

Single Integrated Metadata Structure (SIMS)

Country: Greece

Compiling agency: ELSTAT

Domain name: SURVEY ON GENERATION AND TREATMENT OF WASTE

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2. Introduction

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The data on generation and treatment of waste are collected pursuant to Regulation (EC) No. 2150/2002 on waste statistics, amended by Commission Regulation (EU) No. 849/2010. Member States are free, according to Regulation, to decide on the data collection methods. The general options are: surveys, administrative sources, statistical estimations or combination of the above methods.

Data on waste generation are broken down by NACE groups (according to [NACE Rev-2 classification](#)), including for household activities, and by waste categories (according to the European Waste Classification for statistical purposes).

Data on waste treatment are broken down by five groups of final treatment types, as laid down in the Framework Directive on waste (Directive 2008/98) and by waste categories.

The five groups of final treatment types are the following :

Energy recovery: R1;

Incineration: D10

Recycling (recovery, excluding energy recovery and backfilling operations): R2 to R11 operations;
Backfilling operations

Disposal on land: D1, D5, D12

Land treatment / release into water: D2, D3, D4, D6, D7

All data refer to national level and the measurement unit is the tonne.

Data are collected on a biennial basis and are transmitted to EUROSTAT 18 months after the end of the reference year.

3. Metadata update

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3.1 Metadata last certified	October 2014
3.2 Metadata last posted	October 2014
3.3 Metadata last update	October 2014

4. Statistical presentation

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4.1 Data description

Waste generation:

Conduct of a special sample survey by ELSTAT, for NACE Rev-2 sectors B, C and D and use of administrative data for special waste streams (mainly concerning animal by-products, waste streams relative to alternative waste treatment, construction and demolition waste, waste from health care services, common sludges, municipal waste).

The Ministry of Rural Development and Food is the administrative source for animal by-products and the Ministry of Environment, Energy and Climate Change for the others waste streams.

Waste Treatment:

Data combination between data deriving from a special survey conducted by ELSTAT and data from administrative sources for the other waste streams.

4.2 Classification system

Waste statistics consists of four data sets referring to:

- A) Quantities of generated waste
- B) Quantities of treated waste, especially referring to :
 - quantities of incinerated waste
 - quantities of disposed waste
 - quantities of recovered waste

The data sets are broken down by waste categories according to the European Waste Classification for statistical purposes: [EWC-Stat](#)

This classification is linked to the administrative classification, [List of wastes](#) .

The data set on waste generation is broken down by 51 (non-hazardous and hazardous) waste categories and 19 groups of economic activities (including household activities).

NACE Rev.2 division 38 (Waste collection, treatment and disposal activities; materials recovery) is linked to waste management and contains secondary waste.

The data sets on waste treatment refer to treatment types, on the basis of the treatment operations defined in the Waste Framework Directive 2008/98/EE

Distinction is made in five treatment types, as referred to in section 2 (Introduction).

Data on waste treatment are also broken down by 51 waste categories, as in the table concerning waste generation.

Data on generation and treatment of waste are available at national level and the measurement unit is the tonne.

4.3 Sector coverage

The dataset on waste generation covers all economic activities and in addition waste generated by households.

The datasets on waste treatment do not include pre-treatment waste operations (D8, D9, D11, D13, D14, D15, R12, R13), but only final treatment operations.

Quantities of exported waste for treatment abroad are not included, but are included quantities of waste imported from other countries that are treated inside the country.

4.4 Statistical concepts and definitions

Concepts and definitions are based on Waste Framework [Directive 2008/98/EC](#)

4.5 Statistical unit

As regards data in the table on waste generation, and especially, in NACE Rev-2 Divisions B, (quarries – mines), C (manufacturing) and D (electricity, gas, steam and air-conditioning supply), that derive from a special survey conducted by ELSTAT, the statistical unit is the enterprise in each branch of economic activity, registered in the ELSTAT'S Business Register, and the observation unit is the local unit belonging to the enterprise.

As regards data in the tables on waste treatment, the statistical unit is the waste treatment plant.

4.6 Statistical population
As regards generation of waste, the survey covers all waste generators; As regards treatment of waste, the survey covers all licensed treatment plants.
4.7 Reference area
All data refer to Greece total
4.8 Time coverage
From 2004 (when the Regulation was first implemented) onwards on a biennial basis (2006, 2008, 2010, 2012).
4.9 Base period
Not applicable.

