

2014 Household Waste Data Quality Report

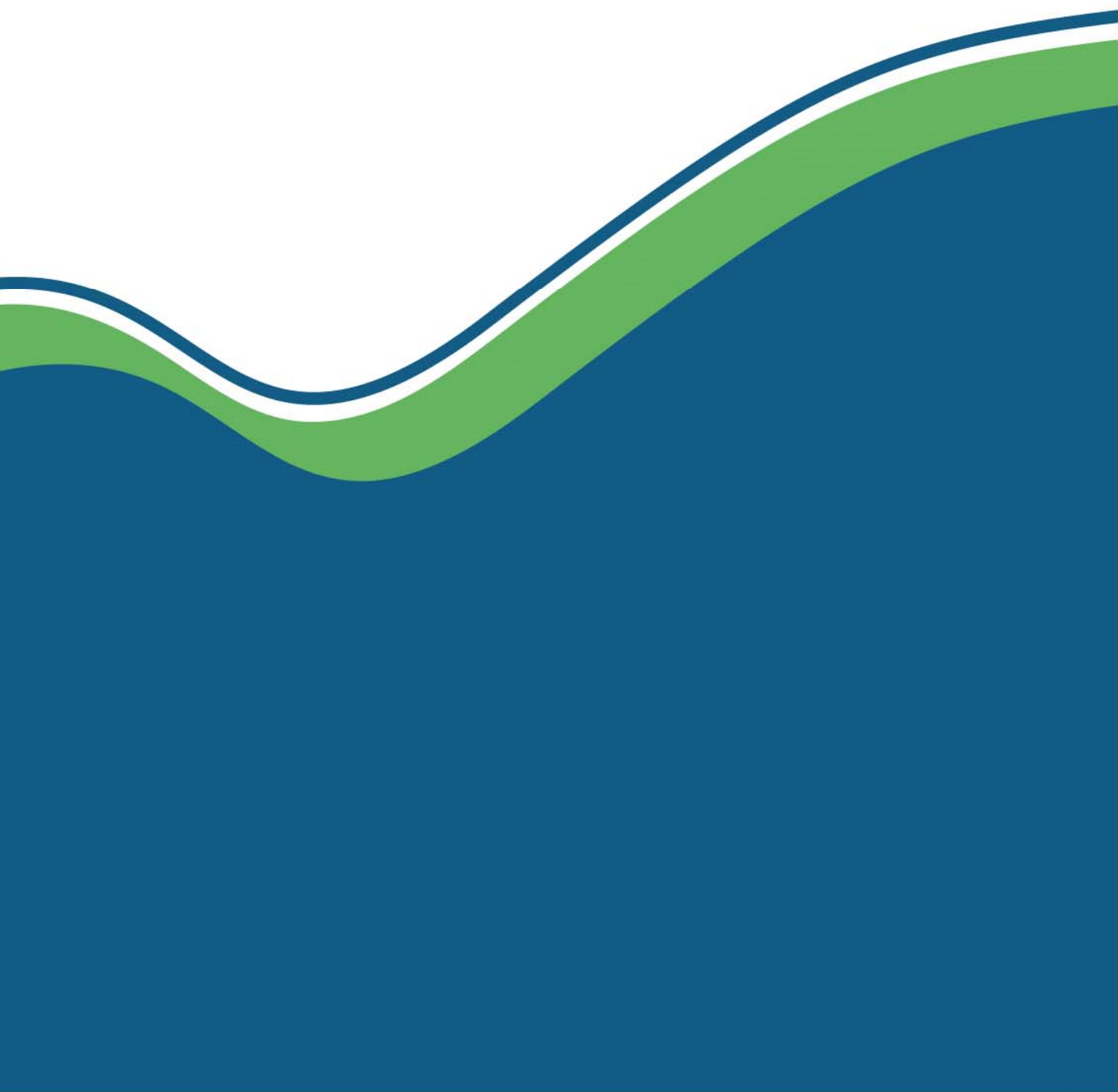


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1 Introduction

This report describes the methodologies to produce summary waste data for Scotland household waste for the 2014 calendar year. The report should be used alongside the 2014 household waste data tables.

