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News and Notes

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50TH ISSUE

ENVSTATS *is the environment statistics newsletter of UNSD. It has been providing information about the activities of UNSD and developments elsewhere in the fields of environment statistics, and more recently also in climate change statistics, since 1995.*

We've reached our 50th issue! Thank you to all for supporting UNSD to ensure our network continues to thrive!

You can also read this newsletter online, check it out here.

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FOCUS: The advancement of the final draft of the Global Set of Climate Change Statistics and Indicators

As its ongoing work on climate change statistics and indicators continues, the United Nations Statistics Division (UNSD) has conducted a Global Consultation on Climate Change Statistics and Indicators with a pleasing engagement shown by many UN member states and agencies. The results to date of this significant undertaking of research and collaborative work between UNSD and countless stakeholders (UN member states, international/regional agencies, experts, etc.) are described below.

Following the United Nations Statistical Commission's decisions at its 47th and 49th sessions (2016 and 2018, respectively), UNSD developed the Global Set of Climate Change Statistics and Indicators (Global Set), in collaboration with the United Nations Framework Convention on Climate Change (UNFCCC) secretariat to promote the policy and statistics interface. UNSD initiated the process of developing the Global Set based on a systematic review of country-based practices and the close link between global climate change negotiations and reporting and national statistics.

In early 2021, UNSD in collaboration with UNFCCC and other international bodies, as well as the Expert Group on Environment Statistics (EGES), prepared a draft of the Global Set of Climate Change Statistics and Indicators for a Global Consultation. The objectives of the consultation were to: (a) define a global set from proposed indicators based on relevance to countries; (b) consolidate available methodology for climate change statistics and indicators; (c) define improvement needs and gaps in methodology; and (d) assess existing capacities to compile climate change statistics and indicators. The consultation was organized in two parts, tailored to collect the needed information from countries and international/regional agencies. For countries, Part I enquired about the institutional dimensions of their preparedness to produce climate change statistics and indicators; for agencies, it enquired about their activities on data collection, methodology development and capacity development in the area of climate change statistics. Part II contained the draft Global Set and asked respondents to provide comments on each individual indicator or statistic and on the metadata. For this part, countries were requested to assess the relevance, methodological soundness and data availability for each indicator, and agencies were asked to assess the indicators and the metadata in their respective areas of expertise.

The draft Global Set, accompanied by short metadata for the 134 indicators and underlying 195 statistics, was distributed for a Global Consultation to all countries and relevant international/regional agencies between May and September 2021. In order to facilitate smooth communications between countries and UNSD for the purpose of this Global Consultation, UNSD offered optional information sessions held in English, Spanish and French. Further, UNSD provided bilateral assistance and further clarifications to several countries that expressed a need. Several of the United Nations Regional Commissions assisted UNSD in the process and provided assistance with outreach and further information on the Global Consultation to the countries in their respective regions.

UNSD reviewed each response (86 from countries representing all regions and 26 from agencies) and provided feedback to the countries on both parts of the consultation as a result of which about 40 countries improved their assessments and submitted revised responses to the consultation. It should be noted that about 14 countries acknowledged receipt of the consultation materials some of which also communicated related national activities but could not complete the consultation in time.

The Global Consultation affirmed that countries are actively engaging in the area of climate change statistics, including developing their own national sets. UNSD promotes such activities, in which national statistical offices (NSOs) are prepared to initiate data collection, compilation and dissemination of climate change statistics in a way complementary to the ongoing reporting to UNFCCC, as recommended by the Statistical Commission at its 49th session in 2018. NSOs face challenges to conduct national consultations and set up data collection/exchange processes due to the very broad scope of topics which directly or indirectly link to climate change and involve multi-disciplinary expertise, as well as the ongoing COVID-19 pandemic. Despite the difficulties NSOs may face in attempting to address a vast array of topics, the Global Consultation has proved to be useful as it encouraged NSOs to coordinate and collect national responses from all the relevant specialized departments and agencies within the country, and in some cases, to develop or enhance national frameworks on climate change statistics.

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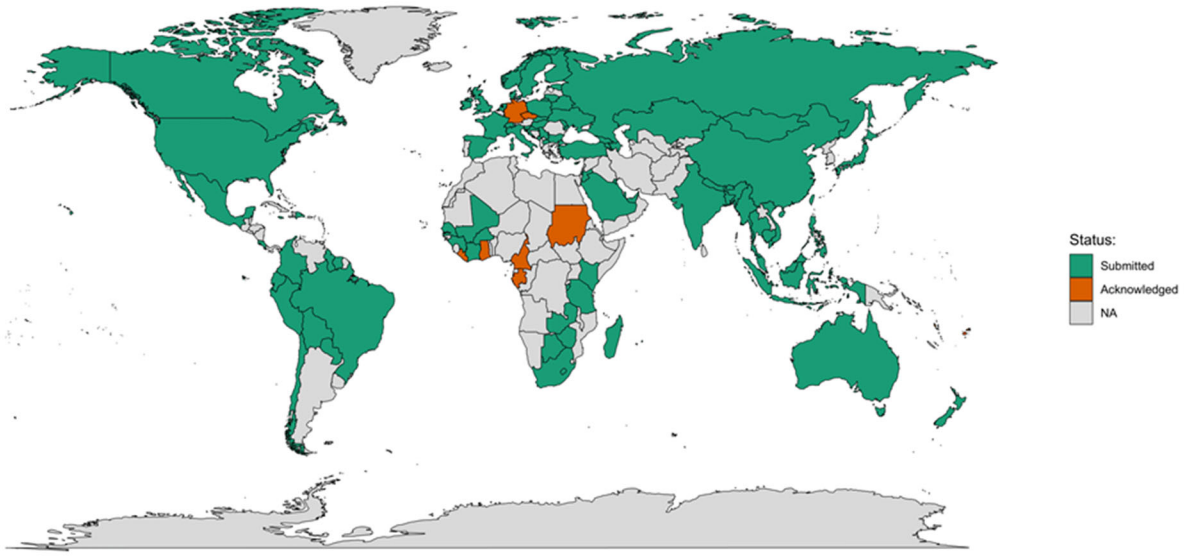

Figure 1: Country submissions and acknowledgement to UNSD's Global Consultation on Climate Change Statistics and Indicators

The country responses to Part I demonstrate that many NSOs have strong collaboration with the UNFCCC national focal points and participate in technical committees on climate-related issues, whereas in some other countries, such practices need to be further encouraged or developed. In addition, NSOs are increasingly involved in the preparation of the country's GHG inventory, as part of the reporting obligations under the UNFCCC which is expected to increase considering the requirements under the Paris Agreement. A considerable number of climate change-related statistical strategies and data outputs have been produced by NSOs, which cover great breadth and depth of the diverse topics and thematic areas of climate change. Climate change surveys or the inclusion of related modules in existing surveys/ censuses, as well as the production of climate change statistics reports, are slowly increasing. With regard to capacity development needs, countries cited, among others, development of specialized surveys; collection of climate change-related data; development of metadata and indicators; statistics for climate change adaptation and mitigation processes; support tools in national/indigenous languages; and community engagement/platforms.

The responses on Part I from the international/regional agencies revealed various methodological and capacity development activities. Fifteen agencies informed that they collect climate change-related data directly from countries. The main challenges expressed regarding data collection were, inter alia, promoting the use of climate-related data toward policy-makers, data availability at country level, data access and confidentiality, comparability across countries, use of multiple sources leading to duplications and inconsistencies, and different definitions across sources. On methodological development, 17 agencies informed that they produce or maintain a list of indicator/statistics that pertain to climate change (such as the CES Set of Core Climate Change-Related Indicators) or some related topics in the Global Set, while 13 agencies indicated that they develop methodological guidelines for climate change statistics or indicators. Detailed analysis of the results of Part I will be presented in the Background Report to the 53rd session of the Statistical Commission entitled "Global Consultation on the Global Set".

Part II of the Global Consultation affirmed that most indicators and statistics are suitable for being included in the Global Set demonstrating its overall robustness. In addition, countries and agencies provided comments on the existing indicators and the metadata, as well as proposed some new indicators. The new indicators were screened according to the following criteria: (i) link to one of the five climate change areas; (ii) suitability for national policy-making and monitoring purposes; (iii) fit into the area/topics structure in a balanced manner; and (iv) possible to develop into the indicator/statistic/metadata structure. Detailed methodological reviews and additional metadata inputs were provided by

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FAO, United Nations Environment Programme-World Conservation Monitoring Centre (UNEP-WCMC), European Environment Agency (EEA), UN-ECE while more specialized advice was provided by International Monetary Fund (IMF), World Bank, OECD, International Energy Agency (IEA), International Organization for Migration (IOM), UN-Women, UNFCCC and from within UNSD. The complementarity between the Global Set and the CES set were further discussed and improved in the context of the Global Consultation. Based on the feedback, UNSD prepared several points on which further advice was needed by the EGES and specialised agencies, including the suggestions for new indicators.

The responses and feedback from the Global Consultation were summarized and presented to the eighth meeting of the EGES in October 2021 for review and discussion. Group work sessions were organized in which UNSD outlined the key issues which the EGES was expected to review (in addition to others of a more specialized nature which UNSD is further addressing bilaterally with specialized agencies) which were: suggestions for including new indicators in the Global Set; suggestions to modify some of the existing statistics and indicators; and some examples of Tier 3 indicators which require development of new methods. As a result of these sessions, 13 new indicators were approved to be included in the Global Set, and 7 indicators and statistics were modified. Based on the feedback from the Global Consultation, the EGES review and bilateral consultations, several indicators and statistics were consequently improved or added in several thematic areas, including the consideration of gender (role of women), impact of disasters and their costs, biodiversity, energy and GHG emissions.

Considering the extensive Global Consultation, as well the country presentations and plenary discussions/group work during the meeting, the EGES recommended that the Global Set of Climate Change Statistics and Indicators be submitted to the 53rd session of the Statistical Commission in 2022 for adoption. The final Global Set including the indicators, statistics and metadata, will be presented in a Background Report to the 53rd session of the Statistical Commission entitled "Global Set and metadata". The list of indicators is also included as Annex 2 in the Report of the Secretary-General on Climate Change Statistics to the Statistical Commission. Continuous improvement of the adopted Global Set will be undertaken, in particular for the Tier 3 indicators, and the metadata. A revised Global Set based on methodological developments and the experience gained from implementation in countries, will be submitted to the Statistical Commission in three to five years for consideration.

UNSD NEWS:

UNSD participates (virtually) in a Side Event at the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow, 4 November 2021

UNFCCC organized a Side Event in collaboration with the Consultative Group of Experts (CGE) at COP26 entitled "UNFCCC: CGE-achievements in 2020&2021 and engagement with national experts". The event showcased opportunities for technical support and advice available with the CGE to developing country Parties to implement the existing Measurement, Reporting and Verification (MRV) arrangements under the Convention and transition to the Enhanced Transparency Framework (ETF) under the Paris Agreement. Presentations were made by UNFCCC, the CGE, UNSD and countries (Cambodia, Ghana, Jamaica and Montenegro) from the MRV/reporting units in their respective countries. UNSD presented on the role and strength of NSOs in climate reporting, in particular on activity data for national inventories, the innovative new surveys being designed by NSOs to compile climate change statistics and highlighted some NSOs and regional statistical institutions that have produced climate change statistics reports. The Global Set of Climate Change Statistics and the results of the Global Consultation on the draft Global Set were described. The Event is available here: https://www.youtube.com/watch?v=DmnVaqc0Aj4

UNSD participates in the regional webinars on "Embedding climate reporting in national statistics" for Latin America and the Caribbean (17 August 2021), Asia and Pacific (14 September 2021) and Africa and Eastern Europe (30 September 2021)

The Consultative Group of Experts (CGE), with support from the United Nations Framework Convention on Climate Change (UNFCCC), organized three regional webinars with a view to facilitating the enhancement of developing countries' transparency arrangements under the Framework Convention and the Paris Agreement, in a manner that taps into potential opportunities and mainstream data collection and analysis activities for climate reporting, as well as for optimal use of the existing resources and capacity at the national level. The regional webinars aimed, inter alia, to: explore potential opportunities and synergies in data collection and analysis for climate and other areas, at the national level; and showcase experiences from countries who have involved national statistical offices into their national MRV/ transparency processes. Presentations were made on these topics by the CGE, UNSD, the UN Regional Commissions and countries in the respective regions, as well as other partners.

