheme targets?

Earlier Directives relating to waste management focused on the environmental impacts of waste disposal and recovery. The Landfill Directive, 1999/31/EC, requires Member States to prevent or reduce adverse effects on the environment from landfilling waste by setting technical standards for landfills and establishing strategies to reduce the amount of biodegradable waste going to landfill. Diverting biodegradable waste from landfill reduces the production of methane gas from landfills and therefore, the climate change impact.

The Landfill Directive also set specific targets for the reduction of biodegradable municipal waste going to landfills. Biodegradable waste is defined as *any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste, and paper and paperboard*.

In 2004, the Landfill Allowance Scheme was put in place in Scotland as a measure to achieve the Landfill Directive targets. The Scheme applies only to municipal waste collected by local authorities as defined in Regulation 2(1) of the Landfill Allowance Scheme (Scotland) Regulations 2005³.

However, in 2010, negotiations between the UK and the EU Commission redefined the scope of the term “municipal waste” for the purposes of the Landfill Directive to

³ <http://www.legislation.gov.uk/ssi/2005/157/contents/made>

include both household waste and waste from other sources which is similar in nature and composition, including a significant proportion of waste generated by businesses but not collected by Local Authorities.

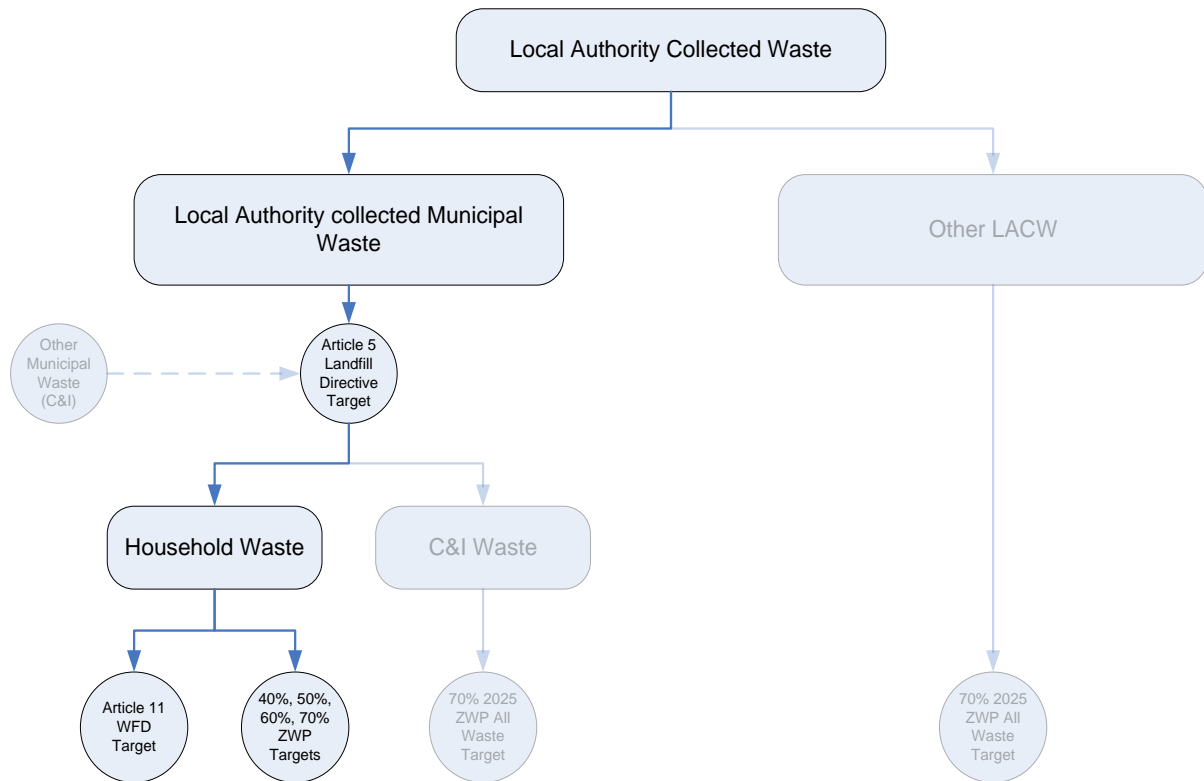
Therefore, the definition of municipal waste now used for the EU landfill diversion targets is wider than simply that collected by local authorities and the Landfill Directive targets have been revised accordingly for the UK. According to 2008 data published by SEPA, Scotland has already met its share of the 2013 Landfill Directive target but needs to divert a further 530,000 tonnes of Biodegradable Municipal Waste by the next reporting year in 2020.

The banking, borrowing and penalties components of the Landfill Allowance Scheme are currently suspended. However, SEPA will continue to calculate the quantity of biodegradable LACMW landfilled by each local authority through the WasteDataFlow data reporting system. The forward allocations under the Landfill Allowance Scheme for Scottish Local Authorities (LACMW) are contained in Table 4. It is important to note that whereas the reporting for recycling performance is changing, the calculation of biodegradable LACMW landfilled remains the same. SEPA will use this data as part of the overall calculation to determine the total BMW landfilled in Scotland and report against Landfill Directive targets. Further guidance on the Landfill Allowance Scheme is in Section 6.0.

Table 2: European and Scottish Waste Targets

Target/Cap	Year	Measure	Derivation
40% recycling/composting and preparing for re-use of waste from households.	2010	Tonnage	Scottish Government Target
No more than 2.7 million tonnes of biodegradable municipal waste to be sent to landfill	2010	Tonnage	Article 5(2) of the EU Landfill Directive
50% recycling/composting and preparing for re-use of waste from households	2013	Carbon	Scottish Government Target
No more than 1.8 million tonnes of biodegradable municipal waste to be sent to landfill	2013	Tonnage	Article 5(2) of the EU Landfill Directive
Preparing for re-use and recycling of 50% of waste materials such as paper, metal, plastic and glass from household waste and similar.	2020	Tonnage	Article 11(2)a of the EU Waste Framework Directive
60% recycling/composting and preparing for re-use of waste from households.	2020	Carbon	Scottish Government Target
No more than 1.26 million tonnes of biodegradable municipal waste to be sent to landfill	2020	Tonnage	Article 5(2) of the EU Landfill Directive
70% recycling and preparing for reuse of construction and demolition waste.	2020	Tonnage	Article 11(2)(b) of the revised EU Waste Framework Directive
No more than 5% of all waste to go to landfill	2025	Tonnage	Scottish Government Target
70% recycling/composting and preparing for re-use of all waste	2025	Carbon	Scottish Government Target

2.0 Household Recycling and Composting



2.1 What is included in the target?

The Zero Waste Plan recycling targets for 2013 and 2020 will be applied to household waste only.

