Review of Environment Statistics in Georgia 2024

Final Report

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Contents

1 Introduction

A strategic review of the National Statistical System of Georgia, conducted in 2023, recommended organizing a sector review for environment statistics.

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Information for the sector review was collected through several methods:

a) A diagnostic tool completed by Geostat in collaboration with key governmental stakeholders, including the Ministry of Environmental Protection and Agriculture of Georgia (refer to Annex I).

b) Meetings by the expert team with both producers and users of environment statistics, including Geostat's senior management and experts, relevant governmental ministries, academic representatives, the media, NGOs, and international organizations. These meetings took place at Geostat head office from April 30 to May 2, 2024 (see the detailed agenda of the mission in Annex II).

c) An examination of national and international websites where Georgia's environmental data are published.

2 Policy context defining the data demand

2.1 National vision

The Fourth National Environmental Protection Action Programme of Georgia for 2022-2026 (NEAP4, https://mepa.gov.ge/Ge/PublicInformation/34047) was developed taking into account the requirements of the Law of Georgia on Environmental Protection and based on international commitments made by the country.

According to NEAP4 Georgia remains strongly committed to achieving the 2030 Agenda for Sustainable Development by integrating its goals into policies at both central and local levels. The principle 'Leave No One Behind' is central to Georgia's approach, reflecting the government's ongoing commitment to support disadvantaged and socially vulnerable groups.

Georgia has systematically incorporated all 17 SDGs in its development policy documents. In 2022, the government adopted the "Vision 2030 – National Development Strategy of Georgia" (Vision 2030, https://leap.unep.org/en/countries/ge/national-legislation/development-strategy-georgia-vision-2030), ensuring that the global goals are embedded within the country's overarching policy framework. The strategic goals and the coordinated implementation of the policies defined in Vision 2030 are aligned with the SDGs and aim to achieve meaningful progress and help Georgia eliminate the economic and social damage caused by the global crisis, promote recovery and fully realize its potential in advancing the 2030 Agenda.

Realising the severe consequences of unsustainable use of natural resources as well as commitments undertaken towards the international community in the directions of biodiversity, green economy and ecosystems, Georgia is committed to the protection and restoration of Georgia's biodiversity and prevention of biodiversity loss, establishing the principles of green economy at the national level and protection of ecosystems, reflecting its commitments towards sustainable progress.

2.2 Main environmental concerns

The main environmental concerns include:

- Air quality in big cities;
- Waste management;
- Deforestation;
- Soil degradation;
- Plastic pollution; and
- Energy transition.

2.3 Sustainable development policy priorities

The Georgian Government perceives the alignment with SDGs for Georgia as a conscious, whole-of-government approach to streamlining the country's policies towards the shared vision of the future. The Commitment to SDGs has thus been expressed through the alignment of the national policy process with SDG objectives as well as by the adoption of the "National Document for the Sustainable Development Goals" by the Government (Government's decree No. 2328 of November 12, 2019).

The National Document for the Sustainable Development Goals equally addresses the three dimensions of sustainable development – economic, social and environmental. It describes the nationalized targets and sets out the institutional and procedural structure for monitoring their implementation. It also contains a national definition of the goals, targets and indicators, according to which Georgia will ensure to plan national and sector-specific policy until 2030. In addition, the political priority given to SDGs has been reflected through consistent and conscious integration of the SDG objectives into the country's EU association agenda, linking them to the core national objectives. Source: web portal of Administration of the Government of Georgia - https://sdg.gov.ge

2.4 Related policy tools

The most relevant related national policy tools are the following:

- **Vision 2030 – National Development Strategy of Georgia** is a national multi-sectoral strategy. Its main objective is to ensure a sustainable and inclusive economic growth.
- **The fourth National Environmental Action Programme of Georgia (NEAP4)**. The document represents the country's main strategic document in the field of the environment and natural resources protection, which defines the long-term strategic priorities of the sector and a specific action plan for the fives year period of 2022-2026.
- **Law of Georgia on Ambient Air Protection** establishes European requirements and principles for monitoring, assessing and managing ambient air quality, including mandatory reporting of air emissions from stationary sources.
    - In accordance with the requirements of the Law of Georgia "On Air Protection", an air quality plan for the Central Zone was developed and adopted by the Government of Georgia in 2023. In addition, an air quality plan for the Tbilisi agglomeration has been developed and after public hearings it will be sent for adoption. In parallel, work has begun on an air quality plan in the Black Sea zone.
    - There is a zero-tax policy for electric vehicles and a reduced tax for new (0-6 years) hybrid cars.
- **The Law of Georgia on Water Resources Management**, which was adopted by the Parliament of Georgia on June 30, 2023, defines responsibilities of governmental organizations and will enable strong mechanisms for stakeholder participation and involvement in the decision-making for water resources management, establishes River Basin Management in the country