5. Unit of measure	Top
<p>The measurement unit is the tonne.</p> <p>For all waste categories, quantities refer to their natural wet substance, except from the categories 03.2 (industrial effluent sludges), 03.3 (sludges and liquid wastes from waste treatment) and 11 (common sludges), that refer to dry matter. This practice eliminates comparability problems, due to the fact that, these waste streams contain different water fractions depending on their treatment degree.</p>	

6. Reference period	Top
The reference period is two calendar years; the first reference year is 2004.	

7. Institutional mandate	Top
7.1 Legal acts and other agreements	
<p><u>Legal acts in National level</u></p> <p>The legal framework concerning the organization and operation of ELSTAT is as follows:</p> <ul style="list-style-type: none"> ➤ Law 3832/2010 (Government Gazette No 38, Issue A): <i>"Hellenic Statistical System</i> 	

Establishment of the Hellenic Statistical Authority (ELSTAT) as an Independent Authority", as amended by article 90 paragraphs 8 and 9 of the Law 3842/2010 (Government Gazette No 58, Issue A): "Restoration of fiscal justice, confrontation of tax evasion and other provisions", by article 10 of the Law 3899/2010 (Government Gazette No 212, Issue A): "Urgent measures for the implementation of the assistance program of the Greek Economy", by article 45 of the Law 3943/2011 (Government Gazette No 66, Issue A): "Combating tax evasion, staffing of auditing services and other provisions falling within the competence of the Ministry of Finance", by article 22 paragraph 1 of the Law 3965/2011 (Government Gazette No 113, Issue A): "Operations Reform of the Consignment and Loan Fund, Public Debt Management Agency, Public Enterprises and Government bodies, the establishment of the General Secretary of Public Property and other provisions", by article first of the Law 4047/2012 (Government Gazette No 31, Issue A): "Ratification of the Act of Legislative Content "Very urgent measures for the implementation of the Medium-term Fiscal Strategy 2012-2015 and of the State Budget for 2011" and of the Act of Legislative Content "Regulation of very urgent issues for the implementation of law 4024/2011 "Pension provisions, uniform pay scale - grading system, labour reserve and other provisions for the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and of issues falling within the competence of the Ministries of Administrative Reform and E-Governance, Interior, Finance, Environment, Energy and Climate Change, and of Education, Lifelong Learning and Religious Affairs and related to the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and other provisions", by article 323 of the Law 4072/2012 (Government Gazette No 86, Issue A): "Improvement of the business environment New corporate form - Trade Marks - Realtors - Regulating maritime, port and fishing matters and other provisions" and by article 7 paragraph 1 of the Act of Legislative Content dated 18/11/2012 (Government Gazette No 228, Issue A): "Financial rules and other provisions", by Article 93 of the Law 4182/2013 (Government Gazette No 185, Issue A): "Code of charitable estate, inheritances in abeyance and other provisions", by Article 6 paragraph 8 of the Law 4244/2014 (Government Gazette 60, Issue A): "Integration in Greek law of the Council Directive 2013/1/EU of 20 December 2012 amending Directive 93/109/EC as regards certain detailed arrangements for the exercise of the right to vote and stand as a candidate in elections to the European Parliament for citizens of the Union residing in a Member State of which they are not nationals and amendment of law 2196/1994 (A' 41) and other provisions", by Article first subparagraph C.3 of the Law 4254/2014 (Government Gazette No 85, Issue A): "Measures for the support and development of the Greek economy, in the context of the implementation of Law 4046/2012, and other provisions of law" and by Article 33, paragraphs 5a and 5b of the Law 4258/2014 (Government Gazette No 94, Issue A): "Demarcation process and arrangements of matters for streams - arrangements of Urban Planning legislation and other provisions".

- **Regulation on the Operation and Administration of the Hellenic Statistical Authority (ELSTAT)**, 2012, (Government Gazette No 2390, Issue B, 28-8-2012)
- **Regulation (EC) No 223/2009 of the European Parliament and of the Council**, on the European statistics (Official Journal of the European Union L 87/164).
- **Article 14 of the Law 3470/2006** (Government Gazette No 132, Issue A): "National Export Council, tax regulations and other provisions".
- **Article 3, paragraph 1c, of the Law 3448/2006** (Government Gazette No 57, Issue A): "For the further use of information coming from the public sector and the settlement of

matters falling within the responsibility of the Ministry of Interior, Public Administration and Decentralization”.

- **European Statistics Code of Practice**, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 on the independence, integrity and accountability of the national and Community statistical Authorities, after its revision, which was adopted on 28 September 2011 by the European Statistical System Committee.
- **Presidential Decree 226/2000** (Government Gazette No 195, Issue A): *“Organization of the General Secretariat of the National Statistical Service of Greece”.*
- **Articles 4, 12 , 13, 14, 15 and 16 of the Law 2392/1996** (Government Gazette No 60, Issue A): *"Access of the General Secretariat of the National Statistical Service of Greece to administrative sources and administrative files, Statistical Confidentiality Committee, settlement of matters concerning the conduct of censuses and statistical works, as well as of matters of the General Secretariat of the National Statistical Service of Greece".*

Legal acts in European level

[Regulation \(EC\) No 2150/2002](#) of the European Parliament and of the Council on waste statistics
[Commission Regulation \(EU\) No 849/2010](#) , amending Regulation (EC) No 2150/2002 of the European Parliament and of the Council on waste statistics
[Commission Regulation \(EC\) No 1445/2005](#) defining the proper quality evaluation criteria and the contents of the quality reports for waste statistics
[Commission Regulation \(EC\) No 782/2005](#) of 24 May 2005 setting out the format for the transmission of results on waste statistics

7.2 Data sharing

There is no data sharing with other international organisations; international organisations can use the data published in EUROSTAT’S dissemination database.