Household waste is waste from households

The 2025 recycling and composting target of 70% applies to all waste. The proportion of household waste recycled and composted will be expressed as a percentage of total household waste collected.

For the purpose of the 2013 and 2020 household waste recycling targets, Local Authorities should refer only to the total weight of each of the following:

- a) All waste collected from households in that year by or on behalf of a local authority under section 45 of the Environmental Protection Act 1990 (EPA).
- b) All household waste deposited in that year at places provided by a local authority under subsections (1)(b) and (3) of Section 51 of the EPA.

The Scottish Government, through delivery of the Zero Waste Plan, wishes to focus efforts on materials which could have been recycled but which are routinely thrown away in household bins and end up being disposed of. This is to support innovation and investment in the development of collection systems which will increase the

quantity and quality of recyclable materials collected from households and reduce the amount of residual “black bag” waste requiring treatment and disposal.

Wastes covered by this target include but are not restricted to:

- a) Wastes from collection rounds.
- b) Bulky waste collections.
- c) Separate collections of household hazardous waste.
- d) Drop off/bring systems including re-use centres and Household Waste Recycling Centres.

Any waste type which goes for recycling can be counted towards the recycling targets i.e. not only the wastes listed in the draft amendment to Section 45 of the EPA. Examples of materials typically collected include:

Metal	Plastic	Paper
Card	Green Waste	Food Waste
Cooking Oil	Used Engine Oil	WEEE
Batteries	Plasterboard	Textiles
Wood	Paint	Soil and Rubble

2.2 What collected waste is not included towards the household recycling target?

Local Authority Collected Waste includes waste which does not arise from households, for example trade waste collections, street sweepings, litter bins, parks and gardens waste, beach cleaning waste, trade waste uplifts and commercial businesses using the facilities at Household Waste Recycling Centres.

These types of waste will not count towards the household recycling and composting targets. However, local authorities should continue to collect and report data on these waste streams through WasteDataFlow as they will still count towards the 2025 recycling target for all waste and the Article 5 Landfill Directive targets.

The community sector plays an active role in the reuse and recycling of waste from households. Examples include repair and refurbishment of furniture and carpets, bike repair and mixing waste paint and small scale community composting. Where these wastes are not collected by or on behalf of Local Authorities, these activities will not count towards the household waste recycling targets in the Zero Waste. Similarly, donations of clothing, books, crockery, toys etc handed in directly to charity shops will not count towards the 2013 and 2020 ZWP household waste recycling targets.

2.3 Source Segregated Wastes

Prioritising high levels of closed loop recycling is central to achieving a zero waste Scotland. The higher the quality of the waste materials collected for recycling the greater the environmental benefit.

Therefore, where materials are collected from the kerbside, recycling centres or points or extracted through sorting of co-mingled collections and subsequently processed into new products or materials, the weight of materials consigned to end-use reprocessor markets, appropriately adjusted to take account of any reject

material, will count towards recycling performance. These recycled materials will also count towards landfill diversion.

The data reported by local authorities should be readily auditable to ensure that the quality and environmental credentials of the subsequent reprocessing or reuse activities can be tracked. This is especially important when collected materials are to be exported for reprocessing or reuse. Where materials are exported outside the EU, evidence should be sought that the levels of environmental performance achieved are comparable to those within the EU.

Evidence is intended to provide additional oversight as to the level of environmental protection achieved and the quality of the secondary raw materials; increasing confidence in the recycling market and addressing concerns about the EU's growing footprint as a consequence of exporting waste for treatment.

2.3.1 Preparing for Re-Use



When a product is discarded it becomes waste and the requirements of waste legislation apply. However, once a waste item has been checked, cleaned, repaired and otherwise made suitable for reuse for its original purpose, it ceases to be waste and no further waste regulatory controls are placed on it.

Some electrical equipment, furniture and clothing deposited at Household Waste Recycling Centres may be suitable for reuse once sorted, checked, cleaned and/or repaired. Local authorities already collect and report information on the quantities of such items which are "prepared for re-use" for their original intended purpose.

Local authorities may also wish to explore the potential for establishing reuse shops within their Household Waste Recycling Centres as part of providing an overall service to householders.

The Scottish Government considers that items deposited at Household Waste Recycling Centres which are subsequently checked, cleaned and repaired and thus made ready for re-use will count towards the recycling and composting targets. It is important that the local authority has robust auditable information with respect to final destination so that rejects can be accurately recorded and reported. This is especially important for WEEE which may be exported for reuse in developing or non OECD countries. Illegal exports of unusable electrical and electronic equipment from Europe are a serious problem causing pollution and harm in the countries where they end up. There are various international aid programmes⁴ dedicated to making sure that computers etc which are exported are fit for purpose are not disposed of illegally.

⁴ e.g. www.computers4africa.org.uk, www.close-the-gap.org, www.itschoolsafrica.org



Preparing for Re-Use		
Recycling		Tonnage sent for reuse (collection minus rejects)
Landfill Diversion		Tonnage sent for reuse (collection minus rejects to landfill)

2.3.2 Dry Recyclables

Wastes collected separately at the kerbside for recycling will count towards the household waste recycling targets. It is important to note that any waste type which goes for recycling can be counted towards the recycling targets, not only the wastes listed in the draft amendment to Section 45 of the EPA. For example, batteries or WEEE collected separately from households will also count where the waste is recycled in compliance with existing producer responsibility requirements.

Local Authorities have a duty to ensure that the market is a genuine recycling route, not a disposal activity, and SEPA will ask for evidence if there is any reason for concern.

When recording data in WasteDataFlow, Local Authorities should only report tonnages of dry recyclables as having been “recycled” once they have been sent from the primary sorting (MRF) or bulking facility to the reprocessing market. MRFs may accept waste from both local authorities and private waste management companies. It is not possible to determine accurately what proportion of rejects originated from either households or non-local authority collected commercial collections. Therefore, an estimate based on the proportion of inputs (Local Authority collected Household Waste as a proportion of the total input) to the MRF should be used for reporting in WasteDataFlow.

Dry Recyclables		
Recycling		Tonnage sent for reprocessing (collection minus rejects to incineration or landfill)
Landfill Diversion		Tonnage sent for reprocessing or other recovery (collection minus rejects to landfill)

2.3.3 Bio-Waste

The WFD defines 'bio-waste' as "biodegradable garden and park waste, food and kitchen waste from households, restaurants, caterers and retail premises and comparable waste from food processing plants".

Where bio-waste from households is separately collected and treated in open windrow, In-Vessel Composting (IVC) or Anaerobic Digestion (AD) facilities the inputs to treatment processes will count towards recycling and composting targets where PAS 100 compost or PAS 110 digestate is produced and subsequently used for agricultural or ecological benefit.





