**Climate Change Statistics and Indicators Self-Assessment Tool**

**(CISAT)**

**Instructions for Part II: Statistics and Indicators Assessment**





Prepared by the United Nations Statistics Division

31 January 2023

Version 1.0

**Instructions**

The Global Set of Climate Change Statistics and Indicators was recommended as the framework for climate change statistics and indicators to be used by countries when preparing their own sets. It is designed with enough flexibility to be adapted to individual countries’ climate change concerns, priorities and resources. A country’s national set may require additional indicators and statistics to be included as well as the possible exclusion of those indicators and statistics which are defined as not relevant or not applicable (see 1.1.1 below). There may also be a need to modify some indicators and statistics to better reflect the national circumstances.

**Global Set**

Part II of the CISAT lists all 158 indicators and 190 statistics included in the Global Set, followed by the main Global Climate Policy References, Statistical References and Self-Assessment questions organised in separate sections in an Excel spreadsheet. The following definitions apply:

**Area** [column B]: A schematic framework developed by the IPCC summarises the complexity of climate change as a sequence of events: drivers, impacts, vulnerability, mitigation and adaptation. These events are applied as five top-level areas in the Global Set. Each indicator is assigned to one of the five IPCC areas as a primary belonging, while some indicators were also assigned as applicable in one or more additional areas.

**Topic** [column C]: As in the FDES (p. 3), the statistical topics represent the quantifiable aspects of the areas taking into account the types and sources of the statistics needed to describe them.

**Number** [column D]: Each indicator is numbered from 1 to 158.

**Indicator** [column E]: As in the FDES (p. 7), environmental indicators are used to synthesize and present complex environment and other statistics in a simple, direct, clear and relevant way… may take various forms such as rates, ratios or proportions, and be constructed at different levels of aggregation. The indicators serve to support developing and monitoring of national climate policies and international reporting requirements, in particular those under the Paris Agreement.

**Statistic** [column F]: As in the FDES (p. 7), environment statistics are environmental data that have been structured, synthesized and aggregated according to statistical methods, standards and procedures. The statistics serve three main purposes:

1. to provide fewer complex options for countries with less developed statistical systems to initiate climate monitoring through official statistics;
2. to provide statistics needed to compile the indicators (for Tier 1 and 2); and
3. to provide inputs to further define and develop the Tier 3 indicators. Statistics were not introduced for the indicators for which:
	1. indicator and statistic are identical (9 cases, denoted with ‘Equivalent to the indicator’ in the metadata sheets); and
	2. indicators for which the statistics and their metadata are fully described within the cited methodology source, e.g., often from SDG and Sendai Framework indicators (21 cases, denoted with ‘Refer to original source in metadata’ in the metadata sheets).

**Tier** [column G]: defined by considering the relevance (to climate change), methodological soundness and data availability. The relevance or connection to climate change varies per indicator, however a certain relation to climate change has been identified for all the indicators included in the Global Set. The Tiers were defined as follows:

* Tier 1 are relevant, methodologically sound, and for which more than 50 per cent of the countries that responded to the Global Consultation indicated that data are available. However, this rule was not applied for the SDG indicators included in the Global Set and the original SDG indicator Tiers are used.[[1]](#footnote-1)
* Tier 2 are relevant, methodologically sound, and for which less than 50 per cent of the countries that responded to the Global Consultation indicated that country data are available. However, this rule was not applied for the SDG indicators included in the Global Set and the original SDG indicator Tiers are used.[[2]](#footnote-2)
* Tier 3 are relevant, but not methodologically sound, and country data may not be available.

**Theme** [column H]: Generic keywords applicable to identify the indicators and provide ease of search and navigation. Themes were introduced to help navigate through the 158 indicators and 190 statistics.

**Global Climate Policy References**

The main global climate change policy references are included in this section by listing the articles from the Paris Agreement which was adopted in 2016 and the reporting requirements agreed under the Paris Agreement Work Programme (PAWP), adopted in Katowice in 2018.