8. Confidentiality

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8.1 Confidentiality policy

The issues concerning the observance of statistical confidentiality by the Hellenic Statistical Authority (ELSTAT) are arranged by articles 7, 8 and 9 of the Law 3832/2010 as in force, by Articles 8, 10 and 11(2) of the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System and by Articles 10 and 15 of the Regulation on the Operation and Administration of ELSTAT.

More precisely:

ELSTAT disseminates the statistics in compliance with the statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical

confidentiality.

8.2 Confidentiality – data treatment

- ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:
 - a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or
 - b) the statistical unit has given its consent, without any reservations, for the disclosure of data.
- The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.
- ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:
 - a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;
 - b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;
 - c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning the research, as the case may be, and by ELSTAT.
- Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:
 - the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;

<ul style="list-style-type: none"> •the anonymization criteria for the microdata provided to users; • the granting to researchers access to confidential data for scientific purposes.
<ul style="list-style-type: none"> ➤ The staff of ELSTAT, under any employment status, as well as the temporary survey workers who are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose. ➤ Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal. ➤ ELSTAT, by its decision, may impose a penalty amounting from ten thousand (10,000) up to two hundred thousand (200,000) euros to anyone who violates the confidentiality of data and/or statistical confidentiality. The penalty is always imposed after the hearing of the defense of the person liable for the breach, depending on the gravity and the repercussions of the violation. Any relapse constitutes an aggravating factor for the assessment of the administrative sanction.

9. Release policy	Top
9.1 Release calendar	
Not applicable	
9.2 Release calendar access	
Not applicable	
9.3 User access	
Data are posted on the website of ELSTAT after having been validated by EUROSTAT.	

10. Frequency of dissemination	Top
Biennial.	

11. Dissemination format	Top
11.1 News release	
Member States have to transmit their data to EUROSTAT, 18 months after the end of reference period.	

Data concerning waste statistics, are posted on the website of ELSTAT'S every two years and after their transmission to EUROSTAT.
There is not relative new release.

11.2 Publications

There is not a special publication on waste statistics.
Selective waste data are included in the publication "*Living conditions in Greece*" and specifically in chapter "Environment". This publication is posted on ELSTAT'S website at the link:
<http://www.statistics.gr/portal/page/portal/ESYE/PAGE-livingcond>

At European level, there is also the publication "*The waste section in Energy, transport and environment indicators*": pocketbook
http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DK-11-001/EN/KS-DK-11-001-EN.PDF

11.3 On-line database

There is not on line waste data collection and processing in ELSTAT'S database.

11.3.1 Data tables - consultations

Data are posted on ELSTAT'S website
http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A1501
Users' consultation data in 2013 amounted to 2077 webpages hits.

11.4 Micro-data access

Data are made available to users, (provided that the principle of confidentiality is always observed, as it is described in paragraph 7.2) usually through fax or e-mail, after submission and approval of their request.
Users must submit their request to the Statistical Information and Publications Division, 46 Pireos & Eponiton str. 18510 Piraeus (tel.(30) 213-135 2173, FAX : (30) 213- 135 2022 describing the requested data..
The contact email addresses are: data.dissem@statistics.gr and data.supply@statistics.gr.

11.5 Other

Through ELSTAT'S website
<http://dlib.statistics.gr/portal/page/portal/ESYE>
Also:
<http://ec.europa.eu/eurostat/waste>
<http://ec.europa.eu/eurostat>

11.5.1 Metadata – consultations

Relative Metadata are posted on ELSTAT'S website.
http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A1501

Data on users' consultation are not available as regards waste statistics metadata .

12. Accessibility of documentation

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12.1 Documentation on methodology

The Manual on the Implementation of Regulation (EC) No 2150/2002 on waste statistics is posted on the website of EUROSTAT :

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-13-015/EN/KS-RA-13-015-EN.PDF

Guidance on classification of waste according to the European Waste Classification for statistical purposes (EWC-Stat) is also posted on EUROSTAT'S website :

<http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/documents/Guidance%20on%20EWCStat%20categories%202010.pdf>

12.1.1 Metadata completeness - rate

Metadata are in compliance with the general characteristics of the structure that must be observed..

12.2 Quality documentation

Data transmission to EUSOSTSAT includes a quality report, which sets out the data sources used, as well as the survey methodology implemented by ELSTAT..

13. Quality management

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13.1 Quality assurance

Data that are presented in waste statistics tables are produced from the combination of primary data, deriving from ELSTAT'S survey conducted in NACE Rev-2 divisions B, C and D and the integration of administrative data in these tables.