Where PAS 100 or PAS 110 material is produced, the process input tonnage will be counted towards recycling/composting target performance with appropriate adjustments being made to deduct the weight of any non-target reject materials (e.g. plastics) and input equivalent weight from any composts or digestates that are subsequently consigned to landfill or incineration.

Compost is often stockpiled before being sold to the end user. Stockpiling can become a problem if an end use market cannot be found. Equally the benefits of separately collecting and treating biowaste are lost. It is important that Local Authorities forward plan for the amounts of compost which will be produced and ensure that there is a viable end use market. The carbon and nutrient value of compost and digestate is achieved only when incorporated back into the carbon / nutrient cycle. Therefore, it is reasonable to conclude that production of PAS100 compost or PAS110 digestate should only be counted as "recycled or composted" when that compost or digestate has been sent to a genuine market for use as a soil enhancer.



However, current reporting methods allow Local Authorities to count stockpiled material towards recycling performance. To support end use markets and ensure that the carbon and nutrient value of composts and digestates are realised, SEPA will investigate whether the reporting convention should be changed. As this would require a change in the way Local Authorities currently report this project will be carried forward, reporting in 2012.

Local Authorities have a duty of care to ensure that the market is a genuine recovery route, not a disposal activity, and SEPA will ask for evidence if there is any reason for concern. SEPA's view on appropriate uses for compost is that composts are soil additives, not soil substitutes. Their use is typically associated with enhancing soil properties for the benefit of plant growth in the topsoil layer. The use of composts at depths which are incompatible with this objective or on soil that already has sufficient organic matter content will be regarded as a disposal activity.

Compost and digestate produced from source segregated biowaste but not accredited to PAS100/110 standard will not be counted as recycling even if used under a waste exemption. This is to ensure that the objectives of the Zero Waste Plan, to promote high quality and high value outputs from composting activities, are supported.

Composting and AD of Source Segregated Biowaste		
Production and Use of PAS100 Compost or PAS110 Digestate		
Recycling		Input tonnage minus rejects
Landfill Diversion		Input tonnage minus rejects landfilled
Production of Non-PAS100 Compost or Non-PAS110 Digestate from separately collected bio-waste used under Exemption or Licence		
Recycling		Zero
Landfill Diversion		Input tonnage minus rejects landfilled

If no end use market can be found for the compost or digestate and it is subsequently disposed of, the input tonnages cannot be counted towards the recycling target. If it is disposed of to landfill the process weight loss will be counted as having been diverted from landfill. Local Authorities should establish the biodegradable content of any compost or digestate landfilled using the method described in Section 6. This will be included towards Local Authority BMW allocations laid out in Table 4.

Production of Compost or Digestate subsequently landfilled		
Recycling		Zero
Landfill Diversion		Input tonnage minus landfilled tonnage. Analysis to determine BMW content of waste landfilled.



2.3.4 Used Cooking Oil and Mineral Oil

Local Authorities often provide separate collection facilities at HWRCs for used cooking oil (UCO) and mineral oils. This is good practice and Scottish Government wishes to encourage Local Authorities to continue these services and promote their uptake. The reasons for this are twofold: firstly, disposal of cooking oil and mineral oil to the sewer causes operational difficulties at wastewater treatment works and have the potential to cause serious pollution incidents; secondly, these oils have high recovery value and disposing of them to sewer is a waste of a valuable resource.

UCO cannot be recycled back into food grade cooking oil but it is a valuable feedstock in the production of biodiesel.

Mineral Oils may be recycled back into lubricating oils but they also have value as fuel and can be treated to make a replacement fuel with a similar environmental performance to a virgin fuel. SEPA supports the collection and processing of waste oil into a high quality fuel which can be used to replace other virgin fuels and have published an end of waste position for Processed Fuel Oil (PFO) for oils processed to this standard⁵.

Therefore, where UCO and Mineral Oils from households are separately collected and used to manufacture fuels as described above, the amount collected and sent to a reprocessor will contribute to the household recycling targets.

Production of Biodiesel / PFO from separately collected UCO and Mineral oils		
Recycling		Tonnage sent to reprocessor
Landfill Diversion		Tonnage sent to reprocessor.

2.4 Rejects

All stages of sorting between collection and reprocessing of re-use items, dry recyclables and biowastes have the potential to result in the rejection of material, either to a different route for recycling or to disposal. Each stage must be recorded accurately through to the final UK destination or first overseas destination of the materials. Reject materials are usually non-target materials sent for disposal from the primary MRF sorting facility.

Only the rejects arising at or before the gate of the final UK destination or first overseas destinations will be counted. Rejects should not include any rejects associated with the treatment processes at the final destination e.g process losses – materials contained in the product stream from the primary MRF which, for whatever reason, do not end up in the final recycled product. These may include non-target materials or contaminated target materials in the product stream from the MRF.

As described in section 2.3.2, interim sorting and treatment processes may accept waste from both local authorities and private waste management companies. An estimate of the rejects attributable to waste from households collected by Local Authorities may be calculated relative to the proportion of inputs

Separately collected wastes which are managed as part of producer responsibility schemes e.g. WEEE and batteries, are currently reported as collected and recycled tonnages in WasteDataFlow. However, some components of WEEE are not recyclable and WEEE reprocessing will produce rejects which are sent for disposal. Local Authorities should note that they may be required to change the way they

⁵ http://www.sepa.org.uk/waste/waste_regulation/guidance__position_statements.aspx