through development and implementation of River Basin Management Plans. The new law also re-introduces a permit system for water abstraction and discharge in surface water bodies and establishes important economic instruments, such as abstraction fees for surface water bodies. The statistics on water use will be obligatory for all water users. Such instruments will ensure rational and sustainable use of water resources.

- **Law of Georgia on System of Protected areas.** This Law establishes the system of protected areas of Georgia. It provides that the formation of the system of protected areas in Georgia serves the preservation of original natural and cultural environments and its individual components for future generations, and ensuring conditions for the mental and physical health of humans and the creation of one of the main bases for the civilised development of society. In Georgia, protected areas are established for protecting and restoring significant national heritage - unique, rare and distinctive ecosystems, plant and animal species, natural formations and cultural areas, and for ensuring their use for scientific, educational and recreational purposes and for the purposes of developing and conserving natural resources.
- **The Waste Management Code of Georgia.** The purpose of this Code is to establish a legal framework in the field of waste management to implement measures that will facilitate waste prevention and its increased re-use as well as environmentally safe treatment of waste (which includes recycling and separation of secondary raw materials, energy recovery from waste and safe disposal of waste).
- **The National Waste Management Strategy 2016-2030 and Action Plan 2022-2026.** The main objective is to strive to become a country prioritizing waste prevention and recycling. The main purpose of the strategy is to determine the country's waste management policy and set national targets for 15 years. The National Waste Management Strategy plays a key role in achieving resource-efficient and sustainable waste management through a gradual convergence with European waste management policy and legislation.

2.5 National legislative frameworks covering the production and dissemination of environment statistics

- The Law of Georgia on Official Statistics
- Law of Georgia on Legal Entities Under Public Law
- Administrative Offences Code of Georgia
- Approval of acknowledgment on ensuring information confidentiality at Geostat
- Rule on Access to Confidential Data for Scientific and Research Purposes
- Law of Georgia on Ambient Air Protection; In accordance with the Law of Georgia “On Ambient Air Protection”, reporting of air emissions from stationary sources is mandatory. There is a fine for violating this requirement.
- Law of Georgia on Water Resources Management. The statistics on water use will be obligatory for all water users. Such instruments will ensure rational and sustainable use of water resources.
- Law of Georgia on System of Protected areas
- Forest Code of Georgia
- Waste Code of Georgia

3 Institutions, key stakeholders

3.1 Introduction

The Chief Statistician of Georgia when welcoming the review team noted that environment statistics strengthening is a priority for the country, that those statistics are less established that other domains

of statistics, and that the demand for statistics related to the natural environment is not well-understood. He added that producing environment statistics comes with special challenges as most are cross sectoral and hence require the involvement of experts and input data from several government and non-government institutions, beyond the national statistics office, Geostat.

Hence, understanding and engaging stakeholders are foundational to the improvement of the production and use of environment statistics in Georgia, and the review team therefore conducted a series of stakeholder consultations during their visit, as follows:

- National statistical system of Georgia: The review team met representatives from the following government entities: Ministry of Environmental Protection and Agriculture, National Forestry Agency, National Agency for Sustainable Land Management and Land Use Monitoring, Agency of Protected Areas, National Environmental Agency, Environmental Information and Education Center, Parliament of Georgia.
- User groups: The review team met representatives from the following private sector, academic and NGO entities: GeoGraphic, Tbilisi State University, Georgian Technical University, Rec Caucasus, World Experience of Georgia (WEG).
- International organizations: The review team met representatives from the following international development partner entities: The Food and Agricultural Organization of the United Nations (FAO), UN Women, Office of the UN Resident Coordinator for Georgia, and the United States Department of Agriculture (USDA).

A limited number of institutions were invited to the meetings with user groups and international organizations. Also, most user representatives were experts in production of statistics rather than end users of statistics, and no media representatives attended. The summary assessment presented below may therefore not give a fully comprehensive picture of the institutional landscape and state of stakeholder engagement and collaboration in Georgia.