Completeness and quality checks are carried out during the whole statistical process. Data are checked in order to detect and correct any errors.

Errors are detected in cooperation with the enterprise or the administrative source and are duly corrected, when necessary.

Furthermore, quality assurance is a joint responsibility of the Member States and Eurostat.

Member States collect the data and describe their sources and methods in their quality report.

Eurostat applies validation rules, in order to carry out the appropriate checks and discuss any comparability issued with Member States.

Data are validated by EUROSTAT at the end of the process.

Common validation rules, established by EUROSTAT for all Member States (process in progress), are expected to improve the quality of waste statistics.

13.2 Quality assessment

All the rules for error detection and correction are applied, as described in points 12.2 and 13.1.

Although the concepts, definitions, classifications and formats are clearly defined in European legislation, the flexibility of Member States as regards the choice of sources and methods is on account of the existing comparability problems between Member States.

14. Relevance

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14.1 User needs

The requirement for Regular Community statistics on the waste generation and treatment from businesses and private households, for monitoring the implementation of waste policy is fulfilled. This creates the basis for monitoring compliance with the principles of maximisation of recovery and safe waste disposal.

In addition, the statistical data are a significant source of information for local and international users (government entities, education foundations, students, research institutes, international organizations etc.).

Users' needs are not satisfied in cases of unavailability of the requested data or in case an issue of statistical confidentiality arises and the requested data can not be given without the approval of ELSTATS' President.

14.2 User satisfaction

Available information can be found on ELSTATS' website :

<http://www.statistics.gr/portal/page/portal/ESYE/PAGE-conferences>
concerning the Users' Satisfaction Survey conducted by ELSTAT.

14.3 Completeness

Waste generation table, has a high level of completeness, in NACE Rev-2 Divisions B, C and D on which a special survey is conducted by ELSTAT.

As regards the other branches of economic activity, in the above table, the data derive from administrative sources (the Ministry of the Environment, Energy and Climate Change- YPEKA and the Ministry of Rural Development and Food- YPPAT).

The waste categories which refer to special streams of waste, are not allocated to all the branches of economic activities due to lack of appropriate data.

NACE Rev-2 Section A and economic activity 4677 (wholesale of waste and scrap) are not surveyed as well.

Waste treatment tables derive from the combination of ELSTAT'S survey data and administrative data provided by YPEKA and YPAAT.

In Greece administrative data are not adequately developed so as to fulfil all the completeness and quality criteria of waste statistics.

Completeness criteria are not entirely covered, since data for a few waste codes are not presented in the tables on account of confidentiality.

15. Accuracy and reliability

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15.1 Overall accuracy

The fact that the data on waste generation and waste treatment derive from the combination of primary and administrative data makes the overall data assessment more difficult. As concerns primary data, a short description of errors is given below in sections 15.2 and 15.3. The overall accuracy is largely based on the quality and completeness of the administrative data; these requirements have to be fulfilled by the data providers.

15.2 Sampling error

Sampling errors are calculated for waste generated from NACE Rev-2 sectors B, C and D on which a special sample survey is conducted by ELSTAT.

The coefficient of variation for hazardous and non hazardous generated waste is given in section 22 (see Comments, Annexes).

15.3 Non-sampling error

There are no errors related to inconsistent implementation of definitions and classifications.

15.3.1 Coverage error

The sampling frame used for the sample design was based on data coming from the annual survey on mines, pit-quarries and salterns and the annual industrial survey with reference year 2011. These two surveys are conducted on a census basis for the enterprises with annual average number of employees 10+.

The total sample size was defined so that the results reflect the true situation of the target population units, with a sufficient degree of representativeness.

15.3.1.1 Over-coverage – rate

Not calculated.

15.3.1.2 Common units – proportion

Not calculated.

15.3.2 Measurement error

Great attention was given in order to collect accurate data.

There are measurements errors, such as errors in the data reported by enterprises. These data are corrected, through crosschecks with the reported data of previous years and the necessary clarifications by the enterprise.

15.3.3 Non response error

Non response is treated with written and telephone reminders.

Great attention is given to the enterprises with significant contribution in their branch of economic

activity.

Even if all the enterprises have the obligation to provide data, some of them have not responded.

The total response rate to ELSTAT'S survey is 61,64%.

15.3.4 Processing error

In order to eliminate processing errors a pre-coded questionnaire was used together with detailed guidance which were also posted on the website of ELSTAT.

Processing errors are eliminated since all the necessary checks are conducted (logical checks, classification and codification checks, checks during data entry, crosschecks with available administrative data relating to other legal obligations, checks for detecting extreme values, etc.).

15.3.5 Model assumption error

Not applicable.

16. Timeliness and punctuality

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16.1 Timeliness

Data are released within two years after the end of the reference period

16.2 Punctuality

Data are transmitted within 18 months after the end of the reference period.

The data with reference year 2012 were transmitted on 30.6.2014 with no delay.