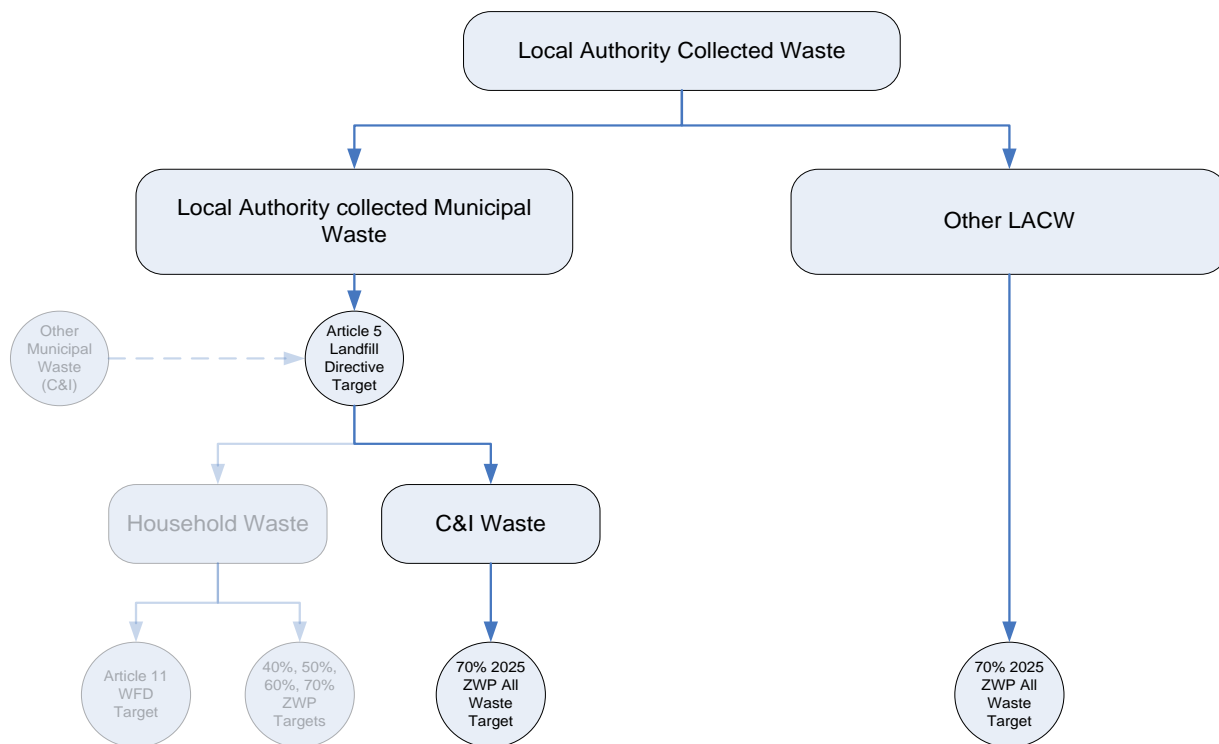
report recycled tonnages for collected WEEE and a methodology for doing this will be discussed further with the WasteDataFlow Users Group.

2.5 Stockpiling

Where facilities stockpile waste it is the responsibility of local authorities to obtain the information required in order to report when the waste was recycled. Only when recyclate is used or sold into the reprocessing market will it count towards the recycling targets.

In relation to compost stockpiling, Section 2.3.3 outlines a project which will be carried out by SEPA to investigate whether stockpiled composted materials should be reported in WasteDataFlow differently.

3.0 Recycling and Composting of non-household LACW



3.1 Recycling and Composting of non-household LACW

Local Authorities collect and manage a wider range of wastes than solely waste from households. Although the recycling and composting of these wastes does not contribute to the household waste recycling and composting targets, they will contribute to the 2025 all waste recycling target. The extended Duty of Care for all waste producers other than householders to source segregate recyclable materials may result in recycling rates of non-household LACW increasing significantly. Recycling and composting data for Waste from Households and Local Authority Collected Waste will be recorded and published by SEPA in terms of both tonnage and the carbon metric.

The diagram above shows that that some of these non household wastes are considered 'municipal waste' for the purpose of the Landfill Directive diversion targets. Table 3 identifies the applicable targets for each non-household waste stream.



Table 3 - Targets applying to non-household LACW

Waste Type	Count towards household waste target?	Count towards 2025 all waste target?	Municipal For the purpose of the Landfill Directive targets?
Gully emptyings from a road for which the local authority is responsible.	No	Yes	Yes
Beach cleansing	No	Yes	Yes
Mixed waste from commercial premises, including caravan sites, charities.	No	Yes	Yes
Grounds Waste (including parks and gardens)	No	Yes	Yes
Waste Arising from clearance of fly-tipped materials	No	Yes	Yes
Civic amenity sites waste: Non Household	No	Yes	Yes
Mixed commercial and industrial waste	No	Yes	Yes
Street sweepings and waste from litter bins	No	Yes	Yes
Separately collected construction and demolition	No	Yes	No
Highways waste/gully emptyings from a trunk road for which the local authority is not responsible, even when the local authority is undertaking the work	No	Yes	No
Asbestos Waste separately collected	No	No	No
Separately collected industrial waste and clinical waste not from households or residential homes	No	Yes	No

3.2 Taking Account of Commercial & Industrial (C&I) Waste Uplifts

Many Local Authorities provide a waste collection service for commercial customers. For example, C&I waste is often also received at Household Waste Recycling Centres. The 2013 and 2020 recycling targets apply only to waste from households. This means that waste recycled from C&I sources will not count towards the targets, even when collected in the same vehicle as household waste or deposited at a HWRC.

Local Authorities should continue to record this information in WasteDataFlow. SEPA will report non-household waste recycling as a separate figure and performance will be counted toward the 2025 all waste recycling target. The recycling calculations for materials collected from non-household sources will be the same as described in Section 2.

Recycling of C&I waste collected by or on behalf of Local Authorities		
Household Recycling		Not from households.
Recycling		Report separately. Count towards 2025 target

SEPA is working on a methodology to de-couple the data. This will be implemented in time for the 2013 reporting period.

3.3 Taking Account of Construction and Demolition (C&D) waste

C&D waste may include bricks and rubble, asbestos, wood and glass. Where generated from municipal refurbishment projects C&D waste is usually managed separately at dedicated C&D waste management facilities. These tonnages are not included in LACW.

Where commercial C&D contractors use Local Authority collection facilities such as HWRCs, this must be separately recorded using information on waste transfer notes. Only the proportion of bricks and rubble etc deposited by householders can be counted towards the household waste recycling target.

Recycling of C&D waste collected by or on behalf of Local Authorities		
Household Recycling		Not from households.
Recycling		Report separately. Count towards 2025 target



3.4 Specific waste streams

3.4.1 Parks and gardens waste

Parks and gardens waste such as grass clippings, hedge and tree prunings, woody wastes arising from tree surgery etc should not be reported in WasteDataFlow where they are managed within the curtilage of public parks and gardens as part of general good grounds management practices i.e. such materials are not either LACMW or LACW. This reflects the approach taken to home composting, where data is not recorded in WasteDataFlow.

For example, grass clippings left in situ on the ground, pruned tree branches which are chipped and spread on paths, leaves gathered up and spread on as mulch or to protect soils during the winter and other grounds management practices should not be included in reported tonnages of LACW.

However, some parks and gardens waste will be collected and treated in licensed or exempt facilities, such as open windrow, In-Vessel Composting (IVC) or Anaerobic Digestion (AD), or other treatment facilities outside the park. In this case, the collected tonnages and management method should be recorded in WasteDataFlow. Again, this is similar to the way that food and garden waste originating from households collected by Local Authorities, which could have been composted at home, is subsequently reported in WasteDataFlow.