3.2 Assessment of stakeholder engagement and institutional collaboration on environment statistics

The **meeting with entities of the national statistical system** (NSS) of Georgia demonstrated broad environment sector expertise in the country, including on air quality, waste management, forest management, deforestation, soil degradation, plastic pollution, energy transition, protected areas, water resources management, land use, and disaster risk reduction.

The participating experts shared their experiences with generating and processing administrative data required for implementing and enforcing environmental regulations and policies and reporting to internationally agreed development goals. They enjoyed good relations with Geostat and highlighted the benefits of bilateral Memoranda of Agreements which already exist between Geostat and some agencies including the Ministry of Environment Protection and Agriculture and the Ministry of Economics and Sustainable Development.

Participants described much of the current collaboration as “ad hoc” rather than strategic and highlighted obstacles to sharing data, unclear division of responsibilities for environment statistics, and lack of collective priority-setting for environment statistics as key challenges.

Suggestions made during the meeting to address the challenges included (a) the establishment of a multi-agency coordination mechanism around environment statistics and data that could revisit and clarify responsibilities for environment statistics production and international reporting where applicable among NSS entities; (b) establishment of sector-specific multi-agency working groups; and (c) the involvement of Geostat in developing monitoring frameworks for environmental legislation and programmes so that related performance indicators would be included in the annual statistics programme.

All participating entities expressed willingness and agreed there is a need to deepen and expand institutional collaboration to strengthen environment statistics in Georgia. There was consensus that a more systematic approach to environment statistics in the country is required, that Geostat should coordinate environment statistics development in Georgia, and that Geostat has not yet fully taken on their role as the coordinator of the national statistical system of Georgia as far as environment statistics is concerned.

At the **meeting with user representatives**, all five participants had positive experience with collaborating with Geostat and were regular users of data from Geostat as well as from Government ministries, especially the Ministry of Environmental Protection and Agriculture (MEPA). Collaboration between Geostat and universities was particularly extensive and frequent if not continuous.

The conversation generated several specific requests for increasing the utility and access to environmental data and statistics, including access to microdata, user ready data formats, geolocated data, as well as open (free) access to data from MEPA for university students.

A shared challenge experienced by all the users present was the lack of clarity of responsibilities for environment statistics which makes it difficult for users to know which agency to approach for data. Also, users had observed that MEPA and Geostat both have data on some environmental phenomena and topics but that those data are not always consistent. Participants therefore suggested that there should be one common platform for environment statistics and data, and they preferred that Geostat be the "one-stop-shop" or "go-to-place" for environment statistics. They also expressed a keen interest in being involved in consultations on environment statistics development to be able to influence which new topics of environment statistics should be prioritized in the statistical programme of Georgia.

During the **meeting with representatives from international organizations** present in Georgia, the four participants each gave examples of environment statistics related initiatives that had benefited from good collaboration between their organization and Geostat, especially in the implementation phase.

At present there are no mechanisms in place to facilitate coordination among development partners of statistics development initiatives, and indeed, none of the participating organizations provided examples of joint initiatives by international organizations. Participants acknowledged the lack of coordination among international development partners, describing the situation as non-coordinated, fragmented and not necessarily tailored to meet priority user demands. They expressed a need for a permanent coordination mechanism, for example a Data Group serviced by the UN Resident Coordinator's Office, which exists in several other countries. They noted such group should be open to membership by all international development partners and not be restricted to UN entities.

Participants also suggested that Geostat be more directive in coordinating support to strengthen environment statistics to instate a more strategic and less ad hoc and relationship driven approach to collaboration, and to ensure that initiatives by international organizations are aligned and prioritized according to priority national demands for environment statistics in Georgia. Further on gauging user demands better, participants encouraged Geostat to organize regular workshops for users of environment statistics. They found such events would be useful not only to Geostat and national data users; they would be highly informative for international organizations when designing and fund-raising for statistics development initiatives.

4 Data sources

Given the wide scope of environment statistics there are many (potential) national data sources. The current production of environment statistics is based on:

a) Official statistics from other statistical domains;
b) Specific environment statistics surveys;
c) Administrative data.

Specific surveys on environment statistics do not exist, neither are specific environment-related questions included in existing surveys (such as on households, agriculture or business).

