



## METHODOLOGICAL EXPLANATION

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# WASTE GENERATION

This methodological explanation relates to the data releases:

- Waste, Slovenia, annually (First Release)



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## 1 PURPOSE

The purpose of publishing the data on waste generation is to show the data on the amounts of waste generated by production and service activities and by households along with the method of their treatment.

## 2 LEGAL FRAMEWORK

- [Annual Programme of Statistical Surveys \(LPSR\) \(only in Slovene\)](#)
- [National Statistics Act \(OJ RS, No. 45/95 and 9/01\)](#)
- [Regulation \(EC\) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics \(CELEX: 32002R2150\)](#)
- Decree on Waste (OJ RS, Nos. [37/15](#), [69/15](#), [129/20](#), [44/22](#)- ZVO-2 and [77/22](#))

## 3 UNIT DESCRIBED BY THE PUBLISHED DATA

The unit described by the published data is waste according to:

- Source of waste generation (production and service activities)
- Location of waste generation (cohesion and statistical regions, municipalities)
- Waste types (hazardous, non-hazardous) classified according to the European List of Wastes - LoW, and according to the statistical classification of waste - EWC-Stat,
- Type of waste treatment (export, recovery, waste storage, other).

## 4 SELECTION OF OBSERVATION UNIT

The observation units in the annual Waste Generation (ODP-nastajanje) survey are business entities that perform economic activities belonging to individual activities according to the SKD 2008, and households.

The ODP-nastajanje survey covers all reporting units (full coverage).

The survey includes about 19,000 units.

## 5 SOURCES AND METHODS OF DATA COLLECTION

Data are collected annually.

SURS collects data from an administrative source - IS-Odpadki application managed by the Slovenian Environment Agency (ARSO). The application is intended for electronic support in the recording of shipments of waste with record sheets and is used also for the annual reporting on waste and its management.

## 6 DEFINITIONS

**Waste** is a material or an object from one of the groups of waste specified in the List of Waste (Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council), which the owner discards or intends or is required to discard. To protect the environment or other public benefits, waste must be collected, submitted for processing or disposal, transported, recovered or disposed of in a prescribed manner.

**Hazardous waste** is waste that displays one or more of the hazardous properties listed in annex of Commission Regulation (EU) No. 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98 / EC of the European Parliament and of the Council on waste and repealing certain directives.

**Municipal waste** is waste from households and similar waste from trading, manufacturing, business services and other activities and also from the public sector.

**Separately collected fractions** are waste from a subgroup of "Separately collected fractions" and separately collected packaging waste that is municipal waste from a subgroup of "Packaging", including separately collected packaging waste from municipal waste from the List of Waste (Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council).

**List of Waste (LoW)** is a list of hazardous and non-hazardous waste defined by Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council. Waste is classified into groups according to its origin. In addition to the name, each waste has a six-digit number. If the waste is hazardous, the number is followed by an asterisk. The generator of waste is responsible for the classification of waste into the appropriate group.

**Waste producer** is anyone whose activities produce waste (original producer) and/or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste.

**Waste collector** is a legal entity or an individual entrepreneur that performs the activity of waste collection in accordance with the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20 and 44/22). A collector can start collecting waste after obtaining the decision of entry into the record of waste collectors from the Slovenian Ministry of the Environment and Spatial Planning (MOP) – Slovenian Environment Agency.

**Waste processor** is a legal entity or an individual entrepreneur that performs the activity of waste recovery in accordance with the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20, 44/22 - ZVO-2 and 77/22) and has the environmental permit for waste recovery from the Ministry of the Environment and Spatial Planning - Slovenian Environment Agency.

**Waste disposer** is legal entity or an individual entrepreneur that performs the activity of waste disposal in accordance with the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20, 44/22 - ZVO-2 and 77/22) and has the environmental permit for waste disposal from the Slovenian Ministry of the Environment and Spatial Planning – Slovenian Environment Agency.

**Waste management** covers collection, transport, recovery and disposal of waste, including supervision of such operations and after-care of disposal sites, and of a dealer or broker.

**Waste collection** is waste assuming, including its previous storage for purposes of transport, to a waste treatment facility.

**Separate waste collection** is a collection, where the waste streams are separated according to the type and nature of the waste to facilitate a specific type of waste treatment.

**Waste treatment** includes recovery or disposal operations, including preparation for recovery or disposal. A waste treatment contractor may commence with waste treatment activities after obtaining an environmental permit for waste treatment from the Slovenian Ministry of the Environment and Spatial Planning – Slovenian Environment Agency.

