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Environment statistics

Background document
Available in English only

**BACKGROUND DOCUMENT TO THE REPORT OF
THE SECRETARY-GENERAL ON ENVIRONMENT
STATISTICS (E/CN.3/2018/31)**

Prepared by the United Nations Statistics Division

20 February 2018

Introduction

The present background document complements the Report of the Secretary-General on Environment Statistics to the United Nations Statistical Commission at its forty-ninth session, 6-9 March 2018 in New York.¹

The purpose of the document is two-fold: firstly, to provide a more detailed summary of the progress in the collection of environment statistics carried out by the United Nations Statistics Division (UNSD) in the context of increasing demand of environment statistics needed, especially for the Sustainable Development Goal (SDG) indicators; and secondly, to offer a panorama of environment statistics data collections by UNSD and partner agencies at the international level that are relevant for the environment statistics domain.

The document contains two parts. Part I provides an analysis of the results of the UNSD/UNEP Questionnaire 2016 on Environment Statistics (Water and Waste), by variables of particular interest to the SDG agenda. The Environment Statistics Section of UNSD has conducted eight data collection rounds over the last 18 years, with the most recent one in 2016 requesting data from 173 countries.

Part II contains an inventory of regular, international environmental data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions. This inventory has been compiled by the Environment Statistics Section of UNSD in collaboration with the members of the Intersecretariat Working Group on Environment Statistics (IWG-ENV) and other partner organizations. Additions made in the present document reflect changes to data collections between now and 2016 when the inventory was previously compiled. Furthermore, the present document's inventory has much more currency with respect to the SDG agenda.

¹ E/CN.3/2018/31 (<https://unstats.un.org/unsd/statcom/49th-session/documents/2018-31-Environment-E.pdf>). Item 4(k) of the provisional agenda of the forty-ninth session of the United Nations Statistical Commission.

PART I

Analysis of the results of the UNSD/UNEP Questionnaire 2016 on Environment Statistics (Water and Waste)

1. Part I is complementary to Section C. Data collection and dissemination activities (paras. 17-26) of the Report of the Secretary-General on Environment Statistics² and should be read accordingly. It includes Table 1 which illustrates the coverage and responses to the UNSD/UNEP Questionnaire on Environment Statistics for the eight data collection rounds. A series of figures follows illustrating the count of responses from countries for individual variables within the UNSD/UNEP Questionnaire on Environment Statistics which are of interest to Sustainable Development Goal (SDG) indicator compilation. Several tables (Tables WI-W5, and R1-R4) of responses to individual variables in the UNSD/UNEP Questionnaire on Environment Statistics follow in Annex A of the present document.

2. Following the United Nations Statistical Commission's agreement on the revised global indicator framework for the Sustainable Development Goals and target for the 2030 Agenda for Sustainable Development in 2017,³ the UNSD/UNEP Questionnaire on Environment Statistics and the data reported in it received much attention from interested stakeholder agencies. Many of the variables regularly collected by the Questionnaire shall be used by custodian agencies (in some cases, UNSD itself) for SDG indicator compilation. A count of those variables' responses is presented in graphs in Part I.

3. According to an agreement between the Organisation for Economic Cooperation and Development (OECD), Statistical Office of the European Union (EUROSTAT) and UNSD, the countries covered by the joint OECD/EUROSTAT Questionnaire on the State of the Environment are not covered in the UNSD/UNEP Questionnaire on Environment Statistics data collection to avoid duplication and minimize reporting burden of countries. Both data collection processes are well coordinated and the questionnaires are fully compatible using identical definitions and classifications. The UNSD/UNEP Questionnaire is sent to all non-OECD/Eurostat countries and areas,⁴ covering two sections for statistics on waste and water. Those environment statistics already being collected by other United Nations agencies and other international organizations are excluded from the UNSD/UNEP Questionnaire on Environment Statistics.

4. Data collection was first conducted in 1999, through the UNSD/UNEP Questionnaire on Environment Statistics, with a request for data from 168 countries. Seven subsequent data collection rounds have taken place, with the most recent one in 2016 requesting data from 173 countries. The next data collection round will take place in 2018. As indicated in

² *Ibid.*

³ E/2017/24-E/CN.3/2017/35 (<https://unstats.un.org/unsd/statcom/48th-session/documents/Report-on-the-48th-session-of-the-statistical-commission-E.pdf>)

⁴ Hereafter countries and areas shall be collectively referred to as countries.

the Report of the Secretary-General on Environment Statistics, in the 1999, 2001 and 2004 data collection rounds, UNSD obtained data on air, land, waste and water, but in harmonizing with other international data collections, as of 2006, UNSD has collected data solely on waste and water. This arrangement has allowed UNSD to focus its limited resources on relevant specific themes and to avoid duplication on selected tables.

5. The UNSD/UNEP Questionnaire on Environment Statistics is the main instrument of the regular biennial data collection on water and waste which serves as a very credible data source for different uses, including compiling related SDG indicators. It gives opportunity to respondents (typically National Statistical Offices) to be empowered and to take ownership of SDG indicator reporting and compilation.

6. To promote data quality assurance, UNSD carries out extensive data validation procedures that include built-in automated procedures, manual checks and cross-references to national sources of data. Communication is carried out with countries for clarification and validation of data. UNSD does not make any estimation or imputation for missing values so the number of data points provided are actual country data. Only data that are considered accurate or those confirmed by countries during the validation process are included in UNSD’s environment statistics database and disseminated on UNSD’s website.

7. Table 1 below presents the number of countries that received the questionnaire and the number of responses. Although the trend shows an increasing number of responses from the inception of data collection and that a response rate of over 50% was achieved for the first time in the 2016 collection round, more capacity building efforts still need to be made.

Table 1: UNSD/UNEP Questionnaire on Environment Statistics: coverage and responses

Year that UNSD/UNEP Questionnaire was sent:	1999	2001	2004	2006	2008	2010	2013	2016
Number of countries to which the questionnaire was sent:	168	177	158	163	171	172	173	173
Number of responses from countries (water and/or waste):	49	62	68	80	84	84	81	89

8. With direct relevance to the SDGs, existing and future data collected by UNSD will be invaluable, in particular for the SDG targets that require environment statistics. Given the importance of producing national data on water and waste for quality and informed decision making, and that these data are extremely pertinent to monitoring SDGs 6, 11 and 12, it is critical to improve the production of environment statistics, and increase training

and capacity building in environment statistics. The number of responses to the UNSD/UNEP Questionnaire relevant to these SDGs is presented in Table 3 of the Report of the Secretary-General on Environment Statistics,⁵ and presented graphically in the present document. Data completeness and data quality remain a challenge, especially for developing countries. National capacity constraints (financial, human, technical) continue to be a concern, and inadequate institutional set-up and collaboration in environment statistics remains the case in many countries.

9. The Questionnaire's two sections on water and waste each consist of five data collection tables. Despite the fact that UNSD has now undertaken eight data collections on waste and water statistics and that the data are gradually improving, partial response rates (responses to individual variables) of 41 out of a possible 173, for example, in the case of precipitation in the year 2015, reveal the great need for capacity development within countries in the domain of environment statistics.

10. The following six figures illustrate count of responses to the Questionnaire. Each of the figures specifically references an SDG indicator for which collected data are relevant. That there are so many variables within the Questionnaire of relevance to SDG indicator monitoring is testament to the robustness of the Questionnaire's content and its applicability to informing both SDG-relevant and other policy decision making. To provide a brief interpretation of figure 1, for instance, approximately 35 to 40 countries have provided data for the variable, "hazardous waste generated during the year" for each year between 2010 and 2015. Another variable, "hazardous waste incinerated with energy recovery" saw 10 to 15 countries provide data for each year. Since all four variables shown within figure 1 are potentially necessary for compilation of SDG indicator 12.4.2, it is imperative that capacity building efforts aim to improve countries' abilities to provide data for these kinds of variables. When viewing figures 1 to 6, any slight decline in the lines for the years 2013 to 2015 can somewhat be explained by the fact that for these most recent three years, data have only been collected once from countries in the 2016 collection round.

⁵ E/2017/24-E/CN.3/2017/35 (<https://unstats.un.org/unsd/statcom/48th-session/documents/Report-on-the-48th-session-of-the-statistical-commission-E.pdf>)

Figure 1: Count of responses to variables relevant to SDG indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment

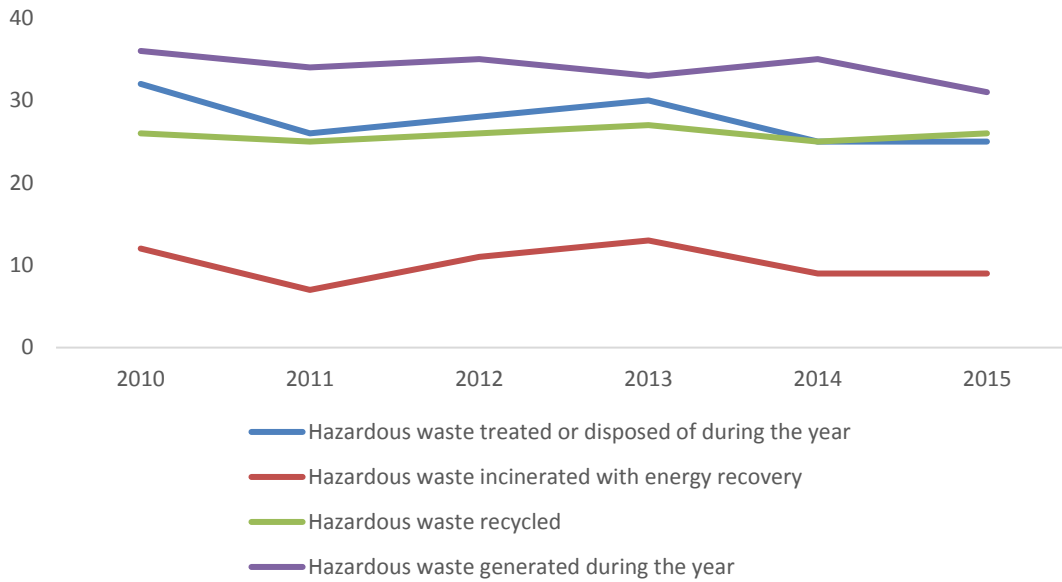


Figure 2: Count of responses, SDG indicator 12.5.1: National recycling rate, tons of material recycled

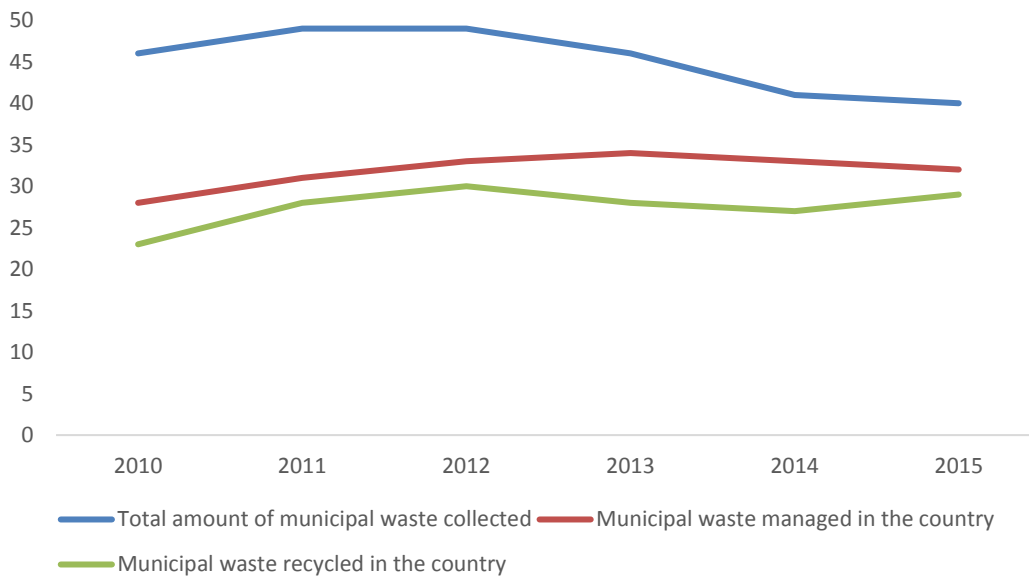


Figure 3: Count of responses⁶, SDG indicator 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities

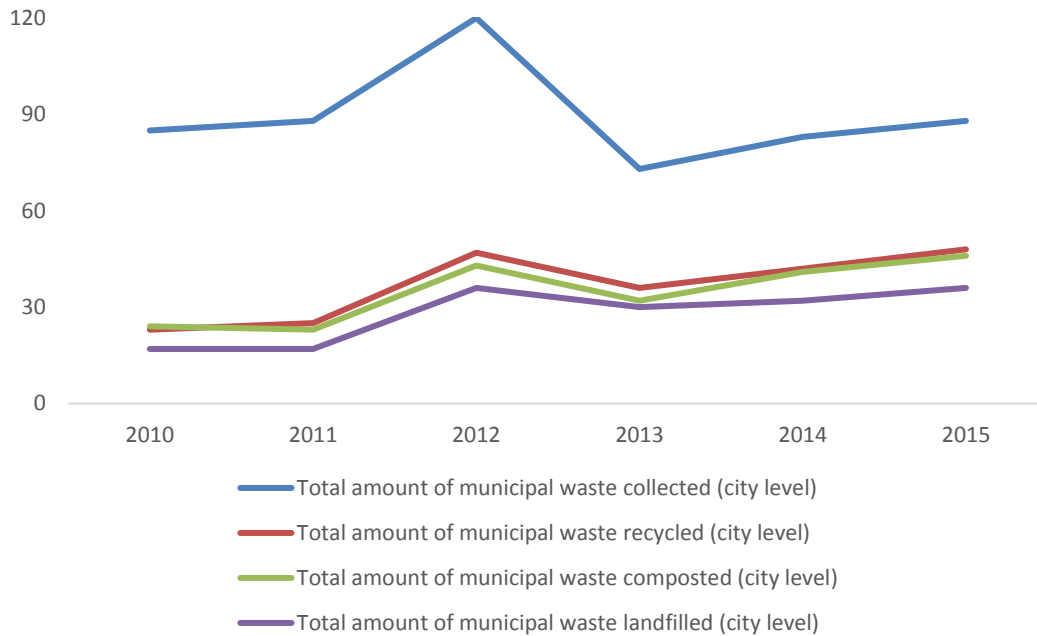
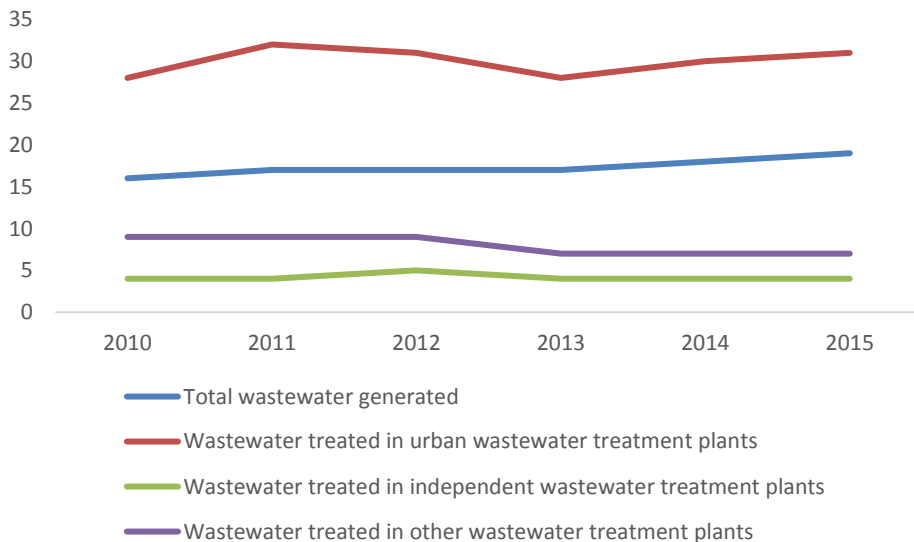


Figure 4: Count of responses, SDG indicator 6.3.1: Proportion of wastewater safely treated



⁶ Count of responses shown in figure 3 are markedly greater than those in all other figures. The obvious explanation for this is that figure 3 represents responses to a table collecting data at the city level. Many countries provide data for multiple cities, whereas all other figures represent responses to tables collecting data at the national level for which countries can only provide a single response.

Figure 5: Count of responses, SDG indicator 6.4.1: Change in water use efficiency over time

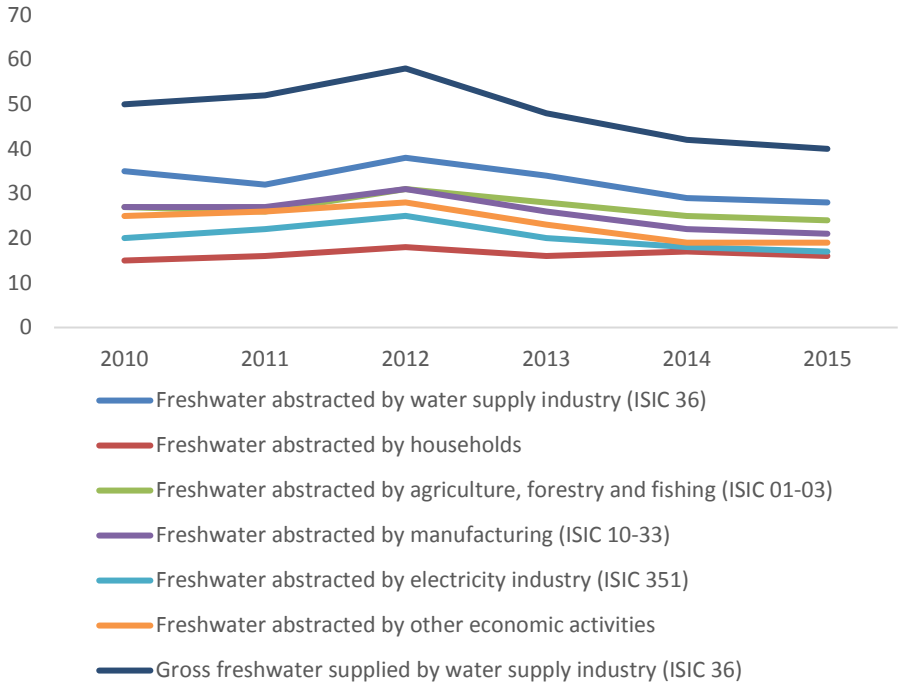
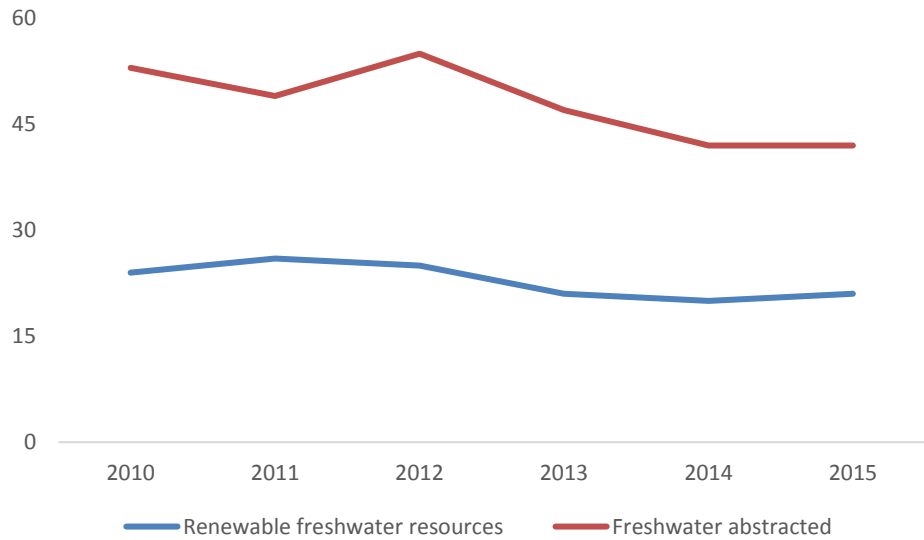
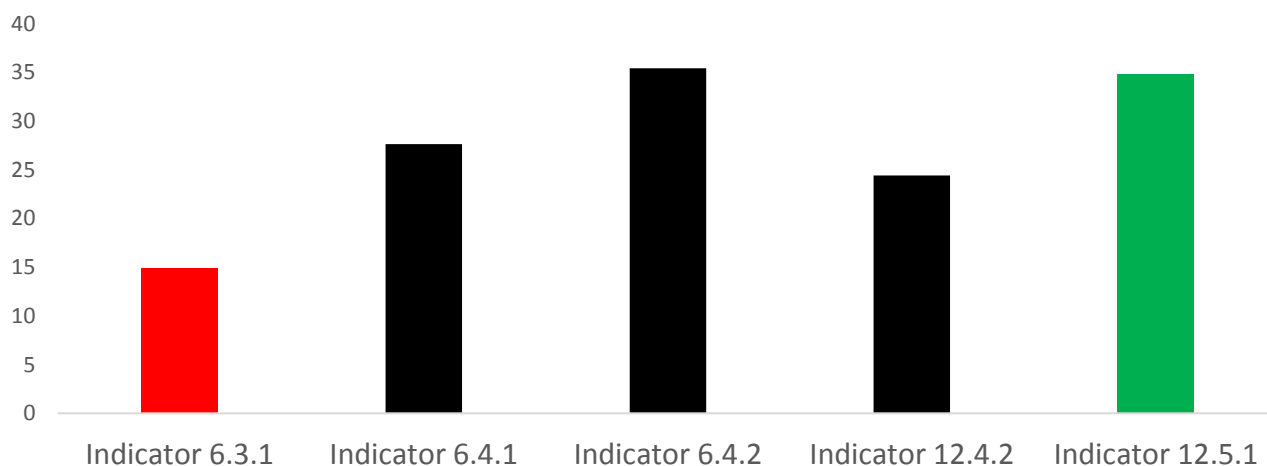


Figure 6: Count of responses, SDG indicator 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources



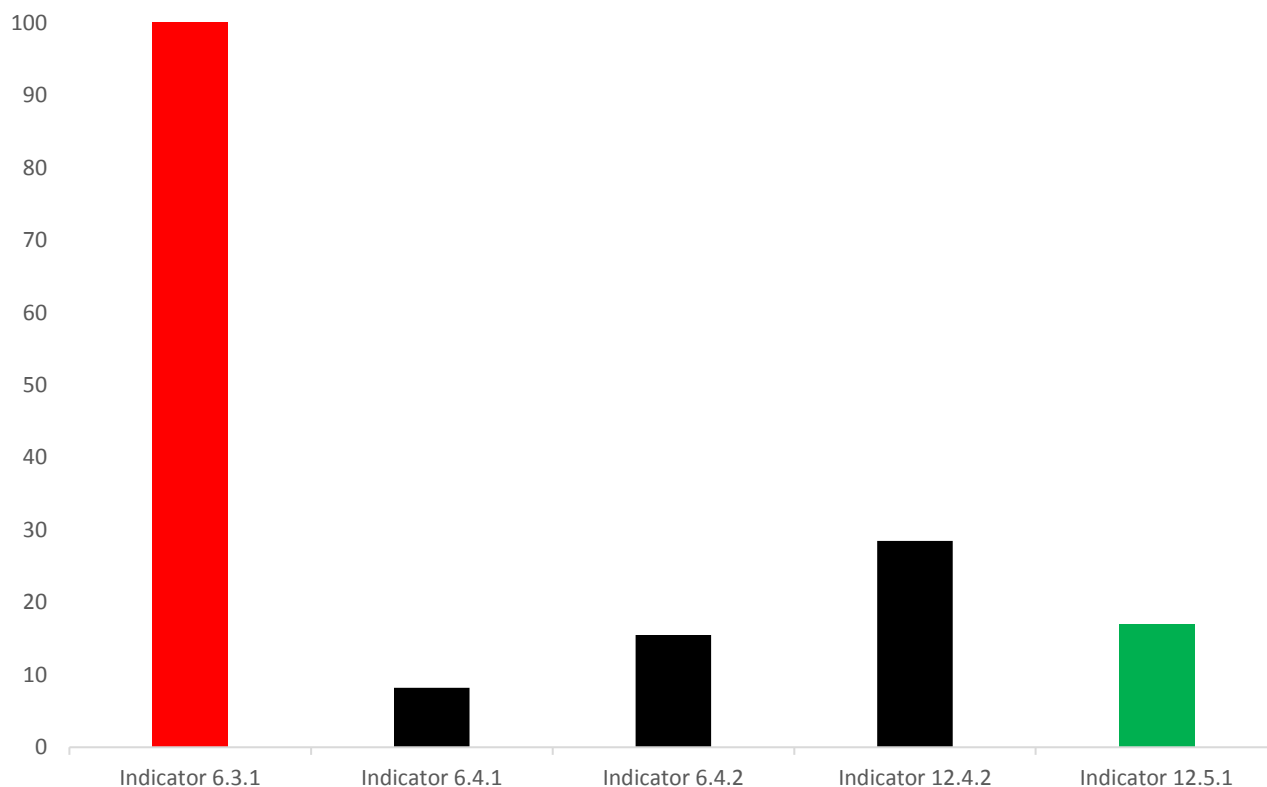
11. Marked improvement in the number of responses provided by countries between the 2013 and 2016 collection rounds is evident. Figure 7 below gives an indication of the number of responses available for variables relevant for compilation of SDG indicators. In an effort to reveal recent improvements in the data collection, figure 8 shows the percentage increase in responses between the 2013 and 2016 collection rounds for those same variables. For example, for indicator 6.3.1, Proportion of wastewater safely treated (red bars), an average of 15 responses (see figure 7) to relevant variables in the data collection is available now (*ex poste* 2016 collection round). This is a 101% increase (see figure 8) on the number of responses that were available *ex poste* the 2013 round of data collection. For indicator 12.5.1, National recycling rate, tons of material recycled, a much higher average of 35 responses (see figure 7) are available now at *ex poste* the 2016 collection round, this is an increase of just 17% (see figure 8) on the number of responses available at *ex poste* the 2013 round of data collection. An explanation for the lower absolute number of responses but significant recent increase in number of responses for variables relevant to indicator 6.3.1 is that those variables (relevant to wastewater generation and treatment) have only been collected in the 2013 and 2016 collection rounds. All other indicators' variables are much more stabilised and in most cases have been collected in all eight collection rounds since 1999.

Figure 7: Average number of responses for variables relevant to SDG indicators per year for years 2010-2015⁷



⁷ For figures 7 and 8, the 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 has been excluded. This is because many countries provide data for multiple cities, whereas all other figures represent responses to tables collecting data at the national level for which countries can only provide a single response.

Figure 8: Percentage increase in responses for variables relevant to SDG indicators between ex poste 2013 collection round and ex poste 2016 collection round



12. Environment statistics is still a relatively new field which relates to the environmental pillar being the weakest of the three pillars in sustainable development in terms of monitoring and measurability. Environment statistics are multi-purpose and serve many fundamental needs and uses, including environmental indicators, SDG indicators and environmental-economic accounts, so persistence is important. Capacity building is key to improving environment statistics and the Environment Statistics Section of UNSD is assisting countries in strengthening their statistical capacity through training workshops and direct country assistance. UNSD continues to collaborate with partner agencies such as the Secretariat for the Basel Convention, UN Environment, UN-HABITAT, the Food and Agriculture Organization of the United Nations, the World Health Organization and others in developing methods, and defining concepts and metadata in this field. In future, thematic focussed workshops servicing countries (on topics such as waste) may be planned. Addition of variables on themes such as e-waste, for example, are being considered for inclusion in future rounds of the UNSD/UNEP Questionnaire on Environment Statistics.

PART II

International Environmental Data Collection, Reporting and Dissemination

13. Part II presents an inventory (Table 2) of regular, international environmental data collection, reporting and dissemination from countries undertaken by the United Nations, its specialized agencies, intergovernmental organizations and conventions.⁸ Table 2 includes institutions that conduct regular data collection based on a standardized reporting format. Countries provide data to these institutions through questionnaires, national communications or on-line reporting. This inventory has been compiled by the Environment Statistics Section of UNSD in collaboration with the members of the Intersecretariat Working Group on Environment Statistics (IWG-ENV)⁹ and other partner organizations. UNSD prepared a first draft of the inventory based on knowledge and research and then circulated it to the institutions that provided invaluable input and contributed to shape and complete this output.

14. The purpose of this mapping exercise was to collectively construct a synthesis of environment statistics data collection processes at the international level. This exercise was discussed by the Expert Group on Environment Statistics (EGES) at its fifth meeting in Prague, May, 2017, where its undertaking received endorsement. The specific objectives are to:

- encourage countries to provide their own data, and to encourage users to refer to these data as a matter of priority over modelling and estimation techniques which are known to have many limitations and be oblivious to many biases;
- support institutions' continuous efforts to promote data sharing and exchange mechanisms on the basis of common data templates and to encourage in-depth assessment of data being collected;
- provide a platform to compare and harmonize data collection from a methodological point of view; and
- provide countries and institutions with a picture of data flows from various national sources with the intention to reduce reporting burden and avoid duplication of efforts, both at the national and international levels.

15. This mapping exercise is a continued effort to develop a full scale inventory of environmental data collection. It follows a previous compilation made for the Statistical

⁸ Henceforth, United Nations, its specialized agencies, intergovernmental organizations and conventions will be referred to as institutions.

⁹ The IWG-ENV was established in response to a request by the thirty-fourth session of the United Nations Statistical Commission (<http://unstats.un.org/unsd/statcom/34th-session/documents/statcom-2003-34th-report-E.pdf>). The Statistical Commission empowered UNSD to convene the IWG-ENV to coordinate and harmonize the development of standards, methods, data collections and capacity building programmes in environment statistics.

Commission's review as a background document in 2016.¹⁰ The present document includes additions reflecting changes to data collections between now and 2016 when the inventory was previously compiled. The inventory in the present document also has much more currency with respect to the SDG agenda, and additional information such as the focal point of the data collection, and information concerning metadata, methodological guidance and data validation processes.

¹⁰ Background document to the Report of the Secretary-General on Environment Statistics (E/CN.3/2016/27) (<https://unstats.un.org/unsd/statcom/47th-session/documents/BG-2016-27-EnvironmentStats-E.pdf>).

Table 2: International environmental data collection, reporting and dissemination

Institution name and focal point	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal – http://www.basel.int Ms. Melisa T.S. Lim, melisa.lim@brsmeas.org				
Description of data collection	Hazardous and other wastes Topics covered: generation, import, export and transit of hazardous and other wastes Qualitative information on legislative and regulatory measures to enforce the Convention. Data collection instrument available at: http://www.basel.int/Countries/NationalReporting/ElectronicReportingSystem/tabid/3356/Default.aspx				
Periodicity of data collection	Annual	Geographical coverage	Parties to the Convention.	Temporal coverage	Since 1993 (reports from 2001 and onwards are available online).
Outputs	Online reporting with data available at: http://www.basel.int/Countries/NationalReporting/BaselConventionNationalReports/tabid/4250/Default.aspx http://www.basel.int/Countries/NationalReporting/ReportingDatabase/tabid/1494/Default.aspx				
Metadata (link)	https://unstats.un.org/sdgs/metadata/files/Metadata-12-04-01.pdf				
Methodological guidance used for data collection	Various guidance available here: http://www.basel.int/Countries/NationalReporting/Guidance/tabid/1498/Default.aspx				
Data validation process	The reports are submitted by the focal points to the Secretariat.				
Institution name and focal point	Caribbean Community (CARICOM) Secretariat – http://www.caricom.org/				
Description of data collection	Indicators and statistics submitted by country under 12 themes which include: Population and Households, Environmental Health, Natural Disasters, Energy and Minerals, Land Use and Agriculture, Coastal and Marine Resources, Biodiversity, Air emissions.				
Periodicity of data collection	Annual	Geographical coverage	CARICOM Member States and Associate Members	Temporal coverage	1998 to 2014

Institution name and focal point	Common Market for Eastern and Southern Africa (COMESA) Mr. Themba Munalula, Head of Statistics Department, tmunalula@comesa.int				
Description of data collection	Several sets of data are collected. Some directly from the member countries (e.g. compendia) and some from reports, e.g. World Development Indicators.				
Periodicity of data collection	Most data are annually available.	Geographical coverage	Member countries	Temporal coverage	Varies
Outputs	Available at the COMSTAT Data Portal: http://comstat.comesa.int/				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	Convention on Biological Diversity (CBD) – www.cbd.int				
Description of data collection	National reports covering biodiversity status, trends, threats, implications for human well-being; National Biodiversity Strategy and Action Plan (NBSAP); progress towards 2015 and 2020 Aichi Biodiversity Targets, and contributions to relevant targets of the Millennium Development Goals. Data collection instrument available at: https://chm.cbd.int/#/				
Periodicity of data collection		Geographical coverage	Parties to the Convention	Temporal coverage	National reports (five since 1998)
Outputs	Available at: https://www.cbd.int/reports/nr5/				
Metadata (link)					
Methodological guidance used					

for data collection					
Data validation process					
Institution name and focal point	Convention on the Conservation of Migratory Species of Wild Animals (CMS) – http://www.cms.int/				
Description of data collection	National reports covering various species (e.g., birds, aquatic mammals, reptiles, fish, endangered migratory species), protected areas. Data collection instrument available at: http://www.cms.int/sites/default/files/publication/guide_cms_ors_e.pdf				
Periodicity of data collection		Geographical coverage	Parties to the Convention	Temporal coverage	National reports (latest 2014)
Outputs	Available at: http://www.cms.int/en/documents/national-reports?field_country_target_id_entityreference_filter=All				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) – http://www.cites.org				
Description of data collection	International wildlife trade topics including: international data on trade of wild flora and fauna, some legislative, regulatory and administrative measures to enforce the Convention. Data collection instrument available at: https://cites.org/eng/resources/reports.php				
Periodicity of data collection	Annual reports by parties to the Convention on trade. Biennial reports by parties to the Convention on legislative, regulatory and administrative measures.	Geographical coverage	Parties to the Convention	Temporal coverage	International wildlife trade data since 1975
Outputs	Various publications available at:				

	https://www.cites.org/eng/resources/publications.php Species database available at: http://checklist.cites.org/#/en International trade in species database available at: http://trade.cites.org/ Trade data dashboard available at: http://cites-dashboards.unep-wcmc.org/				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	The Convention on Wetlands of International Importance (The Ramsar Convention) – http://www.ramsar.org/				
Description of data collection	Information on protected wetland areas Topics include: wetland locations, area. Data collection instrument available at: https://rsis.ramsar.org/about				
Periodicity of data collection		Geographical coverage	Global (169 parties to the Convention)	Temporal coverage	From 1971 (came into force in 1975)
Outputs	Available at: http://www.ramsar.org/sites-countries/the-ramsar-sites				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	Economic Commission for Latin America and the Caribbean (ECLAC) www.cepal.org				
Description of data collection	No direct data collection from member countries, but collection of data from other international organization covering the following environmental aspects: physical conditions, land cover, ecosystems, biodiversity, energy resources, land, biological resources, water resources, emissions to air, natural extreme events and disasters, human settlements and environmental governance and regulation.				

