Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

For the future of our environment

2022 WASTE DATA QUALITY REPORT

WASTE INCINERATED IN SCOTLAND



October 2023

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Introduction

This report describes the methodologies to produce summary data on waste incinerated in Scotland for the 2022 calendar year. The report should be used alongside the 2022 Waste incinerated in Scotland official statistics commentary document and associated data tables.

The 2022 data are presented as follows:

- The Waste incinerated in Scotland and associated data tables are presented in a summary and commentary document. This narrative describes the major trends and provides an interpretation of the data. They are located at www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/.

- Scotland's Environment Waste Discover Data tool presents the waste from all sources (WFAS) data in an interactive and visual format and is found on Scotland's Environment web at www.environment.scotland.gov.uk/get-interactive/data/waste-from-all-sources/. This tool covers the total waste managed, whether it be waste from households, waste from construction and demolition, or waste from commerce and industry. It includes the incineration dataset.

  The WFAS Discover tool is updated once yearly, in about March, when all data for Scottish waste generated and managed, of which waste incinerated in Scotland is a subset, becomes available. The statistical release and excel incineration data tables are released about six months before the annual update of the WFAS Discover tool. This is because the incineration data comes primarily from one discrete dataset and, in line with the code of practice for statistics which provides that statistics should be released as soon as they are considered ready, can be prepared and published earlier than the WFAS.

Data sources referred to at various parts of the document are listed below. The agency that carries out the analysis of the dataset is provided in brackets.

- Scottish licensed/permitted site returns (SEPA)

- Annual PPC permit monitoring reports (SEPA)

Appendix 1 provides a fuller description of the dataset(s) listed above, including any links to return forms and guidance.

Appendix 2 provides a summary of the coding of waste using the European Waste Catalogue (EWC) and European Waste Catalogue for Statistics (EWC-STAT), which are used throughout this document.

Appendix 3 provides a glossary of terms.

Appendix 4 provides a list of acronyms.

Revisions Policy

Revisions could occur for various reasons, including when data from third parties are unavailable or provisional at the time of publishing or if there are subsequent methodological improvements or refinements.

The figures are accurate at the time of publication. However, the data may be updated if further revisions are necessary. Normally these revisions will be published concurrent with the next release.

Where there have been changes in methodology for the waste data tables, the complete dataset is revised for all years to ensure that comparisons between years are valid.

Waste Incinerated in Scotland

Introduction

This section describes how we report waste incinerated in Scotland.

A list of Scottish incinerators is maintained and checked with SEPA regulatory staff annually, prior to starting the analysis. For co-incinerators, we exclude any non-waste fuels from our analysis. There were 16 operational sites used in the final 2022 analysis. These sites vary significantly in size, with 5 sites each having incinerated under 1,000 tonnes of waste in 2022 and 6 sites each having incinerated over 100,000 tonnes in 2022.

Waste data are supplied as EWC codes, which are aggregated into final EWC_STAT reporting categories. Waste types are separated into non-hazardous/hazardous using European Waste Catalogue (EWC) codes.

The geographical origin of the waste is reported in Table B (Waste inputs to site) of the licensed/permitted site return. For any sites that complete Table C4 of the licensed/permitted site return, to report on wastes incinerated after being treated on-site, the waste origin is not reported. It was assumed that wastes reported in Table C4 had an origin of Scotland. In 2022 there were two sites that reported waste incinerated in Table C4.

Incineration by recovery and incineration by co-incineration within Scotland

In the waste data tables, "*Incinerated by recovery*" means that waste has been incinerated at a facility that has been accredited as meeting the energy efficiency standard of a recovery facility (R1 facility) as defined in the Waste Framework Directive. "*Incinerated by co-incineration*" means waste incinerated at a facility that normally generates energy from incineration of non-waste sources such as coal or gas. This may include, for example, a cement kiln that normally uses natural gas as an energy source. In 2022 there were three municipal waste incineration facilities that were accredited by SEPA to the R1 standard, an increase of two facilities from 2021. For these R1 incinerators, as the incineration process has not changed during the operating history, all historical data has been revised to change from the *Incinerated by disposal* category to the *Incinerated by recovery* category.

Incinerated by disposal in Scotland

In the waste data tables, "*Incinerated by disposal*" means waste incinerated at an incineration facility that is not accredited as meeting the energy efficiency standard of a recovery facility (D10 facility). Three municipal waste incinerators in Scotland fall into this category. It is thought that all of these D10 incinerators would likely meet the R1 standard, if they had applied for accreditation.

Further information

Contacting Us

If you have any queries on the contents of this document or the statistical commentary and accompanying waste data tables, please contact the Dataflows Unit by email: waste.data@sepa.org.uk

Appendix 1

Datasets used in the 2022 methodology

Scottish licensed/permitted waste site returns

Approximately 940 individual licences submit quarterly returns to SEPA via email or post, of which 16 sites were operational incineration sites. A copy of the return form can be downloaded from the SEPA website[1]. The returns dataset is managed and checked by SEPA. The return form consists of Table B (Waste inputs to site), Table C (Waste treated on site), Table C4 (Waste landfilled or incinerated after treatment on-site – landfill or incineration sites only) and Table D (Waste sent off site).

SEPA carried out quality assurance of the dataset that included comparing individual site data with previous quarters/years, consistency of EWC codes with the description of waste provided by the operator and missing data. Submissions were collected, uploaded and checked by SEPA staff with the assistance of various automation and visual tools throughout the process.

PPC Annual Monitoring Report

Some incinerator permits do not contain conditions to submit a quarterly waste return. For these sites, a summary of waste incinerated over the year was obtained from the PPC annual monitoring report. The annual monitoring report is provided annually by the permit holder, and contains a summary of emissions to the environment over the duration of the year, monitoring of emissions, in addition to a summary of waste inputs. Details provided of waste incinerated in the annual monitoring report is generally less detailed than the quarterly waste site return, for example, there is little or no geographic information about the origin of waste incinerated.

In 2022, 1.27 million tonnes (89% of all waste incinerated) was obtained from quarterly waste returns (see *Table 1* below). All new incinerators report using quarterly waste returns, as do all incinerators which incinerate municipal waste.

[1] http://www.sepa.org.uk/environment/waste/waste-data/guidance-and-forms-for-operators/licensed-and-permitted-sites/

Table 1. A summary of waste incinerated in 2022 by data source

Incineration Data Source	Tonnes
Quarterly Waste Return	1,265,296
PPC Annual Monitoring Report	153,960

Appendix 2

European Waste Catalogue

Throughout this document reference is made to both the European Waste Catalogue (EWC) list of wastes and European Waste Catalogue for Statistics (EWC-STAT). A brief explanation of each is given below, along with links to further information.

European Waste Catalogue List of Waste (EWC 2000)

The EWC 2000 is a harmonised, non-exhaustive list of waste types established by the European Commission (2000/532/EC) as amended in 2015 (2014/955/EU). The list is used to categorise wastes based on a combination of what they are, and the process or activity that produces them.

The full EWC 2000 list (as amended) and further information is available here:

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014D0955

The list is divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each chapter is represented by a two-digit code between 01 and 20 and comprises one or more subchapters. Individual waste types are detailed in the sub-chapters and are assigned a six-digit code that comprises two digits for the chapter, two for the sub-chapter and two to the waste type.

Hazardous wastes are designated by entries where the EWC code is terminated by an asterisk (*).

The use of EWC codes to describe waste on waste transfer notes in Scotland has been statutory since April 2004. Most statutory waste data returns received by SEPA, including licensed/permitted site returns, exempt activity returns, and special waste consignment notes require waste to be classified according to the EWC 2000 (as amended).

European Waste Catalogue for Statistics (EWC-STAT)

The EWC-Stat is a (mainly) substance-oriented statistical classification of waste established by the European Commission (2004/574/EC). The EWC-STAT contains thirteen categories, each

represented by a two-digit code between 01 and 13. These are sub-divided into individual waste types.

A table of equivalence allows wastes coded in the EWC 2000 (as amended) to convert into the EWC-Stat. However, because of the way the coding system operates, it is not possible to do the reverse conversion. The table of equivalence and further information is available here:

http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:253:0002:0041:EN:PDF

Appendix 3

Glossary

EWC Code – a six-digit code listed in the European Waste Catalogue. These codes are used to identify and classify waste into different categories. They are structured as three pairs of numbers, each representing chapters, sub-chapters, and individual entries. For example, 12 01 06*.

Hazardous Waste – waste with hazardous properties which may render it harmful to human health or the environment. Hazardous waste is also called Special Waste in Scotland, as defined in the Special Waste Regulations 1996 [Latest available (Revised) version].

PPC Permit – a permit issued by SEPA under the Pollution Prevention and Control (Scotland) Regulations 2012 [as amended].

Waste from all sources (WFAS) – waste that originates from commercial and industrial sources, construction and demolition sources as well as from household sources.

Waste incinerated by co-incineration – wastes used primarily as a fuel and incinerated at an incineration facility in which the main purpose is the generation of energy or production of material products (e.g. cement), and which uses waste as an additional fuel.

Waste incinerated by disposal – wastes incinerated at an incineration facility where the energy efficiency has not been demonstrated to meet the R1 criteria specified in the EU Waste Framework Directive (Directive 2008/98/EC).

Waste incinerated by recovery – wastes used principally as a fuel to generate energy and incinerated at an incineration facility where the energy efficiency has been demonstrated to meet the R1 energy efficiency criteria specified in the EU Waste Framework Directive (Directive 2008/98/EC).

Waste incinerated – WFAS that is incinerated in Scotland including waste incinerated by disposal, waste incinerated by co-incineration, and waste incinerated by recovery.

Appendix 4

Acronyms

C&D	Construction and Demolition
C&I	Commercial and Industrial
EWC	European Waste Catalogue
EWC-STAT	European Waste Catalogue for Statistics
SEPA	Scottish Environment Protection Agency
WFAS	Waste From All Sources

Version Control

Version	Description	Date
1	Initial published report	23/10/23

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If you are a user of British Sign Language (BSL), the Contact Scotland BSL service gives you access to an online interpreter, enabling you to communicate with us using sign language. contactscotland-bsl.org