

Session 5.2: Waste Questionnaire



شعبة الإحصاءات في الأمم المتحدة (UNSD) و برنامج الأمم المتحدة للبيئة
استمارة الإحصاءات البيئية لعام 2018

قسم : النفايات

جدول المحتويات

Workshop on Environment Statistics and Information for Sustainable Development in the Arab Region

(Beirut, Lebanon, 12-16 November
2018)

الإرشادات	المقدمة، الخطوات التي ينبغي اتباعها، وصف الجداول
التعاريف	قائمة التعاريف
جدول النفايات 1	إنتاج النفايات حسب المصدر
جدول النفايات 2	إدارة النفايات الخطرة
جدول النفايات 3	إدارة النفايات البلدية
جدول النفايات 4	تركيب النفايات البلدية
جدول النفايات 5	إدارة النفايات البلدية - بيانات على مستوى مدينة
جدول النفايات 6	انتاج وجمع النفايات الإلكترونية
جدول النفايات 7	صفحة المعلومات التكميلية

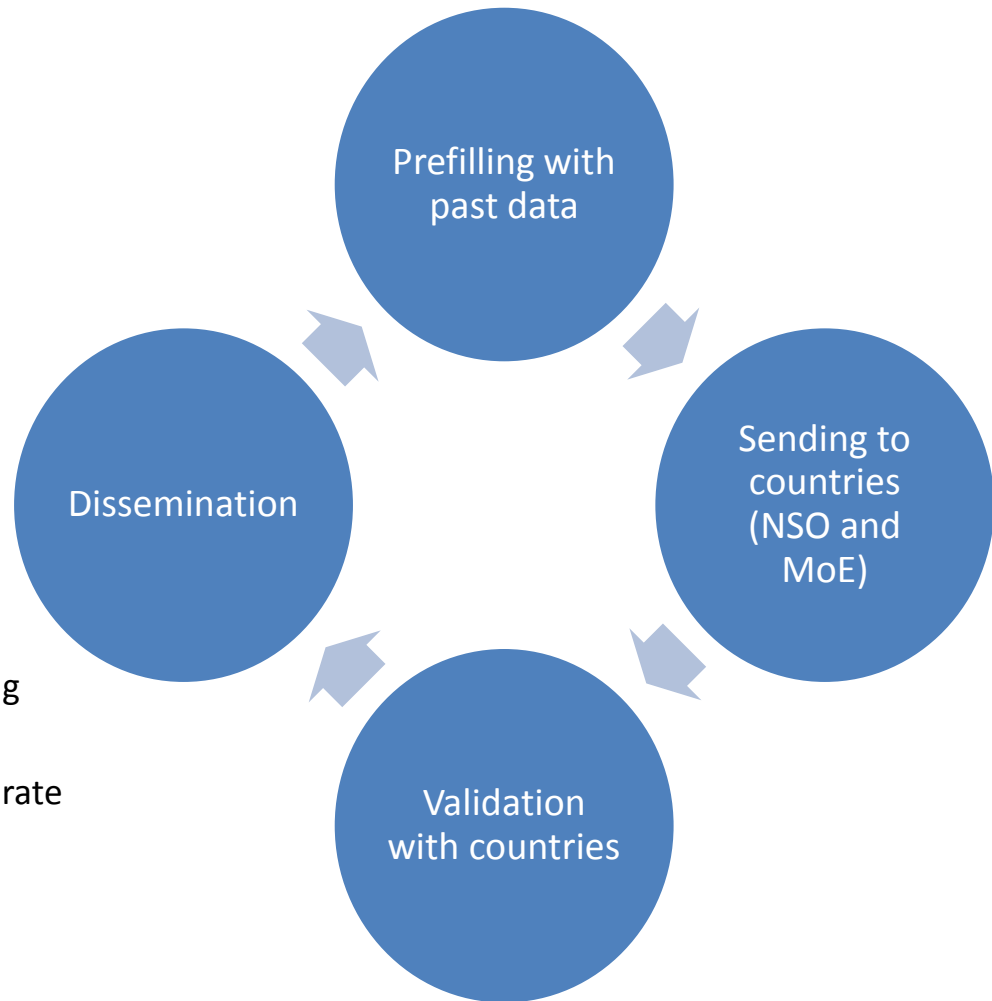


General Information

- Since 1999, about every two years. 9th round sent out in September 2018 (waste and water statistics)
- About 172 member states and areas in 5 languages
- Complemented by the OECD/Eurostat Joint Questionnaire on the State of the Environment – their member states
- **Waste statistics**
 - R1: Generation of Waste by Source
 - R2: Management of Hazardous Waste
 - R3: Management of Municipal Waste
 - R4: Composition of Municipal Waste
 - R5: Management of Municipal Waste — City Data
 - R6: Electronic Waste Generation and Collection
- **Water statistics**
 - W1: Renewable Freshwater Resources
 - W2: Freshwater Abstraction and Use
 - W3: Water Supply Industry (ISIC 36)
 - W4: Wastewater Generation and Treatment
 - W5: Population Connected to Wastewater Treatment