**Paris Agreement Article** [column I]: Correspondence between the indicator/statistic and the articles in the Paris Agreement specifying the reporting requirements.

**PAWP-Katowice** [column J]: Correspondence between the indicator/statistic and the decisions from the Paris Agreement Work Programme (PAWP), adopted in Katowice, specifying the reporting requirements under the Modalities, procedures and guidelines for the Enhanced Transparency Framework.

**Statistical References**

**Method (frameworks, standards, guidelines)** [column K]: main statistical references including the internationally accepted frameworks, standards and guidelines, are presented in abbreviated form (see page 6 of the Background document to the Report of the Secretary-General on Climate Change Statistics (E/CN.3/2022/17), Global Set and metadata for details: <https://unstats.un.org/unsd/statcom/53rd-session/documents/BG-3m-Globalsetandmetadata-E.pdf>)

**FDES reference** [column L]: Correspondence between the statistics and the FDES (codes and names from the FDES are included). If the match is not verbatim, this is indicated with the word ‘similar to’ in square brackets. In several cases the proposed climate-relevant statistic is actually a part of the FDES statistic (to be derived from a classification) which is indicated as ‘part of’ in square brackets.

**SDG reference** [column M]: Correspondence between the indicator and the SDG indicators (SDG indicator codes and names are included). If the match is not verbatim, this is indicated with the word ‘similar to’ in square brackets. In several cases, the relation to the SDG indicator is partial (e.g., only some definitions or other metadata details apply), which is indicated as ‘related to’ in square brackets.

**Sendai Framework reference** [column N]: Correspondence between the indicators and the Sendai Framework indicators.

**UN-ECE reference** [column O]: Correspondence between the indicators/statistics and the indicators included in the Conference of European Statisticians set of core climate change-related indicators.

**Self-Assessment**

It is recommended that the NSO coordinates the process and examines the suggested ‘National data sources’ in column P to identify the respective institutions in the country that need to be involved in the process. The NSO can forward the sub-sets of statistics and indicators to these institutions for completion in accordance with its subject matter expertise. Alternatively, if the entire set is forwarded, the (specialised) institution can select the relevant indicators using the filter ‘theme’ (column H).

For each indicator the link can be followed to display its metadata in the Metadata Word file. Both the Excel and the Word files need to be downloaded and saved in the same folder for this feature to work*;* also the name of the Word file should not be changed. The self-assessment questions are included in the next columns and are intended to guide the self-assessment process. For each individual statistic/indicator of the Global Set, the following should be addressed according to the specified columns:

**National data sources** [column P]: Indicates the likely national institutions (e.g., the national statistical offices, line ministries, administrations) which may be producing relevant data or data products including statistics, indicators and accounts.

**National focal institution** [column Q]

Please follow the suggestions in column P in order to identify the national focal (specialized) institution(s) which would be most competent to assess the given statistic/indicator. Each focal institution should provide the following information for the NSO to compile and complete the self-assessment.

# 1. Relevance

To be relevant, it means that the indicator or statistic is needed to monitor climate change in the country, its drivers and impacts, and inform national climate change-related policies (mitigation or adaptation actions and measures). The relevance from an international point of view is explained in the metadata field called ‘Relevance’ in the Metadata Word file. It is recommended that after the NSO, UNFCCC-NFP and other key stakeholders examine and assess the relevance of the Global Set of Climate Change Statistics and Indicators, if the national priorities, concerns and resources require additional indicators and statistics, these should be inserted in additional rows under the appropriate area/topic structure. This will contribute to the establishment of a country’s national set of climate change statistics and indicators.

### **Relevance/priority for climate change-related policies**

In this context, relevance refers to the importance of the indicator and its statistics for national climate change concerns or policy considerations.