Periodicity of data collection	Annual publication	Geographical coverage	Latin America and the Caribbean	Temporal coverage	Coverage depending on indicator
Outputs	Statistical Yearbook available at: http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/PublicacionesEstadisticas.asp?idioma=e Statistics and Indicators available at: http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/estadisticasIndicadores.asp?idioma=i				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	European Environment Agency (EEA) – http://www.eea.europa.eu				
Description of data collection	Several data collections and databases produced and maintained by the EEA and its European Topic Centres (ETCs). The thematic focus is on: air quality and climate change mitigation; water quality, groundwater, marine waters; nature protection and biodiversity; waste generation and treatment (http://www.eea.europa.eu/data-and-maps) land cover related products produced under Copernicus (http://land.copernicus.eu)				
Periodicity of data collection	Varies according to topic	Geographical coverage	European Union member states, European Free Trade Association (EFTA) countries, Western Balkan countries and Turkey	Temporal coverage	Varies according to topic
Outputs	Metadata based searches on spatial data available at: http://sdi.eea.europa.eu/catalogue Various data products available at: http://www.eea.europa.eu/data-and-maps As parts of indicators and publications through the EEA website available at: http://www.eea.europa.eu/data-and-maps/indicators/ and http://www.eea.europa.eu/publications				
Metadata (link)	Refer to outputs.				
Methodological guidance used for data collection	http://dd.eionet.europa.eu/				

Data validation process	Undertaken as part of the EEA common workspace.				
Institution name and focal point	Food and Agriculture Organization of the United Nations (FAO) – http://www.fao.org Mr. Pietro Gennari, FAO Chief Statistician, chief-statistician@fao.org				
Description of data collection	<p>FAO statistical databases (FAOSTAT) – online, multilingual (EN FR and ES) database system FAOSTAT</p> <p>Core Environmental Data Domains—with direct data collection from countries:</p> <p>Fertilizers Use (production, trade, agricultural use, other use)</p> <p>Pesticides Use (use and trade)</p> <p>Land Use, Irrigation and Agricultural Practices, comprising:</p> <ul style="list-style-type: none"> * land use data: Country area, land area, inland waters, coastal waters; agricultural Land (cropland, permanent meadows and pastures), forest land, other land * Irrigation data: area equipped for irrigation, area actually irrigated * agricultural practices data: area organic, area under protective cover, tillage * aquaculture and fisheries data: land, inland waters, coastal waters, used for aquaculture, capture fishing <p>Analytical Environmental Data Domains—derived from core statistics and geospatial data:</p> <p>Emissions, Agriculture and Emissions, Land Use</p> <p>Agri-environmental indicators, including:</p> <ul style="list-style-type: none"> * Air and climate change (data on Ammonia, GHG per sector, GHG Intensity, Temperature Change) * Energy (Bioenergy, share agriculture use) * Fertilizers and Pesticides (Average use per unit cropland) * Land Use (share of land use over total land area) * Land Cover (MODIS and ESA legends mapped on SEEA) * Livestock patterns (animal density per land area, animal percentage shares) * Soil and water (Erosion, degradation and withdrawals) <p>Data collection instrument available at: http://www.fao.org/economic/ess/ess-home/questionnaires/en/</p>				
Periodicity of data collection	Annual	Geographical coverage	Global	Temporal coverage	FAOSTAT: 1961-2014, data availability varies according to domain
Outputs	FAOSTAT available at: http://www.fao.org/faostat/en/#home				
Metadata (link)	<p>Fertilizers: http://fenixservices.fao.org/faostat/static/documents/RF/RF_e.pdf</p> <p>Pesticides: http://fenixservices.fao.org/faostat/static/documents/RP/RP_e_README_Domain_Information.pdf</p> <p>http://fenixservices.fao.org/faostat/static/documents/RP/RP_e_Country_Notes.pdf</p>				

	<p>Land Use: http://fenixservices.fao.org/faostat/static/documents/RL/RL_e.pdf Agri-environmental indicators http://fenixservices.fao.org/faostat/static/documents/LC/LC_e.pdf; http://fenixservices.fao.org/faostat/static/documents/EK/EK_e.pdf http://fenixservices.fao.org/faostat/static/documents/EM/EM_e.pdf http://fenixservices.fao.org/faostat/static/documents/EI/EI_e.pdf http://fenixservices.fao.org/faostat/static/documents/EF/EF_e.pdf http://fenixservices.fao.org/faostat/static/documents/EP/EP_e.pdf http://fenixservices.fao.org/faostat/static/documents/ET/ET_e.pdf Emissions_Agriculture: http://fenixservices.fao.org/faostat/static/documents/GT/GT_e.pdf Emissions_Land Use: http://fenixservices.fao.org/faostat/static/documents/GL/GL_e.pdf</p>
Methodological guidance for data collection	<p>FAOSTAT Definitions and Standards: http://www.fao.org/faostat/en/#definitions World Census of Agriculture 2020: http://www.fao.org/world-census-agriculture/en/ IPCC Guidelines: http://www.ipcc-nggip.iges.or.jp/public/2006gl/ SEEA Central Framework: https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf SEEA Agriculture Forestry and Fisheries: http://www.fao.org/economic/ess/environment/methodology/en/ FDES: https://unstats.un.org/unsd/envstats/fdes.cshhtml</p>
Data validation process	<p>Officially nominated FAOSTAT national correspondents and their teams are housed in Ministries of Agriculture, National Statistical Offices, or other relevant national agencies in member countries. They receive annual questionnaires and are responsible for collecting national data and reporting to FAO. FAOSTAT Teams receive data through questionnaires, check quality and identify possible outliers, gaps, based on automatic routines and expert judgement, including comparisons with and use of previous data published in FAOSTAT, and other independent data sources from national or international reports, yearbooks, etc. Country correspondents may be contacted for follow-up data analysis and are routinely engaged through workshops as well as through FAO Regional Committees on Agricultural Statistics. Internal QA/QC routines are applied to check for data consistency and data quality prior to dissemination. Methodologies are regularly updated as a function of new international work as well as a result of user feedback.</p>
Institution name and focal point	<p>Food and Agriculture Organization of the United Nations (FAO) – http://www.fao.org Mr. Pietro Gennari, FAO Chief Statistician, chief-statistician@fao.org</p>
Description of data collection	<p>Fishery and Aquaculture Statistics (FISHSTAT) Topics include: global fishery and aquaculture production, global aquaculture production, global capture production, global number of fishers and fish farmers, global fishery commodities production and trade, Global fleets, Global apparent consumption of fish and fishery products, CECAF Eastern Central Atlantic capture production, GFCM Mediterranean and Black Sea capture production, RECOFI Regional Commission for Fisheries capture production, Southeast Atlantic capture production, Atlas of tunas and billfish catches.</p>

Periodicity of data collection	Annual	Geographical coverage	Global and regional	Temporal coverage	Data from 1950, with availability varying according to domain.
Outputs	<p>General information: http://www.fao.org/fishery/statistics/en Online query panels: http://www.fao.org/fishery/topic/16140/en - FishstatJ: http://www.fao.org/fishery/statistics/software/fishstatj/en FAO Yearbook of fisheries and aquaculture: http://www.fao.org/fishery/statistics/yearbook/en</p>				
Metadata (link)	<p>Metadata information is available in the description of each dataset at: http://www.fao.org/fishery/statistics/en and in more detailed form in the notes of each datasets/sections included in FishstatJ and in the FAO Yearbook of Fishery and Aquaculture Statistics.</p>				
Methodological guidance used for data collection	<p>The concepts, definitions, classifications as applied to fishery and aquaculture statistics used by FAO have been agreed with other international agencies of the Coordinating Working Party on Fisheries Statistics (CWP) and are included in the CWP Handbook of Fishery Statistical Standards at: http://www.fao.org/fishery/cwp/search/en - FAO serves as Secretariat of CWP and more information on CWP is available at: http://www.fao.org/fishery/cwp/</p>				
Data validation process	<p>Officially nominated fishery and aquaculture national correspondents are housed in Ministries of Fishery and Aquaculture, National Statistical Offices, or other relevant national agencies in member countries. They are responsible for reporting national data to FAO through an annual questionnaire sent by FAO in May.</p> <p>The FAO Fishery and Aquaculture Department once received national data checks their quality and identifies possible outliers and gaps on the basis of automatic routines and expert judgement, including comparisons with data of previous years, other independent data sources from national or international reports, yearbooks, etc. Country correspondents may be contacted for follow-up data analysis and are routinely engaged through workshops, work done together with other regional organizations, etc.</p> <p>Internal QA/QC routines are applied to check for data consistency and data quality also prior to dissemination.</p> <p>Methodologies are regularly updated as a function of new international work, also within the Coordinating Working Party of Fishery Statistics, as well as a result of user feedback.</p>				
Institution name and focal point	<p>Food and Agriculture Organization of the United Nations (FAO) – http://www.fao.org Mr. Pietro Gennari, FAO Chief Statistician, chief-statistician@fao.org</p>				
Description of data collection	<p><u>FRA Global Forest Resources Assessment</u></p> <p>The most recent assessment FRA 2015 contains information for 234 countries and territories on more than 100 variables related to the extent of forests, characteristics, management, uses and values for five points in time: 1990, 2000, 2005, 2010 and 2015.</p> <p>All data are provided to FAO by countries in the form of a country report following a standard format, which includes the original data and reference sources and descriptions of how these have been used to estimate values for different points in time.</p>				

Periodicity of data collection	Data has been collected at 5 to 10 year intervals since 1946. Starting from 2018 dual update: A light annual update with mainly SDG-related variables and A full data set update every 5 years.	Geographical coverage	Global	Temporal coverage	Years: 1990, 2000, 2005, 2010 and 2015
Outputs	<p>The following outputs are available at: http://www.fao.org/forest-resources-assessment/current-assessment/en/</p> <p>FRA 2015 Desk Reference containing summary tables for most of the quantitative data collected through FRA 2015 in (six languages)</p> <p>FRA 2015 Synthesis assessment containing a summary of how forests, forest management and use have changed over the past 25 years (six languages)</p> <p>FRA 2015 country reports containing documentation of references and original data used for reporting (234 countries and territories)</p> <p>A special issue of the Journal Forest Ecology and Management containing thirteen peer-reviewed papers with more detailed analyses both based on FRA 2015 data and other data sources (English)</p> <p>Forest Land Use Data Explorer (FLUDE)</p> <p>Maps and figures</p> <p>Infographics</p> <p>SDG Indicators:</p> <p>15.1.1 Proportion of land area covered by forest</p> <p>15.2.1 Progress towards sustainable forest management.</p>				
Metadata (link)	<p>Terms and definitions: http://www.fao.org/docrep/017/ap862e/ap862e00.pdf</p>				
Methodological guidance used for data collection					
Data validation process	<p>Officially nominated national correspondents and their teams prepare the country reports for the assessment. Some prepare more than one report as they also report on dependent territories. For the remaining countries and territories where no information is provided, a report is prepared by FAO using existing information and a literature search.</p> <p>Once received, the country reports undergo a rigorous review process to ensure correct use of definitions and methodology as well as internal consistency. A comparison is made with past assessments and other existing data sources. Regular contacts between national correspondents and FAO staff by e-mail and regional/sub-regional review workshops form part of this</p>				

	review process. All country reports (including those prepared by FAO) are sent to the respective Head of Forestry for validation before finalization. The data are then aggregated at sub-regional, regional and global levels by the FRA team at FAO.				
Institution name and focal point	Food and Agriculture Organization of the United Nations (FAO) – http://www.fao.org Mr. Pietro Gennari, FAO Chief Statistician, chief-statistician@fao.org				
Description of data collection	AQUASTAT. Topics include: water resources, water uses, dams, irrigation and drainage, wastewater, institutional frame works.				
Periodicity of data collection	Dual update: A light annual update with SDG-related variables and A full data set update every 5 years.	Geographical coverage	Global	Temporal coverage	AQUASTAT: 1961-2015, data availability varies.
Outputs	AQUASTAT data available at: http://www.fao.org/nr/water/aquastat/main/index.stm MDG water indicator 7.5: http://mdgs.un.org/unsd/mdg/Data.aspx AQUASTAT profiles (147 country, 6 regions and 11 river basins): http://www.fao.org/nr/water/aquastat/countries_regions/index.stm				
Metadata (link)	Refers to the AQUASTAT glossary for definition of the variables included in the database: http://www.fao.org/nr/water/aquastat/data/glossary/search.html?lang=en Three levels of metadata (data-point, variable, database) are described at: http://www.fao.org/nr/water/aquastat/metadata/index.stm				
Methodological guidance used for data collection	International Recommendations for Water Statistics. Available at: https://unstats.un.org/unsd/envaccounting/irws/ The International Standard Industrial Classification of All Economic Activities, Rev. 4, available at: https://unstats.un.org/unsd/cr/registry/isic-4.asp World Programme for the Census of Agriculture 2020 (based on the CPC classification), available at: http://www.fao.org/3/a-i4913e.pdf				
Data validation process	AQUASTAT is currently moving from a data collection based on country surveys filled in by national consultants towards a data collection similar to the FAO global Forest Resources Assessment (FRA, see above) based on officially nominated national correspondents. Manual and automated cross-checking is made within time-series, between variables, with neighbouring countries and other existing data sources. Regular contacts between national correspondents and FAO staff form part of the validation process and ensure country endorsement.				
Institution name and focal point	International Energy Agency (IEA) – http://www.iea.org/				