Cycle



- No estimation or imputation for missing values from UNSD
- Data considered accurate only if confirmed by countries



Dissemination: Environment statistics — UN Data



Data Glossary Metadata API More

34 databases - 60 million records Update calendar

Databases	Updates	Country data services
Crime <ul style="list-style-type: none">UNODC Homicide Statistics 2012, UNODC Education <ul style="list-style-type: none">UIS Data Centre, UNESCO UIS 	24 Oct @undata The World Tourism Data table in @UNdata was updated with available stats as of mid-Oct 2014: bit.ly/1yulpAm ; thanks @UNWTO	Afghanistan Albania Algeria Andorra Angola

MBS Monthly Bulletin of Statistics and other UNSD data resources

▶ Popular searches

▶ Feedback and reviews



Dissemination: UNSD Environmental Indicators

- Air and Climate
- Biodiversity
- Energy and Minerals
- Forests
- Governance
- Inland Water Resources
- Land and Agriculture
- Marine and Coastal Areas
- Natural Disasters
- Waste

Air Pollution

- Consumption of ozone-depleting substances **XLS**
- NO_x emissions **XLS**
- SO₂ emissions **XLS**
- Links to other international data sources
- Additional indicators and selected time series

Climate Change

- Climatological disasters (see Natural Disasters)
- Participation in climate change agreements (see Governance)
- Links to other international data sources

Greenhouse Gases

- CO₂ emissions **XLS**
- Greenhouse gas emissions **XLS**
- Greenhouse gas emissions by sector (absolute values) **XLS**
- Greenhouse gas emissions by sector (percentage) **XLS**
- CH₄ and N₂O emissions **XLS**
- Links to other international data sources
- Additional indicators and selected time series

<https://unstats.un.org/unsd/envstats/index.cshtml>





Air and climate

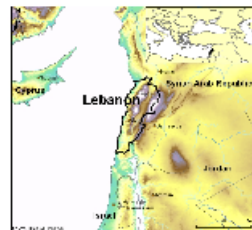
Emissions of:		Year
SO ₂ (1000t)	93	2000
SO ₂ per capita (kg)	29	2000
NO _x (1000t)	59	2000
NO _x per capita (kg)	18	2000
CO ₂ (million tonnes)	22	2014
CO ₂ per capita (tonnes)	4	2014
GHG (million tonnes CO ₂ eq.)	18	2000
GHG per capita (tonnes CO ₂ eq.)	6	2000
Consumption of ozone depleting CFCs (ODP t)	0	2013

Biodiversity

Proportion of terrestrial and marine areas protected (%)	1	2014
Number of threatened species	88	2016
Fish catch (tonnes)	3,638	2015
Change in fish catch from previous year (%)	18	2015

Economy

GDP growth rate from previous year (%)	1	2016
GDP per capita (at current prices - \$US)	8,400	2016
% Value added: agriculture, hunting, forestry, fishing	3	2016
% Value added: mining, manufacturing, utilities	13	2015



Note: The boundaries, the names shown, and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Permanent meadows and pastures (% of agric. land)	61	2015
Change in agricultural land area since 1990 (%)	9	2015
Forest area (sq km)	1,373	2015
Change in forest area since 1990 (%)	5	2015

Population

Population (1000)	5,851	2015
Population growth rate from previous year (%)	4	2015

