

Goal 12: Ensure sustainable consumption and production patterns

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: United Nations Environment Programme (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) and the Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS Secretariat)

OECD

Eurostat

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 6.2.6 ; data/metadata below]

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, but further refinements are needed.

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.

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 6.2.6), 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 plan to continue these discussions with the partner organizations to promote further understanding and harmonization.

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

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

By end of 2017

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 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.3/2016/27) (<http://unstats.un.org/unsd/statcom/47thsession/documents/BG-2016-27-EnvironmentStats-E.pdf>)

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 2012 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 data collected by the BRS Secretariat is not fully aligned statistically with those collected by UNSD. At the national level, the data is typically collected through the ministry of environment or other ministry in charge of waste management and not by the national statistical office.

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 the year 2012 is in brackets for UNSD and OECD/Eurostat. Eurostat make them available on its website.

Related questionnaire statistics

- R2.2 Hazardous waste generated (23 to UNSD + 33 to OECD/Eurostat)
- R2.5 Hazardous waste treated or disposed of during the year (19 to UNSD + ??? to OECD/Eurostat) (R2.2 + Imports – Exports)
- R2.6-10 Amounts going to the different types of treatment:
 - Recycling (19 to UNSD + 31 to OECD/Eurostat)
 - Incineration (18 to UNSD + 31 to OECD/Eurostat)
 - Incineration with energy recovery (8 to UNSD + 31 to OECD/Eurostat)
 - Landfilling (18 to UNSD + 31 to OECD/Eurostat)
 - Other (12 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.

$$\text{Hazardous waste recycled} = \frac{\text{R2.6}}{\text{R2.7}}$$

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

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. [see section 6.2.6; data/metadata above] Data is collected annually under the Basel Convention.

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 the annual basis. Given that from 2016 the submission of data on hazardous waste generation became optional, 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 sought from the Conference of the Parties to the Basel Convention which will take place in April 2017.

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 (e. g. in terms of number of countries reporting) and can be used for quality check.