UNSD participates in other climate change statistics activities

UNSD has also recently participated in other events related to climate change statistics and presented on the Global Set of Climate Change Statistics and Indicators including:

- 9th IMF Statistical Forum: Measuring Climate Change: The Economic and Financial Dimensions (17-18 November 2021)
- Global Network Webinar (30 November 2021) available here: Global Network of Data Officers and Statisticians and on UNSD's YouTube channel.
- Expert Workshop organized by PARIS 21 entitled "A Data Ecosystems Approach to Support Policies, Decision-making and Reporting for Climate Action" (14 December 2021)
- OECD International Programme for Action on Climate (IPAC) Technical Expert Group meetings (https://www.oecd.org/climate-action/ipac/) (2021)

Eighth Meeting of The Expert Group on Environment Statistics (EGES)

Starting in 2014 and following the endorsement of the FDES in 2013, UNSD has hosted the Expert Group on Environment Statistics (EGES)[1] every year for eight consecutive years. The EGES has reviewed progress made in the implementation of the FDES 2013 in countries, and in recent years has increased its focus upon climate change statistics, most notably, the Global Set of Climate Change Statistics and Indicators (Global Set). Conclusions made by the EGES play a key role in allowing UNSD to communicate its work on environment statistics to the UN Statistical Commission, and in the case of the eighth EGES, conclusions made on the Global Set have been incorporated into UNSD's Report of the Secretary-General on Climate Change Statistics for the 53rd session of the Statistical Commission. This Report includes points for the Statistical Commission's discussion with a view toward the adoption of the Global Set as the framework for climate change statistics and indicators and encourage its implementation in countries.

The eighth meeting of the EGES was held virtually, 12-14 and 19-20 October 2021, organised by UNSD and chaired by Ms. Ruth Minja, Director for Population Census and Social Statistics Directorate, National Bureau of Statistics of the United Republic of Tanzania. With sessions focused upon: (i) Climate Change Statistics and Indicators: Global Set; (ii) Environment Statistics Data Collection; (iii) Environment Statistics Toolbox; (iv) Capacity Development in Environment Statistics and Climate Change Statistics; and (v) Discussion of Priorities and Conclusions, conclusions and recommended actions made emphasised, inter alia, that: the Global Set of Climate Change Statistics and Indicators be submitted to the 53rd session of the Statistical Commission in 2022 for adoption; and the Global Set provides a comprehensive statistical framework with statistics, indicators and metadata, designed to support countries in preparing their own sets of climate change statistics and indicators according to their individual concerns, priorities and resources.

For the Final Report of the eighth meeting of the EGES, including all conclusions and recommended actions of all sessions, refer to: https://unstats.un.org/unsd/envstats/fdes/EGES8/Final%20Report.pdf

[1] Prior to the 2013 endorsement of the FDES, there was formerly an Expert Group on the Revision of the FDES.

Environment Statistics and Climate Change Statistics Reports and Surveys

Many countries are continuing to compile environment statistics compendia and similar publications which apply the FDES 2013 which UNSD makes available on its website at https://unstats.un.org/unsd/envstats/fdescompendia.cshtml in Arabic, English, French, Portuguese and Spanish. More recently, countries (and agencies) have started producing separate climate change statistics publications for which UNSD has established a dedicated website at: https://unstats.un.org/unsd/envstats/climatechange_reports.cshtml

UNSD has compiled over 90 specialized environment statistics surveys and censuses from countries which are available on the website (https://unstats.un.org/unsd/envstats/censuses/) and can be filtered by country, theme and year. The most recent survey posted is the "Environmental Information and Awareness Survey" conducted by the Central Statistics Office of Ireland. Languages in which surveys are available include Arabic, English, French, Portuguese and Spanish.

UNSD welcomes further contributions of both country compendia that apply the FDES 2013, other environment statistics compendia and specialized reports such as on climate change statistics, as well as surveys or censuses on environment statistics or climate change statistics. They can be shared with the Environment Statistics Section (contact: envstats@un.org) where they may then be made available on UNSD's website.

Updates on the FDES 2013 and the Manual on the Basic Set of Environment Statistics

UNSD is pleased to inform that the final Russian version, graciously translated by the Russian Federal State Statistics Service (ROSSTAT), is available on line at: https://unstats.un.org/unsd/envstats/FDES/FDES-2015-supporting-tools/FDES_Russian.pdf and hard copies have also been printed.

Ever since the UN Statistical Commission endorsed the Framework for the Development of Environment Statistics (FDES 2013), the Environment Statistics Section, in close consultation with the Expert Group on Environment Statistics, has periodically released thematic methodology sheets on the Manual on the Basic Set of Environment Statistics. To date, some 14 methodology sheets have been released, with a further two (wastewater, and water quality) scheduled for release within the coming months. The wastewater methodology sheet has undergone a peer review process with the EGES, and key contributing international partners (Eurostat, FAO, OECD, UN-HABITAT, WHO), and the water quality methodology sheet, under the leadership of Statistics Netherlands, will be drafted in early 2022. Additional expressions of interest to contribute to the water quality methodology sheet are still being taken.

Each methodology sheet offers detailed and in-depth methodological guidance including definitions, classifications, statistical methods for collection and/or compilation, dissemination and main uses of the sets of the respective environment statistics. These aspects are provided by the standards and guidelines established by lead agencies in the relevant fields, such as FAO, UNFCCC and UN-HABITAT, which ensures that the methodology sheets utilize established international best practices. The references can be found with the respective definitions and classifications.

The 14 methodology sheets currently available can be found at: https://unstats.un.org/unsd/envstats/fdes/manual_bses.cshtml

UNSD participates in the DA12 project – National workshops on Generating climate change and disasters indicators for policy decision-making: Suriname (13-15 July 2021); Saint Lucia (16-18 November 2021); Antigua and Barbuda (3, 6 & 7 December 2021) [see article under ECLAC]

UNSD participated virtually in three of the DA12 national workshops on Generating climate change and disasters indicators for policy decision-making for each of Suriname, St. Lucia and Antigua and Barbuda. The workshops were organized by ECLAC as part of the DA12 project entitled "Caribbean relevant climate change and disasters indicators for evidence-based sustainable development policies" managed by ECLAC, in close collaboration with the Caribbean Community Secretariat and the Statistics Division.

At each workshop, UNSD delivered a statement in the inaugural session and gave two presentations on: the FDES and its tools such as the Basic Set of Environment Statistics and the Environment Statistics Self-Assessment Tool (ESSAT); and the Global Set of Climate Change and Indicators. UNSD also served as resource persons and participated actively in

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discussions, many of which focused on the Division's outputs in environment statistics, such as the FDES, the ESSAT, and the draft Global Set of Climate Change Statistics and Indicators.

UNSD/UNEP Data Collection 2020

UNSD has finalized the data collection for the UNSD/UNEP Questionnaire 2020 on Environment Statistics (https://unstats.un.org/unsd/ envstats/questionnaire) on water and waste. These files were created from the Questionnaire which was sent out in November 2020 to more than 162 countries and territories, excluding OECD and European Union members, to both National Statistical Offices and Ministries of Environment and asked for coordination within the country. They have since been validated and uploaded into a specifically designed database. In order to comply with policy demand and to maintain relevance, a few substantive changes were implemented for this data collection round.

In the waste section of the questionnaire, UNSD added breakdowns of **e-*waste generated*** and ***e-waste collected*** in the table on ***E-Waste Generation and Collection***.

These modifications included:

- Amounts going to –
  - Large equipment,
  - Screens, monitors, and equipment containing screens
  - Temperature exchange equipment (Cooling and Freezing Equipment)
  - Small E-waste
    - of which: Lamps
    - of which: Small Equipment
    - of which: Small IT and telecommunication equipment

The above-mentioned variables were included in both the breakdowns for "***Total E-waste generated***" as well as "***Total E-waste collected***". Although the response rates for the above-mentioned variables were modest, it is planned that these variables will be collected again in the next round.

In-depth teleconferences and email dialogues were also held among UNSD and UNEP to enhance and improve waste data by introducing the table "***Integration of Food Waste***" and more specifically, in establishing further breakdowns of the International Standard Industrial Classification of All Economic Activities (ISIC) rev. 4 to meet Sustainable Development Goal (SDG) policy demand. Addition of a single table devoted to food waste is being considered for the 2022 data collection round.

All Questionnaire responses have been through a thorough data validation process. Selected water and waste statistics with relatively good quality and geographic coverage compiled from the Questionnaire, complemented by data from OECD and Eurostat, will be published by UNSD through the UNSD Environmental Indicators webpage (https://unstats.un.org/unsd/envstats/qindicators) and the Country Snapshots webpage (https://unstats.un.org/unsd/envstats/snapshots/). The complete data and footnotes received from each respondent country will be uploaded to the Country Files webpage (https://unstats.un.org/unsd/envstats/country_files). Also, selected water and waste statistics will be updated on UNData (http://data.un.org/). UNSD appreciates countries' continuing support on the improvement of timely and reliable global environment statistics.

Prospective collection of food waste statistics via the UNSD/UNEP Questionnaire on Environment Statistics per demand for SDG indicator 12.3.1(b): Food Waste Index

UNSD is engaged in consultations with key stakeholders at international level following increasing demand for data on food waste, especially as it pertains to SDG indicator 12.3.1(b): Food Waste Index.[2] For decades, the waste section of the UNSD/UNEP Questionnaire on Environment Statistics has collected data on the variables, "food waste and garden waste", however SDG policy demand and subsequent dialogue between UNSD and key stakeholders is now at a point where it is obvious that a fragmentation of this variable, or a reconsideration of how food waste data can be collected from countries, is needed.

In close and continued consultations with the United Nations Environment Programme (UNEP) in particular, UNSD has been discussing prospective variables for inclusion in the 2022 data collection round of the UNSD/UNEP Questionnaire on Environment Statistics. Especially during the SDG-era, gradually evolving the content of the Questionnaire to meet relevance of key demand has been a feature. In previous instances, variables have been added to improve country-owned data on SDG indicators, 12.5.1: National recycling rate; and 11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities. Typically, the trend following addition of new variables is relatively low response rates in initial collection rounds, although increase in responses and development of time series is often noticeable by a third or fourth collection round. Whenever new variables are added to the Questionnaire, UNSD makes effort to discuss data availability and prospective respondent burden with countries.

During the eighth meeting of the Expert Group on Environment Statistics (virtual, October 2021), UNEP presented to countries and other international agencies, and stressed the importance of the food waste issue globally, and showed that in the absence of data collection on this topic, alternative estimation methods such as modelling and extrapolation may be applied. It is anticipated that data collection exercises from countries may need to be planned for reporting at international level on this SDG indicator.

As has been the case for decades, UNSD will ensure consistency of terms and definitions which may be applied in the Questionnaire with those used in the similar Joint OECD/Eurostat Questionnaire on the State of the Environment which includes data collection on waste.

Collaboration on wastewater data and water questionnaires by International Agencies (UNSD, Eurostat, OECD, UN-HABITAT, WHO and FAO)

As an ongoing effort, Eurostat, OECD and UNSD have been collecting data on water from national statistical offices and/or ministries of environment in a harmonized manner starting with OECD work in 1979-80, and later in collaboration with Eurostat (1988), and UNSD (1999). In 2018, the Food and Agriculture Organization of the United Nations (FAO) also initiated a global data collection process through its Water and Agriculture Questionnaire, which has some overlap with water data collection carried out by the OECD/Eurostat and the UNSD/UNEP joint questionnaires.

Collectively UNSD, OECD, Eurostat and FAO have conducted 31 teleconferences on water and wastewater data as of December 2021. This series of teleconferences aim to harmonize definitions and terminologies, synchronize data collecting schedules, and maintain an open, efficient channel to discuss various technical issues related to water statistics. Agenda items of the teleconferences include: (1) comparison of country data; (2) comparison of metadata and terminology used in the questionnaires, particularly on how these may apply to the mandates of, for example, the Statistical Commission and the Inter-Agency and Expert Group (IAEG) on SDG Indicators, among others; (3) sharing of the questionnaires' country focal points; (4) written consultation with selected countries by multiple international agencies to clarify discrepancies in data; (5) possibility of the four agencies aligning dates for sending their respective questionnaires to countries; (6) frequency of data collection; and (7) regular information exchanges of meetings, workshops and capacity development activities.

[2] https://unstats.un.org/sdgs/metadata/files/Metadata-12-03-01B.pdf

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In 2020, UNSD was approached by UN-HABITAT and WHO to collaborate on wastewater data collection, dissemination and analyses, in particular towards the SDG Indicator 6.3.1 "Proportion of domestic and industrial wastewater flow safely treated." This work has enabled the international agencies to work seamlessly together, and the better alignment for collecting wastewater data. One of the prime examples of this communication, is the agencies' harmonization on the definition, methodology, and analysis for the generation and treatment of domestic (household) and industrial wastewater.

In the second half of 2021, the collaboration focuses a various of topics and activities, including the outcomes from the discussion on water statistics at the Eighth Meeting of the Expert Group on Environment Statistics (EGES, https://unstats.un.org/unsd/envstats/fdes/fdes_eges8.cshtml), the Basic Set of Environment Statistics - Wastewater Methodology Sheet which is in its finalization stage, new ISIC classifications regarding water and wastewater, ongoing data collection and capacity development updates among the international agencies, and the release of SDG 6.3.1 report "Progress on Wastewater Treatment – 2021 Update" (https://www.unwater.org/publications/progress-on-wastewater-treatment-631-2021-update/), which was launched during the World Water Week in Stockholm in August 2021 (https://www.worldwaterweek.org/) along with all of the 11 water-related SDG indicators.