Description of data collection	<p>1) Energy statistics Energy supply and demand data by energy source. Topics include: Energy flows by fuel type, according to the International Recommendations for Energy Statistics (IRES)</p> <p>2) CO₂ estimations based on energy balances and IPCC Guidelines Data collection instrument available at: http://www.iea.org/statistics/resources/questionnaires/</p> <p>3) Energy efficiency indicators End use data by energy type (IEA Member only)</p>				
Periodicity of data collection	Annual	Geographical coverage	Global – 29 member states (separately)	Temporal coverage	Varies, founded in 1974
Outputs	<p>World Energy Balances available at: http://www.iea.org/statistics/ and CO₂ emissions available at: http://www.iea.org/statistics/topics/CO2emissions/ Energy efficiency indicators: https://www.iea.org/publications/freepublications/publication/energy-efficiency-indicators-highlights-2017.html</p>				
Metadata (link)	<p>http://wds.iea.org/wds/pdf/WORLDBAL_Documentation.pdf http://wds.iea.org/wds/pdf/Worldco2_Documentation.pdf</p>				
Methodological guidance used for data collection	<p>The International Recommendations for Energy Statistics https://unstats.un.org/unsd/energy/ires/default.htm Energy Efficiency Indicators: Fundamentals on Statistics http://www.iea.org/publications/freepublications/publication/energy-efficiency-indicators-fundamentals-on-statistics---.html IPCC Guidelines for GHG Inventories https://www.ipcc-nggip.iges.or.jp/public/2006gl/ The International Standard Industrial Classification of All Economic Activities, Rev. 4, available at: https://unstats.un.org/unsd/cr/registry/isc-4.asp</p>				
Data validation process	Data are validated through direct contact with national data sources.				
Institution name and focal point	International Union for Conservation of Nature (IUCN) – http://www.iucn.org				
Description of data collection	<p>IUCN Red List of threatened species Topics covered: numbers of threatened species by major groups of organisms, changes in numbers of species in threatened categories, number of animal and plant species in each Red List category in each taxonomic class, number of species in each Red List category in each major animal and plant taxonomic group, number of threatened species in each major group of organisms in each country, number of extinct, threatened and other species of animals and plants in each Red List category in each country. Data collection instrument available at: http://www.iucnredlist.org/technical-documents/assessment-process</p>				

Periodicity of data collection		Geographical coverage	Global	Temporal coverage	Several IUCN Red list versions released since 1991
Outputs	Available at: http://www.iucnredlist.org/about/summary-statistics#Tables_1_2 Key documents available at: http://www.iucnredlist.org/technical-documents				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	Organization for Economic Cooperation and Development (OECD) – http://www.oecd.org Ms. Myriam Linster, myriam.linster@oecd.org				
Description of data collection	<p>System of Information on Resources and the Environment</p> <p>OECD Questionnaire on the State of the environment includes: air (emissions, quality for urban and national), inland waters (resources, abstractions, supply, waste-water treatment, pollutant discharges, river and lake water quality), marine environment (pollutant discharges, coastal and marine water quality), land (land use and conversions, soil erosion), forest (forest area, forest cover, forest resource use, forest ownership, growing stock), wildlife (species and population status), waste (generation, management, treatment and disposal, municipal and household waste, industrial waste, hazardous waste), noise (exposed population by noise level), environmental expenditure and revenues (public, business, household sectors).</p> <p>Environmental reference data are collected through the Annual Quality Assurance, which includes: air pollutants and GHG emissions (by source), freshwater resources (stocks and abstractions), water quality (population connected to wastewater treatment), forest resources (depletion and growth), biodiversity and wildlife resources (threatened species), and waste and materials (municipal waste generation and treatment).</p> <p>Data collection instrument available at: http://www.oecd.org/statistics/data-collection/environment.htm</p> <p>Collaboration with Eurostat, the EEA, UNSD, UNEP, FAO, UNEP, UNECE, Basel convention and other convention secretariats on relevant topics.</p>				
Periodicity of data collection	Varies. Environmental reference data are collected annually Core tables of the questionnaire are	Geographical coverage	OECD member countries, OECD accession countries, and OECD partner countries.	Temporal coverage	Varies. Most variables have annual time series since 1980 or 1990. Some variables have time series since

	collected every two years. Other tables of the questionnaire are on an ad-hoc basis.				1950 or for 5 or 10 year intervals.
Outputs	<p>OECD Environmental Indicators (since 1991). OECD environment database on OECD.stat and on iLibrary: http://www.oecd-ilibrary.org/environment/data/oecd-environment-statistics_env-data-en OECD Environment at a Glance publication: http://www.oecd.org/environment/indicators-modelling-outlooks/environment-at-a-glance-19964064.htm Selected environmental data are also available in the OECD Green Growth indicators database: http://www.oecd-ilibrary.org/environment/data/oecd-environment-statistics/green-growth-indicators_data-00665-en?isPartOf=/content/datacollection/env-data-en OECD Environmental Performance Reviews: http://www.oecd.org/environment/country-reviews/</p>				
Metadata (link)	Metadata for relevant topics are available in each dataset.				
Methodological guidance used for data collection	Methodological guidance for relevant topics are included in each questionnaire section.				
Data validation process	<p>A first treatment and validation of replies is done by the OECD. Clarifications of remaining quality issues is done with countries. Consultation with countries for data included in OECD publications.</p>				
Institution name and focal point	Statistical Office of the European Union (EUROSTAT) – http://ec.europa.eu/eurostat Mr. Arturo de la Fuente, deputy head unit E2, arturo.de-la-fuente@ec.europa.eu				
Description of data collection	<p>Waste statistics (WStatR) (obligatory). Waste generation and waste treatment by categories and industries Municipal waste (voluntary). Generation, incineration, recycling, composting and landfilling Packaging waste (obligatory) Waste on electrical & electronic equipment (obligatory) End-of-life vehicles (obligatory) Target monitoring Waste Framework Directive (WFD) (obligatory). Construction and demolition waste; waste from households Waste shipments (obligatory). Shipment of hazardous waste and notified waste Batteries (obligatory)</p>				
Periodicity of data collection	Waste: Every second year. Municipal waste: Annual.	Geographical coverage	EU Member States, European Free Trade	Temporal coverage	Waste: Data since 2004 Municipal waste: Data since 2000

	Packaging: Annual. WEEE: Annual. Vehicles: Annual.		Association (EFTA) and accession countries.		Packaging: Data since 1997 WEEE: Data since 2005 Vehicles: Since 2005 Batteries: 2013
Outputs	Available at: http://ec.europa.eu/eurostat/data/database and http://ec.europa.eu/eurostat/web/environment/statistics-illustrated				
Metadata (link)	See the data tree in the database link for Outputs and refer to the little icon, "M" for metadata.				
Methodological guidance used for data collection	Methodologies, handbooks, questionnaires, etc. Available at: http://ec.europa.eu/eurostat/web/environment/methodology				
Data validation process					
Institution name and focal point	Statistical Office of the European Union (EUROSTAT) – http://ec.europa.eu/eurostat				
Description of data collection	SEEA: Environmental taxes accounts (obligatory). Includes taxes broken down by type and activity of emitter SEEA: Air emissions accounts (obligatory). Breakdowns by type of greenhouse gas and pollutant and by activity of emitter. SEEA: Material flow accounts (obligatory). Breakdowns by product. Several variables including Domestic Material Consumption (DMC), Domestic Material Input (DMI), external trade. SEEA: Environmental protection expenditure account (obligatory since 2017; voluntary previous years). Consumption, investment, production and other variables. Breakdowns by institutional sector and Classification for Environmental Protection Activities (CEPA)/Classification of Resource Management Activities (CReMA). SEEA: Environmental goods and services sector account (obligatory since 2017; voluntary previous years): Value added, output, employment, exports of the environmental sector. Breakdowns by industry and CEPA/CReMA. SEEA: Physical energy flow accounts (obligatory since 2017; voluntary previous years). Breakdowns by type of energy product and industry. SEEA: Environmental subsidies and other transfers (voluntary) Data collection instrument available at: http://ec.europa.eu/eurostat/web/environment/methodology				
Periodicity of data collection	Annual	Geographical coverage	EU Member States, EFTA and accession countries.	Temporal coverage	Taxes: since 1995 AEA: some data since 1995. Complete coverage since 2008

					MFA: since 2000 EPEA: since 2001 EGSS: since 2000 PEFA: not published yet Pilot subsidies: not published yet
Outputs	Available at: http://ec.europa.eu/eurostat/data/database and http://ec.europa.eu/eurostat/web/environment/statistics-illustrated				
Metadata (link)	See the data tree in the database link for Outputs and refer to the little icon, "M" for metadata.				
Methodological guidance used for data collection	Methodologies, handbooks, questionnaires, etc. Available at: http://ec.europa.eu/eurostat/web/environment/methodology				
Data validation process					
Institution name and focal point	Statistical Office of the European Union (EUROSTAT) – http://ec.europa.eu/eurostat Mr. Arturo de la Fuente, deputy head unit E2, arturo.de-la-fuente@ec.europa.eu				
Description of data collection	Joint OECD/EUROSTAT Questionnaire on the State of the Environment – Inland Waters (every second year and voluntary). Includes: water resources, abstractions, use, generation and discharge of pollution, wastewater treatment. Joint Forest Sector Questionnaire, with UNECE, FAO and International Tropical Timber Organization (ITTO) (annual and voluntary): annual production and trade in wood products Integrated Environmental and Economic Accounting for Forests (IEEAF) annual economic accounts for forestry and logging, under review for extension to physical forest data (collected every second year). Data collection instrument available at: http://www.fao.org/forestry/statistics/80572/en/ Common Bird Indices produced by European Bird Census Council (EBCC); sufficiency of sites protected under the EU Habitats Directive, produced by the EC's environmental department.				
Periodicity of data collection	Inland waters: Every second year. Forests: Annual Bird indices: Annual data for some countries.	Geographical coverage	EU Member States, EFTA and accession countries.	Temporal coverage	Inland waters: data for some countries since 1970. Forests: Data from 1988. Birds indices: Common bird index. Since 1966.

