

Goal 12

Target number: 12.4

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

Agency: UNEP, UNSD

Has work for the development of this indicator begun?

Yes

Who are the entities, including national and international experts, directly involved and consulted in developing the methodology/and or data collection tools?

UNSD - Environment Statistics Section
United Nations Environment Programme (UNEP)
Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS Secretariat)
OECD
Eurostat

UN Environment convened an Expert Group Meeting in January 2018 in Geneva to consult with a broad range of international experts on waste, including from the entities above, on a number of definitional issues related to this indicator as well as indicators 11.6.1 and 12.5.1, and to present draft methodologies for feedback and discussion. Outcomes and other documents from this Expert Group Meeting can be found at <https://environmentlive.unep.org/egm/waste>. A second Expert Group Meeting is planned for Q1 2019.

The indicator was presented by UN Environment to the Fifth Meeting of the Expert Group on Environment Statistics in May 2018 in New York for comments and feedback.

UNSD consults with the BRS Secretariat, OECD, and Eurostat on the concepts and definitions, as well as on the structure and content of the respective questionnaires to promote harmonization of data at the international level. [see section data/metadata below]

The UNECE's Task Force on Waste Statistics is also consulted with regard to the methodologies under development for this indicator and 12.5.1 to ensure harmonized language and concepts.

What is the involvement of or how do you plan to involve National Statistical Systems in the development of the methodology?

The methodology has already been developed for the related statistics contained in the UNSD/UNEP Questionnaire, and methodological guidance for the statistics is being developed in the methodology sheet on waste statistics of the Manual on the Basic Set of Environment Statistics (https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml). National Statistical Offices and Ministries of Environment are the primary counterpart for the UNSD/UNEP Questionnaire.

Under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Parties are required to submit annual national reports, which include questions about the generation of hazardous and other wastes, as well as imports and exports of hazardous and other wastes destined for reuse, recycling or recovery operations or final disposal.

Pilot testing for the draft methodology for indicators 12.4.2 and 12.5.1 has begun, led by UN Environment, in 3 participating pilot countries, Bosnia and Herzegovina, Costa Rica, and Mauritius, with their respective National Statistical Systems. Pilot testing in Bosnia occurred in May 2018, while Costa Rica and Mauritius are planned for August/September 2018. Further details on the pilot work in Bosnia can be found at <https://environmentlive.unep.org/egm/bosnia>. The Bosnian NSO's prominent role in the UNECE's Task Force on Waste Statistics contributed positively to the outcome of the pilot testing, and will promote alignment and harmonization between the draft methodology and the work of the Task Force.

A Data Assessment Tool is under development to assist National Statistical Systems in their compilation of waste-related data relevant to this indicator as well as by highlighting gaps in their current data collection. It is being piloted in Bosnia, Costa Rica and Mauritius alongside the indicator methodologies, as well as in Mexico. The Data Assessment Tool will ultimately be released for NSOs to conduct self-assessments of their waste statistics system.

Please briefly describe the process of developing the methodology for the indicator

The underlying statistics for this indicator are already collected at the international level by UNSD, BRS Secretariat, OECD and Eurostat (see section data/metadata below), however the concepts and definitions behind these statistics are not all described by internationally agreed methodologies and are not fully harmonized among these entities.

Conceptual and methodological problems of statistics on solid waste have been identified for a long time. International organisations (such as UNSD, OECD, Eurostat, BRS Secretariat, and UNECE) have been aware of these issues and have been discussing them, but due to the complexity of the subject it is common knowledge that more work needs to be done. UNSD and the BRS Secretariat are both part of the UNECE Task Force on Waste Statistics, which aims at solving some of the conceptual issues pertaining to waste statistics, including on hazardous waste, by providing a Conceptual Framework on Waste Statistics by June 2019. It is necessary to continue the methodological development of the indicator in parallel to and in harmony with the work of this UNECE Task Force.