Further beyond this collaboration, UNSD is also actively engaging with water data users and policy makers and other key stakeholders, and participated in a series of water and wastewater events, including the fourth Global Water Operators' Partnerships (WOPs) Congress on 27 October 2021 (https://congress.gwopa.org/conferences/global-wo-ps-congress), and the second Global Workshop on Integrated Monitoring of SDG 6 on Water and Sanitation on 9 December 2021 (https://www.unwater.org/un-water-global-workshop-on-sdg-6-monitoring).

In the near future, UNSD plan to continuously enhance this indispensable collaboration, by further strengthen the overall methodology of water and wastewater data among agencies, reduce country reporting burden from the countries, improve data update frequencies for reporting to the global SDG database, and plan for future data advocacy activities to support countries' capacity on collecting and reporting water and wastewater data.

The Global Water Operators (WOPs) Congress

In October 2021, UNSD participated in the fourth Global Water Operators (WOPs https://congress.gwopa.org/conferences/global-wo-ps-congress), Congress side event "Advancing SDG 6.3.1 monitoring at the local level – utilities championing urban wastewater treatment", and co-presented data and progress for SDG 6.3.1 with key custodian agencies UN-HABITAT and WHO.

The WOPs Congress convenes public water utility operators, facilitators, donors, workers' unions and civil society organisations to take on the actions, impact, and opportunity to enhance progress on SDG 6. During the side event, UNSD joined with UN-HABITAT, WHO, New York City Wastewater Treatment System, and presented the collective efforts on wastewater data collection, dissemination and collaboration, introduced the UNSD/UNEP Questionnaire on Environment Statistics on Water, discussed how data collected via the UNSD/UNEP Questionnaire may inform key policy questions related to the SDG Indicators, and demonstrated the strong collaboration with other partner agencies in data collection and methodology development. It highlighted the importance of international collaboration and harmonization for wastewater data, and how this data can inform key policy questions on water and sanitation.

The recording of this event is available here: https://www.youtube.com/watch?v=wnUwHlIp_wU

UNSD's participation in collaboration with the UNECE at the eighteenth Session of the Joint Task Force on Environmental Statistics and Indicators (Geneva and virtual, 18-19 October 2021)

As is normal per the long-standing and close collaboration that UNSD has shared with the United Nations Economic Commission for Europe (UNECE), UNSD presented an update on activities related to the production and sharing of environmental statistics and indicators to this Joint Task Force. The presentation included a focus on the UNSD/UNEP Questionnaire on Environment Statistics (waste and water sections) since 12 of the participating countries in the Task Force provide UNSD with data biennially. UNSD stressed the value of country-owned data collected via the Questionnaire to inform SDG- and other policy-related demands, and drew attention to data provided by countries being increasingly cited in research and publications by international agencies. Beyond the Questionnaire, this forum gave UNSD opportunity to share directly with participating member states, the status of the Draft Global Set of Climate Change Statistics and Indicators while understanding the complementarity with the UNECE core set of climate change-related indicators. Questions from the floor demonstrated keen interest in understanding how data validation processes ensure that published data are of the highest possible quality, and the need for climate change statistics and indicators to be aware of the ever evolving demand. Reference to the work of the Joint Task Force is available at: https://unece.org/statistics/events/joint-task-force-environmental-statistics-and-indicators-1

INTERNATIONAL NEWS:

The importance of national water statistics to better populate the global SDG 6.3.1 indicator on wastewater generation and treatment

(Contributed by Graham Alabaster, UN-Habitat, and Rick Johnston, WHO)

The Sustainable Development Goal (SDG) target 6.3 calls for improving water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally. The target is tracked with two indicators, including indicator 6.3.1 on the proportion of domestic and industrial wastewater flows safely treated. In 2021, the three co-custodian agencies for indicator 6.3.1 on wastewater generation and treatment (UN-Habitat, WHO and UNSD) held a series of online meetings with partners (Eurostat, OECD and FAO) to align along a common methodology and approach for the monitoring of indicator 6.3.1. The results published in the 2021 progress report[3], showed that the proportion of total wastewater flow treated among the 42 countries with data available was about 30 per cent in 2015, and that only 14 countries reported on their proportion of industrial wastewater treated. Estimates for generation and treatment of household wastewater could be produced for 128 countries and territories, showing that nearly half (44%) of household wastewater was discharged without safe treatment.

As a consequence, there are yet insufficient water statistics reported to produce global and regional estimates on the proportion of total and industrial wastewater treated, including from rich industrialised countries which in general have well-developed monitoring systems to determine compliance with effluent limitations. Improving wastewater monitoring is nevertheless critically important for many reasons such as climate change mitigation and adaptation, water scarcity, growing water demands, environmental flows, and public health. Since sanitation, wastewater and fecal sludge management are inextricably linked, such effort in wastewater flows monitoring could also benefit the entire sanitation chain and water sector. Finally, wastewater data can readily be used for policy issues and investment decisions to improve water resources management as well as ambient water quality and people's livelihoods.

[3] UN Habitat and WHO, 2021. Progress on wastewater treatment – Global status and acceleration needs for SDG indicator 6.3.1. https://www.unwater.org/publications/progress-on-wastewater-treatment-631-2021-update/

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In 2021, UN-Habitat organised a series of regional webinars on SDG indicator 6.3.1 with groups of individual water/ wastewater utilities in Latin America and the Caribbean, and additional webinars are in preparation in Africa, Arab States, and Asia in 2022. These series of webinars revealed a strong demand for information about the methodological approach, but also for capacity building and financial resources, to better collect and aggregate wastewater data at national level. For many low and middle-income countries, utility data are simply not being measured/recorded, or are not being aggregated at national level, or not being reported to the relevant ministries and National Statistical Offices (NSOs) from which total and industrial wastewater data are here captured.

Raising awareness on the importance of water statistics is therefore a global priority, and the momentum to better populate the SDG indicator 6.3.1 appears to be a good opportunity to develop or improve national targets and standards for the safe treatment of wastewater, and to stimulate more transparency monitoring of the sector, as well as to achieve the SDGs. Regional capacity building efforts are therefore needed to encourage countries to aggregate and better report their wastewater statistics, and to develop appropriate national methods for wastewater measurements and estimations which could serve as inputs to the indicator's calculation by involving the NSOs, line ministries, municipalities, and water utilities.

In 2022, UN-Habitat, UNSD, and WHO will continue to collaborate towards wastewater statistics harmonization and ensure coordination in data collection, with the objective to rapidly double the number of countries reporting total and industrial wastewater statistics. To achieve this ambitious goal, the co-custodian agencies will continue to collaborate to contact NSOs and technical focal points from line ministries (of water, environment and health) in order to improve global wastewater statistics reporting but also to avoid different reporting sources and values. In depth analyses will be also conducted in a few pilot countries, in order to evaluate the reported data quality, as well as the possibility to include in the indicator reporting the volumes of reused water. These pilot cases will also be used to explore the possibility of reporting the pollution loads discharged, in order to increase the relationship within SDG indicator 6.3.2 on ambient water quality, and to better support the achievement of SDG Target 6.3.

E-waste and battery waste statistics from the United Nations University and United Nations Institute for Training and Research[4]

(Contributed by Kees Balde, United Nations University / United Nations Institute for Training and Research)

E-waste

E-waste constitutes one of the fastest growing streams of physical waste in today's global environment and is a threat to sustainable development. Data on e-waste are essential to tackle the fast growing waste stream, as recycling is at this stage not keeping pace and currently only 17 percent of 53.6 million metric tonnes (7.8 kg/ capita) of global e-waste is managed in an environmental sound manner.

In order to increase and further build capacity in countries, the SCYCLE team worked on Regional E-waste Monitors over the course of 2018 to 2021 within the framework of the Global E-waste Statistics Partnership. The Regional E-waste Monitors presents a summary of the regional e-waste status and has been prepared via collaboration with the governments, national statistical offices, and countries' independent experts. It covers an assessment of e-waste statistics, legislation, and e-waste management infrastructure, to enhance the understanding and interpretation of regional e-waste data, with the goal of facilitating environmentally sound management of e-waste. The SCYCLE team has published three Regional E-waste Monitors in November and December of 2021:

[4] The Sustainable CYCLES team of United Nations University has a long history in e-waste since early 2000. The team is currently in transition and co-hosted by the United Nations University / United Nations Institute for Training and Research). The team is planning to be fully migrated to UNITAR starting from 1 January 2022.

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The **Regional E-waste Monitor for the CIS + Georgia 2021 (**available in English and Russian) covers Georgia, Moldova, Belarus, Russia, Kazakhstan, Ukraine, Tajikistan, Armenia, Uzbekistan, Azerbaijan, Kyrgyzstan and Turkmenistan. This project was funded by the German Federal Environment Ministry's Advisory Assistance Programme for environmental protection in the countries of Central and Eastern Europe, the Caucasus and Central Asia and other countries neighbouring the European Union.

The **Regional E-waste Monitor for Latin-America 2021, results for the 13 countries participating in project UNIDO-GEF 5554** (available in English and Spanish) covers Argentina, Bolivia, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Peru, Uruguay and Venezuela. This project is funded by the Global Environment Facility and coordinated by the United Nations Industrial Development Organization.

The **Regional E-waste Monitor for the Arab States 2021** (available in English and Arabic) covers Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, State of Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen. This project was funded by UNU and ITU.

Without doubt, the COVID-19 pandemic is affecting human lives in many ways and is highlighting the interrelations between our environmental and societal systems Home offices, home schooling, online hang-outs with friends, online shopping, movie streaming, gaming nights, etc. – today's living under COVID-19 lockdowns seems impossible without the latest gadgets. The relation between **COVID-19 and e-waste** shows a surprising development from a global perspective.

All reports can be found here:
Publications (scycle.info)
www.ewastemonitor.info

The SCYCLE team is conducting, or will soon conduct, several activities at regional and national level:
- In **East Africa**, together with EACO and ITU, to train and further promote e-waste statistics and integrate household surveys
- Capacity building on e-waste statistics and publication of national monitors in **Namibia, Malawi and Botswana** – together with ITU
- Capacity building on e-waste statistics and publication of national monitor in **Lebanon** with a focus on hazardous waste and household surveys - together with UNDP Lebanon.
- Capacity building on e-waste statistics, policy support and publication of national monitor in **Bahrain** - together with UNEP West Asia Office
- Policy support and e-waste statistics training to **Dominican Republic** - together with ITU
- The **Regional E-waste Monitor Western Balkans** together with ITU and UNEP will be starting 15 December.
- Soon, the follow-up project with **four to be selected countries in the Commonwealth of Independent States** as a follow-up of the Regional E-waste Monitor, funded by the German UBA.

Common Wealth of Independent States + Georgia

E-waste generated
2.5 Mt (8.7 kg/capita)

Collection Rate
3.2 per cent

13 Countries in Latin America

E-waste generated
1.4 Mt (6.7 kg/capita)

Collection Rate
2.7 per cent

Arab States

E-waste generated
2.8 Mt (6.6 kg/capita)

Collection Rate
0.1 per cent

COVID and E-waste

Lower consumption of electronic and electrical equipment in the first three quarters of 2020 leads to reduction of 4.9 Mt e-waste in the future.

On-going Capacity building

Four countries in CIS
Western Balkans
East Africa
Namibia
Malawi
Botswana
Lebanon
Bahrain
Dominican Republic

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Batteries and accumulators waste

Batteries and accumulators play an essential role to ensure that many daily-used products, appliances and services work properly, constituting an indispensable energy carrier in our current society. Batteries and accumulators will remain indispensable in a world that will be further digitized and decarbonized. Therefore, it is expected that the use of batteries and accumulators will grow everywhere at high speed, which will create a large increase in the demand for them. At the same time, the fate of the hazardous batteries and accumulators once wasted is currently largely unmapped and even ignored at global level.

Therefore, SCYCLE team has started to work on the subject and proudly presents the first national study **portable battery waste in the Netherlands**, which has been prepared jointly with the Dutch producer compliance scheme StiBat.

Portable Battery Waste Netherlands

9.5 kt portable waste batteries
4.6 kt collected and recycled
2.6 kt in residual solid waste
0.9 Embedded in e-waste and not recycled
0.4 kt exported embedded in used-EEE and WEEE
1.0 kt unknown

The SCYCLE team and the Joint Research Centre of the European Commission are currently conducting a stakeholder consultations and will publish soon a feasibility study on producing global battery waste statistics. It demonstrates that global inventories of batteries and accumulators can be made, and what is needed in order to realize it.

Please reach out to Kees Balde for further information: balde@vie.unu.edu

Global battery waste Statistics

Global inventories of batteries and accumulators can be made, looking forward to hear country experiences about battery waste statistics.

Launch of the WESR-Common Country Analysis portal (WESR-CCA)

(Contributed by Andrea de Bono, UNEP/GRID - Geneva)

The WESR-Common Country Analysis component (WESR-CCA) aims at facilitating the integration of environmental information made available on open platforms specifically designed to enable stakeholders to use and share data and knowledge, and to engage in the production and use of scientifically sound information for assessment processes and for the transition to achieving the Sustainable Development Goals (SDGs).