#### **1.1.1 Relevance of** **indicator/statistic at the national level**

This column contains a drop-down menu to be used to indicate the relevance of each indicator and its statistics. The values in this column which should be chosen are:

* Relevant (R)
* Not Relevant (NR)
* Not Applicable (NAp)

If an indicator and its statistics are Not Applicable, proceed to the next indicator. For definitions of Not Relevant and Not Applicable, see below. The rows with such indicators and statistics can be deleted from the national set.

Not relevant: The climate change issue is so insignificant as to not be relevant to the country. For example, a country with an abundance of water resources and a relatively small and stable population, may not regard water scarcity as a relevant issue.

Not applicable: The climate change issue is not applicable to the country. For example, a land-locked country may regard marine water quality or sea level rise as not applicable.

#### **1.1.2 Reference/link**

If Relevant (R), please provide reference/link to the national policies (i.e.: law, strategy, regulation, etc.) for which the data applies. If relevant but no policy or other national response exists, please indicate this here, as “relevant but without policy”.

#### **1.1.3 Priority for national data collection**

This column contains a drop-down menu to be used to indicate the priority of each indicator and its statistics for national data collection. The values in this column which should be chosen are:

* Priority (P)
* Not a Priority (NP)

### **1.2 Requirements or user requests for this indicator/statistic**

The level of requirement for collection/reporting on this indicator and its statistics should be identified using the drop-down menu and inserting an X as appropriate.

#### **1.2.1 Sub-national**

Examples: municipal/local/province strategies, regulations, etc.

#### **1.2.2 National**

Examples: insurance bodies; forest protection authority; national development authority

#### **1.2.3 Regional**

Examples: European Union; Caribbean Community, East African Community, etc.

#### **1.2.4 International**

Examples: UNFCCC, UNDRR, CBD, etc.

#### **1.2.5 Specification**

Please specify the name of the users as appropriate, for example regional group (such as European Union; Caribbean Community, East African Community, etc.) and/or international reporting body (UNFCCC, UNDRR, CBD, etc.). Please add columns if needed.

# 2. Data/statistic/indicator characteristics

This section addresses characteristics of data, statistics and indicators such as availability, quality, dissemination formats, gaps, etc.

### **2.1 Data characteristics and availability**

Are national data available and suitable for compiling the proposed statistic/indicator?

#### **2.1.1 Data availability**

This column contains a drop-down menu to be used to indicate if data exists for each applicable statistic/indicator. The values in this column which should be chosen are:

* Yes
* Partially
* No

#### **2.1.2 Reference/link**

If data for the statistic/indicator is available, please provide reference/link, for example: Statistical Yearbook of Forestry.

#### **2.1.3 Data type**

This column contains a drop-down menu to be used to indicate the data type for each statistic/indicator. The values follow the data type descriptions for the SDG indicators, please indicate whether the data was:

* Produced by countries (C)
* Country-adjusted data (CA)
* Estimated data (E)
* Global monitoring data (G)
* Modelled data (M)

#### **2.1.4 Periodicity**

This column contains a drop-down menu to be used to indicate the frequency of the collection of the statistic/indicator. The values in this column which should be chosen are:

* Annual (A)
* Monthly (M)
* Daily (D)
* Hourly (H)
* Other

#### **2.1.5 Earliest year available**

The earliest year for which the statistic/indicator is available should be indicated.

#### **2.1.6 Latest year available**

The latest year for which the statistic/indicator is available should be indicated.

### **2.2 Institution(s) collecting data on this statistic/indicator**

This sub-section specifies the institution responsible for collecting, processing and storing the data for the statistic/indicator (e.g., meteorological institution for weather data).

#### **2.2.1 Collected by NSO**

If produced by the NSO please indicate here, selecting the X.

#### **2.2.2 Collected by Ministry of Environment or equivalent institution**

If produced by the Ministry of Environment or equivalent institution please indicate here, selecting the X.

#### **2.2.3 Collected by Other (specify)**

If produced by Other institution (for example Ministry of economy, energy, private sector etc.), please specify.

### **2.3 Format and characteristics of statistic/indicator**

The compilation of climate change statistics and indicators may take place at the institutions collecting the respective data or may be done by other institutions.

#### **2.3.1 Similarity of statistic/indicator at the national level to the international one**

This column contains a drop-down menu to be used to indicate whether the national statistic/indicator is identical or similar to the international one, or whether a national statistic/indicator is not available. The values in this column which should be chosen are:

* Identical (I) - available according to the concepts, definitions, classifications and methodology recommended by the metadata accompanying the Global Set;
* Similar (S) - available but not according to the concepts, definitions, classifications and methodology recommended by the metadata;
* Not Available (NAv) - the statistic/indicator is not available nationally. In this case, go to the section on ‘Main Reasons why Statistic/Indicator is not Available’.

#### **2.3.2 Format of statistic/indicator**

This column contains a drop-down menu to be used to indicate format in which the statistic/indicator is available. The values in this column which should be chosen are:

* Publication or report (P)
* Excel files (E)
* Database (D)
* Website (W)
* Individual records not readily useable (I)
* Other

### **2.4 Institution(s) compiling this statistic/indicator**

This sub-section specifies the institution responsible for compiling, disseminating and reporting of the statistic/indicator.

#### **2.4.1 Compiled by NSO**

If compiled/disseminated/reported by the NSO please indicate here, selecting the X.

#### **2.4.2 Compiled by Ministry of Environment or equivalent institution**

If compiled/disseminated/reported by the Ministry of Environment or equivalent institution please indicate here, selecting the X.

#### **2.4.3 Compiled by Other (specify)**

If compiled/disseminated/reported by Other institution (for example Ministry of economy, energy, private sector etc.), please specify.

### **2.5 Main reasons why the statistic/indicator is not available or not updated**

An indication of the main reasons why the statistic/indicator is not available or not updated should be provided using the drop-down menu and inserting an X as appropriate.

#### **2.5.1 Resource constraints**

Both financial and staff resource constraints within the environment statistics units or its equivalent, where it is housed in the NSO and/or in partner agencies involved in the production of each statistic/indicator.

#### **2.5.2 Methodological/technical difficulty in data collection**

Difficulty in collecting the data for methodological reasons (i.e., lack of methodologies including concepts, methods or classifications) or technical reasons (i.e., difficulties in the aggregation methods from voluminous primary data to climate change statistics/indicator series; technical problems interpreting remote sensing, etc.).

#### **2.5.3 Insufficient quality**

Data are of insufficient quality if they do not meet generally accepted statistical standards. Primarily, this may relate to any or all of the following conditions:

* Insufficient or non-existent metadata – does not allow for the assessment of the quality and comparability of the data set(s);
* Accuracy – the statistic/indicator does not correctly describe the phenomenon it was designed to measure;
* Timeliness – delay between the reference point and the date the information becomes available is too lengthy to allow the data to be useful;
* Coherence – data are not collected using standards or internationally accepted concepts and classifications; or data are not collected using the relevant and same target phenomenon over time and/or space; or the data are not internally consistent.

#### **2.5.4 Inaccessibility**

Data are considered inaccessible if they cannot be obtained with relative ease from the responsible agency or primary data producer or data cannot be provided in an appropriate format to allow them to be used.

#### **2.5.5 Lack of institutional set-up/coordination**

Institutional or policy barriers could present difficulties in accessing and utilizing relevant primary data sets. This box should be checked if the collaboration among the necessary institutions is not sufficient to grant an adequate sharing of data sets and resulting climate change statistics, and/or if there is insufficient institutionalization of climate change statistics programmes/units. Both of these conditions would present obstacles to the systematic production of climate change statistics.

#### **2.5.6 Other (specify)**

Difficulties other than those described under the previous headings should be specified.