4.1 Official statistics from other statistical domains

Most of the existing "in-house" environment statistics at Geostat are statistics which are produced in a different context than environment statistics. They include the following:

- National Accounts: Data on natural resource inputs, value added, and resource productivity are available at the Business Statistics Department and the National Accounts Department. Availability is generally good, but data quality may vary depending on the extent of coverage and consistency in reporting standards.
- Business and Government Finance: Information on environmental protection expenditures, environmental taxes, and subsidies is available from government financial records. These statistics are usually readily available with reasonable quality, but discrepancies may arise due to data reporting and classification issues. Data on subsidies are available at an aggregated level, making it difficult to determine their exact purpose.
- International Trade Statistics: Imports and exports of natural resources are available at the External Trade and Foreign Investments Statistics Department from international trade databases. Availability may vary, and data quality depends on the accuracy and completeness of reporting.
- Spatially detailed socio-economic statistics: Population, gender, dwellings, income, and labor, access to clean water, sanitation, and energy data are collected through national censuses and surveys, and the entities responsible for data collection are the Social statistics and Population census and demographic statistics Departments. Availability is generally good, but disaggregated data may be limited.
- Agriculture, forestry and fisheries statistics: Information on agriculture and partially on forestry is collected from agricultural censuses and surveys of agricultural holdings.
  Part of the information on fishery is collected through surveys of aquaculture holdings, and the rest of the information comes from administrative sources, specifically the National Environment Agency, which covers permits for the fishery industry.
- Tourism statistics: Visitor numbers and expenditures are typically collected by the Tourism Statistics Division at GEOSTAT through domestic, inbound and outbound
  surveys and tourism satellite accounts.
- Energy statistics: Data on energy stock, supply, and use are collected through energy surveys and administrative records by the Industry, Construction and Energy Statistics Division. Availability and quality vary depending on the energy sector's complexity. Collected data is quite good and well obtained.

Furthermore, Geostat maintains data on basic spatial boundaries: Information on national, regional, and municipal boundaries is available at the Software and Geoinformation Systems Development Division. The availability is generally good.

4.2 Specific environment statistics surveys

Currently, there is one survey designed specifically for producing environment statistics:

- Water use statistics: The Survey of the Water Supply Industry conducted by Geostat gathers data regarding drinking water, the population served by the water supply industry, the volume of water supplied, water losses, and the population connected to wastewater treatment facilities. The quality of the collected data is good, but there is still a lack of opportunity for disaggregated data at the regional level.

4.3 Administrative data

The most relevant producers of administrative data for environment statistics purposes are:

- Ministry of Environmental Protection and Agriculture (MEPA)
- National Environmental Agency
- National Forestry Agency
- National Agency for Sustainable Land Management and Land Use Monitoring
- Agency of Protected Areas

The following administrative data is currently being used to produce environment statistics and to complement the existing statistical surveys:

- Land taxes, ownership and management regimes: Information on land ownership, management regimes, and taxes available from public registers, revenue services and different administrative records. Availability is generally good, but data quality may be affected by inconsistencies in land registration systems.
  An ambitious reform was launched in 2022, the goal of which is the complete registration of all land plots throughout the country within three years. The reform includes 1,000 administrative units in addition to major cities and occupied territories.
- Water sources, quality, abstraction, distribution, and use: These are collected through MEPA with an online reporting system (Water Accounting Module of the Environmental Information Management System https://emoe.gov.ge/).
- Waste management system of MEPA: The Waste Management System was launched in 2022 to gather data on specific waste generation and management falling under the Extended Producer Responsibility (EPR) umbrella. More than 10,000 companies responsible for the production and import of products that eventually will be transformed into specific waste are registered in the system and report monthly information on the production and import of such products. Additionally, four Extended Producer Responsibility (EPR) organizations have registered in the system and are obliged to provide information on the collection and further management of relevant waste streams through the system starting from the end of 2023.
- Eco-tourism revenue: Information on Eco-tourism services/fees and number of visitors in protected areas is available on the web page of the Agency of Protected Areas (APA) https://apa.gov.ge/en/statistika.
- Emissions inventories: Georgia develops the Air Emission Inventory (NFR) and Informative Inventory Report (IIR) on emissions of air pollutants and submits it to the EMEP secretariat annually. The last NFR is available here: Air emission inventory (NFR) 1990-2022 and IIR here: Informative Inventory Report on emissions of air Pollutants 1990-2022. Georgia also developed the emission projection report and estimates for 2020, 2025, and 2030 that were submitted to the UNECE Air Convention in 2021. A comprehensive air emissions inventory for Tbilisi was developed with the EU funded technical assistance project in 2023.
- Air quality: 15 automatic and 3 mobile air quality monitoring stations operate in Georgia's 8 cities, where NO_2, SO_2, CO, $PM_{2.5}$, PM_{10},, and Ozone are being measured continuously. In addition, continuous measurement of the concentration of BTEX (Benzene, toluene, ethylbenzene, and xylenes) was started at 2 automatic stations in Batumi and Telavi. Information available on www.air.gov.ge portal.
  Additionally, the National Environmental Agency (NEA) produces yearly assessment reports based on air quality monitoring data which is published on the Agency's website: www.nea.gov.ge. In 2024 all new stations will appear in the air quality portal www.air.gov.ge.
- Ambient water quality: A surface water monitoring program has been developed by the National Environmental Agency (NEA) in accordance with the EU Water Framework Directive. In 2021 the number of surface water monitoring points increased from 176 to 201, in 2022