The WESR for CCA platform will help to bring key environmental data, information and knowledge into a common platform hosted by UNEP. This will be an interactive environmental data visualization platform for 35 countries in Africa, Asia and Latin America, based on the use of either global data common to all countries or data prepared and provided by each country

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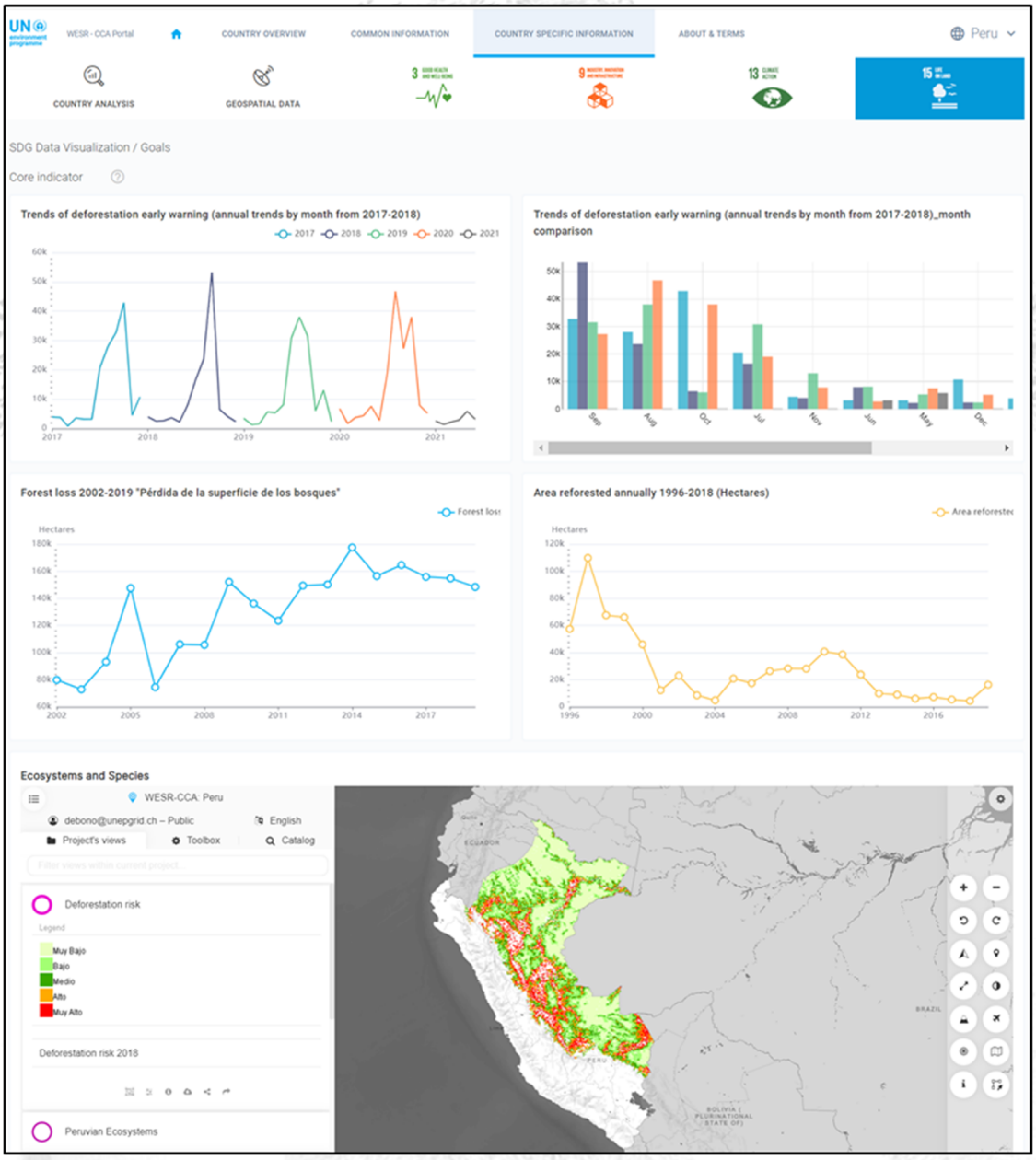


Example of country specific data sections for SDG 15. The national indicators for Peru, were provided by UNEP LAC office

Global biodiversity framework monitoring framework

(Contributed by Monique Chiasson and Jillian Campbell of the Secretariat of the Convention on Biological Diversity)

The availability of reliable statistical data will be essential for measuring progress towards the achievement of the goals and targets of the post-2020 global biodiversity framework. The following text provides brief summaries of the outcomes of meetings held in 2021 under the Convention on Biological Diversity related to the development of a monitoring framework for the post-2020 period.

SBSTTA-24 (Part I)

The first part of the twenty-fourth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, held virtually from 3 May to 9 June 2021, considered the draft monitoring framework (CBD/SBSTTA/24/3 and CBD/SBSTTA/24/3/Add.1) for the 2050 goals and the 2030 action targets of the updated zero draft of the post-2020 global biodiversity framework (CBD/POST2020/PREP/2/1) (agenda item 3). Additionally, terms of reference for a technical expert group on indicators for the post-2020 global biodiversity framework were discussed (CBD/SBSTTA/24/L.3) A contact group was established to work on issues and recommendations related to the monitoring framework. During SBSTTA, a survey was used to collect in-session feedback on the headline indicators and a Friends of the Chair Group was established to discuss technical matters relating to baselines. The SBSTTA discussion resulted in a Co-chairs' report and annex and a draft recommendation (CBD/SBSTTA/24/L.3) which will be discussed for formal adoption at the second part of the twenty-fourth meeting of the Subsidiary Body to be held in person. The survey was also used to update the monitoring framework prior to the first part of the third meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework (details are presented below).

SBI-3 (Part I)

The first part of the third meeting of the Subsidiary Body on Implementation held virtually from 16 May to 13 June 2021 did not directly discuss the monitoring framework, however participants did discuss the use of indicators in the context of an enhanced mechanism for reporting, assessment and review of implementation (agenda item 9). CBD/SBI/3/11 provides an overview of options to enhance planning, reporting, and review mechanisms with a view to strengthening the implementation of the Convention, including elements of a draft recommendation. The use of indicators as a component of the national reporting template is mentioned in the annex to CBD/SBI/3/11/Add.1. This discussion will resume at the second part of the third meeting of the Subsidiary Body to be held in person. The first part of the meeting resulted in a draft recommendation included in CBD/SBI/3/CRP.5. A number of additional documents related to the specific modality for different review elements were requested and will be posted here upon finalization.

OEWG-3 (Part I)

The first part of the third meeting of the Open-ended Working Group on the Post-2020 Global Biodiversity Framework, held virtually from 23 August to 3 September 2021, focused its discussion on the body of the first draft of the post-2020 global biodiversity framework (CBD/WG2020/3/3). However, an updated monitoring framework for the post-2020 global biodiversity framework was presented in CBD/WG2020/3/3/Add.1 (headline indicators) and CBD/WG2020/3/INF/2 (all indicators). While the monitoring framework was not discussed in detail, a section on monitoring is however included in the Co-chairs' summary which will be used to facilitate the discussions at the second part of the third meeting of the Open-ended Working Group to be held in person.

COP-15 (Part I)

The first part of the fifteenth meeting of the Conference of the Parties was held virtually from 11 to 15 October 2021 however did not address substantive issues, including those related to the monitoring framework. The second part will be held in person in Kunming, China, in 2022, and is expected to finalize and adopt the post-2020 global biodiversity framework and associated mechanisms for planning, monitoring, reporting and review of implementation of the framework.

ECLAC Environmental Statistics Activities in Latin America and the Caribbean

(Contributed by the Statistics Division, Economic Commission for Latin America and the Caribbean)

National workshops: "Generating climate change and disasters indicators for policy decision-making in several countries of the Caribbean"

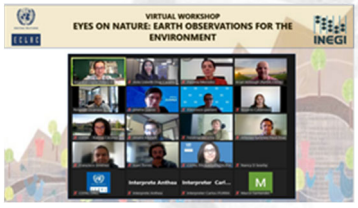
The Statistics Division in ECLAC is currently implementing the DA12 project entitled "Caribbean relevant climate change and disasters indicators for evidence-based sustainable development policies", in close collaboration with the Caribbean Community Secretariat and UNSD. As part of this project, ECLAC recently organized three national workshops for the Caribbean countries, to better understand how data is used and might lead to better data sharing practices, why indicators classified as drivers have data, suggest how to improve data processing using modern technological resources is key to data availability, establish a strong link between environment and climate change data, and disseminate how the power of data influences policy decision-making.

Suriname	Saint Lucia	Antigua and Barbuda
13-15 July 2021	16-18 November 2021	3, 6-7 December 2021
		

High-level presentation and technical workshop on Indicator 12.c.1 of the Sustainable Development Goals – Caribbean, 23-24 September 2021

The scale and impact of fossil fuel subsidies pose challenges and opportunities on the path to achieving the Goals of the 2030 Agenda for Sustainable Development. 12.c.1 Indicator Workshop for the Caribbean countries was held on 23-24 September 2021, with CARICOM and UNEP as coparticipants. The methodology and the importance of this indicator was presented.

The Environmental Statistics Area of ECLAC and the National Institute of Statistics and Geography of Mexico, organized a virtual Workshop "Eyes on Nature: Earth Observations for the Environment", 5 October 2021



As part of the biennial program of activities of the Working Group on Environmental Statistics, the main objective was to share data, experiences, and initiatives to use the Earth Observations (satellite to generate environmental indicators) and thus contribute to and improve decision-making activities by official agencies.

Side event webinar "Caribbean activities related to measure environment, climate change and disasters indicators for policy decision-making" (virtual, 24 November 2021) within the frame of the 11th meeting of the Statistical Conference of the Americas (SCA)

This event aimed to show the progress and challenges of environmental, climate change and disaster statistics and indicators in the Caribbean subregion. Experiences related to indicators produced or developed by countries of the subregion were presented, as well as progress in the production of a resilience database for the Caribbean subregion and followed by dialogue and questions.

ECLAC Regular Data Collection on Environment Statistics: CEPALSTAT, SDG Gateway and Statistical Yearbook 2021

ECLAC's environment statistics team continues to compile and validate environment statistics, climate change and disasters data series to update the CEPALSTAT database with the most recent data. It includes new environment series to better showcase the most relevant issues in the Latin American and Caribbean region, in particular exports of renewable and non-renewable natural resources, and share of primary exports in total exports.

For the next year it is planned to have a Climate Change Profile and a new structure for the presentation of the indicators.

https://statistics.cepal.org/portal/cepalstat/
https://agenda2030lac.org/es

Planned activities:

⇒ Remote technical assistance for the construction and maintenance of a system of national environmental indicators: Ecuador, January 2022.

⇒ Workshop for the production of climate change indicators in Ecuador, February 2022.

⇒ DA12 project national workshop: Generating climate change and disasters indicators for policy decision-making in Grenada, March 2022.

⇒ Workshop to strengthen technical capacities in the construction of environmental indicators prioritized by the Dominican Republic (SDG 6, 12, 13, 14 and 15), March 2022.

⇒ DA12 project national workshop: Generating climate change and disasters indicators for policy decision-making in Saint Kitts and Nevis, April 2022.

⇒ Regional online course focused on capacity building in Ecosystem Accounting in Latin America and the Caribbean, May 2022Course on Spatial Dimension of Environmental Statistics and Indicators for the National Statistics School of Dominican Republic, April 2022.

UNECE NEWS

(Contributed by Michael Nagy and Malgorzata Cwiek, UNECE)

CES Set of Core Climate Change-Related indicators and Statistics using SEEA published (August 2021)

The CES Set of Core Climate Change-Related indicators and Statistics using SEEA, its Implementation Guidelines and 44 metadata sheets were officially published in August 2021.

This document presents a set of core internationally comparable climate change-related indicators and statistics, developed between 2015 and 2020 by a dedicated UNECE Task Force, led by Italy, and endorsed in 2020 by the Heads of national statistical offices of more than 60 member countries of the Conference of European Statisticians (CES).

The CES Indicator Set provides the foundation for developing national sets of climate change-related indicators intended to show the big picture of climate change-related issues, address the most relevant current policy questions and help meet upcoming information needs. It includes 44 indicators covering climate change drivers, emissions, climate change impacts, mitigation and adaptation. It also proposes corresponding contextual and operational indicators, helping interpret the core set in the national and global context and provide more details according to national circumstances and priorities. The selection of indicators followed a careful vetting process based on the criteria of policy relevance in the UNECE region, methodological soundness and data availability described in the document. The CES Indicator Set is complementary to the Global Set and is the recommended set of climate change-related indicators to be compiled and published in the CES member countries.

9th UNECE Expert Forum for Producers and Users of Climate Change-related Statistics (online, 31 August – 3 September 2021)

The 9th UNECE Expert Forum for Producers and Users of Climate Change-Related Statistics took place on-line from 31 August – 3 September 2021.