**Mechanical-biological treatment of waste** is the treatment of waste prior to its disposal at a landfill with a combination of mechanical and biological treatment operations. The purpose of mechanical waste management processes is to extract specific substances from waste that are unsuitable for further biological treatment and to improve the biodegradability of the remaining waste by increasing its suitability for biodegradation and homogeneity. The purpose of biological waste management processes is to decompose organic matter in waste by aerobic and anaerobic methods with subsequent aerobic treatment. Mechanical-biological treatment of waste results in a significant reduction of biodegradable substances in waste, the volume of waste, the water content of it, the ability to generate landfill gases, and significantly improves the properties of the leachate and the stability of the deposited waste.

The **preparation for recovery or disposal** includes processes R12 and R13 from Annex 2 and processes D8, D9, D13, D14, D15 from Annex 3 of the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20, 44/22 - ZVO-2 and 77/22) and it means preparing the waste for recovery or disposal.

**Waste recovery** is a procedure the main result of which is that waste is usefully applied in the facility in which it has been processed, or in other economic activities in a way that it replaces other materials that would otherwise be used to fulfil a particular function, or is prepared to meet this function. The list of recovery procedures is set out in Annex 2 to the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20, 44/22 - ZVO-2 and 77/22), but this does not exclude

other possible recovery procedures. In the environmental permit for waste recovery code (R) is determined, according to which the processor recovers the waste.

**Recycling** is any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.

**Waste disposal** is a procedure which is not recovery, even if it is a secondary consequence of the reclamation of substances or energy. The list of disposal procedures is set out in Annex 3 to the Regulation on Waste (OJ RS, No. 37/15, 69/15, 129/20, 44/22 - ZVO-2 and 77/22), but this does not exclude other possible disposal procedures. In the environmental permit for waste disposal code (D) is determined, according to which the disposer disposes the waste.

**Landfill** is a waste disposal site for the deposit of the waste onto or into land (i.e. underground), including internal waste disposal sites (i.e. landfill where a producer of waste is carrying out its own waste disposal at the place of production), and a permanent site (i.e. more than one year) which is used for temporary storage of waste, but excluding:

- Facilities where waste is unloaded in order to permit its preparation for further transport for recovery, treatment or disposal elsewhere
- Storage of waste prior to recovery or treatment for a period less than three years as a general rule
- Storage of waste prior to disposal for a period less than one year

**Submission of waste** is waste submission for further waste management with the record sheet.

**Leaving waste** is waste submission for further waste management without the record sheet, when this is permitted under a special regulation governing the management of certain types of waste.

## 7 EXPLANATIONS

### 7.1 CLASSIFICATIONS

In the context of the data publication the following classifications are used:

- List of Waste (LoW). It is defined by Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014D0955>
- European Statistical Classification of Waste (EWC-Stat). Published within Annex 1 of Commission Regulation (EU) No 849/2010 of 27 September 2010 amending Regulation (EC) No 2150/2002 of the European

Parliament and of the Council on waste statistics: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32010R0849>

- Standard Classification of Activities (NACE Rev. 2). It is published on the SURS website (Methods and Classification - Classifications and code lists - Economic classification): <https://www.stat.si/StatWeb/en/Methods/Classifications>
- Nomenclature of Territorial Units for Statistics (NUTS). It is published on the SURS website (Methods and Classification - Classifications and code lists - Territorial code list): <https://www.stat.si/StatWeb/en/Methods/Classifications>

## **7.2 DATA PROCESSING**

### **DATA EDITING**

Data were edited by using appropriate systematic and individual corrections.

The control within the ODP-generation survey is done by using the Excel, and no records of corrections are kept.

Due to the complexity of the control, the records of corrections are not kept and therefore the estimate of the proportion of data editing cannot be calculated.

For more, see the general methodological explanations [Statistical data editing](#).

### **WEIGHTING**

Weighting was not performed.

### **SEASONAL ADJUSTMENT**

Seasonal adjustment was not performed.

## **7.3 INDICES**

Indices are not published.

## **7.4 PRECISION**

The survey is not conducted on the basis of a random sample.

## **7.5 OTHER EXPLANATIONS**

Data on the generated amounts of municipal waste by statistical regions and by municipalities are statistically processed and recalculated to the entire population of Slovenia due to incomplete distribution by municipalities in the administrative source.