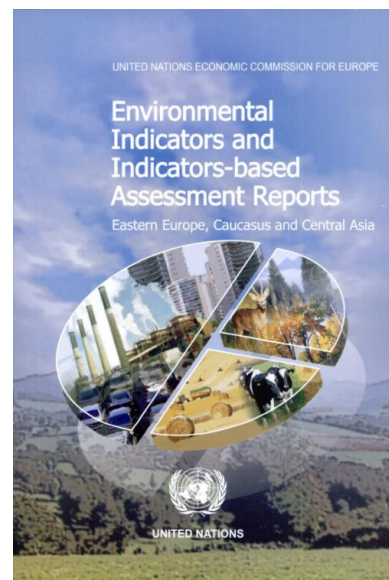
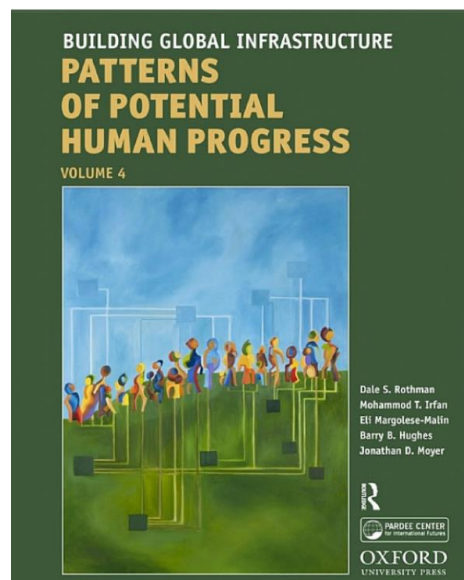
Waste

Dissemination: Country Snapshot — Lebanon



Key Data Users

- International agencies (UNEP, UN-HABITAT, WORLD BANK)
- Academia/Students
- Journalists
- General Public



Waste Section

- Introduction, Steps to Follow, Description of Tables
- List of Definitions
- R1: Generation of Waste by Source
- R2: Management of Hazardous Waste
- R3: Management of Municipal Waste
- R4: Composition of Municipal Waste
- R5: Management of Municipal Waste — City Data
- R6: Electronic Waste Generation and Collection



R1: Generation of Waste by Source

Country	Latest year available	Total waste generation (1000 t)
Algeria	1995	6442
Egypt	2007	117915
Iraq	2015	14349
Kuwait	2013	11787
Lebanon	2012	1940
Morocco	2000	7485
Qatar	2012	12253
State of Palestine	2015	1651 ¹
United Arab Emirates	2015	29165

1 Estimates based on individual waste rate.

ISIC Economic Activities

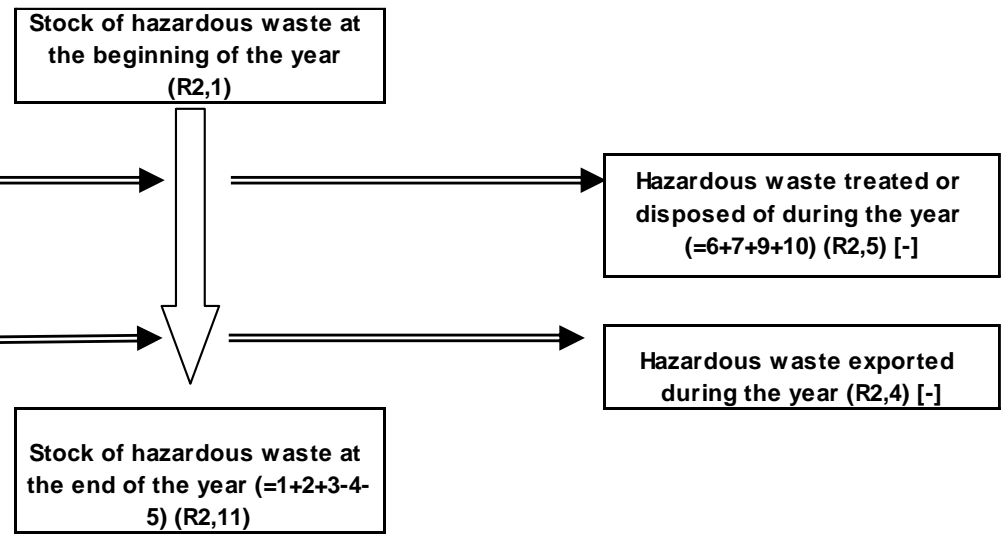
Households

Line	Category	Unit
1	Agriculture, forestry and fishing (ISIC 01-03)	1000 t
2	Mining and quarrying (ISIC 05-09)	1000 t
3	Manufacturing (ISIC 10-33)	1000 t
4	Electricity, gas, steam and air conditioning supply (ISIC 35)	1000 t
5	Construction (ISIC 41-43)	1000 t
6	Other economic activities excluding ISIC 38	1000 t
7	Households	1000 t
8	Total waste generation (=1+2+3+4+5+6+7)	1000 t



