



METHODOLOGICAL EXPLANATION

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FOOD WASTE

This methodological explanation relates to the data releases:

- Food waste, Slovenia, annually (Electronic Release)



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1 PURPOSE

The purpose of publishing the data on food waste is to show the data on the generated amount of food waste by origin (in food production, including primary production, distribution and food stores, in hotels and restaurants and other food service activities, in households) and food waste treatment.

Key statistics are data on the amount of food waste generated by origin and data on food waste treatment.

2 LEGAL FRAMEWORK

- [Annual Programme of Statistical Surveys \(LPSR\)](#) (only in Slovene)
- [National Statistics Act](#) (OJ RS, No. 45/95 and 9/01)

3 UNIT DESCRIBED BY THE PUBLISHED DATA

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

- the source of origin (in food production, including primary production, distribution and food stores, in hotels and restaurants and other food service activities and in households)
- the type of food waste treatment (anaerobic recovery in biogas plants, recovery in composting systems, biological stabilization in the context of mechanical and biological treatment of mixed municipal waste (MBT), other treatment).

4 SELECTION OF OBSERVATION UNIT

The observation units are the original food waste producers, waste collectors (special waste collectors of biodegradable waste and public waste collectors of municipal waste) and waste processors.

The ODP-hrana statistical survey includes all business entities that collected the following types of waste in the observed year according to the List of Waste Classification (LoW) codes: 02 02 02, 02 02 03, 02 03 04, 02 05 01, 02 06 01, 02 07 04, 16 03 06, 19 08 09, 20 01 08, 20 01 25, 20 02 01, 20 03 01 and 20 03 02.

Survey Food Waste has approximately 5,000 units.

5 SOURCES AND METHODS OF DATA COLLECTION

Data are collected annually.

For the preparation and calculation of data on the amount of food waste generated in Slovenia, the regular annual statistical surveys on waste generation (ODP-nastajanje), waste collection (ODP-zbiranje) and waste treatment (ODP-obdelava) were used.

In addition to regular annual statistical surveys on waste in Slovenia, for which data are taken from the administrative source (IS-Waste, administered by the Slovenian Environment Agency – ARSO), a special ad-hoc questionnaire for collecting additional information from public waste collection services (public services) was used to calculate the data on food waste.

The questionnaire was used to obtain additional information on:

- the method of food waste collection by public services
- the method of recording and reporting on food waste (to choose the code number of food waste) by public services
- estimation of the share of edible and inedible parts of food waste collected by public services
- estimation of the share of food waste among biological waste (20 02 01) and mixed municipal waste (20 03 01) collected by public services

For the estimation of the share of food waste among mixed municipal waste (20 03 01) the new shares are used for 2020 and on. The results of sorting analyses of mixed municipal waste, which were carried out by the competent institutions based on the Decree on the mandatory municipal public utility service of municipal waste collection, showed a higher share of food waste among mixed municipal waste than it had been considered up to 2020.

In accordance with the national methodology, all food waste collected by public services and collectors of biological waste (i.e. all food waste that ended in the waste treatment system) was included in the final amount of generated food waste. On the other hand, all food that was home composted, used as animal feed or left on farmland (e.g. on fields and gardens) as a surplus or because of inadequate quality was excluded.

SURS collects data from an administrative source - IS-Odpadki application managed by the Slovenian Environment Agency (ARSO).

6 DEFINITIONS

The definition of food waste is based on the definition of food as defined in Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food

law, establishing the European Food Safety Authority and laying down procedures in matters of food safety and the definition of waste as defined in the Environmental Protection Act (ZVO-1). Based on those two definitions, within the national methodology for monitoring the amount of food waste, the following definition of food waste was determined. Food waste includes raw or processed food and remains of this food lost before, during or after food preparation or during food consumption, including food discarded during production, distribution, sale and implementation of food-related services and in households.

Food waste does not cover:

- Remains of food intended for processing into animal fodder in line with EU regulations
- Food for humanitarian purposes
- Paper tissues, napkins and towels collected as kitchen waste together with biological waste
- Packaging discarded together with food waste

Food waste covers the edible and inedible part of individual foodstuffs.

The **edible part** of an individual foodstuff is that part of the foodstuff that could at some point, under normal circumstances, be used for human consumption, but was due to various reasons (e.g. expired “use by” date, too large meals, inappropriate storage, etc.) discarded during production, distribution or sale or during food preparation or consumption.

The **inedible part** of an individual foodstuff is that part of the foodstuff that is not suitable for human consumption or that, under normal circumstances, is not deemed suitable for human consumption but is generated as waste during production, distribution or sale or during food preparation or consumption. Such waste is for example peelings, bones, pits, eggshells, etc.

Waste management is defined in more detail in the Decree on Waste (OJ RS, No. 37/15 and 69/15).

Composting is aerobic decomposition of biodegradable waste or a mixture with biodegradable natural non-hazardous materials from agriculture or forestry with the help of micro- and macro-organisms with oxygen.

Composting system is a set of structures with facilities for composting under controlled conditions.

Anaerobic decomposition is anaerobic decomposition of biodegradable waste or a mixture with biodegradable natural non-hazardous materials from agriculture or forestry with the help of micro- and macro-organisms without oxygen. Anaerobic decomposition takes place in biogas plants.