The main objective of the annual Expert Fora is to provide a platform for sharing experience, discussing concepts and measurement issues, and identifying areas for practical guidance. This year, over 130 participants from 39 countries, 25 organizations, academia and private sector discussed:

- Main global and regional developments related to climate change-related reporting and statistics
- Measuring climate change vulnerability and adaptation
- Producing carbon footprint and consumption-based emissions
- Good practices in producing, disseminating and using climate change-related statistics

All Expert Forum presentations, papers and conclusions are available on the meeting website in English and Russian. The background document "Climate Change-Related Statistics in Practice 2021" presents countries achievements and plans and status of work on topics discussed at the Forum.

The Expert Forum initiated collection of case studies in measuring adaptation, using a template developed by the Steering Group. All countries and organizations are invited to submit their case studies to UNECE Secretariat (cwiek@un.org).

18th meeting of the Joint Task Force on Environmental Statistics and Indicators (hybrid, 18-19 October 2021)

The annual meeting of the UNECE Joint Task Force on Environmental Statistics and Indicators (JTFESI) took place on 18-19 October 2021.

JTFESI was established jointly by the United Nations Economic Commission for Europe (ECE) Committee on Environmental Policy and the Conference of European Statisticians to support countries of Eastern and South Eastern Europe, the Caucasus and Central Asia to produce, share and use environmental information following international standards and guidelines, including the Framework for the Development of Environment Statistics (FDES) and the System of Environmental-Economic Accounting (SEEA). The aim of the work is to strengthen environmental reporting and make environmental statistics available and comparable throughout the pan-European region in the long term.

The meeting was attended by participants of NSOs and ministries of environment of 20 countries as well as several international organisations and research institutes.

Amongst other issues, JTFESI discussed:

- Ongoing developments of relevance on international level and countries' progress in producing and sharing environmental statistics and indicators.
- Ongoing and planned capacity development activities
- Data needs, statistics and indicators on environment in response to COVID-19

The main topic of the meeting was the presentation and discussion of the draft of the reviewed *Guidelines for the Application of Environmental Indicators*. The new Guidelines follow the structure of the FDES. The reviewed list of environmental indicators included 185 indicators with 24 additions, 22 proposals for modification and 27 proposals for discarding. The modifications had been proposed based on the latest international recommendations or specificities of the countries of the region.

Presentations, background documents and the report of the meeting can be found at https://unece.org/info/Statistics/events/357762.

New Task Force on the Role of NSOs in Achieving National Climate Objectives

The CES Bureau is establishing a new Task Force on the Role of NSOs in Achieving National Climate Objectives is being established under the CES Steering Group on Climate Change-Related Statistics. The Task Force will develop guidance on the role of national statistical offices in achieving national climate objectives, by analysing concrete ways in which NSOs can contribute and showcase what the statistical system already offers to support climate action. The Task Force is open to all countries and organisations that would like to participate in the work.

Upcoming events

Joint Statistics Canada / UNECE online seminar on measuring circular economy: The stats we need and how to get them (14 December 2021)

On 14 December 2021 Statistics Canada and UNECE Statistical Division are organising jointly an online *seminar on measuring seminar on measuring circular economy: The stats we need and how to get them.*

The event is organised as part of the 2021 World Circular Economy Forum which is hosted by Canada. The seminar brings together users and potential users of statistics on circular economy from policy and the private sector with experts from NSOs and international organisations.

One goal of the seminar is to explore countries and international organizations' experience in the measurement of circular economy. What has been accomplished so far, where has there been success and where have there been challenges? What types of data gaps exist?

A second goal is to hear from the policy needs of different countries and organisations for circular economy statistics and indicators. What types of information are needed? Where are the policy directions and how are these needs being met and how could they be met? What are the data gaps? What are the policy gaps?

A third goal is to have a panel discussion that represents both the measurement of circular economy (the data perspective) and the policy need(s) (the policy perspective). What are the strengths and challenges? What data is need in future and what are some of the obstacles to implementing circularity? Are we doing enough and can we do more to bring the data providers and the data users together?

One tangible outcome of the event will be a list of recommendations to national governments and existing expert groups of international organisations, including the UNECE Task Force on measuring circular economy, on needed action to make official statistics fit for this purpose.

The concept note and registration link are available at https://unece.org/info/events/event/361846.

EFTA/UNECE Webinars on Climate Change-related Statistics for EECCA countries (19 and 20 January 2022)

UNECE and the European Free Trade Association (EFTA) in collaboration with the National Statistical Committee of the Kyrgyz Republic and UNESCAP are jointly organizing two regional training Webinars on Climate Change-related Statistics on 19 and 20 January 2022. The webinars will have English and Russian interpretation. The webinars are organized in close collaboration with the National Statistical Committee of the Kyrgyz Republic and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). They follow-up on a series of similar webinars held in November and December 2020, and requests by several countries to continue training in implementing the UNECE set of core climate change-related indicators and to develop their capacity for producing climate change-related statistics.

The webinars will discuss practical steps for the implementation of these indicators, with a focus on producing the relevant underlying statistics and environmental-economic accounts. The primary target audience is experts from national statistical offices in charge of climate change-related statistics or environmental statistics, as well as experts from Ministries in charge of climate change policies. Interested participants can still register by completing the on-line registration form (also available at www.efta.int/Statistics/ClimateChange-relatedStatistics2022).

Seventh Joint OECD/UNECE Seminar on SEEA Implementation (24-25 March 2022)

The seventh Joint OECD/UNECE Seminar on the Implementation of the System of Environmental-Economic Accounting (SEEA) will be organised, probably as an online event, from 24-25 March 2022.

The concept note and more information will soon be available at https://unece.org/info/events/event/362755.

EEA indicators in support of policy making

(Contributed by Roberta Pignatelli, European Environment Agency)

The European Environment Agency (EEA) develops and maintains its indicators in close connection with the demand arising from European policies. Together with the European Environmental Information and Observation Network (Eionet), the Agency provide reliable and independent information on the environment and climate in Europe to European citizens and policy makers. Such information is based on a broad knowledge base, made up of hundreds of institutions from 38 EEA member and cooperating countries (27 EU Member States plus Albania, Bosnia and Herzegovina, Iceland, Kosovo, Liechtenstein, Montenegro, North Macedonia, Norway, Serbia, Switzerland, Turkey), using an innovative e-reporting infrastructure for data flows (Reportnet 3) and able to assess progress, prospects, change factors and potential policy responses.

In the EU, EEA indicators are increasingly used to monitor progress in the implementation of policy measures and to assess their effectiveness in terms of relevant environmental results. There is a growing demand for the use of these indicators to support EU policy monitoring frameworks, such as the EU Sustainable Development Goals, the 8th Environment Action Program, as well as the European Green Deal and related strategies and initiatives.

Anticipating this increasing demand, the EEA has recently revised its indicators, now being short information packages that combine a European picture with national level data and key strategic messages. By prioritising quality over quantity, the newly consolidated structure of EEA indicators is more focused on communication aspects, by showing both the European and the country perspective. In parallel, the related production workflow has been simplified and a new version of the Indicator Management System has been produced (IMS v4).

The current set is composed of 72 indicators covering all environmental topics, with particular regard to climate change mitigation and adaptation (26%), water and marine environment (22%), biodiversity (17%), followed by air pollution, transport, land use, resource efficiency & waste, energy, soil, agriculture, and environment & health. Three quarters of the indicators cover all EU-27 countries and one third also cover all 38 EEA member and cooperating countries. Over half of the indicators are updated every year.

The new indicators' structure reflects the focus of the new EEA-Eionet Strategy 2021-2030 "Towards a more integrated knowledge base in support of EU policies", through which EEA and Eionet will enable a sustainable Europe through trusted and actionable knowledge for informed decision-making on environment and climate priorities and solutions, in line with Europe's policy ambitions. The EEA will prioritise understanding of interlinkages within and between the work areas identified by the Strategy, namely Biodiversity and ecosystems, Climate change mitigation and adaptation, Human health and the environment, Circular economy and resource use, and Sustainability trends, prospects and responses.

In this new setting, EEA indicators continue to constitute the building blocks of environmental knowledge, on the one side by maintaining the mechanisms in place that lead from data to policy monitoring, and on the other side by allowing the development of new methodologies (composite indices, dashboards, etc.) for monitoring current and future policies and strategies. Further developments in terms of accuracy and timeliness will derive by the increasing use of Copernicus-based data. The final goal is to be able to measure and assess progress towards sustainability.

As shown last year by the EEA report "The European environment – State and outlook 2020" (https://www.eea.europa.eu/publications/soer-2020), Europe will not be able to achieve its 2030 goals without urgent action to address unprecedented environmental challenges, and societal trade-offs between sustainability outcomes need to be further analyzed. The European Green Deal reflects the need for systemic change and puts sustainability at the heart of EU policy-making, but we are still in the process of turning such ambitions into policies and actions.

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A recent EEA report, published in October 2021 - "Knowledge for Action" (https://www.eea.europa.eu/publications/knowledge-for-action) - provides reflections on how to strengthen knowledge development, uptake and use. Boundary organisations like EEA have an important role to play bridging the gap between science, policy and society, thus shaping a future knowledge system. Anyhow, gaps in data and indicators need to be filled, in order to better support policy implementation.

In a 10-year perspective, new potential and challenges arise, including an increased use of Copernicus-based data in EEA indicators and an increased use of Citizen Science as data source. On the latter, some examples include the new Forest Information System for Europe and the Marine Litter Watch data viewer. Increased cooperation is therefore needed between all actors involved, i.e. statisticians, scientists, policy-makers and the civil society – at national, European and international level.

All EEA indicators are available at: https://www.eea.europa.eu/ims

Recent Eurostat activities

(Contributed by Arturo de la Fuente, Eurostat)

An overview of Eurostat activities on environmental statistics, environmental accounts and sustainable development indicators can be found at: http://ec.europa.eu/eurostat/web/environment/overview. The following is a summary of developments in the last six months.

Sustainable Development Goals (SDGs) and other policy monitoring frameworks

Eurostat has a dedicated website for SDG indicators. The latest Eurostat SDG communication package was published on 15 June 2021, including the full monitoring report on progress towards the SDGs in the EU context - edition 2021, the brochure with key findings as well as the digital publication 'SDGs & me'. The 2021 report includes a special chapter about Covid and another one about spillovers and footprints.

Eurostat supports the methodological development of several tier III indicators in the UN list of SDG indicators for global monitoring, closely cooperating with the relevant custodian agencies. Eurostat participates in the working groups of the Inter-agency and Expert Group on SDG indicators (IAEG-SDGs) on "Geo-spatial Information" and on "SDMX", and follows the work of the IAEG-SDGs as an observer.

Environmental statistics

The main entry points for Eurostat environmental statistics are the dedicated sections in its website for environment, waste statistics and climate change-related statistics. Eurostat also maintains the European Commission monitoring framework for the circular economy in this dedicated website.

The Eurostat waste statistics data are available here. The results of the 2020 data collection on waste statistics according to Regulation (EC) 2150/2002 are published (new data for 2018) and there are online articles here and here. The results of the 2021 OECD/Eurostat Joint Questionnaire on municipal waste are due for publication in early 2022 in this online article. The data collections on waste streams (packaging waste, waste electric and electronic equipment, end of life vehicles and batteries) were completed in September-October. The online article on waste packaging is due for update in December and those on electrical and electronic equipment, and batteries next spring.

The results of the 2020 data collection on inland waters, including regional information, are published here. There is enhanced methodological coordination with OECD, FAO and UNSD to better serve the information needs of SDG 6 – Ensure availability and sustainable management of water and sanitation for all. The results of forestry statistics are available in this article. Data on the production and trade in wood products collected with the Joint Forest Sector Questionnaire were published. Both physical and monetary forest accounting data for the reference year 2018 are published. An overview of data published on forestry and forests by Eurostat can be accessed on this link.

SEEA environmental accounts

An overview of SEEA environmental accounts is available here. Eurostat runs several data collections on air emissions, including greenhouse gases and pollutants (explained here), material flow accounts (explained here), environmental taxes (explained here), environmental sector (explained here), expenditure on environmental protection (explained here) and energy flows (explained here). All these data collections are annual and mandatory for EU Member States. Eurostat will start publishing quarterly estimates of greenhouse gases by the end of 2021. Eurostat publishes all those data results in the Eurostat online database, as well as articles (see Statistics Explained pages) and other material (see dedicated section on environmental statistics). Eurostat also publishes air emission footprints and two datasets with material footprints (aggregate and detailed). Eurostat is updating the technical specifications of those environmental accounts as regards variables, classifications, breakdowns and shorter reporting deadlines. The new technical specifications will enter into force by April 2022.

Eurostat co-ordinates an experimental project on an integrated system of national capital and ecosystem series accounting (INCA) in collaboration with other EU partners. The final report of the project is available here. Several other methodological reports are available in the methodology section under 'Ecosystem accounts'.