The 2014 data are presented as follows:

- Scotland's Environment Household Waste Discover Data tool presents the waste from household sources in an interactive and visual format and is found on Scotland's Environment web at <http://www.environment.scotland.gov.uk/get-interactive/data/household-waste/>
- The tables may be downloaded in Excel format from SEPA's website at <http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/>

The data source for household waste generated and managed is from an electronic return system called WasteDataFlow (WDF). WDF is a UK wide system administered by Defra. Local authorities are responsible for entering data, which cannot be modified by SEPA. Data entry is via a series of numbered questions¹. All 32 Scottish local authorities report on a quarterly or annual basis.

In 2014 there was a 100% response rate. SEPA reviewed annual data using a verification tool and informed local authorities where possible inconsistencies required checking. Data checking included the consistency of reported tonnages collected and managed for residual waste, segregated recycling and organic wastes.

For 2014 there was one change to the methodology that was used for aggregation of the 2011-2013 datasets. In 2014 compost that was produced in a facility accredited to the British Standards Institution (BSI) for compost quality (BSI PAS100, BSI PAS 110) was allocated to "Organics Recycled" category. Compost that did not meet this standard was allocated to "Other diversion from landfill" in the household waste data tables. This change is part of a Scottish Government policy to improve the quality of recycling materials.

It is not practicable to revise the historical datasets to be consistent with this change. This is because the take-up of BSI PAS accredited facilities in Scotland is fairly recent, and the use by local authorities of these facilities has increased since the intention to abide by this standard was announced in Government policy in 2011².

¹www.wastedataflow.org/documents/guidancenotes/Scotland/GeneralGuidance/Scotland_WD_F_User_Guidance_Rev_Oct_12.PDF

²http://www.wastedataflow.org/documents/guidancenotes/Scotland/zero_waste_plan_recycling_guidance1.pdf

2 Household waste

2.1 Introduction

This section describes how we report on household waste generated in Scotland; and Scottish household waste managed in Scotland or elsewhere. Data is taken from all 32 Scottish local authority returns using the web-based reporting tool WasteDataFlow (WDF). Further details of the WDF dataset can be found in Appendix 1. Throughout this section reference is made to question numbers on WDF.

In 2014 local authorities submitted returns annually. All returns were checked and verified by SEPA staff for data entry errors, consistency with previous returns and consistency with the site returns dataset.

All waste collected is reported in WDF in the same return period in which it is sent to management. This allows balancing of the waste generated and waste managed for a period. The waste generated figures might include treated waste stockpiled prior to final management. The waste managed figures include stockpiled waste from a previous year sent to final management but excludes treated waste stockpiled prior to final management.

2.2 Methodology

2.2.1 WasteDataFlow question 100

2014 was the second full year that local authorities reported data in WDF using question 100 (Q100). Data entry using Q100 is via building a graphical 'tree' that depicts the movement of waste in a chain. Each 'branch' of the tree is associated with a waste facility and tonnage inputs to and outputs from each facility are reported.

Question 100 covers the following waste management categories:

- wastes sent direct to landfill, incineration and composting facilities, and waste sent to the same facilities following the sorting/treatment of mixed wastes e.g. at a materials recovery facility (MRF) or mechanical biological treatment (MBT) plant
- segregated recyclates sent direct to re-processors and reuse facilities, and waste sent to the same facilities following the sorting/treatment of mixed wastes (e.g. MRFs, MBT)

A "primary facility" in Q100 is a facility where the authority records waste as sent direct from collection. Inputs tonnages to the facility at this level are broken down into three categories by local authorities: Household, Commercial, Industrial. The household tonnages can be directly obtained from the data for these facilities. Where the facility is not a primary facility (e.g. the waste sent to landfill is recorded as an output from another facility such as a materials recycling facility), the household waste tonnage is not specifically recorded. In this instance the household waste was calculated by applying the percentage household waste at the primary level in the tree to the total tonnage of waste sent to the facility. For example, if waste inputs to a MRF facility are 80% household wastes, the output rejects from the MRF sent to landfill will be designated as 80% household in origin.