Biogas plant is a set of structures with facilities for anaerobic decomposition of biodegradable waste under controlled conditions.

Home composting is composting of biodegradable waste generated in households as kitchen waste or as green garden waste from the garden belonging to the household, and the use of such compost on the garden

belonging to the household.

Biological stabilization includes food waste collected as part of mixed waste fractions, and biologically stabilized prior to disposal in plants for the mechanical and biological treatment of municipal waste (MBT).

7 EXPLANATIONS

7.1 CLASSIFICATIONS

Food waste includes the following waste codes from the List of Waste:

- 02 02 Wastes from the preparation and processing of meat, fish and other foods of animal origin
 - 02 02 02 Animal-tissue waste
 - 02 02 03 Materials unsuitable for consumption or processing
- 02 03 Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
 - 02 03 04 Materials unsuitable for consumption or processing
- 02 05 Wastes from the dairy products industry
 - 02 05 01 Materials unsuitable for consumption or processing
- 02 06 Wastes from the baking and confectionery industry
 - 02 06 01 Materials unsuitable for consumption or processing
- 02 07 Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
 - 02 07 04 Materials unsuitable for consumption or processing
- 16 03 Off-specification batches and unused products
 - 16 03 06 Organic wastes other than those mentioned in 16 03 05 (calculated share of total amount)
- 19 08 Wastes from waste water treatment plants not otherwise specified
 - 19 08 09 Grease and oil mixture from oil/water separation containing only edible oil and fats
- 20 01 Separately collected fractions (except 15 01)
 - 20 01 08 Biodegradable kitchen and canteen waste

- 20 01 25 Edible oil and fat
- 20 02 Garden and park wastes (including cemetery waste)
 - 20 02 01 Biodegradable waste (calculated share of total amount)
- 20 03 Other municipal wastes
 - 20 03 01 Mixed municipal waste (calculated share of total amount)
 - 20 03 02 Waste from markets

Waste codes were defined with 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: <https://eurlex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014D0955>

Some of the waste codes mentioned above contain not only food waste but also other biodegradable waste (e.g. green garden waste) or waste of other inorganic origin (e.g. mixed municipal waste). The estimated share of food waste among the mixed waste fractions was based on data obtained from a special (one-time) questionnaire that was sent to public waste collection services (public services).

Waste recovery operations regarding food waste (R1, R3, R9 and other R operations) set out in Annex 2 of the Decree on Waste (OJ RS, No. 37/15 and 69/15): <http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED7011>

Waste disposal operations regarding food waste (D1, D10 and other D operations) set out in Annex 1 of the Decree on Waste (OJ RS, No. 37/15 and 69/15): <http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED7011>

7.2 DATA PROCESSING

DATA EDITING

For calculating the amounts of food waste at the national level, already edited final data from SURSs regular annual surveys on waste in Slovenia are used. Data on the amount of food waste are analysed using the MS Office Excel tool.

Detailed information on statistical data editing of regular annual surveys on waste in Slovenia can be found in the methodological explanations published on SURSs website: <https://www.stat.si/statweb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports>

More about the statistical data editing and tools used can be found in the general methodological explanations [Statistical data editing](#).

WEIGHTING

Weighting was not performed.

SEASONAL ADJUSTMENT

Seasonal adjustment is not applicable.

7.3 INDICES

Indices are not published.

7.4 PRECISION

The precision is not calculated.

7.5 OTHER EXPLANATIONS

Generation of food waste in food production also includes primary food production. Food services include food waste that was generated in restaurants and other institutions serving food (e.g. schools, kindergartens, hospitals, old peoples homes, etc.).

Food waste treatment is estimated on the basis of the calculated shares of actual waste treatment included in the food waste framework.

Other food waste treatment includes other recovery operations (such as co-incineration, oil refining, other biological recovery) and other disposal operations (such as incineration and disposal).

8 PUBLISHING

- SiStat Database: [Environment](#) – Waste. The data are published in the form of absolute values and in the form of derived indicators (shares and calculations in kg per capita)
- First Release (Environment, Food Waste): »Food waste, 2023«.
- Electronic Release (Environment, Food Waste): »Food waste, 2023«.
- [Statobook](#)
- Special releases on memorial days
- Occasionally:
 - Publications: [Food among Waste](#)

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

The data on food waste were calculated for the first time at the end of 2016 for the 2013–2015 period. As a result of the upgraded methodology, data for 2016 were calculated at the beginning of summer 2018. At the end of 2018 and based on the upgraded methodology, data for 2013–2016 were revised and the calculation of the amounts of food waste for the 2013–2017 time series was implemented.

In 2023, data on the amount of food waste have been revised for the period from 2020 on. The revision was carried out based on the results of sorting analyses of mixed municipal waste, which were carried out by the competent institutions on the basis of the Decree on the mandatory municipal public utility service of municipal waste collection. The results showed a higher share of food waste among mixed municipal waste than it had been considered so far, so the data are not fully comparable with the data until 2020.

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).
 - Waste Collection (ODP-zbiranje).
 - Waste Recovery/Disposal (ODP-obdelava).
 - Food Waste (ODP-hrana)

theme: Environment, sub-theme: Waste.

- Methodological explanations:
 - Waste Generation

- Waste Collection
- Waste Recovery/Disposal

Theme: Environment, Subtheme: Waste