Outputs	Forestry data: http://ec.europa.eu/eurostat/data/database				
Metadata (link)	See the data tree in the database link for Outputs and refer to the little icon, "M" for metadata.				
Methodological guidance used for data collection	Methodologies, handbooks, questionnaires, etc. Available at: http://ec.europa.eu/eurostat/web/environment/methodology				
Data validation process					
Institution name and focal point	Stockholm Convention on Persistent Organic Pollutants (POPs) – http://chm.pops.int/default.aspx Ms. Carla Valle-Klann, Scientific Support Branch, carla.valle@unep.org				
Description of data collection	Qualitative information on legislative and regulatory measures to enforce the Convention and quantitative data on production, import and export of the chemicals listed in Annex A and B or a reasonable estimate of such data. Data collection instrument available at: http://chm.pops.int/Countries/Reporting/ElectronicReportingSystem/tabid/3669/Default.aspx				
Periodicity of data collection	Defined by the Conference of the Parties (every 4 years)	Geographical coverage	Parties to the Convention	Temporal coverage	Data from 2006, 2010, and 2014.
Outputs	Available at: http://chm.pops.int/Countries/Reporting/NationalReports/tabid/3668/Default.aspx				
Metadata (link)	Available at: https://unstats.un.org/sdgs/metadata/files/Metadata-12-04-01.pdf				
Methodological guidance used for data collection	Guidance: http://chm.pops.int/Countries/Reporting/Guidance/tabid/3670/Default.aspx as well as guidance on technical issues: http://chm.pops.int/Implementation/NationalImplementationPlans/Guidance/tabid/2882/Default.aspx				
Data validation process	The reports are submitted by the focal points to the Secretariat.				
Institution name and focal point	United Nations Children’s Fund (UNICEF) – http://www.unicef.org/				
Description of data collection	WHO-UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (see also WHO)				
Periodicity of data collection	Varies. Some data available annually	Geographical coverage	Global	Temporal coverage	

Outputs	Available at: http://www.wssinfo.org/ MDG water and sanitation indicators 7.8 and 7.9: http://mdgs.un.org/unsd/mdg/Data.aspx				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) http://www.unescap.org/ Mr. Eric Hermouet, hermouete.unescap@un.org				
Description of data collection	Compilation of data from international organizations covering a wide range of development issues, and calculation of aggregates (sub-regionally and for a variety of country groupings). Regarding environment, indicators compiled are related to the following topics: disasters; greenhouse gases, biodiversity (protected areas, forests), energy, water, air emissions, and resources use (material footprint).				
Periodicity of data collection	Compilation: Depending on data sources; Publication: online twice a year	Geographical coverage	ESCAP 58 regional members and associate member states	Temporal coverage	1990 to most recent year if data available from source
Outputs	<p>ESCAP Online Statistical Database: http://data.unescap.org/escap_stat/ This is the central statistical database of ESCAP. The following series of products are derived fully or partly from this resource.</p> <p>ESCAP Statistical Yearbook for Asia and the Pacific: http://www.unescap.org/publications/statistical-yearbook-asiaand-pacific-2016-sdg-baseline-report</p> <p>ESCAP/ADB/UNDP SDG Regional Partnership Knowledge Platform: http://sdgasiapacific.net/</p> <p>ESCAP Environment Statistics Resource Platform: http://communities.unescap.org/environment-statistics. The platform contains links to ESCAP activities related to environment statistics and a collection of outputs from these activities including country self-assessments. It also contains the tools and self-learning materials on FDES, SEEA-CF and SEEA-EEA, that ESCAP is using to strengthen environment statistics in Asia and the Pacific.</p> <p>ESCAP Resource platform on disaster-related statistics: http://communities.unescap.org/asia-pacific-expert-group-disaster-related-statistics</p> <p>ESCAP Asia-Pacific Energy Portal: http://asiapacificenergy.org/#en</p>				
Metadata (link)	For methods and definitions, see: http://data.unescap.org/escap_stat/#methodDefinition				

Methodological guidance used for data collection	See link provided for “Metadata”				
Data validation process	See link provided for “Metadata”				
Institution name and focal point	United Nations Economic Commission for Europe (UNECE) – http://www.unece.org/ Mr. Michael Nagy, michael.nagy@unece.org; Ms. Christine Kitzler, christine.kitzler@unece.org				
Description of data collection	Core set of 18 indicators from the <i>UNECE Guidelines for Environmental Indicators</i> to support the establishment of the pan-European Shared Environmental Information System (SEIS) in cooperation with the European Environment Agency. The data are not collected by an international organization but should be made available on national websites in a standard format.				
Periodicity of data collection	Annual figures, updated annually	Geographical coverage	Eastern Europe, Caucasus and Central Asia and South-East Europe	Temporal coverage	Start of data series varies.
Outputs	In development, data available on national websites More information available at: http://www.unece.org/env/indicators.html				
Metadata (link)	http://www.unece.org/env/indicators.htm				
Methodological guidance used for data collection	Documents for each data set can be found on http://www.unece.org/env/indicators.html Main reference: FDES (https://unstats.un.org/unsd/environment/fdes/FDES-2015-supporting-tools/FDES.pdf)				
Data validation process	Data validation is the responsibility of the countries. There is currently no data validation process carried out by UNECE. However, quality of selected data sets is reviewed and discussed at the meetings or the Joint Task Force on Environmental Statistics and Indicators.				
Institution name and focal point	United Nations Convention to Combat Desertification (UNCCD) – http://www.unccd.int/en/Pages/default.aspx				
Description of data collection	National reports covering Performance indicators (e.g., advocacy, awareness raising and education, policy framework) and progress indicators (e.g., land cover, land productivity, carbon stocks). Data collection instrument available at: http://www.unccd.int/en/programmes/Reporting-review-and-assessment/PRAIS/Pages/defaultnew.aspx				
Periodicity of data collection	Varies. Data on performance indicators every 2 years. Data on	Geographical coverage	Parties to the convention	Temporal coverage	Varies. From 1999 to 2010 narrative reports with limited

	progress indicators every 4 years.				quantitative information. From 2010 onward, data on performance indicators. Data on progress indicators are expected to be reported starting in 2018.
Outputs	Reports submitted to the Conference of the Parties (COP) and the Committee for the Review of the Implementation of the Convention (CRIC) available at: http://www.unccd.int/en/programmes/Reporting-review-and-assessment/Reports/Pages/default.aspx				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	United Nations Environment Programme Global Environment Monitoring System for Water (GEMS/Water) – http://gemstat.org/about/#gemstat				
Description of data collection	GEMS/Water. Available at: http://gemstat.org/data/data-submission/ Topics include: water quality data of ground and surface waters.				
Periodicity of data collection		Geographical coverage		Temporal coverage	
Outputs	Aggregated statistics of water quality data: http://gemstat.org/data/statistic-reports/				
Metadata (link)					
Methodological guidance used for data collection					

Data validation process					
Institution name and focal point	United Nations Environment Programme (UNEP)-Ozone Secretariat – http://ozone.unep.org Mr. Gerald Mutisya, Programme Officer, gerald.mutisya@unep.org				
Description of data collection	Data collected includes: production, imports, exports and destruction of ozone depleting substances (ODSs), both virgin and recovered. Data published includes calculated production and consumption. Data collection instrument available at: http://ozone.unep.org/en/data-reporting/data-reporting-and-tools				
Periodicity of data collection	Annual.	Geographical coverage	Global	Temporal coverage	Data from 1986 and 1989 to present. Data availability varies by indicator.
Outputs	Available at: http://ozone.unep.org/en/data-reporting/data-centre MDG ODSs indicator 7.3: http://mdgs.un.org/unsd/mdg/Data.aspx				
Metadata (link)	http://mdgs.un.org/unsd/mdg/Metadata.aspx Goal: Goal 7. Ensure environmental sustainability Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. Series: Consumption of all Ozone-Depleting Substances in ODP metric tons.				
Methodological guidance used for data collection	http://ozone.unep.org/en/handbook-montreal-protocol-substances-deplete-ozone-layer/760 and http://ozone.unep.org/pdfs/Handbook-on-Data-Report-from-UNEP-TIE.pdf				
Data validation process	None.				
Institution name and focal point	United Nations Environment Programme (UNEP)-World Conservation Monitoring Centre (WCMC) – http://www.unep-wcmc.org/				
Description of data collection					
Periodicity of data collection		Geographical coverage	Global	Temporal coverage	Data available for 1990, 2000 and 2014
Outputs	Available at: http://www.protectedplanet.net/ MDG protected area indicator 7.6: http://mdgs.un.org/unsd/mdg/Data.aspx				

Metadata (link)					
Methodological guidance used for data collection					
Data validation process					
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Ms. Naziha Degroote, UNFCCC Secretariat, ndegroote@unfccc.int 				
Description of data collection	Country level data on greenhouse gases (GHG) and their precursors, including emissions of direct greenhouse gases (CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃) and of some other gases (CO, NO _x , NMVOCs, SO _x) and the related activity data used for the assessment of greenhouse gas emissions, such as relevant energy balance data, industrial statistics, etc.				
Periodicity of data collection	Annual for Annex I Parties; periodic (2-4 years) for non-Annex I Parties.	Geographical coverage	All Parties to the Convention, with the level of detail differing between Annex I Parties (mostly developed countries) and non-Annex I Parties (mostly developing countries).	Temporal coverage	Varies: for Annex I Parties, usually from 1990 to the latest available year; for non-Annex I Parties, data for selected individual years are usually available rather than full time series.
Outputs	Available at: http://unfccc.int/ghg_data/items/3800.php				
Metadata (link)	Metadata are usually part of the relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/annex_i_ghg_inventories/items/2715.php (Annex I Parties) and http://unfccc.int/national_reports/non-annex_i_natcom/guidelines_and_user_manual/items/2607.php (non-Annex I Parties).				
Methodological guidance used for data collection	Guidance from the Intergovernmental Panel on Climate Change (IPCC), transformed, as appropriate, into the form of UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/annex_i_ghg_inventories/items/2715.php (Annex I Parties) and http://unfccc.int/national_reports/non-annex_i_natcom/guidelines_and_user_manual/items/2607.php (non-Annex I Parties).				
Data validation process	Data are validated through relevant national procedures and the review/analysis processes established under the UNFCCC (related procedures and other relevant information is available at				

	http://unfccc.int/national_reports/annex_i_ghg_inventories/review_process/items/2762.php and http://unfccc.int/national_reports/non-annex_i_parties/ica/technical_support_for_the_ica_process/items/10345.php).				
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Ruta Bubniene, UNFCCC Secretariat, rbubniene@unfccc.int				
Description of data collection	Country level data on GHG mitigation actions and climate related finance, technology and capacity building support; data are collected through national communications and 'Biennial Reports and their common tabular format (from developed countries); the data collection instrument available at: http://unfccc.int/national_reports/items/1408.php				
Periodicity of data collection	Usually 4 years for national communication since about 1994 and 2 years for biennial reports since 2014.	Geographical coverage	Developed countries (Annex I Parties to the Convention)	Temporal coverage	For Annex I Parties, GHG emission trends usually from 1990 to the latest available year; for other data the update for 4 (for national communication) or 2 (for biennial reports) years since the previous submission.
Outputs	http://unfccc.int/national_reports/national_communications_and_biennial_reports/items/10267.php				
Metadata (link)	Metadata are usually part of the relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/10268.php (Annex I Parties).				
Methodological guidance used for data collection	The relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/10268.php				
Data validation process	Data are validated through the relevant national procedures and, through the review process established under the UNFCCC (related procedures and other relevant information is available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/reviews/items/10269.php).				
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Claudio Former, UNFCCC Secretariat, cformer@unfccc.int				