2.2.2 Waste types

A list of SEPA reporting categories and corresponding WDF waste types are provided in Appendix 2 and Appendix 3. The mapping of these categories follows the approach taken by UK reporting to Europe for waste statistics regulation reporting.

2.2.3 Household waste generated

Household waste generated were taken from the household tonnage inputs to primary level facilities in question 100.

2.2.4 Household waste landfilled

Household waste sent to landfill was derived from the waste recorded as sent to a landfill facility in Q100.

2.2.5 Household waste recovered by incineration, recovered by co-incineration, disposed by incineration

The quantity of household waste incinerated in the waste data tables is the gross tonnage input to the incinerator, rather than net incineration³ reported in the official statistics publication⁴.

Incineration tonnages were allocated to the *incineration by recovery* category where the incineration facility meets the Waste Framework Directive criteria for incineration efficiency. Similarly, where waste was incinerated in a co-incineration process, as defined by Environment Agency guidance, the tonnages were allocated to the *incineration by co-incineration* category in the data tables. Where the incinerator was not recognised as meeting the Waste Framework Directive criteria for incineration efficiency, the incineration tonnages were allocated to the *incineration by disposal* category. As there are no recognised recovery incinerators in Scotland, all incineration in Scotland falls under either the *recovery by co-incineration* or the *disposal by incineration* category. It was assumed that all waste exported outside the UK was sent for *incineration by recovery*, and waste exported to an England incinerator was sent to *incineration by disposal* or *incineration by co-incineration*.

2.2.6 Household waste recycled

The quantity of household waste recycled is the net sum of household waste recorded as sent to re-processor facilities in Q100. This includes waste sent direct to a reprocessor from collection and also the recyclable materials sent to a re-processor following sorting of mixed wastes at a waste treatment facility (e.g. MRFs, MBT).

Under Scotland's Zero Waste Plan the compost-like output (CLO) from MBT of household waste, and recycled metal and ash from incineration of household waste do not count towards household recycling targets and are excluded from household waste recycling figures but they are included under "other diversion from landfill" unless these materials are landfilled. These materials are also excluded from the recycling data in the household waste data tables.

³ Net incineration is the gross inputs, less outputs such as bottom ash and metals which are disposed/recycled.

⁴ <http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/>

2.2.7 Household waste prepared for reuse

The quantity of household waste prepared for reuse is the net sum of household waste recorded as sent to reuse facilities in Q100, either directly or as outputs from a sorting facility.

2.2.8 Household organic waste recycled through biological treatment

The quantity of household organic waste recycled through biological treatment is the net sum of household waste recorded as sent to organic recycling facilities in Q100. There are three organic recycling through biological treatment facility types in Q100: windrow composting, in-vessel composting, and anaerobic digestion facilities.

In 2014 only PAS100/110-accredited facilities were considered for the recycling data in line with Scotland's Zero Waste Plan, the first year in which only PAS compliant facilities were considered. This change stems from the Scottish Government policy to improve quality of recycling, first introduced with the publication of the Zero Waste Plan in 2011. Local authorities were provided a "grace period" before this policy was introduced to the household dataset, to allow sufficient time to obtain PAS accreditation for composting and AD facilities. Waste composted or digested that has not reached the quality standards set by PAS100/110 and diverted from landfill was considered under "other diversion from landfill" in the official statistics publication and household waste data tables.

Prior to 2014 all organic wastes were included in the household recycling figures, regardless of whether they were composted at a PAS100/110-accredited facility.

In 2014, 19.7 thousand tonnes of the 388.8 thousand tonnes of household organic waste treated by composting or other biological treatment were sent to facilities not accredited to the PAS standard. This equates to 5.1% of organics wastes treated, and 1.8% of total non-organic and organic household waste reused or recycled.

2.2.9 Household waste managed by other methods

Under Scotland's Zero Waste Plan the compost-like output (CLO) from MBT, and recycled metal and ash from incineration of household waste do not count towards household recycling targets and are excluded from household waste recycling figures. These materials have been allocated into the "Other waste managed" category in the household waste data tables. Also included in this category is any process loss during waste treatment, and process loss of organic waste composted in which the compost product is disposed.