Recycling of Parks and Gardens waste		
Managed as part of grounds management		Not included in LACMW.
Sent to PAS100 / PAS110 accredited waste management facilities		Report separately. Count towards 2025 target

3.4.2 Street sweepings and gully waste - Municipal

Street sweepings are not household waste for the purposes of this guidance and their treatment will not count towards the 2013 and 2020 recycling and composting targets for household waste. Street sweepings and gully waste are classified as Local Authority Collected Municipal Waste (unless collected by HGV road sweepers and comprising mainly mineral substances such as grit, salt and mineral oils). Treatment to reduce weight and biodegradability will be counted as diverted from landfill under the category of “other recovery”. Where treatment produces recycled materials, such as sands which can be used in construction materials, the weight will be counted as diverted from landfill under the category of “recycling”. In terms of BMW diversion from landfill, it is assumed that 51% of street sweepings and gully waste is biodegradable. Therefore 51% of the total municipal street sweepings and gully waste landfilled will count towards the BMW allocation to landfill.

Treatment of street sweepings may only count as recycling and/or composting if the treatment process is accredited to PAS100 or PAS110. Inputs to accredited processes must be assessed to check that they are acceptable to the accreditation body. The composition of street sweepings can be highly variable and operators of accredited composting or digestion treatment processes should carry out an assessment of the inputs to the process to ascertain that they are acceptable in terms of biodegradability and potential hazards.

How the recycling and composting targets apply to bio-waste is discussed in Section 2.3.3.

4.0 Management of Unsorted Waste

Technologies to manage unsorted waste (that remaining after separate collection of source segregated materials) have an important role to play in overall sustainable waste management. Even at high levels of separate collection there will be an unsorted fraction remaining which requires environmentally responsible management. Technologies to manage this unsorted waste are used to extract remaining resource value and to minimise the environmental impacts of final disposal by reducing volumes and stabilising the waste.



4.1 Recyclate Recovered from Unsorted Waste Treatment

As levels of source segregation are currently low compared to the levels required to meet the recycling objectives of the Zero Waste Plan, there remains fairly significant quantities of potentially recyclable material in unsorted waste, (i.e. black bags). In time, restrictions on EfW inputs and the property based landfill ban will ensure that all unsorted waste is pre-treated prior to thermal treatment and/or landfill.

Treatment methods such as 'Dirty' MRFs, Mechanical Biological Treatment (MBT) and Mechanical Heat Treatment (MHT) may provide the means to remove recyclate missed at the source segregation stage, prepare a fuel for EfW (and reduce the mass/volume requiring thermal treatment) and reduce the biodegradability of waste prior to landfill disposal.

The recyclable materials likely to be extracted from these treatment processes are ferrous and non-ferrous metals, dense plastics and inerts / low grade aggregate. Once materials such as paper, card and textiles are mixed with other wastes, the potential to separate and recycle them is severely compromised and it is unlikely that a recycling market can be found. Only those recyclable materials which find markets for re-processing will be considered to be recycling with respect to the target. The biomass fraction of the unsorted waste can be recovered in other ways e.g. manufacture of Refuse Derived Fuel or processing into biofuels.



MBT and MHT processes usually accept waste from a number of sources – household and commercial and industrial waste collected by Local Authorities and waste collected by private companies. In order for a proportion of tonnage of recyclate removed from unsorted waste in the treatment process to be counted towards the 2013 and 2020 household waste recycling targets, the tonnage must be apportioned. For simplicity, it is proposed that the proportion of the total input attributable to household waste will be used to apportion the weight of recyclate which can be counted towards the household waste recycling targets. The remainder of the recyclate will be attributed to commercial and industrial sources / non household collections and will count towards the 2025 target for all waste.

Extraction of Materials for Recycling from unsorted waste (e.g. metal, plastic)		
Recycling		Tonnage recovered minus rejects
Landfill Diversion		Tonnage recovered minus rejects to landfill

4.2 Moisture Loss

Some unsorted waste processes such as MBT and MHT dry the waste as part of the preparation of a refuse derived fuel or biomass for bio-ethanol production. Whilst drying is an important, and possibly inevitable, part of some unsorted waste treatments, the reduction in waste mass is not considered recycling. Evaporation is not recycling and discharge of process water to the sewerage system or a wastewater treatment plant is disposal. Moisture loss will not be counted as recycling for any of the ZWP or WFD targets.

For mass balance purposes, weight loss (during MBT / MHT / other unsorted waste treatment processes) will be counted as “other recovery” and a note included in WasteDataFlow that this weight reduction is attributable to moisture loss during the treatment process. SEPA will report this weight as having been diverted from landfill.

Process Losses (e.g moisture, biodegradability)		
Recycling		Zero
Landfill Diversion		Input tonnage minus output tonnage i.e. process weight loss

4.3 Processing into Fuels



Unsorted waste treatment such as MBT and MHT can produce a ‘biomass’ fraction which can either be used directly to generate energy or become a feedstock in the production of bio-fuels / bio-liquids⁶.

The revised Waste Framework Directive definition of recycling specifically excludes “energy recovery and the reprocessing into materials that are to be used as fuels”.

Therefore, the production of refuse derived fuels or bio-liquids / bio-fuels from unsorted waste are not considered recycling with respect to the household waste recycling target. This is so unsorted waste treatment does not undermine source

⁶ Bioliquids means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass. Biofuels means liquids or gaseous fuels for transport produced from biomass. Biomass includes the biodegradable fraction of industrial and municipal waste.

segregation and high quality closed loop recycling. The biodegradable fraction of unsorted waste which is managed in thermal treatment plants is recorded as “incineration” and if used for manufacture of biofuels or bioliquids as “other recovery”.

Production of Refuse Derived Fuel and Bioliquids		
Recycling		Zero
Landfill Diversion		Tonnage RDF / bio-liquid / bio-fuel feedstock produced

4.4 Compost Like Outputs (CLO)

Unsorted waste treatment processes may include a biological treatment step which reduces the biodegradable content of the waste. The treatment may be aerobic or anaerobic and is used to stabilise the biodegradable fraction of the unsorted waste prior to further recovery or disposal and/or generate a biogas (in the case of anaerobic treatment). Reducing biodegradability through biological treatment may be used by local authorities to achieve compliance with Landfill Allowance Scheme allocations for biodegradable LACMW to landfill. This is discussed in Section 6.



The biodegradable organic outputs from unsorted waste treatment are referred to as Compost Like Outputs (CLO). The outputs of unsorted waste treatment processes are not comparable to compost and digestate produced from separately collected biowaste. CLO from MBT processes is of unreliable quality and highly variable composition and contains significant levels of physical and chemical contaminants that can present a risk to the environment and to human health.