Eurostat facilitated training courses on environmental statistics and SEEA for European compilers on the following subjects: physical environmental accounts, water statistics and accounts, monetary environmental accounts, indicator systems (SDGs etc.), and ecosystem accounting. The next course on waste statistics is scheduled for 1-2 December (webex). Material from past courses is available here. Courses scheduled for 2022 are: waste statistics (in February), water statistics (in March or April), monetary environmental accounts (webinar in April plus classroom session in June), physical environmental accounts (May or June), ecosystem accounts (in November). All courses are online except the classroom course for monetary environmental accounts (to be confirmed).

SIAP launches facilitated courses on climate change indicators and ecosystem accounts

(Contributed by the Statistical Institute for Asia and the Pacific, ESCAP)

SIAP's capacity building efforts have focused on the System of Environmental Economic Accounting (SEEA) and the Disaster Related Statistics Framework (DRSF). During the second half of 2021, participants from ESCAP and beyond successfully completed courses on Solid Waste Account and Energy Statistics and Account. A national course on DRSF for Indonesia was also completed during this time.

Looking ahead to 2022, SIAP will launch the facilitated courses "Compiling Climate Change Indicators: An Accounting Approach" and "SEEA Ecosystem Accounting". The DRSF e-learning course will also be translated into other languages and made available on the SIAP e-learning platform.

Please visit the SIAP's e-learning platform (https://siap-elearning.org/) where you can find many courses on the SEEA and DRSF; the self-paced courses are free and open to all.

Use of satellite data and QGIS to produce environment statistics: ESCAP guides

(Contributed by the Statistical Division, ESCAP)

ESCAP recently launched a guide which shows users how to map a population's exposure to flood hazard using QGIS.

The guide entitled ***Mapping Population Exposure to Flood Hazard***, was launched at a recently held Stats Café, https://www.unescap.org/events/2021/asia-pacific-stats-cafe-series-geospatial-techniques-mapping-population-exposure-hazard. The guide is aimed at getting users familiar with downloading and using geospatial data and programs to produce maps which show the percentage of the population exposed to flood hazard.

The guide is the latest in a series of guides published by ESCAP-Statistics explaining the use of open-source software to generate maps and statistical tables. Other guides previously published include two which show how to produce maps and statistical tables of land cover changes over a time interval for varying levels of coding expertise; and one which shows how to construct maps which display the rate of increase of artificial surfaces in a geographical area over time. Maps and statistical tables are generated in accordance with the SEEA land cover categories.

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Please visit the following links for further information, and to download the guides.
Mapping Population Exposure to Flood Hazard: Step by step guide on the use of QGIS
https://www.unescap.org/kp/2021/mapping-population-exposure-flood-hazards-step-step-guide-use-qgis#
Producing land cover change maps and statistics: Guide on advanced use of QGIS and RStudio
https://www.unescap.org/kp/2021/producing-land-cover-change-maps-and-statistics-guide-advanced-use-qgis-and-rstudio
Producing urban hotspot maps – Step by step guide on the use of QGIS
https://www.unescap.org/kp/2021/producing-urban-hotspot-maps-step-step-guide-use-qgis
Producing land cover change maps and statistics: Step by step guide on the use of QGIS and RStudio
https://www.unescap.org/resources/producing-land-cover-change-maps-and-statistics-step-step-guide-use-qgis-and-rstudio

COUNTRY NEWS

Environmental statistics in the Dominican Republic

(Contributed by Environmental Statistics Department, NSO)

The Dominican Republic has registered a gradual development in environmental statistics, however, for more than two decades the country has been part of various regulations, treaties, conventions, and agreements that pay tribute to topics such as ecosystems, climate change, biodiversity, protection of the oceans, waste management, and sustainable development. These agreements include the UN Framework Convention on Climate Change (UNFCCC), the Paris Agreement, the Sendai Framework, the Montreal Protocol, the Ramsar Convention, the Rotterdam Convention, the Stockholm Convention, and others.

In this sense, the adoption of the Framework for the Development of Environment Statistics (FDES 2013) should be mentioned as the main guide for starting a system of environmental statistics to be built. As a result of this beginning, we're participating in the working group on disaster risk reduction (CEA-CEPAL) and various seminars, as well as inter-institutional workshops where all the relevant parties on the interruptions of basic services met with the support of the German Society for International Cooperation (GIZ) that contributes to answering the indicators within the Sendai Framework. Efforts have also been made to calculate indicators for the Sustainable Development Goals (SDGs).

In addition to this, a global consultation was held on the draft of the Global Set of Climate Change Statistics and Indicators, where the NSO coordinated the filling process and examined the national data sources suggested in the global set of indicators to identify the respective institutions in the country that need to be involved in the process. After this, the NSO sent the sub-sets of indicators and statistics to these institutions for completion in accordance with its subject matter expertise. However, it was not possible to achieve an inter-institutional working group to bring together all the relevant parties that make decisions, but the knowledge emanating from the National Statistical System and the Ministry of Environment and Natural Resources was used to discuss and agree on a common set of responses representing the situation in the country, and that this process was carried out collaboratively in a clear and transparent manner.

Recently, work has been done on the construction of the first system of environmental accounts as a result of an external consultancy linked to the National Statistical Office and efforts are being created to launch an energy balance of international comparability, in addition to leading a project that seeks to strengthen the production of water statistics through administrative records.

Despite the recent creation of the environmental statistics department in the NSO, it has been possible to establish a line of publications within the environmental statistics newsletters, which seeks to publicize the main environmental information and indicators that have been calculated.

Environmental statistics is expected to be displayed on the National Statistical Office's website:
https://www.one.gob.do/datos-y-estadisticas/temas/estadisticas- ambientales/

Environmental Statistics and Climate Change Statistics and Indicators in Ghana

(Contributed by Bernice Serwah Ofosu-Baadu (PhD), Ghana Statistical Service and Kwame B. Fredua, Environmental Protection Agency)

Ghana published and launched its first Compendium on Environment Statistics in 2020 using the Framework for the Development of Environment Statistics (FDES 2013).

The Global Consultation on the draft Global Set of Climate Change Statistics and Indicators recommended that countries use the Framework for the Development of Environment Statistics (FDES) to guide the development of climate change statistics and indicators given the close interrelationship between environment statistics and climate change statistics. Climate change is one of the cross-cutting sectors of the core and basic sets of statistics.

Ghana Statistical Service (GSS) convened a workshop in close collaboration with Environmental Protection Agency (EPA) and the National Focal Point to the UNFCCC in October 2021 to consult relevant stakeholders and experts including line ministries, academia and civil society organizations, among others on the production of Climate Change Statistics and Indicators in Ghana.

Further bilateral engagements with the stakeholders based on the areas of climate change statistics topics from FDES and the Global Set have been planned for the first quarter of 2022 to achieve the following objectives:

- provide a comprehensive statistical framework with statistics, indicators and metadata, designed to support the reporting of climate change statistics and indicators according to our concerns, priorities and resources;
- consolidate available methodology for climate change statistics and indicators;
- ensure a wide representation of stakeholders from various groups, sectors and levels;
- assess existing capacities to compile climate change statistics and indicators; and
- support the reporting requirements of Ghana under the Enhanced Transparency Framework and the Global Stocktake of the Paris Agreement, as well as climate-related SDG indicators.

At the end of these bilateral engagements, stakeholder institutions will complete questionnaires/data templates on climate change statistics in Ghana towards the compilation of a Compendium on Climate Change Statistics and indicators.

Various studies and activities on Environment-Economic Accounting have also been initiated by the GSS working closely with the EPA and the National Development Planning Commission (NDPC) since 2016. These initial activities led to the compilation of Energy Accounts and Asset Accounts for Mineral Resources. The country is currently exploring opportunities towards the compilation of several SEEA and Ecosystem Accounts with the ultimate aim of producing Green GDP.

Methodological development of food waste statistics in Hungary

(Contributed by Pal Boday, Hungarian Central Statistical Office)

Globally one third of the food produced for human consumption is lost or wasted. Hungary is committed to reduce food losses along the food production and supply chains. To achieve this goal and to measure the change, there is a need for reliable statistics on food waste.

In 2016, in Hungary we tried for the first time to determine the amount of food waste, to find possible data sources and to plan data collections. Based on the previously available data sources and explored sources and possibilities, in 2021, we determined a methodology for estimating the amount of food waste.

According to the EU requirements data should be available at each stage of the food production chain. Different levels require different sources and methods, therefore compiling statistics should adapt to this.

In Hungary data is available for primary production and processing and manufacturing from the Ministry's Single Waste Management Information System, since players are obliged to submit food waste data. In the retail sector, major players are also required to report to this information system.

In the case of food waste generated in public catering (schools, hospitals, social institutions), similarly, the larger actors have a reporting obligation regarding waste generation related to their production. While waste generated during

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transport, residual and post-serving waste are also reported by some actors, the other part of this information, in our case, can be taken from the national authority responsible for food safety.

Data for food waste within municipal waste can be taken from waste analysis data where the composition of municipal waste is examined. However, municipal waste contains waste similar to household waste which is generated by restaurants (HoReCa), public food services and retail sector. In the case of these, mostly small players, information can be taken from waste management service providers, as their contracts can be selected for these companies by their activities. And food waste can be estimated based on the contracted quantity and according to various factors characterizing the rate of food waste generation specific to their activities.

Since it is a highly complex statistical domain, on the one hand it cannot be based only on traditional data collections and on the other hand many institutions could be involved. Also, there are no standard methods or standard sources that are available or applicable for food waste statistics. Therefore, a group of experts that can identify institutions, organizations, NGOs with possible data or information can be established at the national level.

Ecosystem accounts in Ireland

(Contributed by Tom Healy, Central Statistical Office, Ireland)

The Central Statistics Office in Ireland has established the Ecosystems Accounts Division. With a small start-up team we have begun to build a terrestrial ecosystem extent map beginning with Peatlands, Heathlands, Grasslands and Croplands. Exploratory work is underway in regard to the measurement of biodiversity and its place in ecosystem accounting. Household consumption of cultural or recreational ecosystem services features in our analysis of household behaviour and attitudes.

Considerable work has already been undertaken by various public agencies in Ireland on various aspects of ecosystem extent, condition and services. However, this work has never been brought together and coordinated by the national statistical institute in Ireland. Our aim is work with other organisations especially those with diverse and rich data relevant to ecosystem accounting. Learning from other organisations and working as a team with our colleagues in the Environment and Climate Division of the CSO we aim to provide oversight, coordination and quality assurance and compliance with SEEA-EA.

As an EU Member State, we are very much engaged with the development of a legal module on ecosystem accounts for Eurostat with a view to data collection in the coming years. While continuing to publish CSO 'Frontier' releases in 2022 we aim to prepare the ground for EUROSTAT data collections referenced on the year 2024 in the first instance. We look forward to drawing on the experience of similar size countries who have forged a path ahead ecosystem accounts by building strategic alliances between the NSI, environmental agencies and academia. We are also mindful of the continuing contribution and strong expertise of our closest neighbour, the United Kingdom, where ecosystem accounts are embedded in a broader framework of natural capital accounting.

Ireland has arrived at the table and accounting for nature is part of the core work of CSO. We look forward to contributing to work at European and international levels.

Please refer to the following CSO publications released in the course of 2021:
Information Note on Ecosystem Accounting
Peatlands and Heathlands
Grasslands and Croplands
Household Environmental Behaviours – Visits to Nature Areas

For further information please contact ecosystems@cso.ie

Development of Statistics for Environment- and Energy-Related Measures in Japan

(Contributed by the Office of the Director-General for Policy Planning on Statistical Policy, Ministry of Internal Affairs and Communications, Government of Japan)

The Japanese government has a decentralized statistical system, in which the Office of the Director-General for Policy Planning (Statistical Policy) coordinates the statistical activities of respective ministries that produce statistics for their own policy purposes. Multiple ministries produce environment- and energy-related statistics.

In Japan, a "Master Plan Concerning the Development of Official Statistics" is formulated to plan the comprehensive and systematic promotion of measures for the development of official statistics, based on the Statistics Act (Act No. 53 in 2007).

Under the third revised version of the "Master Plan Concerning the Development of Official Statistics" for the period starting in April 2018, relevant ministries and agencies led by the Ministry of the Environment (MOE) have been working together to calculate greenhouse gas emissions and absorption as well as to create and submit emission/absorption inventories based on the UN Framework Convention on Climate Change (Convention No. 6 in 1994) and Kyoto Protocol. However, in order to achieve more accurate calculations through the development of a domestic system for tabulation, enumeration, and publication of statistics on emissions/absorption and assurance and management of the quality of data, data on greenhouse gas emissions/absorption must be further enhanced. For this reason, the Japanese government will continue to work on the development of statistics on the environment and energy sectors.

For example, the persistence of the effects of various revisions to the Structural Survey of Energy Consumption to stabilize time series or refine data, etc. will be verified, and the systematic development of statistics on energy consumption in industrial and operational sectors will be promoted, including reaching a conclusion about their conversion into fundamental statistics.

In this regard, the Agency for Natural Resources and Energy reports that it is examining the effects of the revisions to refine the data, etc., and also examining new issues identified as a result of the verification.