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	Hazardous waste treated or disposed of during the year (=6+7+9+10)	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



Hazardous waste generation and treatment

Country	Latest year available	Generation	Treated or disposed	Recycling	Incineration	Landfilling	Other
Algeria	2007	325100					2008500
Bahrain	2007	35008 ¹			1290	7432	
Iraq	2015	20622	20622	0	1049	16645 ²	2928 ³
Jordan	2013	47400	47400				
Kuwait	2013				2945		
Lebanon	2002	100492					
Morocco	2013	289284					
Saudi Arabia	2016	559334 ⁴					
State of Palestine	2014	4572 ⁵	4572 ⁵	0	0	4572 ⁵	
Syrian Arab Republic	2003	46	46				
Tunisia	2002	150200	150200				
United Arab Emirates	2015	309029	309029	37124	6178	75040	190686 ⁶
Yemen	1995	38200					

1 The data provided from 1995 till 2002 was based on calculated quantity, as total quantity of industrial waste generated without classification (hazardous or non hazardous) adopted by Basel Convention. Since 2003, the data were based on classifications as adopted by Basel Convention.

2 Calculation of Iraq's environmental survey indicators (water, sewage, municipal services) for 2016 represents the sum of hazardous waste collected and disposed of by landfill in landfill sites.

3 Calculation of Iraq's environmental survey indicators for 2010 (water - sewerage - municipal services) represents the sum of hazardous waste collected and disposed of by collection in temporary ad hoc sites, firing in empty yards, disposing in rivers, spills and others.

4 Including medical hazardous waste and industrial hazardous waste.

5 Data refer to health care centers waste taken from the Environmental Survey for Health Care Centers.

6 In hazardous waste facilities, treatment companies for final disposal, or other methods of final disposal



R3 and R5: Management of Municipal Waste (national and city levels)

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	<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
15	Total population served by municipal waste collection	%
16	Urban population served by municipal waste collection	%
17	Rural population served by municipal waste collection	%

Municipal waste, collected by or on behalf of municipalities, by public or private enterprises, includes waste originating from: households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes bulky waste (e.g., white goods, old furniture, mattresses) and waste from selected municipal services, e.g., waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. The definition excludes waste from municipal sewage network and treatment, municipal construction and demolition waste.



R3: Management of Municipal Waste

Country	Latest year available	Municipal waste collected	Recycling	Composting	Incineration	Landfilling	Other
Algeria	2015	5182	518	52		4249	
Egypt	2012	94868	1995			19005	
Iraq	2015	14349					
Jordan	2015	3458 ¹		0 ¹	22	3436 ¹	
Kuwait	2012	10422	2569 ²	0	0	7853	
Lebanon	2012	1940	155	213	0	1572	0
Morocco	2015	5817	582			5235	
Qatar	2012	2517 ³					
State of Palestine	2015	1651 ⁴	17	0	1139	495	0
Syrian Arab Republic	2003		85 ⁵		400	7040 ⁶	
Tunisia	2004	1316		1		1316	
United Arab Emirates	2015	6061	900	150	0	4568	443
Yemen	2013	1581 ⁷				1581 ⁷	

1 The figure refers to municipal waste collected from households only.

2 Construction waste was recycled in the recycling factories; contracting with The Kuwaiti municipality started working in April 2004.

3 Environmental statistics report 2013, household waste and bulky waste.

4 The amount of waste was estimated using the per capita average daily waste generated.

5 Data pertains to automobile waste.

6 Data pertains to domestic waste (4,100,000 t/year), municipal rubble and soil (1,000,000 t/year), green waste in coastal towns (40,000 t/year), and building waste (1,900,000 t/year).

7 The quantity of municipal waste collected is about 40% of the total annual municipal waste generated in the Republic.



R4: Composition of Municipal Waste

Country	Latest year available	Paper, paperboard	Textiles	Plastics	Glass	Metals	Other inorganic material	Organic material
Algeria	2014	10	13	17	1	3	2	54
Jordan	2013	15		16	3	2	14	50
Lebanon	2002	11	2	4	5	2	16	60
Morocco	2014	8 ¹		8 ²	3 ³	3 ⁴	7 ⁵	60 ⁶
State of Palestine	2015	15	0	12	4	4	6	59
Syrian Arab Republic	2004	10	3	12	3	4	7	60
Tunisia	2007						5 ⁷	
United Arab Emirates	2015	26	4	25	3	3	11	28
Yemen	2002	9		9	3			47

1 Value between 5% - 10%.

2 Value between 6% - 10%.

3 Value between 1% - 3%.

4 Value between 1% - 4%.

5 Value between 4% - 8%.

6 Value between 50% - 70%.

7 Includes 2% leather and 3% others.



NEW!