17. Comparability

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17.1 Comparability - geographical

The use of common definitions and classifications ensures high level of comparability among member States.

Some comparability problems exist due to the flexibility provided by Regulation 2150/2002 to Member States to choose the data approach methods.

Furthermore, another problem as regards municipal waste is due to the fact that some countries (including Greece) fail to distinguish between waste generated by households and by other sources, and to break it down by waste codes.

17.1.1 Assymetry for mirror flows statistics – coefficient

Not applicable

17.2 Comparability over time

From 2004 onwards, data are available, on a biennial basis.

The amendment of Regulation (EC) No. 2150/2002 by Regulation (EU) 849/2010. has resulted to

the break of the time series for the years 2010 and 2012 in comparison with the previous years 2008, 2006 and 2004.

Differences are due to the following :

- a) In waste treatment tables, waste data are presented at the level of NUTS 1 for the years 2004, 2006 2008, but for the years 2010 and 2012 the data are presented only at national level pursuant to the amended Regulation.
- b) Data in the waste generation table are broken down by 48 waste codes for the years 2004, 2006 2008, while data in waste treatment tables are broken down by groups of waste codes, different for each treatment type. In accordance with the amended Regulation, for the years 2010 and 2012 the data are broken down by 51 waste codes both in waste generation table and waste treatment tables. This format allows us to follow each waste flow from its generation until to its final treatment.

18. Coherence

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18.1 Coherence cross-domain

18.1.1 Coherence – sub annual and annual statistics

The results of waste statistics are produced only on a yearly basis.

The use of statistical units as surveyed units, and the NACE Rev-2 classification of economic activities ensures coherence between Waste Statistics and Business Statistics. This allows the compilation of indices based on economic variables.

18.1.2 Coherence – National Accounts

The coherence between Waste Statistics and National Accounts is not examined.

18.2 Coherence - internal

Data have a high degree of internally coherence (totals are equal to the sum of the breakdowns in each row and column of the tables.). Furthermore, the uniform structure of the reporting generation and treatment tables, allows us to follow the treatment of each waste stream.

However, the information on the generation of waste cannot be directly linked to the information on the treatment of waste for several reasons.

The generation of waste concerns waste produced in the country, the treatment of waste includes waste treated in the country as well, so differences can occur due to import and export of waste.

Moreover, waste generation table includes secondary waste produced by waste pre-treatment activities, whereas treatment tables include only the final treatment.

Waste treatment is a time consuming process (waste quantities are temporarily stored on the producers' or operators' facilities) and in the meanwhile losses may occur (e.g. on account of drying).

In short, the two components of waste statistics, generation and treatment, will be equal only by accident or by mistake.

19. Cost and burden

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Due to the inclusion of administrative data for the compilation of waste statistics, it is not possible to estimate the overall cost and burden.

20. Data revision

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20.1 Revision policy

Information concerning the Revision Policy of ELSTAT is posted on ELSTAT's website http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/ELSTAT_Revisions_Policy_22_5_2013_EN.pdf

20.2 Revision practice

The revision policy implemented by ELSTAT is presented on ELSTAT's website http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/ELSTAT_Revisions_Policy_22_5_2013_EN.pdf

21. Statistical processing

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21.1 Source data

Primary data derive from the survey of ELSTAT conducted on NACE Rev-2 Sections B, C and D. Administrative data derive from YPEKA and YPAAT. The integration method of administrative data in the waste generation table is outlined in paragraph 22 (Comments, Annex 1). The integration method of administrative data in the waste treatment tables is outlined in paragraph 22 (Comments, Annex 2).

21.2 Frequency of data collection

Biennial.

21.3 Data collection

Primary data concerning NACE Rev-2 Sections B, C and D are collected from the questionnaires which are sent to the selected sample enterprises. Enterprises can respond either by mail after having filled in the printed questionnaire, or by e-mail by filling in the e-questionnaire which is posted on the website of ELSTAT website as an excel file. No response is treated through written and telephone reminders. Administrative data are collected as well, and are combined with primary data from the survey conducted on NACE Rev-2 Sections B, C and D, as described in paragraph 22 (Comments, Annexes 1 and 2).

21.4 Data validation

Completeness and quality checks are carried out during the whole statistical process. Data are checked in order to detect and duly correct any errors. Any errors are detected in cooperation with the enterprise or the administrative source and are duly corrected, when necessary. Additionally, data are cross-checked with data deriving from other legal obligations in the waste sector, if it is feasible. Data validation is a joint responsibility of EUROSTAT and Member States. Common validation rules were agreed to be established for the first time in 2012 data sets, on a voluntary basis until the present time. Any extreme values must be identified and investigated and the results have to be transmitted to EUROSTAT.

21.5 Data compilation

Tables containing waste data are compiled and transmitted to EUROSTAT, through a special designed web transmission system. The same tables are posted on the website of ELSTAT. Table compilation is a complicated issue, due to the combination of several data sources. Furthermore, due to the fact that, from the day a specific type of waste is produced, until the day it is finally treated, changes may occur in ownership, its composition and weight, it must be ensured that all measures are taken to avoid double counting of waste quantities.