# 3. Methodological soundness

The soundness should be assessed by comparing the internationally recommended methods with the nationally applied ones. In case there is a difference between the international and national methods, an assessment of this difference will help the country to monitor its progress towards aligning with the internationally recommended methods, for example the IPCC 2006 Guidelines for GHG inventories. Short metadata sheets were completed to the extent possible for all the indicators and statistics in the Global Set, ensuring that internationally agreed statistical definitions are applied for the indicators and statistics assessed at Tier 1 and 2.

**3.1 International comparability**

Comparability entails use of common concepts, definitions and methods in production of climate change statistics and indicators across countries. It is an important dimension of quality and if data/statistics/indicators are not comparable, they lose a lot of their utility and relevance.

#### **3.1.1 Methodology**

This column contains a drop-down menu to be used to indicate whether the nationally applied methodology is sound. The values in this column which should be chosen are:

* Yes
* No
* Partially

#### **3.1.2 Reference/link**

Please provide reference/link to the methodology applied in the country, for example Household survey; National Forest Inventory; etc. If the source is not accessible online, the citation should be included to document the methods in the respective publications.

#### **3.1.3 Main reason why the methodology used is not sound**

If the national methodology is assessed as not sound, the reason for this should be specified here (for example ‘not sound because of insufficient samples’).

**3.2 Methodology characteristics**

Methods and standards agreed internationally, regionally and nationally are used with regard to definitions, units, variables and classifications.

#### **3.2.1 Type of data source**

This column contains a drop-down menu, please also refer to Type of data source indicated in the metadata accompanying the Global Set. The values in this column which should be chosen are:

* (SS) Statistical surveys (e.g., censuses or sample surveys of population, housing, agriculture, enterprises, households, employment, and different aspects of environment management);
* (AR) Administrative records of government and non-government agencies in charge of natural resources as well as other ministries and authorities;
* (RS) Remote sensing (e.g., satellite imaging of land use, water bodies or forest cover);
* (MS) Monitoring systems (e.g., field-monitoring stations for water quality, air pollution or climate);
* (SR) Scientific research;
* (SP) Special projects undertaken to fulfil domestic or international demand.
* (Inventory) Another category was added: ‘Inventory’ (not in the FDES) applicable to GHG emissions and forest-related indicators and statistics.

If the type of data source differs from the international ones listed above, please add column(s) and indicate in the respective cell for each indicator/statistic.

#### **3.2.2 Category of measurement**

Broad categories (e.g., volume, mass, height) are indicated for each statistic/indicator in the metadata. Please refer to the metadata accompanying the Global Set. Please specify the nationally applied category of measurement in the respective cell for each indicator/statistic.

#### **3.2.3 Unit of measurement**

An actual measurement unit of the statistic/indicator (e.g., m3, tonne, mm) should be indicated.

#### **3.2.4 Potential aggregations and scales**

Potential aggregations and scales are indicated in the metadata accompanying the Global Set. These can be spatial aggregations (i.e., administrative units, river basins) or temporal aggregations (e.g., annual, biannual, monthly), etc. Please specify the nationally applied aggregations and scales in the respective cell for each indicator/statistic.

#### **3.2.5 Classifications/groupings**

This refers to actual classifications such as International Standard Industrial Classification of All Economic Activities (ISIC); or FAO’s Land Cover Classification System (LCCS) or relevant groupings such as age; gender, etc. that are applied to disaggregate the indicator/statistic.

# 4. Future plans

This section may be used to provide comments on plans to improve the statistic/indicator in the future, e.g., via new data collection, improvement of existing methodologies, etc.

1. The SDG indicator Tiers are as of January 2022 just prior to the adoption of the Global Set in March 2022. It should be noted that the Tiers of a number of these SDG indicators have been revised since then. The current Tier Classification for SDG Indicators can be consulted here: <https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/> (accessed on 31 January 2023). [↑](#footnote-ref-1)
2. ibid [↑](#footnote-ref-2)