Description of data collection	Country level data on nationally determined contributions (NDCs) (every 5 years). including adaptation components (as a component of or in conjunction with other communications or documents, including a national adaptation plan, a nationally determined contribution as referred to in Article 4, paragraph 2, and/or a national communication); long-term low greenhouse gas emission development strategies; Data collection instruments available at: http://unfccc.int/focus/items/10240.php http://unfccc.int/focus/long-term_strategies/items/9971.php				
Periodicity of data collection	Determined by each Party (no standardized guidelines on that matter have been adopted so far).	Geographical coverage	All Parties to the Paris Agreement	Temporal coverage	Determined by each Party individually (no standardized guidelines on that matter have been adopted so far).
Outputs	Available at http://www4.unfccc.int/ndcregistry/Pages/Home.aspx				
Metadata (link)	Determined by each Party individually (no standardized guidelines on that matter have been adopted so far).				
Methodological guidance used for data collection	Determined by each Party individually (no standardized guidelines on that matter have been adopted so far).				
Data validation process	Determined by each Party individually (no standardized guidelines on that matter have been adopted so far).				
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Xuehong Wang, UNFCCC Secretariat, xwang@unfccc.int				
Description of data collection	Country level data on GHG mitigation actions and climate related finance, technology and capacity building needs; data are collected through Biennial Update Reports (from developing countries), < http://unfccc.int/8722.php >				
Periodicity of data collection	Usually 2 years; for developing (non-Annex I) Parties the periodicity depends on the availability of the related support.	Geographical coverage	Developing countries (non-Annex I Parties to the Convention).	Temporal coverage	For non-Annex I Parties, data for selected individual years are usually available rather than full time series.
Outputs	http://unfccc.int/national_reports/non-annex_i_natcom/reporting_on_climate_change/items/8722.php				

Metadata (link)	Metadata are usually part of the relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/non-annex_i_natcom/guidelines_and_user_manual/items/2607.php				
Methodological guidance used for data collection	The relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/non-annex_i_natcom/guidelines_and_user_manual/items/2607.php (non-Annex I Parties).				
Data validation process	Data are validated through the relevant national procedures, if available, and, through the technical analysis process established under the UNFCCC, http://unfccc.int/national_reports/non-annex_i_parties/ica/technical_support_for_the_ica_process/items/10345.php				
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Ms. Livia Hollins, UNFCCC Secretariat, lhollins@unfccc.int				
Description of data collection	Adaptation-specific information: - National adaptation plans (ongoing) < http://unfccc.int/6057.php >; - National adaptation programmes of action < http://unfccc.int/7567.php >; - National Adaptation Plans (NAP) annual progress reports, as reported to UNFCCC Subsidiary Bodies/COP and databases that can be found on NAP central, including a database of policies < http://www4.unfccc.int/nap >; - An overview of adaptation information is available at: http://unfccc.int/resource/docs/2017/tp/07.pdf				
Periodicity of data collection	Varying (depending on the priorities and capabilities of the Parties).	Geographical coverage	Developing (non-Annex I) Parties.	Temporal coverage	Varying (depending on the priorities and capabilities of the Parties).
Outputs	Available, for each group of data, at: - < http://unfccc.int/6057.php >; - < http://unfccc.int/7567.php >; - < http://www4.unfccc.int/nap >; - < http://unfccc.int/resource/docs/2017/tp/07.pdf >				
Metadata (link)	Refer to links for “Outputs”				
Methodological guidance used for data collection	Refer to links for “Outputs”				

Data validation process	National validation procedures only; no specific validation process has been established at the UNFCCC level.				
Institution name and focal point	United Nations Framework Convention on Climate Change (UNFCCC) – http://unfccc.int/2860.php and http://newsroom.unfccc.int/ Mr. Alejandro Kilpatrick, UNFCCC Secretariat, akilpatrick@unfccc.int				
Description of data collection	Finance-specific information: - climate finance data (compiled) available in the biennial assessment report available at: http://unfccc.int/cooperation_and_support/financial_mechanism/items/2807.php ; http://unfccc.int/files/cooperation_and_support/financial_mechanism/standing_committee/application/pdf/2016_ba_technical_report.pdf , - data collected through the common tabular format http://unfccc.int/resource/docs/2012/cop18/eng/I12.pdf				
Periodicity of data collection	Biennially	Geographical coverage	Developed (Annex I) Parties.	Temporal coverage	Usually from 1990 to the latest available year.
Outputs	Available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/7550.php				
Metadata (link)	Metadata are usually part of the relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/10268.php (Annex I Parties).				
Methodological guidance used for data collection	The relevant UNFCCC reporting guidelines, available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/submissions/items/10268.php (Annex I Parties).				
Data validation process	Data are validated through relevant national procedures and the review/analysis processes established under the UNFCCC (related procedures and other relevant information is available at http://unfccc.int/national_reports/national_communications_and_biennial_reports/reviews/items/10269.php).				
Institution name and focal point	UN-Habitat - https://unhabitat.org/ Mr. Robert P Ndugwa, Chief/Head, Global Urban Observatory Unit, robert.ndugwa@un.org				
Description of data collection	Country (urban/rural) and city level data available on selected number of environmental related indicators such as access to water, sanitation, garbage collection, etc. Many of these indicators are collected as part of the city prosperity initiative. http://cpi.unhabitat.org .				
Periodicity of data collection	Updates annually	Geographical coverage	Global, city/urban levels	Temporal coverage	1990 to 2015

Outputs	http://cpi.unhabitat.org/ ; https://unhabitat.org/urban-knowledge/guo/				
Metadata (link)	Refer to links given for “Outputs”.				
Methodological guidance used for data collection	Based on international standards set by the various indicators. Refer to links given for “Outputs”.				
Data validation process	We carry out extensive data validation through workshops and peer reviews.				
Institution name and focal point	United Nations Statistics Division (UNSD) – https://unstats.un.org/home/ Ms. Reena Shah, Chief, Environment Statistics Section, shahr@un.org				
Description of data collection	UNSD/UNEP Questionnaire on Environment Statistics. waste: the share of economic activities and households in the generation of waste, the generation and treatment of hazardous waste, and the generation, collection, treatment and composition of municipal waste. water: renewable freshwater resources, freshwater abstraction and use, the water supply industry (ISIC 36), wastewater generation and treatment, and population connected to wastewater treatment. Data collection instrument available at: http://unstats.un.org/unsd/environment/questionnaire.htm				
Periodicity of data collection	Biennial	Geographical coverage	For waste and water: Global (excluding respondents of Joint OECD/EUROSTAT Questionnaire on the State of the Environment) For energy: Global (excluding OECD member states)	Temporal coverage	Varies (e.g. water and waste from 1990 to 2015)
Outputs	Available at: http://data.un.org/ Available at: http://unstats.un.org/unsd/ENVIRONMENT/qindicators.htm Available at: https://unstats.un.org/unsd/envstats/country_files Available at: https://unstats.un.org/unsd/envstats/country_snapshots.cshtml				
Metadata (link)	Refer to the "List of Definitions" in each of the Water and Waste sections of the UNSD/UNEP Questionnaire on Environment Statistics. Available at: https://unstats.un.org/unsd/envstats/questionnaire				
Methodological guidance used	International Recommendations for Water Statistics. Available at: https://unstats.un.org/unsd/envaccounting/irws/ The Basel Convention. Available at:				

for data collection	http://www.basel.int/TheConvention/Overview/TextoftheConvention/tabid/1275/Default.aspx The International Standard Industrial Classification of All Economic Activities, Rev. 4, available at: https://unstats.un.org/unsd/cr/registry/isic-4.asp				
Data validation process	To promote data quality assurance UNSD carries out extensive data validation procedures that include built-in automated procedures, manual checks and cross-references to national sources of data. Communication is carried out with countries for clarification and validation of data. UNSD does not make any estimation or imputation for missing values so the number of data points provided are actual country data. Only data that are considered accurate or those confirmed by countries during the validation process are included in UNSD's environment statistics database and disseminated on UNSD's website.				
Institution name and focal point	United Nations Statistics Division (UNSD) – https://unstats.un.org/home/ Leonardo R Souza, Industrial and Energy Statistics Section, energy_stat@un.org				
Description of data collection	Topics include: production, trade and final consumption of primary and secondary energy products from renewable and non-renewable energy sources. Data collection instrument available at: http://unstats.un.org/unsd/energy/quest.htm				
Periodicity of data collection	Annual	Geographical coverage	Worldwide, including 229 countries and areas. Data for OECD and EU countries collected through the IEA questionnaire.	Temporal coverage	6 years, with possibility of historic revisions.
Outputs	Energy Statistics Yearbook: http://unstats.un.org/unsd/energy/yearbook/ Energy Balances: http://unstats.un.org/unsd/energy/balance/ Electricity Profiles: http://unstats.un.org/unsd/energy/Eprofiles/ UN Energy Statistics Database: http://data.un.org/Explorer.aspx?d=EDATA				
Metadata (link)	https://unstats.un.org/unsd/energy/Energy-Questionnaire-Guidelines.pdf				
Methodological guidance used for data collection	International Recommendations for Energy Statistics (IRES): https://unstats.un.org/unsd/energy/ires/default.htm Energy Statistics Compilers Manual (ESCM): https://unstats.un.org/unsd/energy/ESCM.htm				

Data validation process	On a first level, data are analysed for completeness and time series changes. On a second level, the balance between supply and use, as well as types of use and break downs, is assessed for each product. On a third level, interrelationships between data for different products and flows are looked at and validated. This includes conversion efficiencies by comparing inputs and outputs of transformation (refineries, power plants, coke ovens, briquetting plants, charcoal plants, blast furnaces, gas-to-liquid plants, etc), utilization (production <i>vis à vis</i> capacity), balances of inter-product transfers, among others. On the most aggregated level, the supply is analysed as a time series. All of this is implemented through a set of macros and rules that highlight values that seem out of range. Changes are carried out in communication with countries, but imputations are made where necessary, in order to be able to calculate world totals.				
Institution name and focal point	World Health Organization (WHO) – http://www.who.int Mr. Rifat Hossain, hossainr@who.int or gho_info@who.int				
Description of data collection	Over 5000 data sources including the UNICEF Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS) and Living Standard Measurement Study (LSMS). For information, see: https://washdata.org/monitoring/methods/data-sources . UN-Water Global Analysis and Assessment of Sanitation and Drinking-water (GLAAS) website: http://www.who.int/water_sanitation_health/monitoring/investments/glaas/en/				
Periodicity of data collection	Some data available annually.	Geographical coverage	Global	Temporal coverage	Varies.
Outputs	WHO/UNICEF Joint Monitoring Programme (JMP) is the custodian of global data on drinking water, sanitation and hygiene (WASH). https://washdata.org/data Global Health Observatory (GHO) data, available at: http://www.who.int/gho/en/				
Metadata (link)	Application of Statistical Data and Metadata eXchange - Health Domain (SDMX-HD) for GHO data. See: http://www.who.int/gho/indicator_registry/en/				
Methodological guidance used for data collection	Estimation methods are detailed here: https://washdata.org/monitoring/methods				
Data validation process	Before publishing any country estimates, a mandatory country consultation exercise that runs for 6-8 weeks is undertaken. During this time countries can react to underlying data, metadata, definitions as well as resulting estimates. WHO publishes country estimates once these consultations are complete and what is agreed between the countries and WHO. This consultation exercise involves six WHO regional and country offices around the world, who coordinate these consultations in the countries.				