The "Master Plan Concerning the Development of Official Statistics" is scheduled to be revised in 2023, and the Japanese government is currently discussing new issues to be considered.

The Office of the Director-General for Policy Planning (Statistical Policy), in consultation with all relevant ministries, has also contributed to the Global Consultation on the draft Global Set of Climate Change Statistics and Indicators, launched by the United Nations Statistics Division in May 2021, by sharing the information on the institutions and development of climate change statistics and indicators in Japan.

"Master Plan Concerning the Development of Official Statistics"
https://www.soumu.go.jp/english/dgpp_ss/seido/masterplan.htm

Environmental Statistics and Accounts in Jordan

(Contributed by Sudki Hamdan, Department of Statistics Jordan [DoS Jordan])

Jordan has a long history in collecting and analyzing environmental statistics. The first compendium on environmental statistics was published in 1995. The mission of the Environmental Statistics Department, established in 1995, was to collect environmental data from various official sources, to coordinate and classify, and for analysis and dissemination of the data, in order to create a comprehensive national environmental information system. The Environmental Statistics Department also implements specialized environmental surveys to provide data and field statistics related to energy, water, waste and environmental expenditures using international and regional methodologies and recommendations. These surveys serve planners, workers, researchers and those concerned with the environment.

DoS Jordan has actively taken part in international co-operations, including contributing to the revision of the Framework for the Development of Environment Statistics (FDES 2013) and participating in the Expert Group on Environment Statistics (EGES). DoS Jordan has presented at the EGES in 2020 on electronic waste (e-waste) and in 2021 on wastewater.

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The Environmental Statistics Yearbook was an important tool in the coordination of environmental statistics in the national system of statistics and now applied the FDES in the Yearbook since 2014-2015 up to now. Statistics Jordan has also written agreements on cooperation and maintains close relations with other important producers of environmental and natural resource data. The 20th issue of the annual Environmental Statistics Report (2014-2015, available here in English and Arabic: https://unstats.un.org/unsd/envstats/fdescompendia.cshtml), which is considered one of the most important official environmental statistical publications, has been restructured in line with the FDES.

During recent years, DoS Jordan has focused on the development of environmental accounting (SEEA). Cooperation between the environmental statistics and national accounts in DoS Jordan internally also includes the development of energy accounts. The development of supply and use tables, environmental goods and services statistics, and environmental expenditure accounts are underway. DoS Jordan is responsible along with the Ministry of Environment for the National Greenhouse Gas Inventory. Environmental statistics and accounts, energy statistics and the Inventory are compiled in close cooperation. DoS Jordan has tried to harmonize its data as far as possible and work with a common data management system. It has also provided technical advisory services in environmental statistics and accounts (such as water accounts and statistics) to other countries, including Morocco, State of Palestine, and Tunisia.

With regard to the dissemination and use of environmental statistics and accounts, DoS Jordan has been involved in the development of Sustainable Development and Green Growth Indicators in many national and international projects, and is participating in a technical committee related to the Green Growth Plan in 2018-2025.

Jordan also participated in the Global Consultation on the Global Set of Climate Change Statistics and Indicators. DoS Jordan has collaborated with all technical ministries (Ministry of Environment, Ministry of Energy and Natural Resources, Ministry of Water and Irrigation, Ministry of Local Administration, and Ministry of Agriculture) to the Monitoring, Reporting and Verification System (MRVS) for Carbon Reduction Projects in Jordan.

Useful publications from DoS Jordan:

Environment Statistics Bulletin 2016-2017 نشرة إحصاءات البيئة
http://dosweb.dos.gov.jo/DataBank/agri_Publication/2016-2017.pdf

Electronic and Electrical Waste at Households 2018 النفايات الإلكترونية والكهربائية في المنازل
http://dosweb.dos.gov.jo/databank/publication/Electronic_and_Electrical_Waste_at_Households_2018.pdf

Environment Statistics and Climate Change Unit in Mauritius

(Contributed by Dicksha Mewa Hurdowar and Leal Kumar Dindoyal, Statistics Mauritius)

Statistics Mauritius (SM) recognises the importance of environment statistics for Mauritius. Thus in 1994, SM initiated the development of environmental statistics to support evidence-based policy and decision-making. Subsequently in 1999, an Environment Statistics Unit was set up at the Ministry of Environment, Solid Waste Management and Climate Change. Environment statistics, based on the 1984 Framework for the Development of Environment Statistics (FDES 1984), were compiled and published for the periods 1999 to 2013. In 2015 the United Nations Statistics Division (UNSD), in collaboration with the Common Market for Eastern and Southern Africa (COMESA), organised a Regional Workshop on Environment Statistics in Mauritius in support of the implementation of the FDES 2013.

From 2015 onwards, environmental statistics and indicators to monitor trends and impacts were computed on a regular basis based on FDES 2013.

The Economic and Social Indicator on Environment Statistics and the Digest of Environment Statistics are annually released by Statistics Mauritius in July and November respectively. Moreover, Statistics Mauritius compiles data related to greenhouse gas (GHG) emissions and generates the national GHG inventory using the software recommended by the Intergovernmental Panel on Climate Change (IPCC). The trend in net GHG emissions (CO2-eq) is shown in the Chart below:

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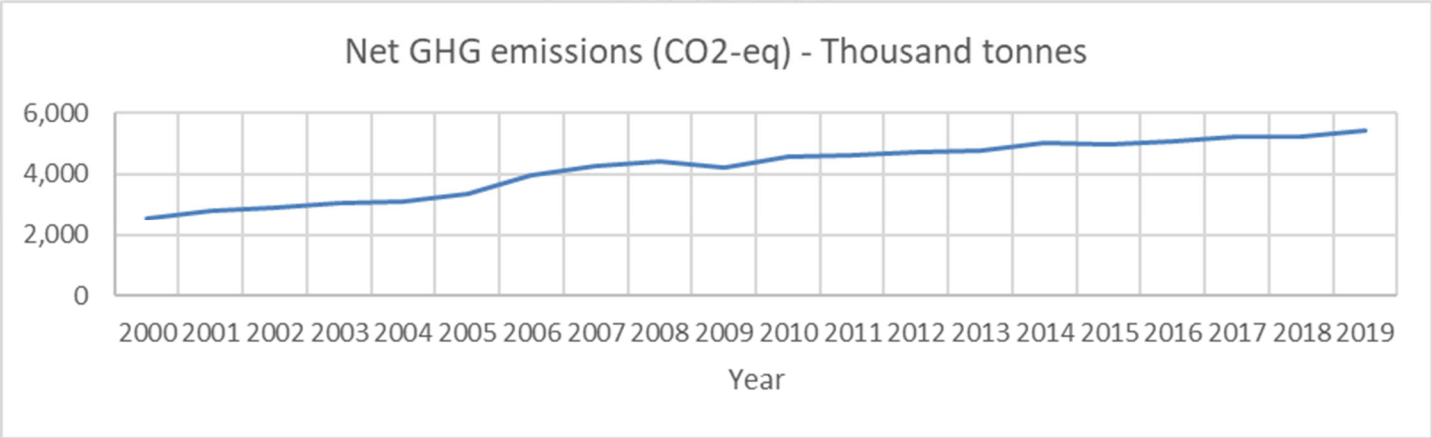

More information can be obtained at the following link:
https://statsmauritius.govmu.org/Pages/Statistics/By_Subject/Environment/SB_Environment.aspx

In addition to the compilation and dissemination of data, the Environment Statistics Unit also assists the Ministry Environment, Solid Waste Management and Climate Change in the preparation and submission of Biennial Update Reports (BUR) and National Communication Reports. Projects implemented by the Ministry and funded by international organisations such as the United Nations Development Programme (UNDP) and Global Environment Facility (GEF), often seek the statistical expertise of Statistics Mauritius. Ongoing projects in which Statistics Mauritius is actively taking part comprise the following: Nationally Appropriate Mitigation Actions (NAMA) for low carbon island development strategy for Mauritius, Capacity Building Initiative for Transparency (CBIT) which aims at improving the GHG inventory, the setting up of the "Observatoire de L'Environnement", and the Nationally Determined Contributions (NDC) reporting.

Statistics Mauritius published its first Water Account Report in 2013 following the capacity building received from Mr. Ricardo Martinez-Lagunes, Inter-regional Advisor on SEEA, hired by UNDP through a technical assistance project. The Water Account was updated in 2018 and can be accessed through the following link:
https://statsmauritius.govmu.org/Documents/Statistics/By_Subject/Energy_Water/Water_Yr18.pdf

Statistics Mauritius has closely collaborated with the National Disaster Risk Reduction Management Centre (NDRRMC) in the development of a template for the collection of disaster statistics in order to strengthen disaster risk reduction at the national and local levels. Thus, a Disaster Information Management System (DIMS) was set up to enable the Government to measure the progress towards the achievement of the global targets of the Sendai Framework for Disaster Risk Reduction (SFDRR).

Furthermore, Statistics Mauritius recently participated in a Global Consultation on the draft Global Set of Climate Change Statistics and Indicators, which was launched by UNSD on 21 May 2021. The major challenge of this exercise was to harmonise information from national data sources while cross-checking their relevance and methodological soundness. Several follow ups of responses from corresponding stakeholders and institutions had to be carried out to submit the report in the specified time frame.

Recent developments from the Somali National Bureau of Statistics

(Contributed by Sharmarke F, Abdirahman D, Abukar M, Hamida Sh, Hashim A, of the Somali National Bureau of Statistics)

The Somali National Bureau of Statistics (SNBS) is an autonomous government agency established under Somalia statistics law (2020) and mandated to collect, compile, harmonize, validate and act as a central repository for Somalia's national statistical system. The statistics law mandates the SNBS to coordinate and manage the entire national statistical system, aligning the Bureau with the federal structure of Somalia's current governance system as stipulated in the provisional constitution (2012). The SNBS seeks to be a centre of excellence for statistics in Africa over the next 5—10 years. In this regard, The SNBS is undertaking multidimensional transformation to align it with its counterparts across the globe.

The Statistics Law (2020) vests the powers to process, harmonize, coordinate, validate and be a national repository for all national official statistics in the SNBS, through the establishment of a National Statistical System (NSS) in Somalia. SNBS has so far conducted a number of important national surveys, including the Somali Health and Demographic Survey (SHDS) and Somalia Labour Force Survey (SLFS). The Bureau is also due to implement the Somalia Integrated Household Budget Survey (SIHBS) and the Somalia Household Business Survey (SHBS). The Multiple Indicator Cluster Survey (MICS) is also stipulated to be conducted within 2022-2023. Of more significant note is Somalia's recent call to action to conduct a housing and population census by the end of 2023. This will be the first in decades and a monumental milestone for Somalia, and the SNBS in particular.

Somalia has formulated a National Climate Change Policy in 2020, with respect to climate adaptation, including in disaster preparedness and response, as well as laying the foundation for mitigative measures. The Policy's goal is premised on enhancing resilience and improving the adaptive aptitudes of vulnerable communities to the adverse impacts of climate shocks. As a matter of fact, Somalia has, through its National Development Plan (NDP-9), mainstreamed climate action in its long-term socio-economic development plans. Somalia is in the process of formulating an environmental act and a charcoal policy.

The SNBS and Food and Agriculture Organization of the United Nations (FAO) have mutually agreed and consequently signed an MOU on the transfer of the Food Security and Nutrition Analysis Unit (FSNAU) and the Somalia Water and Land Information Management (SWALIM) programs from under the management of FAO to Somalia's SNBS through a three-phased approach meant to effectively conclude within a span of three years. FSNAU and SWALIM have produced timely and relevant information and analysis for decision-making, which will also remain useful for longitudinal data and time series analysis.

The SNBS is in the process of hiring an environmental statistics consultant to develop a comprehensive environmental strategy to support in the collection and analysis of environmental data, appropriate information management systems and technically assist the National Bureau of Statistics' capacity for tracking environmental and natural resources data.

The SNBS is keen to contribute to the generation of vital climate data and thereby substantively contribute to Somalia's participation in UNSD's global work on climate change statistics. The SNBS will also welcome the prospect of securing any UNSD or affiliate's support as contained in the Blueprint for Action within the Framework for the Development of Environment Statistics (FDES).

For more information on the SNBS, please visit https://www.nbs.gov.so

Environmental Statistics and Accounts in Spain: Achievements and Future challenges

(Contributed by Antonio Martínez Serrano, National Statistical Institute of Spain)

Spain had a long history of developing Environmental Statistics and Accounts. National Statistical Institute (INE) together with the Ministry in charge of the environmental policy have made an important effort to develop an integrated system of environmental Statistics and accounts in line with the European Regulation and consistent with the methodology of other international institutions such as the Organisation for Economic Co-operation and Development (OECD) and the United Nations Statistics Division (UNSD). Legislation such as Regulation (EC) No. 2150/2002 on waste statistics, Regulation (EU) No. 691/2011 on European environmental economic accounts have provided a strong boost to the consolidation of an Integrated system. Recently, the information and monitoring needs after the approval of the European Green Deal (2019) are posing a growth and significant statistical challenge.
(https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en)

The main organizations that produce environmental statistical information in Spain are National Statistics Institute (INE) and the Ministry of Ecological Transition and the Demographic Challenge (MITERD). Additionally, other ministries and regional authorities collaborate in to collect and develop varied environmental information.