21.5.1 Imputation – rate

Not computed

21.6 Adjustment

The datasets presents all sludges types in dry matter. Information is required from the enterprises for both types: wet and dry matter. In case it is not possible to estimate such data, the following conversion factor proposed by EUROSTAT is used.

- EWC-Stat 03.2 Industrial effluent sludges non-hazardous: 27 % of wet matter
- EWC-Stat 03.2 Industrial effluent sludges hazardous: 27 % of wet matter
- EWC-Stat 11 (excl. 11.3) Common sludges 20 % of wet matter

21.6.1 Seasonal adjustment

Not applicable

22. Comment

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Apart from the data collected on the generation and treatment of waste in the framework of the Regulation on waste statistics, there are also two other datasets that are collected. The first one refer to data on the generation and treatment of municipal waste. As regards these data, there is a time series with annual data from 1995 onwards. These data are posted on the website of EUROSTAT, at :

http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/key_waste_streams/municipal_waste

YPEKA is the competent Ministry for the production and transmission of these data to EUROSTAT.

The other dataset which is collected refers to waste data concerning the monitoring of the implementation of the Waste Directives with regard to specific waste streams.

Relative information is posted on the website of EUROSTAT :

http://epp.eurostat.ec.europa.eu/portal/page/portal/waste/key_waste_streams

YPEKA is the competent Ministry for the production and transmission of these data to EUROSTAT.

ANNEXES

ANNEX 1.

General description of methodology

Description of applied methods for determining waste generation

Waste Item	Waste code	Waste Description	Hazardousness	Source (NACE Rev-2)										
				1	2	3...	..12	13	14	15	16	17	18	19
				A	B	C		D	E36_37_39	E38	F	4677	G-U	HH
1	01.1	Spent solvents	H											
2	01.2	Acid, alkaline or saline wastes	N-H											
3	01.2	Acid, alkaline or saline wastes	H											
4	01.3	Used oils	H											
5	01.4, 02, 03.1	Chemical wastes	N-H											
6	01.4, 02, 03.1	Chemical wastes	H											
7	03.2	Industrial effluent sludges	N-H											
8	03.2	Industrial effluent sludges	H											
9	03.3	Sludges and liquid wastes from waste treatment	N-H											
10	03.3	Sludges and liquid wastes from waste treatment	H											
11	05	Health care and biological wastes	N-H											
12	05	Health care and biological wastes	H											
13	06.1	Metallic wastes, ferrous	N-H											
14	06.2	Metallic wastes, non-ferrous	N-H											
15	06.3	Metallic wastes, mixed ferrous and non-ferrous	N-H											
16	07.1	Glass wastes	N-H											
17	07.1	Glass wastes	H											

18	07.2	Paper and cardboard wastes	N-H											
19	07.3	Rubber wastes	N-H											
20	07.4	Plastic wastes	N-H											
21	07.5	Wood wastes	N-H											
22	07.5	Wood wastes	H											
23	07.6	Textile wastes	N-H											
24	07.7	Waste containing PCB	H											
25	08 (εκτός των 08.1, 08.41)	Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	N-H											

Waste Item	Waste code	Waste Description	Hazardousness	Source (NACE Rev-2)										
				1	2	3...	..12	13	14	15	16	17	18	19
				A	B	C		D	E36_37_39	E38	F	4677	G-U	HH
26	08 (εκτός των 08.1, 08.41)	Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	H											
27	08.1	Discarded vehicles	N-H											
28	08.1	Discarded vehicles	H											
29	08.41	Batteries and accumulators wastes	N-H											
30	08.41	Batteries and accumulators wastes	H											
31	09.1	Animal and mixed food waste	N-H											
32	09.2	Vegetal wastes	N-H											
33	09.3	Animal faeces, urine and manure	N-H											
34	10.1	Household and similar wastes	N-H											
35	10.2	Mixed and undifferentiated materials	N-H											
36	10.2	Mixed and undifferentiated materials	H											
37	10.3	Sorting residues	N-H											
38	10.3	Sorting residues	H											
39	11	Common sludges	N-H											
40	12.1	Mineral waste from construction and demolition	N-H											
41	12.1	Mineral waste from construction and demolition	H											
42	12.2, 12.3, 12.5	Other mineral wastes	N-H											
43	12.2, 12.3, 12.5	Other mineral wastes	H											
44	12.4	Combustion wastes	N-H											
45	12.4	Combustion wastes	H											

46	12.6	Soils	N-H											
47	12.6	Soils	H											
48	12.7	Dredging spoils	N-H											
49	12.7	Dredging spoils	H											
50	12.8, 13	Mineral wastes from waste treatment and stabilised wastes	N-H											
51	12.8, 13	Mineral wastes from waste treatment and stabilised wastes	H											

1: Conduct of the 2012 Waste Production and Treatment Survey by ELSTAT (sample survey for all waste codes)

2: Data provided by the Ministry of Environment, Energy & Climate Change (an annual census survey in Municipal Enterprises of water & Sewage)

3: Data provided by the Ministry of Environment, Energy & Climate Change, concerning the recycled and composted municipal waste and the secondary waste from dismantling and depollution of ELV and WEEE and used tyres.