Progress has been made on several technical issues as a result of the UN Environment Expert Group Meeting described above, including: unanimous agreement to adhere to the Basel Convention definitions, the inclusion of 'hazardous waste exported for treatment' in the statistic for waste treated, the inclusion of recycling as a type of treatment, and the recommendation of the term 'environmentally sound management' given the existence of guidance for environmentally sound management of hazardous waste.

Please indicate new international standards that will need to be proposed and approved by an intergovernmental process (such as UNSC) for this methodology.

No new international standards will need to be approved by intergovernmental processes for this methodology – the methodology already exists; it only requires further work to ensure definitional alignment. Agreement between participating entities will be ensured, in consultation with the Expert Group on Environment Statistics and the UNECE Task Force on Waste Statistics.

When do you expect the methodological work on this indicator to be completed?

July 2019

Are data and metadata already being collected from the National Statistical System for one or more components of this indicator?

Yes

If yes, please describe:

UNSD Environment Statistics Section collects data from official national sources for water and waste statistics through its biennial UNSD/UNEP Questionnaire on Environment Statistics from non-OECD/Eurostat countries. Data for OECD and Eurostat countries are collected through the biennial OECD/Eurostat Questionnaire that is consistent with the UNSD/UNEP Questionnaire, so data are comparable. The terms and definitions used in both the UNSD/UNEP Questionnaire and the OECD/Eurostat Questionnaire are mostly identical with those used by other sources, and where not, bridges or correspondence are developed where possible. For the number of responses to the 2016 round of the UNSD/UNEP Questionnaire reference should be made to Part I of the Background Document to the Report of the Secretary-General on Environment Statistics (E/CN.3/2018/31) (<https://unstats.un.org/unsd/statcom/49th-session/documents/BG-Item4k-EnvironmentStatistics-E.pdf>). The Background Document also includes in its Annex A the number of responses by variable and year. UNSD is launching the 2018 round of the UNSD/UNEP Questionnaire in September 2018.

The statistics collected by UNSD through the UNSD/UNEP Questionnaire that can be used to produce this indicator are presented below. The number of responses to the UNSD/UNEP Questionnaire for the year 2015 is in brackets for UNSD.

OECD/Eurostat also collects these statistics which are harmonized conceptually with those collected by UNSD therefore promoting internationally comparable data.

Countries that are Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal submit through the BRS Secretariat, an annual report on activities undertaken to meet certain obligations under the Convention. Data of relevance for developing the methodology for this indicator is:

- Amount of hazardous wastes generated
- Amount of hazardous wastes imported and exported for the purpose of environmentally sound disposal and the disposal method use.

The UNSD/UNEP Questionnaire uses the definition of hazardous waste provided in the Basel Convention. Furthermore, Parties have specific obligations to transmit notifications of national definitions of “hazardous wastes” that are additional to the wastes listed in the Annexes of the Convention, thereby expanding the scope of the Convention. The definitions of hazardous and other wastes therefore may differ from one country to another.

The Basel Convention does not provide a definition of the term “treatment” but provides, in Annex IV to the Convention, a list of operations for the disposal and recovery of hazardous wastes.

Data on the generation of hazardous waste has been collected by the BRS Secretariat, however, the revised reporting format to be used as of 2016 provides that submission of data on waste generation is optional, which may reduce the number of submissions for this question.

UNSD/UNEP Questionnaire Table R2

Below you can find the statistics collected by UNSD that can be used to produce this indicator, some of which are available on the UNSD website: <http://unstats.un.org/unsd/environment/qindicators.htm>. The number of responses for UNSD (2015) and OECD/Eurostat (2014) is in brackets. Eurostat makes them available on its website. It should be noted that the number of responses to UNSD for those variables have increased between the 2013 and 2016 data collections.

Related questionnaire statistics

- R2.2 Hazardous waste generated (31 to UNSD + 33 to OECD/Eurostat)
- R2.5 Hazardous waste treated or disposed of during the year (25 to UNSD + 31 to OECD/Eurostat) (R2.2 + Imports – Exports)

- R2.6-10 Amounts going to the different types of treatment:
 - Recycling (26 to UNSD + 32 to OECD/Eurostat)
 - Incineration (24 to UNSD + 32 to OECD/Eurostat)
 - Incineration with energy recovery (9 to UNSD + 32 to OECD/Eurostat)
 - Landfilling (23 to UNSD + 31 to OECD/Eurostat)
 - Other (17 to UNSD + ??? to OECD/Eurostat)

This SDG indicator is actually comprised of many different indicators.

For the first indicator, hazardous waste generated per capita, UNSD would need to obtain population data from another database.

$$\text{Hazardous waste generated per capita} = \frac{\text{R2.2}}{\text{Population}}$$

For the second indicator, proportion of hazardous waste treated, by type of treatment, UNSD collects all statistics needed.

The indicator 12.4.2 also uses the terms “waste treated” and “type of treatment”, which are not defined in the Basel Convention. Parties to the Basel Convention submit data on transboundary movements of hazardous and other wastes for the purpose of disposal operations, listed in Annex IV, through their national reports. Clarification would therefore be required as to how the Parties to the Convention understand these terms and the kind of information should be collected with respect to this indicator. Following this clarification, it is suggested that through the collaborative efforts between UNSD and the BRS Secretariat, terminology of “treatment” will be aligned to the Basel Convention.

As disposal (landfilling) is not considered a treatment, and incineration with energy recovery is a subset of incineration, UNSD would propose to have the following two indicators.

$$\text{Hazardous waste recycled} = \frac{\text{R2.6}}{\text{R2.5}}$$

$$\text{Hazardous waste incinerated} = \frac{\text{R2.7}}{\text{R2.5}}$$

Because it can be difficult to be treated, hazardous waste is sometimes exported to another country to be treated. Therefore, it is important to take that into account to calculate the proportion that is treated in the country. Of course, this is not a perfect indicator, as exporting hazardous waste to have it landfilled in another country would increase the proportion of hazardous waste treated in the country where it was generated. Data on export of Hazardous Waste can be provided by the BRS Secretariat.

BRS Secretariat collects information on amounts of hazardous waste exported for disposal. This data could be factored into the methodology to obtain a balanced indication of proportion of hazardous treated.

How do you plan to collect the data?

Send questionnaire(s) to country
Other: OECD, EUROSTAT, BRS

If the indicator involves multiple components from different data sources, please describe how each individual component of the indicator will be collected here.

With what frequency is data expected to be collected?

Data are already being collected every two years through the UNSD/UNEP Questionnaire. [see section data/metadata above]

Data is collected annually under the Basel Convention, UN Environment

Is there a process of data validation by countries in place or planned for this indicator?

Yes

If yes, please briefly describe:

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.

If you have any additional comments that you believe would be helpful to IAEG-SDG members in analysing the work plan and methodological development of the indicator, please provide them here:

Data for the underlying statistics for this indicator are already collected from the countries (NSO and Ministry of Environment). Moreover, there is no intention to increase the frequency of the UNSD/UNEP Questionnaire due to lack of resources and data, and the fact that the Questionnaire is aligned to that of OECD/Eurostat, which is also conducted every two years.

Data under the national reporting to the Basel Convention is collected on an annual basis.

Guidance on this issue as well as guidance on the interpretation of the terminology used in the indicator 12.4.2 to be aligned with the Basel Convention, will be provided.

The collaborative efforts among UNSD, BRS Secretariat and other partners could focus on:

- Harmonization of terminology and encouraging cooperation at the national level between national statistical offices that submit data to the UNSD/UNEP questionnaire and the Ministries of Environment which submit data as part of the national reports under the Basel Convention to the BRS Secretariat.
- Both data sets should be viewed as complementary and can be used for quality checks.

(as of August 2018)