

# Recent amendments and results of the UNSD/UNEP Questionnaire on Environment Statistics – waste section



UNSD

United Nations Statistics Division (UNSD) and United Nations Environment Programme  
QUESTIONNAIRE 2018 ON ENVIRONMENT STATISTICS



United Nations  
Environment Programme

Section: WASTE

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UNSD

Статистическое управление Организации Объединенных Наций (СУООН) и Организации  
Объединенных Наций по окружающей среде  
Вопросник по статистике окружающей среды 2018 года



United Nations  
Environment Programme

Раздел: Отходы

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**Sixteenth Session of the Joint Task Force on Environmental Statistics and Indicators**

Geneva, Switzerland

28-29 October 2019

**Environment Statistics Section**

# Outline

- I. UNSD/UNEP Questionnaire on Environment Statistics
- II. Waste section of the Questionnaire
- III. Two SDG indicators related to the waste section of the Questionnaire
- IV. Waste variables collected for the first time in 2018

# **I. UNSD/UNEP Questionnaire on Environment Statistics**

- Objective: to provide internationally comparable statistics on environmental issues based on standard questionnaires and methodology; to provide inputs into Sustainable Development Goal indicators.
- About 168 member states and areas in 5 languages.
- Complemented by the OECD/Eurostat Joint Questionnaire on the State of the Environment – sent to their member states.
- UNSD/UNEP Questionnaire is consistent and harmonized with the OECD/Eurostat Questionnaire. Close collaboration is maintained on conceptual issues, validation procedures and data validation.
- Close collaboration is maintained on conceptual issues, validation procedures and data validation.
- 2018 was the 9th collection round since 1999. Questionnaires were sent in September, 2018. Data dissemination is expected to be completed in late 2019.

# UNSD/UNEP Questionnaire on Environment Statistics

- Purpose: To provide consistent data to draw reliable information and trends on:
  - the share of economic activities and households in the generation of waste;
  - the generation, transboundary movement and treatment of hazardous waste;
  - the generation, collection, treatment and composition of municipal waste;
  - the generation and collection of electronic waste (e-waste).

# UNSD/UNEP Questionnaire on Environment Statistics

- Collaboration is also maintained with, inter alia, FAO/Aquastat (water statistics), the Basel Convention (hazardous waste), UN Regional Commissions on similar issues, including translation.
- Those indicators already being collected by other UN agencies or other international institutions were excluded from the UNSD/UNEP Questionnaire on Environment Statistics, wherever possible.

## II. Waste section of Questionnaire

### Waste

R1: Generation of Waste by Source

R2: Management of Hazardous Waste (SDG-related)

R3: Management of Municipal Waste (SDG-related)

R4: Composition of Municipal Waste

R5: Management of Municipal Waste – City Data (SDG-related)

R6: Electronic Waste Generation and Collection

R7: Supplementary information sheet

<http://unstats.un.org/unsd/environment/questionnaire.htm>

Table R2: Management of Hazardous Waste

Line	Category	Unit
1	Stock of hazardous waste at the beginning of the year	tonnes
2	Hazardous waste generated during the year	tonnes
3	Hazardous waste imported during the year	tonnes
4	Hazardous waste exported during the year	tonnes
5	<b>Hazardous waste treated or disposed of during the year (=6+7+9+10)</b>	tonnes
6	<i>Amounts going to:</i> Recycling	tonnes
7	Incineration	tonnes
8	<i>of which: with energy recovery</i>	tonnes
9	Landfilling	tonnes
10	Other, please specify in the footnote	tonnes
11	Stock of hazardous waste at the end of the year (=1+2+3-4-5)	tonnes

Таблица R2: Обращение с опасными отходами

Категория	Единица измерения
Объем опасных отходов на начало года	тонны
Опасные отходы, образующиеся в течение года	тонны
Опасные отходы, импортируемые в течение года	тонны
Опасные отходы, экспортированные в течение года	тонны
<b>Опасные отходы, обработанные или удаленные в течение года (=6+7+9+10)</b>	тонны
Объемы отходов, направляемых на: рециклинг (переработка)	тонны
инсинерацию	тонны
<i>в том числе: с регенерацией энергии</i>	
свалку отходов	тонны
другие виды обработки (пожалуйста укажите в примечании)	тонны
Объем опасных отходов на конец года (=1+2+3-4-5)	тонны

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4	Hazardous waste exported during the year	tonnes
5	Hazardous waste treated or disposed of during the year (=6+7+9+10)	tonnes
6	Amounts going to: Recycling	tonnes
7	Incineration	tonnes
8	of which: with energy recovery	tonnes
9	Landfilling	tonnes
10	Other, please specify in the footnote	tonnes
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Опасные отходы, экспортированные в течение года	тонны
Опасные отходы, обработанные или удаленные в течение года (=6+7+9+10)	тонны
Объемы отходов, направленных на: рециклинг (переработка)	тонны
инсинерацию	тонны
в том числе: с регенерацией энергии	
свалку отходов	тонны
другие виды обработки (пожалуйста укажите в примечании)	тонны
Объем опасных отходов на конец года (=1+2+3-4-5)	тонны

= variable is relevant to Sustainable Development Goal indicator 12.4.2: **Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment**



Table R3: Management of Municipal Waste

Line	Category	Unit
1	Total amount of municipal waste generated	1000 t
2	Municipal waste collected from households	1000 t
3	Municipal waste collected from other origins	1000 t
4	<b>Total amount of municipal waste collected (=2+3)</b>	1000 t
5	Municipal waste imported for treatment/disposal	1000 t
6	Municipal waste exported for treatment/disposal	1000 t
7	<b>Municipal waste managed in the country (=4+5-6)</b>	1000 t
8	<i>Amounts going to:</i> Recycling	1000 t
9	Composting	1000 t
10	Incineration	1000 t
11	<i>of which:</i> with energy recovery	1000 t
12	Landfilling	1000 t
13	<i>of which:</i> controlled landfilling	1000 t
14	Other, please specify in the footnote	1000 t

Таблица R3: Обращение с муниципальными отходами


Категория	Единица измерения
Общее количество образующихся муниципальных отходов	1000 т
Муниципальные отходы, собираемые из жилищ	1000 т
Муниципальные отходы, собираемые из других источников	1000 т
<b>Общая сумма собранных муниципальных отходов (=3+4)</b>	1000 т
Муниципальные отходы, ввозимые для обработки/утилизации	1000 т
Муниципальные отходы, вывозимые для обработки/утилизации	1000 т
<b>Муниципальные отходы, удаляемые внутри страны (=4+5-6)</b>	1000 т
Объем отходов, направляемых на: рециклинг (переработку)	1000 т
компостирование	1000 т
инсинерацию	1000 т
<i>в том числе:</i> с регенерацией энергии	1000 т
свалку отходов	1000 т
<i>в том числе:</i> контролируемую свалку отходов	1000 т
другие виды обработки (пожалуйста укажите в примечании)	1000 т

Table R3: Management of Municipal Waste

Line	Category	Unit
1	Total amount of municipal waste generated	1000 t
2	Municipal waste collected from households	1000 t
3	Municipal waste collected from other origins	1000 t
4	Total amount of municipal waste collected (=2+3)	1000 t
5	Municipal waste imported for treatment/disposal	1000 t
6	Municipal waste exported for treatment/disposal	1000 t
7	Municipal waste managed in the country (=4+5-6)	1000 t
8	Amounts going to: Recycling	1000 t
9	Composting	1000 t
10	Incineration	1000 t
11	of which: with energy recovery	1000 t
12	Landfilling	1000 t
13	of which: controlled landfilling	1000 t
14	Other, please specify in the footnote	1000 t

Таблица R3: Обращение с муниципальными отходами

Категория	Единица измерения
Общее количество образующихся муниципальных отходов	1000 т
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Муниципальные отходы, собираемые из других источников	1000 т
Общая сумма собранных муниципальных отходов (=3+4)	1000 т
Муниципальные отходы, ввозимые для обработки/утилизации	1000 т
Муниципальные отходы, вывозимые для обработки/утилизации	1000 т
Муниципальные отходы, удаляемые внутри страны (=4+5-6)	1000 т
Объем отходов, направляемых на: рециклинг (переработку)	1000 т
компостирование	1000 т
инсинерацию	1000 т
в том числе: с регенерацией энергии	1000 т
свалку отходов	1000 т
в том числе: контролируемую свалку отходов	1000 т
другие виды обработки (пожалуйста укажите в примечании)	1000 т

 = variable is relevant to Sustainable Development Goal indicator 12.5.1: **National recycling rate, tons of material recycled**

### III. Two (of three)\* SDG indicators related to the UNSD/UNEP Questionnaire on Environment Statistics (waste section) – indicators 12.4.2, 12.5.1



UNSD



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\* Data for a third SDG indicator (11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities) can also be sourced from this Questionnaire but is not detailed during this presentation.

IAEG-SDGs tier classification for global SDG indicators (updated 26 Sep 2019): <https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/>

# Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment (tier III)

- Custodian Agencies: UN Environment (more specifically the BRS Secretariat) and UNSD; partner agencies: OECD and Eurostat
- Work plan available here: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-04-02.pdf> which references the UNSD/UNEP Questionnaire and OECD/Eurostat data collections
- Both data from international data collections and the national reports under the Basel Convention are complementary and are used for quality checks.

Indicator = Line 2/Population		Indicator = Line 6/Line 2	Indicator = Line 7/Line 2
Table R2, line:	Category	Unit	
2	Hazardous waste generated during the year	tonnes	
5	Hazardous waste treated or disposed of during the year		
6	Recycling		
7	Incineration		

Source: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-04-02.pdf>

# Indicator 12.5.1: National recycling rate, tons of material recycled (tier III)

- Custodian Agencies: UN Environment and UNSD; partner agencies: OECD and Eurostat
- Work plan available here: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-05-01.pdf> which references the UNSD/UNEP Questionnaire and OECD/Eurostat data collections
- Difficult to have a statistics representing all waste, and other types of waste (hazardous waste) already monitored by other indicators => use of municipal waste as a proxy.

Table R3, line:	Category	Unit	Indicator = Line 8/Line 7; or
1	Total amount of municipal waste generated <b>(NEW in 2018!)</b>	1000 t	Indicator = Line 8/Line 1
7	Municipal waste managed in the country		
8	Recycling		

Source: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-05-01.pdf>

## **IV. Waste variables collected for the first time in 2018**

There are four:

1. Total amount of municipal waste generated (R3)
2. Total amount of municipal waste generated (city level) (R5)
3. Total e-waste generated (R6)
4. Total e-waste collected (R6)

UNSD is well considered prior to adding new variables;

variables may be added per new mandates, new demands, etc.

# Total amount of municipal waste generated

(national and city levels)

- Total amount of municipal waste generated was added to serve as a denominator for SDG indicator 12.5.1: National recycling rate.
- ...is defined as: “...the sum of the amount of municipal waste collected **plus the estimated amount of municipal waste from areas not served by a municipal waste collection service.**”
- Not to be confused with the definition of “municipal waste collected”, which is: “Municipal waste collected by or on behalf of municipalities, as well as municipal waste collected by the private sector. It includes mixed waste, and fractions collected separately for recovery operations (through door-to-door collection and/or through voluntary deposits).”
- However, per questionnaire responses received so far in 2018-19, these two definitions are sometimes being confused.
- “MW generated” requires application of an estimation method. “MW collected” does not.

# Total amount of municipal waste generated

(national and city levels)

- “MW collected” may be conventionally sourced from (an aggregation of) municipal waste treatment plant(s).
- “MW collected” typically covers whole of population in countries with well organized waste collection systems. This is often not so in countries where waste collection may be restricted to urban or other selected areas.
- Therefore, there is perhaps a stronger demand for collecting “municipal waste generated” in developing countries.
- To help in this regard, UNSD/UNEP Questionnaire does request for % of (i) total, (ii) urban and (iii) rural population served by municipal waste collection.



## Hypothetical example of distinction between municipal waste collected and municipal waste generated



= municipal waste collected



= distinction between MW collected and MW generated



+



= municipal waste generated



Case of a country with a very high % of population served by municipal waste collection

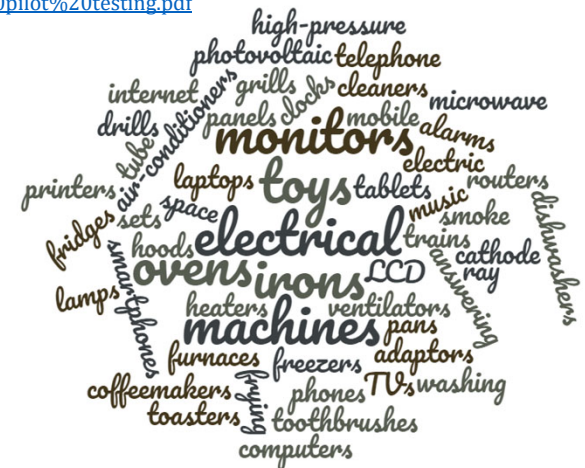


Case of a country with a moderate % of population served by municipal waste collection

# Total e-waste generated and collected

- E-waste defined as: “Electronic waste, or e-waste, refers to all items of electrical and electronic equipment (EEE) and its parts that have been discarded by its owner as waste without the intent of re-use.” This definition agrees with that used by key stakeholders, United Nations University and the International Solid Waste Association.
- Following a pilot data collection on e-waste conducted by UNSD in 2017 which included some 16 variables, only two variables were selected for inclusion in the regular data collection (mostly because of data availability and user demand).

Results of pilot: [https://unstats.un.org/unsd/environment/FDES/EGES5/Session%202\\_6UNSD%20Ewaste%20pilot%20testing.pdf](https://unstats.un.org/unsd/environment/FDES/EGES5/Session%202_6UNSD%20Ewaste%20pilot%20testing.pdf)



# Total e-waste generated and collected

- These are brand new time series, so cross-checking against other sources is important, especially to ensure order of magnitude of data is accurate.
- Therefore, UNSD is cross-checking against the Global Statistics E-waste Statistics Partnership's country sheets (International Telecommunication Union, United Nations University and the International Solid Waste Association) which have estimates for total e-waste generated.
- Whenever data are received for these two variables, UNSD is specifically asking for footnote explanations on (i) source; (ii) content of e-waste (e.g. large equipment; screens, monitors and equipment containing screens; temperature exchange equipment); (iii) scope of coverage (e.g. whole country, specific provinces/cities only)

# Observations on data collected for these four new variables so far in 2018-19

- Regarding “municipal waste generated”, response rates have been relatively low. An estimation method may be needed to estimate this variable **in addition to** any value for “municipal waste collected”. NB “municipal waste collected” may be sourced from administrative data, or via a survey to waste treatment plant(s).
- Some countries provided data on e-waste generated and a little more data on e-waste collected.
- E-waste data provided by countries is usually less than estimates for e-waste generated by Global E-waste Statistics Partnership (compiled by United Nations University). Some countries have applied a UNU tool for estimating e-waste data.
- Possible explanations lie in footnotes provided by countries:
  - “scope limited to batteries and accumulators waste.”
  - “Waste electrical and electronic equipment (WEEE) from households, and of commercial, industrial, institutional and other origins which, because of their nature, are similar to households.”
- One country asked why UNSD is not requesting breakdowns of e-waste content (e.g. large equipment, temperature exchange equipment, etc.)

# Comments on data of countries attending this meeting...

- Albania, Bosnia and Herzegovina, Serbia, Switzerland, The Republic of North Macedonia: All these countries provide data to a similar questionnaire administered by OECD/Eurostat and are thus out of scope for the UNSD/UNEP Questionnaire.
- Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Ukraine, Uzbekistan (10/11 have responded to the UNSD/UNEP Questionnaire on Environment Statistics in 2018).
- 10/11 is a very good response rate relative to the typical response rate of about 50% for all 168 countries from whom UNSD collects data.
- This forum (**Joint Task Force on Environmental Statistics and Indicators**) is among the best means for UNSD to receive comment and feedback from UNECE countries.

# Relating this work to Indicator I: Waste

- Joint Task Force on Environmental Statistics and Indicators are conceptually aligned to those within the UNSD/UNEP Questionnaire on Environment Statistics.
- This forum is invited to consult the terms and definitions of the UNSD/UNEP Questionnaire on Environment Statistics for any future considerations.
- Doing so, would:
  - (i) be following due processes at international level (e.g. conclusions of the United Nations Statistical Commission [which sits every year in New York in March, and at which all countries are invited]; reflect SDG-related changes;)
  - (ii) minimize duplication of effort by countries and international organizations

Sources: <https://www.unece.org/env/indicators.html>  
<https://unstats.un.org/unsd/envstats/questionnaire>

Thank you

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