4: Data derived from the Greek National Management Plan, on the basis of the building activity index.

5: Data coming from the Alternative Treatment Systems of the Ministry of Environment Energy & Climate Change

6: Data provided by the Ministry of Environment, Energy & Climate Change based on the Greek National Waste Management Plan (2011).

7: Data derived from a survey conducted by the Ministry of Environment, Energy & Climate Change in landfills.

8: Data provided by the Ministry of Rural Development & Food (data on animal by-products of category 1, 2 and 3) according to Reg.1774 /2002) with reference year 2011.

9: Data on plastic wastes deriving from greenhouses were provided by the Ministry of Environment, Energy & Climate Change, based on the Greek National Waste Management Plan (2011).

10. For the first time, we included data on edible oils and fats. These data were collected and subsequently treated (treatment operation R1) for the production of bio fuel.

11. For the first time, we included data in waste codes 1.3, 3.1, and 3.2. These data was provided by the Ministry of Environment, Energy and Climate Change. They were collected from water transport activities and were treated in oil refineries

12.Data about asbestos waste derived from exported quantities according to Reg 1013/2006

a) Determination of waste generation by sample survey NACE Rev-2 Divisions B, C and D

For the data collection, the sampling method that applied was the single stratified random sampling with survey units the enterprises and observation units all local units included in the sampling enterprises. The target population of the survey consisted of the local units that belong to enterprises of economic activities 05 to 35 (NACE Rev. 2) with annual average number of employees 10+.

The sampling frame used for the sample design was based on data coming from a) the annual survey on mines, pit-quarries and salterns and b) the annual industrial survey with reference year 2011.

The enterprises included in the survey were stratified as following:

- By Division (two-digit code NACE Rev.2)
- By Region (NUTS 2)

- c. By size class of the enterprises (in each stratum the enterprises were stratified into L=7 size classes, according to their size, as follows:

Size Class	Number of employees	Size Class	Number of employees
Class 1	10-19	Class 5	250-499
Class 2	20-49	Class 6	500-999
Class 3	50-99	Class 7	1000+
Class 4	100-249		

The initial sample size was **1.593** enterprises and the response rate is equal to **61,6 %**.

The following tables depict the population (N) and sample sizes (n) by NACE Groups and Employment Size Classes, and the response rate by NACE Groups as well.

NACE Groups	TOTAL		Employment Size Classes							
			10 19		20 49		50 99		100+	
	N	n	N	n	N	n	N	n	N	n
B 05-09	31	31	12	12	7	7	6	6	6	6
C 10-12	696	410	158	68	307	128	104	96	127	118
C 13-15	256	139	119	49	79	40	37	29	21	21
C 16	65	31	27	13	34	14	1	1	3	3
C 17-18	192	113	69	27	70	42	29	20	24	24
C 19	6	4	0	0	0	0			6	4
C 20-22	330	226	90	45	126	69	59	57	55	55
C 23	246	124	95	43	121	51	13	13	17	17
C 24-25	324	200	108	49	136	77	46	40	34	34
C 26-30	298	188	128	71	116	63	23	23	31	31
C 31-33	254	117	104	40	119	46	14	14	17	17
D 35	11	10	4	3	0	0	2	2	5	5
Total	2.709	1.593	914	420	1.115	537	334	301	346	335

NACE Group Code	NACE Group	Initial Sample	Final Sample	Response-Rate
1	B 05-09	31	31	100,00%
2	C 10-12	410	252	61,46%
3	C 13-15	139	69	49,64%
4	C 16	31	20	64,52%
5	C 17-18	113	66	58,41%
6	C 19	4	3	75,00%
7	C 20-22	226	179	79,20%
8	C 23	124	73	58,87%
9	C 24-25	200	127	63,50%
10	C 26-30	188	100	53,19%
11	C 31-33	117	53	45,30%
12	D 35	10	9	90,00%
Total		1.593	982	61,64%

Extrapolation factors are applied by 2-digit level NACE Rev-2 economic activity, NUTS2 level and employment size class so extrapolated data are derived.

The coefficient of variation (%) of the total estimation Y is :

Waste generated by NACE Rev-2 divisions B, C and D	Amount of hazardous waste [1000 tonnes]	Amount of Non-hazardous waste [1000 tonnes]	Coefficient of variation hazardous waste [%]	Coefficient of variation non-hazardous waste [%]
	86,6	63.881,8	1,5	0,7

b). Determination of waste generation in the economy on the basis of information on waste collection

The administrative sources below are involved in the production process of waste statistics as data providers to ELSTAT.