Opportunities to recover CLO to land are extremely limited. CLO may only be used on land under the terms of a Waste Management Licence or a Pollution Prevention & Control permit. SEPA considers that use of CLO on land is not a sustainable way of managing waste due to high contamination levels. Only in very limited circumstances will environmental licences or permits be granted for the recovery of CLO to land. Most applications to land of CLO will be considered disposal and require a Landfill permit. The majority of CLO produced from unsorted waste treatment processes will be landfilled or used as a low grade fuel.

Where CLO is recovered to land under environmental licence or permit, the amount of CLO recovered will be reported as “other recovery”. CLO will not be reported as “recovered” in this way until it is used as agreed with SEPA under the terms of the environmental licence or permit and actually used. Use of CLO directly as fuel in EfW is “incineration”.

Production of CLO for further recovery / use		
Recycling		Zero
Landfill Diversion		Tonnage of CLO used under environmental licence

Where MBT is used to reduce the biodegradability of waste prior to landfill the biodegradable content of the CLO being landfilled must be measured – usually by analysis – and the total biodegradable tonnage landfilled reported in WasteDataFlow. Further guidance on measuring the biodegradable content of outputs from MBT and similar process is in section 6.

Production of CLO subsequently landfilled		
Recycling		Zero
Landfill Diversion		Analysis to determine biodegradable content of CLO landfilled

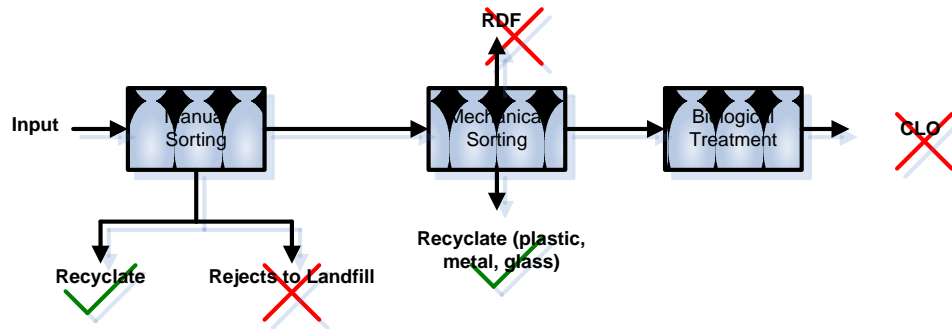
4.5 Unsorted Waste Treatment

The following examples illustrate how the outputs from unsorted waste treatment will be recorded and reported in relation to recycling targets. The tonnage and biodegradable content of outputs which are landfilled must be recorded.

4.5.1 Example 1 - Mechanical Biological Treatment

Unsorted waste is accepted at a MBT facility for processing. The treatment consists of –

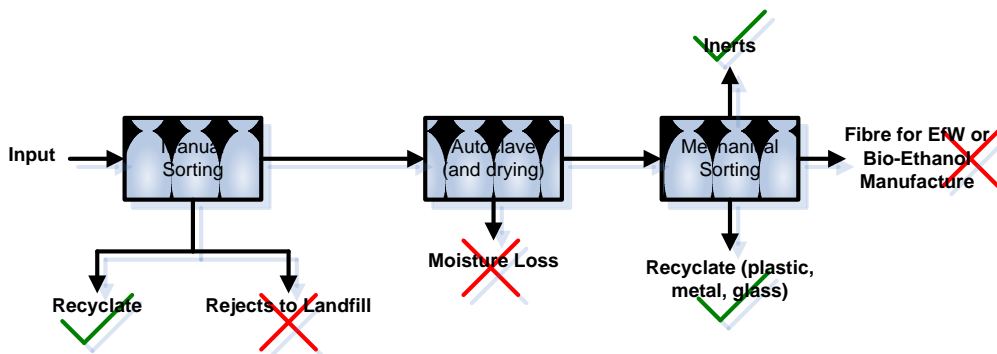
- Visual sorting step to remove oversize or dangerous materials such as gas bottles.
- Mechanical sorting to separate out materials for recycling
- Mechanical processing to produce refuse derived fuel
- Biological treatment of the biodegradable fraction to produce a CLO.



4.5.2 Example 2 – Mechanical Heat Treatment (Autoclave)

Unsorted waste is accepted at an autoclave facility for processing. The treatment consists of –

- Visual sorting step to remove oversize or dangerous materials such as gas bottles.
- Steam treatment to dry, clean and sterilise the waste.
- Mechanical sorting (magnets, optical, eddy currents etc) to separate out metals, plastics, glass and inerts.
- Biomass fibre remains for use as a fuel or in the manufacture of bio-ethanol.



4.6 Incineration

The approach to EfW under the Zero Waste Plan is not solely about using waste to generate energy instead of fossil fuels. The priority is on capturing materials to supply reprocessing markets. For waste management to be sustainable in the long term, resources which could have been reused or recycled must not be incinerated. Until segregation at source becomes commonplace in all households and businesses there will be recyclable materials remaining in the unsorted waste stream. Pre-treatment will recover the remaining value from recyclable material in unsorted waste, can remove material with a low calorific value and will reduce the tonnage going forwards to suitable EfW technologies.

4.6.1 Incinerator Bottom Ash

Incinerator Bottom Ash (IBA) resulting from the thermal treatment of combustible waste can be used in the manufacture of construction materials as a substitute for virgin aggregate. The use of incinerator bottom ash in construction projects is not the same as recycling the materials which were burnt to generate the ash – it is an example of downcycling. The aim of the Zero Waste Plan is that most waste is sorted into separate streams for closed loop recycling and minimise the quantities requiring tertiary treatment and, in the case of thermal treatment, minimise the amount of ash being produced which then requires further management and/or disposal.

Therefore, the use of incinerator bottom ash (IBA) will not count towards the household waste recycling target. However, the use of IBA in construction materials will count towards the 2025 all waste target.





Where household waste is thermally treated Local Authorities should record the input tonnage to the EfW facility in WasteDataFlow. The weight of IBA and other solid outputs, such as Air Pollution Control Residues and metals, from the process should also be recorded.

Where the IBA is used in the manufacture of construction products, the end use market must be identified and the tonnage recorded as “other recovery”. Where IBA is landfilled, including use as daily cover within the void, the tonnage should be reported as landfilled.

4.6.2 Metals recovered from IBA



Similarly, where metals recovered after the incineration process are recovered from the ash and recycled back into metal products, this recovery will not count towards the household waste recycling targets.

Metals recovered from IBA should be recorded in WasteDataFlow as “other recovery” and the tonnage reported. SEPA will report this information concurrently with the household recycling figures to provide an overall picture of waste management in the local authority area. Metals recovered from IBA will count towards the 2025 all waste target.

Incineration		
Inputs to Incinerator		
Recycling		Zero
Landfill Diversion		Input Tonnage minus outputs (e.g. IBA and APC residues) landfilled
Use of Bottom Ash and Metals recovered from the ash		
Household Waste Recycling		Zero
Industrial Waste Recycling		Tonnage recycled

4.7 Landfilling

The tonnage and biodegradable content of Local Authority Collected Municipal Waste landfilled must be recorded in WasteData Flow and will be published by SEPA under Landfill Allowance Scheme reporting requirements. Further information is contained in Section 6.

Stabilised waste for landfill		
Recycling		Zero
Landfill Diversion		Input tonnage minus landfilled tonnage

5.0 Carbon Metric

5.1 How will the Carbon Metric be used?

The Carbon Metric Reporting System for Recycling Performance is intended to be used to assess recycling performance for Scotland, for all sources of waste (i.e. household, commercial and industrial, construction and demolition). When it is appropriate to do so, SEPA will report Local Authority recycling performance both in terms of tonnage and carbon.

5.2 Applicable Targets

Referring back to the targets set out in Section 1.0, the targets to which the carbon metric will apply are as follows.

50% recycling/composting and preparing for re-use of waste from households	2013	Scottish Government Target
60% recycling/composting and preparing for re-use of waste from households.	2020	Scottish Government Target
70% recycling/composting and preparing for re-use of all waste	2025	Scottish Government Target

The first two targets specifically relate to waste from households and therefore only apply to Local Authority WasteDataFlow returns.

5.3 Implications for Reporting

The carbon metric will not change how local authorities report their data. Data should still be reported through WasteDataFlow as weight (tonnage). The weighting system for carbon will be applied by SEPA and both recycling (tonnage and carbon) rates will be published.

6.0 Landfill Allowance Scheme

6.1 Landfill Allowance Scheme

The Scheme applies to municipal waste collected by local authorities as defined in Regulation 2(1) of the Landfill Allowance Scheme (Scotland) Regulations 2005 (the 2005 Regulations). It works by allocating allowances to local authorities to landfill certain amounts of biodegradable waste.

The Scheme was put in place as a measure to achieve the targets set for the UK under the Landfill Directive to reduce the amount of biodegradable waste being disposed of in landfill. Changes to how the UK will report to the EU in relation to its Landfill Directive targets are discussed in Section 1.6. Local Authorities are still required to report the amount of biodegradable municipal waste they send to landfill under the Landfill Allowance Scheme (Scotland) Regulations 2005.

The cap on Local Authority Collected Municipal Waste which can be landfilled in Scotland so as to meet the UK Landfill Directive targets has been calculated up to 2020 and a share allocated to each Local Authority. This is presented in Table 4. Therefore, Local Authorities are not required to work out how much biodegradable waste they divert from landfill but only to report how much biodegradable waste they actually send to landfill. SEPA will report how much biodegradable LACMW is landfilled by each local authority for comparison with the allocations in Table 4.

6.2 The Process of Data Reporting

SEPA calculates the amount of BMW landfilled by each local authority in accordance with Regulations 13 and 14 of the 2005 Regulations.

Local authorities are required to provide SEPA with details for both a principal and an alternative contact for the administration of its Landfill Allowance Scheme account. In addition, the contact details of the relevant head of department should also be supplied to SEPA. These details should be sent to wastedata.flow@sepa.org.uk. Local authorities are required to notify SEPA of any changes to these contact details.

Local authorities should submit their data for the Landfill Allowance Scheme using WasteDataFlow no later than 42 days after the end of each quarter. Guidance on the WasteDataFlow system can be found via http://www.sepa.org.uk/nws/data/waste_data_flow.htm

SEPA will review the data submitted and seek clarification from local authorities as necessary. It is expected that local authorities will take no longer than a week to respond to emailed queries arising during the verification process.

SEPA will inform the Scottish Government of a local authority failing to meet this deadline. A fine of up to £1,000 may be applied to a local authority for failure to report timeously.

Table 4: Illustrative Landfill Allowance Scheme Biodegradable MW Allocations

Local Authority	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Aberdeen	47,115	41,225	35,336	33,845	32,353	30,862	29,370	27,879	26,387	24,896
Aberdeenshire	48,815	42,713	36,611	35,066	33,521	31,975	30,430	28,885	27,340	25,794
Angus	22,034	19,280	16,525	15,828	15,130	14,433	13,735	13,038	12,340	11,643
Argyll & Bute	24,498	21,436	18,373	17,598	16,822	16,047	15,271	14,496	13,720	12,945
Clackmannanshire	12,066	10,558	9,049	8,667	8,285	7,903	7,522	7,140	6,758	6,376
Dumfries & Galloway	31,770	27,799	23,827	22,822	21,816	20,810	19,805	18,799	17,793	16,787
Dundee	26,523	23,207	19,892	19,052	18,213	17,373	16,534	15,694	14,854	14,015
East Ayrshire	25,935	22,693	19,451	18,630	17,809	16,988	16,167	15,346	14,525	13,704
East Dunbartonshire	24,508	21,445	18,381	17,605	16,830	16,054	15,278	14,502	13,726	12,950
East Lothian	21,106	18,468	15,829	15,161	14,493	13,825	13,157	12,489	11,821	11,152
East Renfrewshire	19,576	17,129	14,682	14,062	13,443	12,823	12,203	11,584	10,964	10,344
Edinburgh	92,975	81,353	69,731	66,788	63,845	60,902	57,959	55,015	52,072	49,129
Falkirk	42,795	37,445	32,096	30,741	29,387	28,032	26,677	25,323	23,968	22,613
Fife	92,812	81,210	69,609	66,671	63,733	60,795	57,857	54,919	51,981	49,042
Glasgow	134,798	117,948	101,099	96,831	92,564	88,297	84,030	79,763	75,496	71,229
Highland	54,060	47,302	40,545	38,833	37,122	35,411	33,699	31,988	30,277	28,566
Inverclyde	17,005	14,880	12,754	12,216	11,677	11,139	10,601	10,062	9,524	8,986
Midlothian	19,480	17,045	14,610	13,993	13,377	12,760	12,143	11,527	10,910	10,293
Moray	22,611	19,784	16,958	16,242	15,526	14,811	14,095	13,379	12,663	11,948
North Ayrshire	30,065	26,307	22,549	21,597	20,645	19,693	18,742	17,790	16,838	15,887
North Lanarkshire	70,678	61,843	53,009	50,771	48,534	46,297	44,059	41,822	39,584	37,347
Orkney	1,244	1,089	933	894	855	815	776	736	697	658
Perth & Kinross	34,658	30,326	25,993	24,896	23,799	22,702	21,605	20,508	19,411	18,313
Renfrewshire	38,364	33,569	28,773	27,559	26,344	25,130	23,916	22,701	21,487	20,272
Scottish Borders	24,576	21,504	18,432	17,654	16,876	16,098	15,320	14,542	13,764	12,986
Shetland	2,255	1,973	1,691	1,620	1,549	1,477	1,406	1,334	1,263	1,192
South Ayrshire	28,718	25,128	21,539	20,630	19,720	18,811	17,902	16,993	16,084	15,175
South Lanarkshire	69,187	60,538	51,890	49,700	47,510	45,319	43,129	40,939	38,749	36,559
Stirling	27,008	23,632	20,256	19,401	18,546	17,691	16,836	15,981	15,126	14,271
West Dunbartonshire	21,184	18,536	15,888	15,217	14,547	13,876	13,206	12,535	11,864	11,194
West Lothian	35,916	31,426	26,937	25,800	24,663	23,526	22,389	21,252	20,115	18,978
Western Isles	9,000	7,875	6,750	6,465	6,180	5,895	5,610	5,325	5,041	4,756
TOTAL	1,173,333	1,026,667	880,000	842,857	805,714	768,571	731,429	694,286	657,143	620,000

6.3 When is biodegradable waste considered to have been diverted from landfill?

Where biodegradable waste such as paper, card, textiles and biowaste is collected separately and recycled these materials are clearly being diverted from landfill. In addition their resource value is being optimised. In the case of unsorted waste which is treated to recover remaining resource value and reduce the volumes and hazardous properties of waste requiring final disposal to landfill the situation is a little less clear. The treated biodegradable fraction of LACMW may be disposed or recovered within the boundary of a landfill site.

The following examples illustrate whether treated biodegradable municipal waste can be considered to have been diverted from landfill or not i.e. whether the use of an output such as CLO from a treatment process is disposal to landfill or recovery and diversion when used within the boundary of a landfill site.

Example 1 – Where waste is treated to reduce the biodegradable content and is subsequently disposed of to landfill containment cell, the tonnage of waste put into the landfill and its biodegradable content must be calculated and reported as landfilled. The reduction in weight loss due to the treatment process will count as diversion but not recycling (see Section 4.4).

Example 2 - Certain waste types with specific properties are kept aside at landfills for use as daily cover. Despite playing a particular function in the daily operation of the landfill, the wastes are ultimately disposed of into the void and covered with the following days waste. The tonnage of material used as daily cover and its biodegradable content must be calculated and reported as landfilled. The reduction in weight loss due to the treatment process will count as diversion but not recycling (see Section 4)

Example 3 – PAS100 compost used to restore capped landfills will be counted as being recycled provided the compost was used for ecological improvement and the quantities used serve a beneficial purpose (see Section 2).

Example 4 – Compost-like-output from the treatment of unsorted waste used to restore capped landfills will not count as being recycled. CLO may only be used under the terms of an environmental licence or permit. Where it can be demonstrated that the CLO may be used as restoration material without risk to the environment or human health and provide ecological improvement the tonnage of CLO used in this way will have been diverted.

6.4 Measuring the biodegradable content of LACMW sent to landfill.

Untreated local authority collected municipal waste is estimated to have a biodegradable content of 63%. However, the biodegradability of unsorted waste can be reduced through treatment as well as the tonnage. Therefore, the actual biodegradable content of treated LACMW has to be measured prior to landfill. This can be done using mass balance calculations using the BMW estimates provided in Annex A. However analysis is needed to measure the biodegradable content of outputs from MBT, or other similar treatment process, which are subsequently landfilled. This section of the guidance may be updated once regulations are in place requiring landfilled waste to be treated to meet a statutory biodegradability threshold.

6.5 Measuring the BMW content of compost and MBT output

There are currently a number of different methods for assessing the biodegradability of waste, most concentrate on measuring gas evolution by micro-organisms (methane, carbon dioxide, and oxygen). Whilst these tests will give an indication of a waste's biodegradability in terms of microbial activity, it is difficult to relate these measurements to a waste's actual BMW.

The Loss on Ignition (LOI) as set out in BS EN 13039:2000 is a simple and reliable method of determining the amount of inert material (ash) contained within a sample of waste, which can subsequently be used to determine the organic matter content of the waste. It is a measurement of the combustible fraction of the sample.

It can be assumed for the purposes of the Landfill Allowance Scheme that the organic matter content represents the BMW of the material being analysed. Local authorities should discuss proposals to use different methods to determine the BMW content of composts and MBT outputs landfilled with SEPA (wastedata.flow@sepa.org.uk).

Sampling for waste inputs and outputs to the MBT or similar processes plant should be in accordance with BS EN 12579: 2000 on "Characterization of waste. Sampling of waste materials". Framework for the preparation and application of a sampling plan. Records should be kept for each sample, including:

- who carried out the sampling
- date of sampling
- codes(s) of the batches from which the sample was taken
- approximate quantity of the sampled batch (in tonnes), m³ or other stated unit)
- compost particle size grade (if screened)
- sample code
- the laboratory (if used) to which the sample was sent
- information for identifying the archived portion of the sample.

Sampling and sample preparation for MBT or similar processes plant inputs and outputs should be discussed with SEPA (wastedata.flow@sepa.org.uk)

Analysis of each sample batch must be carried out six times, for the first year. The frequency of testing may be reduced with SEPA's agreement, where reliable and consistent results are obtained during this initial validation phase. An average of the LOI analysis results should be taken each month.

Annex A: Biodegradable Waste

Type of waste	Proportion of biodegradable waste (expressed as a percentage by weight)
Card	100%
Paper	100%
Mixed paper/card/yellow pages	100%
Books	100%
Putrescible waste	100%
Vegetable oil	100%
Wood	100%
Chipboard and MDF	100%
Cardboard beverage packaging	74%
Composite wood materials	50%
Footwear	50%
Furniture	50%
Textiles	50%
Mixed Municipal waste for composting	63%
Mattresses	5%
Batteries	0%
Electrical and electronic equipment	0%
End-of-life vehicles	0%
Fluorescent tubes	0%
Glass	0%
Inert construction and demolition waste	0%
Scrap Metal	0%
Mineral oil	0%
Dense Plastic	0%
Mixed Plastic	0%
Gas cylinders	0%
Fridge/freezers	0%
Tyres	0%
Steel cans	0%
Aluminium cans	0%
Mixed cans	0%
Plasterboard	0%
Soil	0%
Aerosols	0%
Bric-a-brac	0%