Institution name and focal point	World Heritage Convention – http://whc.unesco.org/en/convention/				
Description of data collection	Application of the World Heritage Convention including state of conservation of its World Heritage properties. Data collection instrument available at: http://whc.unesco.org/en/pr-questionnaire/				
Periodicity of data collection	Sexennially (two reports to date (2000-2006 cycle; 2008-2015 cycle)	Geographical coverage	Parties to the Convention	Temporal coverage	
Outputs	Available at: http://whc.unesco.org/en/periodicreporting/				
Metadata (link)					
Methodological guidance used for data collection					
Data validation process					



Annex A

Count of responses by variable and year to the UNSD/UNEP Questionnaire on Environment Statistics¹¹

i) Waste section

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Table R1: Generation of Waste by Source													
Agriculture, forestry and fishing (ISIC 01-03)	10	13	14	15	18	20	18	17	20	19	18	16	15
Mining and quarrying (ISIC 05-09)	10	12	12	12	12	12	11	13	14	16	11	13	12
Manufacturing (ISIC 10-33)	17	19	18	20	21	26	21	23	23	26	23	25	20
Electricity, gas, steam and air conditioning supply (ISIC 35)	9	11	10	11	10	14	13	12	12	14	10	13	11
Construction (ISIC 41-43)	18	22	23	24	25	26	24	23	26	27	23	24	21
Other economic activities excluding ISIC 38	19	21	22	22	20	21	18	21	23	24	21	23	19
Households	29	31	33	31	34	34	34	31	36	36	31	31	29
Total waste generation	23	25	28	30	31	33	32	32	35	36	33	32	29
Table R2: Management of Hazardous Waste													
Stock of hazardous waste at the beginning of the year	5	9	10	10	12	12	10	12	12	13	12	11	11
Hazardous waste generated during the year	29	33	33	37	40	41	35	36	34	35	33	35	31
Hazardous waste imported during the year	19	21	22	22	22	23	22	20	20	24	19	20	17
Hazardous waste exported during the year	19	21	23	24	25	25	24	23	24	31	27	27	25
Hazardous waste treated or disposed of during the year	23	28	28	27	28	30	27	32	26	28	30	25	25
<i>Amounts going to:</i> Recycling	15	21	22	20	23	27	23	26	25	26	27	25	26

¹¹ There are some cases where figures within Annex A do not agree with figures in section C of the the Report of the Secretary-General on Environment Statistics. This is because in the weeks between finalisation of that report and compilation of this background document, more country replies were received.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Incineration	16	23	23	22	26	27	21	26	23	25	26	22	24
<i>of which: with energy recovery</i>	3	4	4	4	5	8	5	12	7	11	13	9	9
Landfilling	18	23	25	23	26	30	23	28	26	26	25	24	23
Other, please specify in the footnote	11	12	13	13	17	19	14	20	17	17	15	16	17
Stock of hazardous waste at the end of the year	9	13	14	14	15	15	15	17	15	18	14	14	15
Table R3: Management of Municipal Waste													
Municipal waste collected from households	18	23	28	27	24	28	28	27	29	30	28	29	30
Municipal waste collected from other origins	14	17	21	19	20	24	24	21	21	22	21	20	19
Total amount of municipal waste collected	33	43	49	44	49	48	55	46	49	49	46	41	40
Municipal waste imported for treatment/disposal	14	17	17	16	15	17	18	16	16	20	18	20	19
Municipal waste exported for treatment/disposal	14	17	15	14	15	16	17	16	17	20	17	20	18
Municipal waste managed in the country	24	33	31	33	29	34	32	28	31	33	34	33	32
<i>Amounts going to:</i>													
Recycling	15	27	25	28	27	30	27	23	28	30	28	27	29
Composting	14	26	20	24	22	24	22	19	24	28	25	23	25
Incineration	12	23	20	21	20	24	22	22	26	27	28	26	28
<i>of which: with energy recovery</i>	9	18	14	18	16	19	17	16	19	19	21	17	17
Landfilling	25	38	36	39	32	36	34	35	37	40	37	35	37
<i>of which: controlled landfilling</i>	19	22	22	24	23	25	25	24	25	25	27	25	26
Other, please specify in the footnote	5	14	11	15	12	14	14	12	13	17	17	18	16
Total population served by municipal waste collection	22	27	31	29	36	33	33	32	35	33	31	28	33
Urban population served by municipal waste collection	19	21	23	21	26	23	25	20	21	24	20	23	23
Rural population served by municipal waste collection	15	17	16	15	21	17	18	15	17	18	16	18	20

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Table R4: Composition of Municipal Waste													
Paper, paperboard	21	21	28	24	27	21	22	22	21	20	16	17	19
Textiles	19	17	27	21	24	19	20	19	18	18	13	14	16
Plastics	21	20	28	24	27	21	22	21	20	19	16	17	19
Glass	21	20	28	24	26	21	22	21	21	20	16	17	19
Metals	21	20	28	24	27	21	22	22	21	20	17	17	20
Other inorganic material	19	18	25	22	26	20	20	21	19	19	16	15	19
Organic material	20	19	26	21	25	19	20	21	18	18	15	15	18
<i>of which: food and garden waste</i>	4	4	4	7	8	4	5	4	5	5	2	3	6
Table R5: Management of Municipal Waste – City Data¹²													
Total population of the city	89	107	113	112	124	109	110	105	111	154	101	105	102
Percentage of city population served by municipal waste collection	36	43	49	54	54	46	51	51	40	78	48	56	60
Municipal waste collected from households	43	51	59	54	60	64	65	53	57	79	59	71	76
Municipal waste collected from other origins	26	33	33	33	37	34	37	28	31	54	35	42	43
Total amount of municipal waste collected	68	75	85	97	97	95	98	85	88	120	73	83	88
Amounts going to:													
Recycling	14	19	25	25	35	31	33	23	25	47	36	42	48
Composting	12	21	22	23	32	27	29	24	23	43	32	41	46
Incineration	11	21	22	24	32	29	31	24	26	48	37	40	45
of which: with energy recovery	6	14	13	16	21	19	21	17	17	36	30	32	36
Landfilling	47	53	60	61	63	59	64	57	57	82	66	73	78
of which: controlled landfilling	30	34	37	49	54	54	56	50	50	70	51	55	61
Other: please specify in footnote	2	7	8	9	12	12	15	11	14	35	25	25	29

¹² Count of responses for variables in table R5 is expected to be greater than for all other tables since R5 requests data from cities for which countries can provide multiple responses.

ii) Water section

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Table W1: Renewable Freshwater Resources													
Precipitation	55	66	68	64	66	61	62	54	56	54	44	39	41
Actual evapotranspiration	30	33	34	33	33	29	29	25	26	25	22	20	20
Internal flow	36	39	40	38	38	33	32	25	27	25	22	20	21
Inflow of surface and groundwaters from neighbouring countries	30	34	33	33	34	31	29	26	27	27	23	22	23
Renewable freshwater resources	30	34	35	33	34	30	29	24	26	25	21	20	21
Outflow of surface and groundwaters to neighbouring countries	13	17	17	17	17	17	17	18	19	17	16	15	16
<i>Of which:</i>													
Secured by treaties	6	9	9	9	9	9	9	9	10	9	9	8	9
Not secured by treaties	6	9	9	9	9	9	9	9	9	8	8	7	8
Outflow of surface and groundwaters to the sea	7	6	6	6	6	6	6	6	8	6	7	6	7
Table W2: Freshwater Abstraction and Use													
Fresh surface water abstracted	37	44	47	48	50	49	50	47	46	51	44	41	41
Fresh groundwater abstracted	32	40	44	45	47	46	47	44	43	47	40	38	38
Freshwater abstracted	39	47	52	50	54	52	53	53	49	55	47	42	42
<i>of which abstracted by:</i>													
Water supply industry (ISIC 36)	28	33	36	37	39	39	38	35	32	38	34	29	28
Households	10	12	16	16	19	17	16	15	16	18	16	17	16
Agriculture, forestry and fishing (ISIC 01-03)	22	24	31	32	32	31	29	27	26	31	28	25	24
Manufacturing (ISIC 10-33)	20	22	25	29	30	31	30	27	27	31	26	22	21
Electricity industry (ISIC 351)	15	17	19	23	23	22	22	20	22	25	20	18	17

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Other economic activities	20	22	25	28	28	29	29	25	26	28	23	19	19
Desalinated water	30	34	35	34	36	35	33	31	30	30	27	27	29
Reused water	24	29	28	27	28	26	25	25	25	27	23	23	24
Imports of water	26	31	31	30	31	31	30	30	30	29	26	25	26
Exports of water	24	29	29	29	29	29	27	27	27	26	22	20	21
Total freshwater available for use	31	37	39	39	43	43	44	43	41	42	38	34	34
Losses during transport	22	28	29	32	34	35	37	40	39	41	33	31	30
Total freshwater use	22	30	30	32	34	35	36	40	39	40	33	31	30
<i>of which used by:</i>													
Households	34	43	47	44	47	44	44	43	42	43	41	37	33
Agriculture, forestry and fishing (ISIC 01-03)	28	33	36	35	40	38	37	36	34	37	35	32	29
<i>of which for:</i>													
Irrigation in agriculture	22	26	28	26	25	24	24	23	23	24	22	22	20
Manufacturing (ISIC 10-33)	30	36	41	41	43	40	40	37	39	40	38	33	30
Electricity industry (ISIC 351)	20	22	24	23	25	22	22	22	25	27	24	21	17
Other economic activities	25	31	35	36	39	38	38	35	37	36	32	30	28
Table W3: Water Supply Industry (ISIC 36)													
Gross freshwater supplied by water supply industry (ISIC 36)	40	49	51	49	55	57	56	50	52	58	48	42	40
Losses during transport by ISIC 36	30	36	40	37	43	47	47	42	44	49	41	35	34

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Net freshwater supplied by water supply industry (ISIC 36)	35	45	46	44	52	55	53	48	50	55	45	39	36
<i>of which supplied to:</i>													
Households	34	43	42	39	43	45	44	42	44	48	42	36	33
Agriculture, forestry and fishing (ISIC 01-03)	15	20	20	17	21	19	19	20	23	26	25	20	18
Manufacturing (ISIC 10-33)	20	24	25	24	28	29	29	26	30	31	29	25	22
Electricity industry (ISIC 351)	10	13	13	12	16	13	14	15	19	20	18	16	13
Other economic activities	18	22	24	23	27	31	32	30	35	34	29	26	23
<i>Population supplied by water supply industry (ISIC 36)</i>													
Total population supplied by water supply industry (ISIC 36)	28	36	38	36	35	38	38	37	37	41	33	30	28
Urban population supplied by water supply industry (ISIC 36)	11	23	24	24	24	27	27	26	23	29	27	24	24
Rural population supplied by water supply industry (ISIC 36)	10	18	20	19	21	23	21	20	17	22	19	18	18
Table W4: Wastewater Generation and Treatment													
Total wastewater generated	7	10	12	13	13	15	14	16	17	17	17	18	19
by:													
Agriculture, forestry and fishing ISIC (01-03)	3	6	6	7	7	7	7	9	8	8	8	8	10
Manufacturing (ISIC 10-33)	2	5	5	6	6	6	6	8	8	9	9	9	9
Electricity industry (ISIC 351)	3	5	5	6	6	6	6	8	7	7	8	8	8
Other economic activities	2	5	5	7	7	8	8	10	10	10	11	11	9
Households	1	5	5	8	9	10	10	13	13	12	11	12	12
Wastewater treated in urban wastewater treatment plants	12	18	21	23	23	25	27	28	32	31	28	30	31

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<i>Of which:</i> Primary treatment	6	13	15	15	15	15	18	18	19	19	17	18	20
Secondary treatment	6	14	16	16	17	18	19	19	21	19	17	18	20
Tertiary treatment	5	12	14	15	15	14	15	15	16	15	12	12	13
Wastewater treated in other treatment plants	3	5	5	5	7	7	8	9	9	9	7	7	7
<i>Of which:</i> Primary treatment	2	4	4	4	4	4	5	6	6	6	5	5	5
Secondary treatment	3	5	5	5	5	5	5	6	6	6	4	4	4
Tertiary treatment	2	4	4	4	4	5	5	5	5	5	4	4	4
Wastewater treated in independent treatment facilities	2	2	2	2	2	3	4	4	4	5	4	4	4
Non-treated wastewater	8	9	10	12	14	15	15	16	19	17	16	18	17
Sewage sludge production (dry matter)	10	16	15	14	14	12	11	14	13	14	14	15	15

Table W5: Population Connected to Wastewater Treatment

Population connected to wastewater collecting system	29	38	38	38	40	38	42	36	38	38	32	29	30
Population connected to wastewater treatment	27	34	35	32	37	31	30	29	27	29	22	22	23
<i>of which</i> at least secondary treatment	16	18	20	21	22	19	18	16	17	17	12	13	13
Population with independent wastewater treatment (e.g., septic tanks)	18	26	25	25	28	25	25	25	29	26	20	20	20
Population not connected to wastewater treatment	15	24	20	21	25	22	21	21	21	18	15	17	19