The **Ministry of Environment, Energy and Climate Change**, provides data on waste quantities generated, referring to the whole economy (for specific waste streams). After taking into consideration the data deriving from ELSTAT'S survey we have the following cases:

1. In the economic sector G-U, we have information for the waste types having the following codes: 01.3, 07.1, 07.2, 07.3, 07.4, 07.5, 08.1, 08.41, 10.1, 10.2, 11, 9.1 and 3.1, 3.2.
2. In economic sector 36, there is information for the waste type having code 11, derived from a survey conducted by YPEKA , in waste water treatment plants.
3. In economic sector 38, all waste codes refer to secondary waste from dismantling and depollution of ELVs , WEEE, used tyres and also sorting of municipal waste (Waste codes 06.3, 07.1, 07.2, 07.4, 07.5 and the sorting residuals 10.3).
4. The data concerning the generated and treated municipal waste derive from a survey conducted by YPEKA to controlled landfills.
For about 5% of generated municipal waste, data derive from estimation, due to the fact of the existing uncontrolled landfills.
Due to the fact that our data coming from the treatment facilities and not from the collection of waste, we cannot determine the part of commercial waste in the municipal waste. But from the systems of separate collection, we can distinguish the part of the commercial packaging waste.
Thus, waste directly disposed in landfills is characterized as 10.1. Waste collected from separate collected systems is characterized as 10.2.
We split that waste into waste deriving from commercial activities and waste deriving from households, according to the information from the separate collection schemes.
Municipal waste contains WEEE, characterized as 8 and small batteries as 8.41.
5. The data on health care and biological waste, derived from the Greek National Management Plan (2011).

6. The data on plastic waste from greenhouses, derived from the Greek National Management Plan (2011).

7. Data on construction and demolition waste derived from National Waste Management Plan, (use of a model, based on building activity index and number of demolitions). The breakdown in wood, plastic and glass waste is based on the study “ Inventory of excavation, construction and demolition waste. Create of information database. B phase deliverable October 2007 “, conducted on behalf of YPEKA , that uses the composition from only one treatment facility. Thus, data concerning the composition of construction and demolition waste are not updated.

The Ministry of Rural Development and Food, provides the generated and treated quantities of all animal by-products that include the specified risk materials. As processed data for reference year 2012 were not available, data for reference year 2011 were used instead and were classified under the waste code 9.1. The relative data derived from Waste Generation and Treatment Survey were ignored as they were under-estimated.

ANNEX 2.

General description of applied methods for determining waste treatment

Determination of waste treatment by waste type and group of treatment operations.

Description of data sources and methods by treatment categories					
Item 1 Incineration (R1)	Item 2 Incineration (D10)	Item 3a Recycling (R2 – R11)	Item 3b Backfilling	Item 4 Landfilling (D1, D5, D12)	Item 5 Other disposal (D2, D3, D4, D6, D7)
Conduct of the 2012 Waste Production and Treatment Survey ¹	Conduct of the 2012 Waste Production and Treatment Survey ¹	Conduct of the 2012 Waste Production and Treatment Survey ¹	Conduct of the 2012 Waste Production and Treatment Survey ¹	Conduct of the 2012 Waste Production and Treatment Survey ¹	Conduct of the 2012 Waste Production and Treatment Survey ¹
Provision of relevant data by the Alternative Treatment Systems through YPEKA	Provision of relevant data by YPEKA	Provision of relevant data by the Alternative Treatment Systems through YPEKA		Provision of relevant data by the controlled landfill survey and waste water treatment survey, conducted by YPEKA	
Provision of relevant data by the controlled landfill survey and waste water treatment survey, conducted by	Provision of relevant data by the Ministry of Rural Development and Food.				

YPEKA					
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¹: The same questionnaire addressed to the surveyed enterprises for the waste generation has been used for waste treatment as well.

For determination of treated quantities by treatment operations group, data mainly derived from:

1. From the 2012 Waste Production and Treatment Survey, conducted by ELSTAT, on the basis of information gathered from units surveyed in the economic sectors B, C and D, which treat waste, either in their own facilities, or, deliver waste to a permitted operator for treatment.

A great effort was made, to track the information concerning the final treatment inside the country, (pre-treatment operations and exports of wastes were excluded as far as possible).

Additional information is collected on waste quantities, which the local units (industries) consume in their production process (using them as secondary raw materials). The waste types covered were mainly: 06.1, 06.2 also part of 07.1, 07.2, 07.4, and 07.5.

2. YPEKA provided us with data, concerning special streams of waste. Data are collected from alternative treatment systems and covered the waste types 01.3 and the rest part of 07.1, 07.2, 07.4 and 07.5 and the types 07.3, 08.1, 08.41 as well.

3. YPEKA provided us data relative to treatment of municipal waste and common sludges (waste type 11).

4. YPAAT provided us with data relative to animal by products treatment.