the monitoring was conducted in 231 monitoring points, in 2023 at the same 231 monitoring points and in 2024 is planned in 237 monitoring points.
NEA conducted groundwater monitoring on 70 points in 2023, and in 2024 it is planned to conduct monitoring 72 points. In 2023, 2 additional automatic stations were purchased to improve the groundwater monitoring network and are being installed.

- Soil quality: In 2020 soil monitoring was conducted in 55 cities, in 2021 in 57 cities, in 2022 in 58 cities, in 2023 - 60 cities and in 2024 is planned in 63 cities.
- Land cover, land use and land use planning data: With the support of the World Bank, the concept of "Creation of a unified database of land resources and its development" was developed. In accordance with the mentioned concept, the LEPL National Sustainable Land Management and Land Use Monitoring Agency is in the process of creating a unified database of integrated land resources, which will be completed in 2024.
- Protected area locations and protected species lists: Data are available from Agency of Protected Areas.
- Incidence and location of extreme events and disasters: Data on extreme events and disasters are collected through Emergency Management Service, MEPA and National Environmental Agency. Part of information is published in the annual publication Natural Resources of Georgia and Environmental Protection at GEOSTAT web page.
- Forestry: General information on forestry is available from forest inventories, and the sources of this information include the Agency of Protected Areas, the Forestry Agency of Adjara, the National Forestry Agency, and the Department of Biodiversity and Forestry at the Ministry of Environmental Protection and Agriculture of Georgia (MEPA). Additionally, the National Forest Inventory was conducted with a reference year of 2022.
  NFI data is available for the public on https://mepa.gov.ge/En/Page/NFI and portal.mepa.gov.ge.
  The NFI data will be included in the Forest Information and Monitoring System (FIMS) once the system is completed and fully operational. The new Forest Code (2020) introduces the Forest Information and Monitoring System (FIMS) in Georgia. FIMS pools and systematizes all forest-related information and should have access to other relevant databases of the country. FIMS aims to provide forest-related information to the public as well as to support decision-makers from various forest authorities. Currently, FIMS operates in a test regime and will be finalized soon.

5 State of environment statistics

For this sectorial review for “environment statistics” the definition and scope of the United Nations Framework for the Development of Environment Statistics (UN FDES) has been used:

- ***Environment statistics*** *are environmental data that have been structured, synthesized and aggregated according to statistical methods, standards and procedures.*
- *The* ***scope*** *of environment statistics covers biophysical aspects of the environment and those aspects of the socioeconomic system that directly influence and interact with the environment.*
  The six main components of environment statistics defining its scope are: Environmental conditions and quality, environmental resources and their use, residuals, extreme events and disasters, human settlements and environmental health, and eenvironmental protection, management and engagement.

5.1 Existing compilations of environment statistics and indicators

The following provides an overview on existing national compilations per each component and sub-component of the UN FDES (codes in brackets link to the indicators of the UNECE Guidelines for the Application of Environmental Indicators, https://unece.org/guidelines-application-

environmental-indicators). Source of this information is the diagnostic tool which was completed by Geostat (more details available in Annex I):

Component 1: Environmental Conditions and Quality

Subcomponent 1.1: Physical Conditions

- Air temperature (B1)
- Atmospheric precipitation (B2)

Subcomponent 1.2: Land Cover, Ecosystems, and Biodiversity

- Land cover (LCLU_Sentinel-2 | Atlas of forest and land use)
- Protected Areas (D1)
- Forest and Field Fires
- Forest Area

Subcomponent 1.3: Environmental Quality

- Ambient air quality in urban areas (A2)

Component 2: Environmental Resources and Their Use

Subcomponent 2.1: Mineral Resources

- