

Waste statistics and their relationship to the FDES, SDG indicators and data collection



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البيئة

UNSD

شعبة الإحصاءات في الأمم المتحدة (UNSD) و برنامج الأمم المتحدة للبيئة
استمارة الإحصاءات البيئية لعام 2020

قسم : النفايات

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Outline

- FDES Component 3 (residuals)
- Waste methodology sheet in the Manual on the Basic Set of Environment Statistics
- Experience collecting all waste (including e-waste) data from the Economic and Social Commission of Western Asia (ESCWA) region
- Waste statistics and the SDG indicators

Framework for the Development of Environment Statistics (FDES)

- The FDES 2013 is a flexible, multi-purpose conceptual and statistical framework that marks out the scope of environment statistics.
- It provides an organizing structure to guide the collection and compilation of environment statistics at the national level, bringing together data from the various relevant subject areas and sources.
- It is broad, comprehensive and integrative. It covers the issues and aspects of the environment that are relevant for policy analysis and decision making and it can be applied to inform about cross-cutting issues such as climate change.

**Now also
available
in Arabic**



FDES Component 3 (residuals)

Component 3: Residuals

Sub-component 3.1: Emissions to Air
Sub-component 3.2: Generation and Management of Wastewater
Sub-component 3.3: Generation and Management of Waste
Sub-component 3.4: Release of Chemical Substances



Some non-exhaustive examples of statistics:

Within sub-component 3.3, there is:

Topic: 3.3.1: Generation of waste

- a. Amount of waste generated by source (mass)
- b. Amount of waste generated by waste category (mass)
- c. Amount of hazardous waste generated (mass)

Topic 3.3.2: Management of waste

- a. Municipal waste
 1. Total municipal waste collected
 2. Amount of municipal waste treated by type of treatment and disposal
- b. Hazardous waste
 1. Total hazardous waste collected

...

d. Amount of recycled waste

SDG-related statistics...

- Municipal solid waste generated
- Hazardous waste generated
- Municipal solid waste (recycled/incinerated (with or without energy recovery)/ composted/ landfilled)
- (e-waste/ hazardous waste/municipal solid waste) recycled

Generation and Management of Waste methodology sheet within the: Manual on the Basic Set of Environment Statistics

- Among many methodology sheets spanning several themes within environment statistics, the **Generation and Management of Waste** methodology sheet attempts to:
 - facilitate collection or compilation of all generation and management of waste statistics of the Basic Set of Environment Statistics embedded in the FDES 2013.
 - offer detailed and in-depth methodological guidance including definitions, classifications, statistical methods for collection and/or compilation, dissemination and main uses of statistics on generation and management of waste.
- Work on methodology sheets is coordinated by UNSD in a collaborative way with the Expert Group on Environment Statistics and other thematic experts from specialized agencies

https://unstats.un.org/unsd/envstats/fdes/fdes_eges.cshtml

Manual on the Basic Set of Environment Statistics
of the FDES 2013



**Arabic
translation
forthcoming**

Generation and Management of Waste

(Topics 3.3.1 Generation of waste and 3.3.2 Management of waste
of the Basic Set of Environment Statistics of the FDES 2013)

*Elaborated by the Environment Statistics Section
of the United Nations Statistics Division,
in collaboration with the
Expert Group on Environment Statistics*

Available at:

https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml

Generation and Management of Waste methodology sheet within the: Manual on the Basic Set of Environment Statistics

1. Statistics in Topics 3.3.1 Generation of waste and 3.3.2 Management of waste

Component 3: Residuals ¹			
Sub-component 3.3: Generation and Management of Waste			
Topic 3.3.1: Generation of waste			
Statistics and Related Information		Category of Measurement	Potential Aggregations and Scales
(Bold Text - Core Set/Tier 1; Regular Text - Tier 2; Italicized Text - Tier 3)			Methodological Guidance
a.	Amount of waste generated by source	Mass	<ul style="list-style-type: none"> By ISIC economic activity By households By tourists National Sub-national
b.	Amount of waste generated by waste category	Mass	<ul style="list-style-type: none"> By waste category (e.g., chemical waste, municipal waste, food waste, combustion waste) National Sub-national
c.	Amount of hazardous waste generated	Mass	<ul style="list-style-type: none"> By ISIC economic activity National Sub-national

3. Concepts in waste statistics

3A. Waste

Waste is defined in the UNSD/UNEP Questionnaire 2018 on Environment Statistics¹⁵ as "Materials that are not prime products (i.e., products produced for the market) for which the generator has no further use for his own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard. It excludes material directly recycled or reused at the place of generation (i.e., establishment) and waste materials that are directly discharged into ambient water or air as wastewater or air pollution."