R6: E-Waste Generation and Collection

Table R6: E-Waste Generation and Collection

Line	Category	Unit	2010	2011	2012	2013	2014	2015	2016	2017
1	Total E-waste generated	1000 t								
2	Total E-waste collected	1000 t								

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.

United Nations University



The Sustainable Development Goals





Make cities and human settlements inclusive, safe, resilient and sustainable

- Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

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

Related to table R5 on Municipal Waste Management in Cities



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 (tier II)

- Custodian Agencies: UN-Habitat and UNSD; partner agencies: UN Environment Programme
- UNSD participating in UN Environment and UN-HABITAT Joint Expert Group Meeting on Waste SDG indicators 11.6.1, 12.4.2, 12.5.1 (participating in refinements to draft methodologies)
- Issues:
 - No internationally agreed definition of urban solid waste
 - What is adequate final discharge? Could it be (recycling) + (composting) + (incineration with energy recovery)?
 - Denominator: Waste "collected" or "generated" ? => Difficult to estimate municipal waste generated.
 - OECD/Eurostat do not collect data at the city level. Eurostat did a pilot at the European regions level => No city level for "developed" countries.
- Available metadata are here: <https://unstats.un.org/sdgs/metadata/files/Metadata-11-06-01.pdf>

Table R5, line:	Category	Unit
2	Total amount of municipal waste generated (NEW!)	1000 t
7	Recycling	
8	Composting	
10	Incineration with energy recovery	

Indicator = (Lines 7 + 8 + 10)/Line 2



Table R5: Management of Municipal Waste – City Data

Line	Category	Unit
1	Total population of the city	1000 inh.
2	Total amount of municipal waste generated	1000 t
3	Percentage of city population served by municipal waste collection	%
4	Municipal waste collected from households	1000 t
5	Municipal waste collected from other origins	
6	Total amount of municipal waste collected (=4+5)	
7	<i>Amounts going to:</i> Recycling	
8	Composting	
9	Incineration	
10	<i>of which:</i> with energy recovery	
11	Landfilling	
12	<i>of which:</i> controlled landfilling	
13	Other, please specify in the footnote	

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



Ensure sustainable consumption and production patterns

- Target 12.4: By 2030, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment (Table R2: Management of Hazardous Waste)

- Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Indicator 12.5.1: National recycling rate, tons of material recycled (Table R1: Generation of Waste by Source; Table R2: Management of Hazardous Waste; and Table R3: Management of Municipal Waste)



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 Programme (more specifically the BRS Secretariat) and UNSD; partner agencies: OECD and Eurostat
- UNSD involved in the methodology and data collection
- Issues:
 - Terminology of the UNSD/UN Environment Programme Questionnaire and national reports under the Basel Convention not harmonized.
 - Definition of treatment: recycled and incinerated or incinerated with energy recovery? (The Basel Convention does not have a definition of treatment)
 - Year of treatment can be different from year of generation.
- Work plan available here: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-04-02.pdf>

Indicator = Line 2/Population	Indicator = Line 6/Line 2	Indicator = Line 7/Line 2
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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	



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

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

- Custodian Agencies: UN Environment Programme and UNSD; partner agencies: OECD and Eurostat
- Issues:
 - Difficult to have statistics representing all waste, and other types of waste (hazardous waste) already monitored by other indicators => use of municipal waste as a proxy.
 - Discussion with respect to municipal waste “collected” as opposed to municipal waste “generated” is also a feature (as in indicator 11.6.1).
 - Should “composting” and “incineration with energy recovered” be excluded or included?
 - Inclusion of imports-exports of municipal waste.
 - Work plan available here: <https://unstats.un.org/sdgs/tierIII-indicators/files/Tier3-12-05-01.pdf>

Table R3, line:	Category	Unit
1	Total amount of municipal waste generated (NEW!)	1000 t
7	Municipal waste managed in the country	
8	Recycling	

Indicator = Line 8/Line 7; or

Indicator = Line 8/Line 1



Table R3: Management of Municipal Waste

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

Thank you for your attention!

For more information please contact
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