## 8 PUBLISHING

- SiStat Database: [Environment](#) - Waste; the data are published in the form of an absolute value and are broken down by: LOW (European List of Waste), EWC-Stat (statistical list of wastes), NACE Rev. 2, NUTS.
- First Release (Environment, Waste): »Waste, Slovenia, annually«.
- Electronic Release (Environment, Waste): "Food waste, Slovenia, annually"
- Electronic Release (Environment, Waste): "Infrastructure for waste management, Slovenia, biennial"
- Electronic Release (Environment, Waste): "Waste indicators, Slovenia, annually"
- [Statobook](#)
- [Food among Waste](#)
- [Sustainable development indicators](#)
- [A Teaspoon of Data on Food](#)
- [Green Growth Indicators](#)
- [Environment, Energy and Transport in Figures](#)
- [From tree to forest, from forest to wood](#)
- European Statistical Office (EUROSTAT)

## 9 REVISION OF THE DATA

### 9.1 PUBLISHING OF PRELIMINARY AND FINAL DATA

Provisional data are not disseminated. Only final data are published.

### 9.2 FACTORS INFLUENCING COMPARABILITY OVER TIME

From 1995, when the data collection on the amounts of waste generated began, to 2002, when a comprehensive revision of the surveys on waste statistics was carried out, we cannot speak of a time series of data. Changes in the legislation and the use of different waste classification lists from survey to survey have changed the methodology of data capture. During this period, the data on waste were collected every three years, i.e. for 1995, 1998 and 2001.

A more extensive revision was carried out on all surveys of waste statistics in 2002, with a radical break in the time series. The reasons for the break were:

- [Regulation \(EC\) No 2150/2002 on waste statistics](#) was adopted in 2002, which set out additional, more specific requirements for conducting waste surveys, and a single waste classification list was amended and defined.
- An agreement on joint implementation of waste surveys was concluded between SURS and ARSO



Since 2009, public utility companies have been excluded from the ODP-Z survey, as they reported the amount of municipal waste collected, as well as all other non-municipal waste collected (15 01 and 20), as part of electronic reporting through the IJSVO system. However, this did not have an impact on the release of the final data on the amounts of waste collected, as the data were aggregated as part of the publication.

For 2011, the data were obtained according to a changed methodology, which mainly refers to the preparation of an address book and the exclusion of some wastes that are not actually wastes (exemption of internal recycling) from reporting.

From 2012 on, due to changes in the methodology, the data on generated municipal waste were supplemented with data on the amounts of municipal waste collected by other waste collectors. From 2013 on, the data on municipal waste generated were upgraded with amounts of exported municipal waste and temporary stored municipal waste generated in production and service activities.

In 2014, reporting units started reporting data for the reference year 2013 through the IS-Odpadki application (ARSO).

In 2017, a comprehensive revision of all waste surveys at SURS was carried out. Based on the requirements of the new Decree on Waste (OJ RS, Nos. 37/15 in 69/15, 129/20, 44/22 - ZVO-2 and 77/22), questionnaires were modified to track the entire waste flow. Thus, the figures for 2016 for some items (generation of certain types of waste, generation of waste in certain activities and in certain statistical regions, export of waste) are not comparable with data from previous years. Data on the amount of construction waste generated for 2016 were prepared on the basis of data from reports on waste collection and treatment (waste recovery/disposal). The methodology of coverage of observed units has also changed, where the transition to full coverage of units exceeding one of the reporting thresholds set by the aforementioned Decree on Waste has been made. As a basis for the preparation of the list of observed units in the ODP survey, data from the record sheets were taken.

In 2017, SURS switched from 5 surveys (ODP, ODP-Z, ODP-P, KO-Z and KO-U) to 3 surveys (ODP-generation, ODP-collection, combining ODP-Z and KO-Z, and ODP-treatment, combining ODP-P and KO-U) in order to be unified with the administrative source (IS-Waste, ARSO).

From reference year 2018 on, data from the surveys on waste collection (ODP-collection) and waste recovery/disposal (ODP-treatment) and data from original producers on temporary storage were taken to produce data on the amount of waste generated in production and service activities (ODP-generation survey).

Data on waste are presented on the basis of the SKD (2008) from 2008 onwards and are not fully comparable with the data presented according to the SKD (2002).

From 2023 onward, waste (classification number 20 03 04 – Septic tank sludge) no longer includes sludge from municipal sewage treatment plants that are not

treated to the extent that they are suitable for fertilizer in agriculture or for submission to the processing or waste disposal process.

## 10 OTHER METHODOLOGICAL MATERIALS

Methodological materials on SURS's website are available at <https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports>.

- Questionnaire:
  - SURS does not collect data for this survey by using a questionnaire.
- Quality report for the survey:
  - Waste Generation (ODP-nastajanje)

Theme: Environment, SubTheme: Waste

- Methodological explanations:
  - [Food Waste](#)

Theme: Environment, Subtheme: Waste

- Reference Metadata in Euro SDMX Metadata Structure: (ESMS): Quality Report on Waste Statistics, Reference year 2016, SLOVENIA, Regulation 2150/2002/EC on waste statistics