2.2.10 Final destination reporting

The geographic allocation (Scotland / Outwith Scotland) for household recycling / disposal / recovery relies on the accurate reporting of the final destination of waste materials. For example, a final destination for glass bottles would be the site where the bottles are reprocessed into new materials. A final destination for rejected material from a MRF might be landfill or incineration.

SEPA guidance requires authorities to report the final destination of the waste in Q100 (i.e. the facility where waste is recycled). Waste often goes through a complex chain of sites before reaching its final destination. This, together with the reluctance of some operators to report where waste is sent due to commercial reason, means many authorities struggle to obtain final destination information for the WDF report. Although the roll out of Q100 has improved final destination reporting, many authorities still continue to report MRFs as final destinations. The Scottish

government, in partnership with Zero Waste Scotland, have convened a working group to address the issues that local authorities face in ascertaining and reporting on correct final destinations.

The geographic information for household waste managed, in particular the household waste recycled, should therefore be treated with caution in the waste data tables.

3 Further information

Contacting Us

If you have any queries on the contents of this document or the accompanying waste data tables, please contact the Data Unit by email, phone or in writing.

By Email (via our SEPA mailback form)

www.sepa.org.uk/about_us/contacting_sepa/by_email.aspx

By Phone

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Appendix 1

Datasets used in the 2014 methodology

Household wastes managed by Scottish local authorities (WasteDataFlow⁵)

WDF is a UK wide system administered by Defra. Local authorities are responsible for entering data, which cannot be modified by SEPA. Data entry is via a series of numbered questions⁶. All data is submitted annually, although local authorities may enter data monthly or quarterly.

In 2014 there was a 100% response rate. SEPA reviewed annual data using a verification tool and informed local authorities where possible inconsistencies required checking. Data checking included the consistency of reported tonnages collected and managed for residual waste, segregated recycling and organic wastes.

⁵ www.WasteDataFlow.org/

⁶ www.wastedataflow.org/documents/guidancenotes/Scotland/GeneralGuidance/Scotland_WD_F_User_Guidance_Rev_Oct_12.PDF

Appendix 2

Table 1. Segregated Household waste categories for SEPA reporting and WasteDataFlow

SEPA reporting	WasteDataFlow	Hazardous (H) / non-hazardous (NH)
Animal and mixed food waste	Waste food only	NH
Animal and mixed food waste	Mixed garden and food waste	NH
Animal and mixed food waste	Vegetable oil	NH
Batteries and accumulators wastes	Automotive batteries	H
Batteries and accumulators wastes	Post-consumer, non-automotive batteries	NH
Construction and demolition waste	Rubble	NH
Construction and demolition waste	Plasterboard	NH
Discarded electrical and electronic equipment	WEEE - Large domestic apps	H
Discarded electrical and electronic equipment	WEEE - Small domestic apps	H
Discarded electrical and electronic equipment	WEEE - Cathode ray tubes	H
Discarded electrical and electronic equipment	WEEE - Fridges and freezers	H
Discarded machines and equipment components	WEEE - Fluorescent tubes and other light bulbs	H
Discarded vehicles	Bicycles	NH
Glass wastes	Green glass	NH
Glass wastes	Brown glass	NH
Glass wastes	Clear glass	NH
Glass wastes	Mixed glass	NH
Household and similar wastes	Furniture	NH
Household and similar wastes	Bric-a-brac	NH
Household and similar wastes	Mattresses	NH
Metal wastes, ferrous	Steel cans	NH
Metal wastes, mixed ferrous and non-ferrous	Mixed cans	NH
Metal wastes, mixed ferrous and non-ferrous	Other scrap metal	NH
Metal wastes, non-ferrous	Aluminium cans	NH
Metal wastes, non-ferrous	Aluminium foil	NH
Mixed and undifferentiated	Cardboard beverage packaging	NH