Some of the main statistical products in Spain are:

1. *Environmental Data and Statistics*:

Under this label INE carries out several surveys in three thematic blocks: water , waste and environmental protection expenditure. (https://www.ine.es/dyngs/INEbase/en/categoria.htm?c=Estadistica_P&cid=1254735570567)
In addition, MITERD produces information on several environmental issues like air quality and emissions, water, waste, nature an biodiversity, protected areas, forest surface and forest fires, climatic change, meteorology, among others.

2. *Environmental accounting:*

The enlargement of the Economic-Environmental accounting regulation of the European Union, implied the extension of the set of Environmental Accounts carried out by INE annually until now (atmospheric emissions accounts, environmental taxes, material flow accounts) with three new environmental accounts (physical energy flow accounts, expenditure on environmental protection and goods and services sector accounts). Moreover, INE compiles annually waste accounts and continues to work in coordination with MITERD towards additional environmental accounting to cover forests, ecosystems and environmental subsidies.

3. *Environmental indicators:*

The INE's dissemination products, through its website (https://www.ine.es), systematically include a set of environmental indicators derived from data on environmental surveys and accounts. In addition, MITERD prepares the annual "Environmental Profile of Spain. Indicator-based report" and the "Annual Report on the State of Natural Heritage and Biodiversity in Spain", based on data from the Spanish Inventory of Natural Heritage and Biodiversity.
(https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/publicaciones/perfil_ambiental_eng_2019.aspx)

One of the most recent proyects launched has bieen the Green growth and sustainable development (SD) indicators: At present, INE approaches the production of SD Indicators in the context of the Eurostat SDI project.
(https://www.ine.es/dynt3/ODS/en/index.html)

INE's participation in Eurostat work on SD indicators has taken place in coincidence with the development of the INE projects of environmental statistics, as well as with the improvement of administrative sources which has facilitated an acceptable coverage of the SD EU system of indicators. The Spanish Strategy of Sustainable Development establishes a monitoring system based on the production of reports with specific indicators.

Over 2021, the INE has participated and coordinated at national level the United Nations Global Consultation on Climate Change Statistics and Indicators carried out by the United Nations Statistical Division. Spain has currently developed more than half of the 134 indicators selected by UN and produced by different Institutions of the National Statistical System. Given the importance that the measurement of the effects of climate change has reached, work is already underway on the development of a set of environmental indicators that cover both the measurement of climate change and other relevant issues such as the circular economy. This project is expected to be published in the INE web page and completed as a experimental statistical product by the end of 2022.

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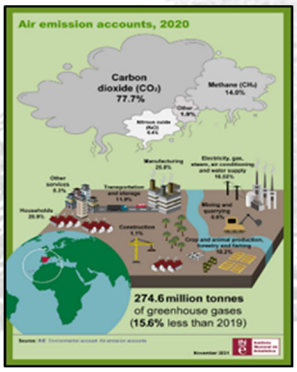
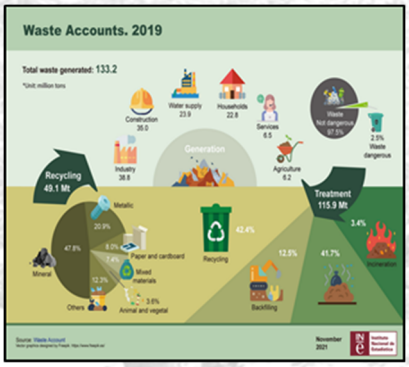
4. *Environmental reporting and assessment*:
In recent years, Spain has placed special emphasis on bringing environmental information closer to society through press releases, articles, publications, infographics and social networks.





Tanzania takes part in the Global Consultation on the Draft Global Set of Climate Change Statistics and Indicators

(Contributed by Ruth Minja, Tanzania National Bureau of Statistics)

Tanzania has been actively participating in the global programs of environment and climate change focusing on strengthening the ability of the country to adapt to climate change impacts and build resilience. The country has ratified and is implementing several Multilateral Environment Agreements (MEAs) to support, among others, the global efforts on environment conservation and combatting climate change. Similarly, as the current Chair of the UNSD Expert Group on Environment Statistics, Tanzania has actively participated in the recent Global Consultation on the UNSD Global Set of Climate Change Statistics and Indicators. Demand for environment and climate change data and the reporting requirements has increased tremendously which calls for proper data plans to measure implementation of various policies. Bridging the gaps between environment and climate change policies and statistics is of paramount important to enhance availability of relevant data for development agendas.

Tanzania like many other developing countries has been experiencing challenges of data availability for environment statistics, and even acutely on climate change statistics. Inadequate data in the area of environment and climate change has thwarted evidence-based reporting of climate change with regards to its relevant areas of drivers, mitigation, impacts, vulnerability, and adaptation on various sectors of livelihood. Tanzania has been using existing opportunities to address challenges of availability of environment and climate change data. For instance, the Tanzania National Bureau of Statistics (TNBS), received a training from the United Nations Statistics Division (UNSD) on the importance and use of the United Nations Framework for Development of Environment Statistics (FDES) and the Environment Statistics Self-Assessment Tool (ESSAT). The training was very useful and enhanced the knowledge of statisticians within the National Statistics System (NSS) regarding assessment of the data gaps, mapping of data users and producers, methodological soundness of available statistics, and relevance of various statistics and indicators from the FDES.

Building on the gained knowledge, Tanzania prepared the first National Environment Statistics Report in 2017 (https://www.nbs.go.tz/index.php/en/census-surveys/environmental-statistics/77-national-environment-statistics-report-2017-tanzania-mainland) which is according to the UN FDES and the first National Climate Change Statistics report in 2019 (https://www.nbs.go.tz/index.php/en/census-surveys/environmental-statistics/593-the-national-climate-change-statistics-report-2019). In addition, in collaboration with the United Nations University (UNU) TNBS prepared the first E-Waste Statistics Report in 2019 (https://www.nbs.go.tz/index.php/en/census-surveys/environmental-statistics/483-national-e-waste-statistics-report-2019-tanzania-mainland). These reports are widely used within and outside the country as baseline statistical information in monitoring policies and programs related to environment and climate change.

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These efforts were followed by the country's participation in the Global Consultation on the draft Global Set of Climate Change Statistics and Indicators which was launched on 21 May 2021 and implemented in Tanzania from June to July 2021. According to UNSD, objectives of the Global Consultation were to: define a Global Set from a list of proposed indicators based on relevance to countries; consolidate the available methodology for climate change statistics and indicators based on reviews by specialized agencies and countries' expertise; define improvement needs and gaps in methodology to prioritize future work on the Global Set; and to assess existing capacities to compile climate change statistics and indicators.

Tanzania National Bureau of Statistics played a key role of coordination within the NSS during the Global Consultation as mandated by the Statistics Act of 2015. Different approaches were used but multistakeholder engagements were the main method used given the interdisciplinary nature of climate change. Other methods used were bilateral consultations through face to face or online approaches.

A quick scan of Tanzania's preparedness in the production of climate change statistics based on Part one of the Global Consultation about the Institutional Dimension of Climate Change Statistics and Indicators, demonstrated the need for strengthening multisectoral approach on climate change aspects due to its multifaceted nature. On the other hand, Part two of the consultation which focuses on the draft Global Set of Climate Change Statistics and Indicators and its Metadata, indicated that, about 90 percent of the statistics proposed in the Global Set are relevant at country level, more than 50 percent of the data for statistics are available but most of them need further refinements with regards to methodological soundness. On the other hand, challenges faced during the Global Consultation include inadequate capacities in compilation of some statistics and indicators, specifically those in tier two and three and inadequate financial resources to fill the existing data gaps.

The main lesson learnt from the process is the need for strengthening partnership between data producers and users in the country because climate change is cross cutting and therefore requires joint efforts to address its impacts and build resilience. Enhancement of data sharing mechanisms and capacity building within the NSS is critical to improve data quality and frequency of data production. The draft Global Set contain 134 indicators and 194 underlying statistics and provides a comprehensive statistical framework to support both developed and developing countries in preparing their own sets of climate change statistics and indicators according to their priorities. Countries should try to domesticate the Global Set of Climate Change Statistics and Indicators to promote harmonization.

Tanzania National Bureau of Statistics has been taking several initiatives to improve data availability. For instance, for the first time, Tanzania is planning to include climate change and e-waste related questions in the 2022 Population and Housing Census (PHC), primarily to raise awareness of climate change and e-waste and to seek public opinion on various aspects. The planned integration will facilitate production of reliable baseline statistics of climate change and e-waste statistics from household level to support making evidence-based decisions in the country.

Tanzania National Bureau of Statistics, as part of the Expert Group on Environment Statistics, appreciates the work of the Group in contributing to the Global Set of Climate Change Statistics and Indicators, that UNSD was requested by the 47th session of the Statistical Commission to develop. As the way forward, TNBS is looking forward to translate some of the outcomes of the COP24 in Katowice into expected reporting requirements in terms of climate change statistics that can be developed at the national level and adoption of the Global Set by the 53rd session of the Statistical Commission in 2022 which will support the reporting requirements of countries under the Enhanced Transparency Framework and the Global Stocktake of the Paris Agreement.

United Kingdom – Environment and Climate Change Statistics

(Contributed by Neil Wilson, Office of National Statistics, United Kingdom)

The Office for National Statistics, as the UK's independent national statistical institute, has a significant and growing role in the development of environmental statistics and providing valuable insight into this critical subject. We produce a diverse range of outputs, including the environmental accounts, greenhouse gas emissions by sector, analysis of the low carbon and renewable energy economy, and the economic value of nature to the UK and its people through the natural capital accounts.

Climate change has presented us with a challenge: it is a highly complex system requiring deep understanding and knowledge in order to design and implement effective measures that will be able to reduce the impacts and severity of associated risks to humans, other forms of life on Earth and the environment. High quality, trustworthy data, statistics, and analysis are required to monitor and evaluate the effectiveness of mitigation measures and adaptation practices. Relevant statistics in the UK are produced by a wide range of government departments and bodies.

This was our challenge. Our response has been to lead work across government departments, agencies, and other public bodies to create the Climate Change Statistics Portal to bring these data and statistics into one place for the first time to improve coherence, accessibility, and comparability.

Launched ahead of the COP 26 summit, the Climate Change Portal is comprised of three layers: an overview and topic dashboards, analytical explainer articles, and a data explorer tool, addressing the need of different user groups. The overview dashboard visualises a key climate change statistical indicators for each of the six pillars in our framework: climate and weather; emissions of greenhouse gases; drivers contributing to climate change; impacts on nature and society, mitigation measures to limit the scale of climate change; and adaptation metrics to track effective actions and sustainability.

The pillars contain around 250 indicators and have four cross cutting themes: geographical variation, distributional effects, exposure and vulnerability, and behavioural change. They were developed in the initial stages of the portal project where the group reviewed the existing range of frameworks and indicator sets to develop a set that was seen to reflect those that are key to the analysis of climate change in the UK. We consider both domestic and international frameworks including those of the UNSD, IMF, UNECE, Sendai, SDGs, the UK's Climate Change Committee, Met Office, and Net Zero Strategy.

This year's Global Consultation on the Global Set of Climate Change Statistics and Indicators provided an excellent opportunity for us to consider our developing framework against the UNSD objective of developing a global set of climate change statistics and indicators. Working within the network we had established we were able to compile our contribution by consulting and coordinating input from more than 20 government departments, bodies and agencies, and devolved administrations. Our review noted the strong alignment of the UK framework's pillars to the Global Set and a very high degree of alignment in the defined statistics: 40% aligned with the UK framework completely, 30% have similar definitions or the UK has partial data already. Of the remainder, not all are relevant to the UK (for example, relating to glaciers) but for others, this provides useful insight for the further development of our framework.

The explainer articles are to support understanding and provide insight, drawing on indicators across these six areas. These include looking at the UK's changing climate, drivers, and responses; measuring UK greenhouse gas emissions; and emissions and international trade. The data explorer allows you to search and filter the datasets behind the indicators and explainers on the portal and download them for deeper analysis in a structured open format consistent with other data on the platform (for example, to allow analysis incorporating other topics, such as health).

The portal is currently a prototype with only a fraction of the data and metrics that are covered in the framework but is an important step. Our ambition is that over time it will evolve to create a comprehensive picture of change related data, statistics, and analysis, presenting a framework that constantly evolves and develops to reflect the latest thinking and understanding. As with all work in this area, it is crucial that it is not static – it must reflect our continued learning on this topic and meet new needs as they emerge and stay relevant. Feedback from all users and stakeholders will be an important and constant input throughout and it's only through the building and maintaining of the relationships established in this work that it can move forward.

FORTHCOMING EVENTS

53rd Session of the Statistical Commission (1-4 March 2022)

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