Other definitions

The Joint OECD/Eurostat Questionnaire on the State of the Environment^{16 17} defines waste similarly but provides further definition of primary and secondary waste. Waste is defined as "Waste refer here to materials that are not prime products (i.e., products produced for the market) for which the generator has no further use for own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard. Wastes may be generated during the extraction of raw materials during the processing of raw materials to intermediate and final products, during the consumption of final products, and during any other human activity. Are excluded: residuals directly recycled or reused at the place of generation (i.e., establishment); waste materials that are directly discharged into ambient water or air."

7D. SDG indicators that incorporate these statistics

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

The indicator is Tier II. The indicator measures the proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated. The statistics cover urban solid waste regularly collected and final discharge at city level.

Total solid waste regularly collected (3.3.2.a.1 + 3.3.2.b.1 + 3.3.2.c.1) / Total solid waste generated (3.3.1.a)
Of which adequately discharged is reported using qualitative criteria.

Indicator 12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment

The indicator is Tier III under development. Related FDES 2013 statistics are 3.3.1.c. Amount of hazardous waste generated and 3.3.2.b.2 Amount of hazardous waste treated by type of treatment and disposal.

Indicator Number 12.5.1 National recycling rate, tons of material recycled

The indicator is Tier III under development. Related statistics from the FDES 2013 are 3.3.2.d. Amount of waste recycled and Amount of waste generated (derived from 3.3.1.a or 3.3.1.b).

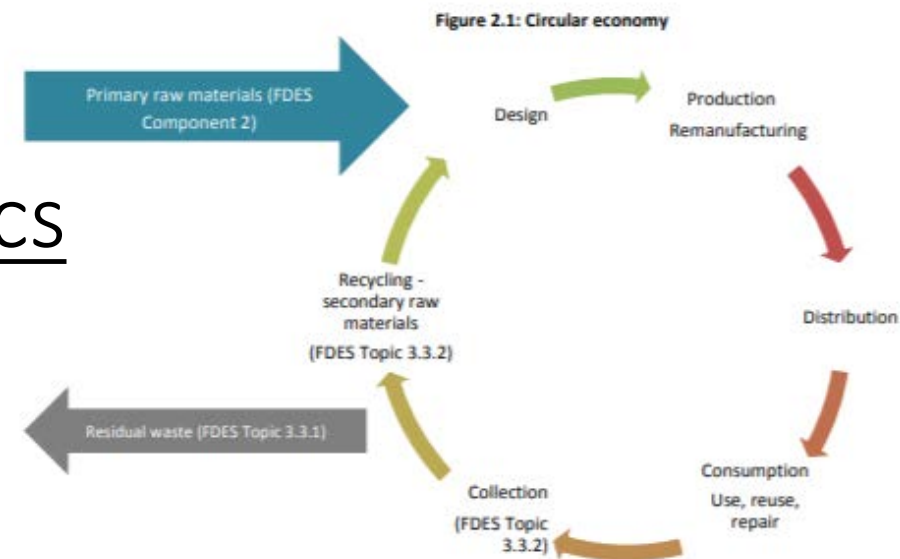
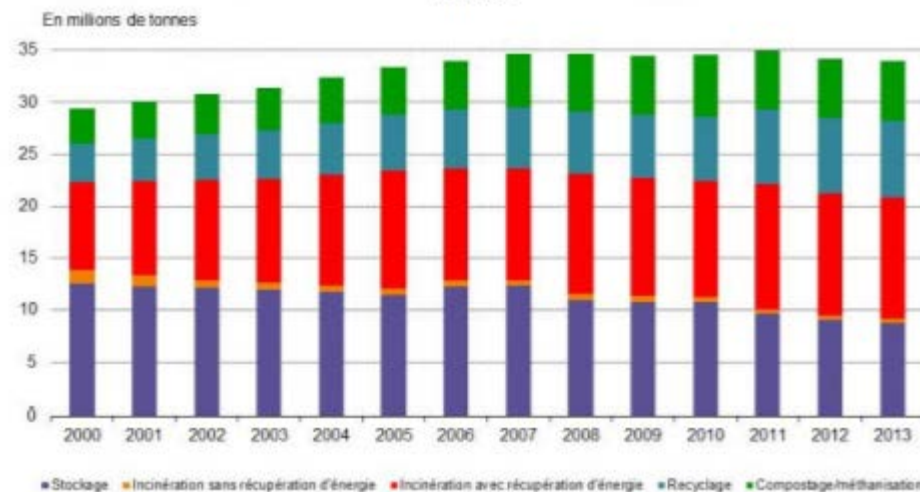