SEPA reporting	WasteDataFlow	Hazardous (H) / non-hazardous (NH)
materials		
Mixed and undifferentiated materials	Other materials	NH
Off-specification chemical wastes	Aerosols	NH
Off-specification chemical wastes	Fire extinguishers	H
Off-specification chemical wastes	Gas Bottles	H
Off-specification chemical wastes	Ink and toner cartridges	NH
Off-specification chemical wastes	Paint	NH
Paper and cardboard wastes	Paper	NH
Paper and cardboard wastes	Card	NH
Paper and cardboard wastes	Books	NH
Paper and cardboard wastes	Mixed paper and card	NH
Paper and cardboard wastes	Yellow pages	NH
Plastic wastes	Mixed plastics	NH
Plastic wastes	Mixed plastic bottles	NH
Plastic wastes	PET	NH
Plastic wastes	HDPE	NH
Plastic wastes	PVC	NH
Plastic wastes	LDPE	NH
Plastic wastes	PP	NH
Plastic wastes	PS	NH
Plastic wastes	Other plastics	NH
Plastic wastes	Video tapes, DVDs and CDs	NH
Rubber wastes	Car tyres	NH
Rubber wastes	Van tyres	NH
Rubber wastes	Large vehicle tyres	NH
Rubber wastes	Mixed tyres	NH
Soils	Soil	NH
Textile wastes	Textiles and footwear	NH
Used oils	Mineral oil	H
Vegetal wastes	Green garden waste only	NH
Vegetal wastes	Other compostable waste	NH
Wood wastes	Wood for composting	NH
Wood wastes	Wood	NH
Wood wastes	Chipboard and MDF	NH
Wood wastes	Composite wood materials	NH

Appendix 3

Table 2. Mixed household waste categories for SEPA reporting and WasteDataFlow

SEPA reporting	WasteDataFlow	Hazardous (H) / non-hazardous (NH)
Household and similar wastes	Co-mingled materials	NH
Household and similar wastes	Collected household waste: Regular Collection	NH
Household and similar wastes	Collected household waste: Bulky Waste	NH
Household and similar wastes	Collected household waste: other	NH
Household and similar wastes	Civic amenity sites waste: Household	NH
Other mineral wastes	Asbestos Waste separately	H

Appendix 4

Glossary

Anaerobic digestion	A process commonly used to break down biodegradable wastes (e.g. food and green wastes) in the absence of oxygen
Household waste	Waste generated by households (see full definition in Paragraph 1.2 of the <i>Zero Waste Plan - guidance for local authorities</i> here).
In-vessel composting	A group of methods which confine the composting of organic waste materials within a building, container, or vessel
Mechanical biological treatment	A type of waste processing plant that combines sorting and biological treatment
Materials recovery facility	A waste management plant which separates recyclable materials from mixed wastes
Municipal solid wastes	A collective term commonly used to describe household and similar commercial, industrial and institutional wastes
Standard industrial classification	For business establishments and other statistical units by the type of economic activity in which they are engaged
Waste recycled	includes recyclable materials that have been recycled or reused and also biodegradable materials that have been composted or digested. The amount of waste recycled, reused and composted is that accepted by the reprocessor. As such it excludes any recycling rejects that occur during collection, sorting or further treatment. From 2014, the composting figures using the new calculation methodology do not include any waste composted that has not reached the quality standards set by PAS 100/110.
WasteDataFlow	A web-based reporting tool used by Scottish local authorities to report the wastes they manage

Appendix 5

Acronyms

AD	Anaerobic Digestion
C&D	Construction and Demolition
C&I	Commercial and Industrial
CLO	Compost-Like Output
Defra	Department of the Environment Food and Rural Affairs
GVA	Gross Value Added
EA	Environment Agency
EWC	European Waste Catalogue
EWC-STAT	European Waste Catalogue for Statistics
IVC	In-Vessel Composting
MBT	Mechanical Biological Treatment
NUTS	Nomenclature of Units for Territorial Statistics
ONS	Office of National Statistics
SEPA	Scottish Environment Protection Agency
SIC	Standard Industry Classification
WDF	WasteDataFlow
WEEE	Waste Electrical and Electronic Equipment

Version Control

Version	Description	Date
1	Initial published report	30 September 2015