Figure 7.6: Trend in Municipal Waste Treatment in France (Évolution du traitement des déchets municipaux), 2000-2013



Champ : France entière, DOM inclus ; hors déblais et gravats.
Source : Ademe. Traitements : SOeS, 2015

Experience collecting all waste (including e-waste) data from the ESCWA region



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- Since 1999, UNSD has collected waste data nine times biennially via the UNSD/UNEP Questionnaire on Environment Statistics (waste section) from 170+ UN member states, including ESCWA states.
- Questionnaire is sent to National Statistical Offices and Ministries of Environment. This year's Questionnaire shall be sent in November, 2020.
- UNSD does not make any estimation or imputation for missing values so the number of data points provided are actual country data and considered official statistics.
- Following liaisons with United Nations University, and a pilot exercise with 42 countries in 2017, UNSD added e-waste (electronic waste) to the Questionnaire in 2018 (“Total e-waste generated”, and “Total e-waste collected”), and shall expand collection on e-waste in 2020.

Experience collecting all waste (including e-waste) data from the ESCWA region

- Partial response rate to the Questionnaire typically hovers around 50% (e.g. in 2018, 86/165 member states = 52%).
- In 2018, 12/20 =60% of ESCWA member states provided data.
- Following dialogue with UN member states (including ESCWA states), in 2020, breakdowns of e-waste are added to the Questionnaire. For example...
 - Large equipment
 - Screens, monitors and equipment containing screens
 - Small e-waste (e.g. lamps; small equipment; small IT and telecommunications equipment)

معدات كبيرة
شاشات وألواح ومعدات تحتوي على شاشات (..)
نفايات إلكترونية صغيرة

Waste statistics and the SDG indicators



- 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
- Custodian agencies: UN-HABITAT, UNSD
- City-level variables from the UNSD/UNEP Questionnaire on Environment Statistics (waste section) feature in this indicator’s methodology (e.g. municipal waste generated; municipal waste collected; municipal waste recycled, incinerated (with/without energy recovery), landfilled, composted)
- UNSD considering a pilot questionnaire in 2021 to test for countries’ data availability on waste treated in “controlled facilities” per SDG demand

Method:

$$\frac{\text{Total Municipal Solid Waste collected and managed in controlled facilities (tonnes/day)}}{\text{Total Municipal Solid Waste generated (tonnes/day)}} \times 100\%$$

Waste statistics and the SDG indicators



- Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment
- Custodian agencies: UNEP, UNSD
- Variables from the UNSD/UNEP Questionnaire on Environment Statistics (waste section) feature in this indicator's methodology (e.g. hazardous waste generated; hazardous waste treated or disposed of (by recycling, incineration (with/without energy recovery), landfilling))

Method:
$$\frac{\text{Hazardous waste treated during the year (tonnes)}}{\text{Hazardous waste generated during the year (tonnes)}}$$

Waste statistics and the SDG indicators



- Indicator 12.5.1: National recycling rate, tons of material recycled
- Custodian agencies: UNEP, UNSD
- Variables from the UNSD/UNEP Questionnaire on Environment Statistics (waste section) feature in this indicator’s methodology (e.g. total amount of municipal waste generated; total amount of municipal waste recycled; municipal waste [imported/exported])

Method:

Material recycled+Material exported intended for recycling –material imported intended for recycling

Total waste generated

Source: <https://unstats.un.org/sdgs/metadata/files/Metadata-12-05-01.pdf>

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Observations on Waste statistics and the SDG indicators



- In the case of all three SDG indicators mentioned, the UNSD/UNEP Questionnaire on Environment Statistics is the preferred data source. This follows extensive peer reviews of methods at expert group meetings at international level
- This Questionnaire prioritizes official data reported by countries' National Statistical Offices or Ministries of Environment
- This Questionnaire has, over time, proven to maintain relevance and to be flexible and open to adding new variables in light of increasing demands.

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Thank you

Contact: envstats@un.org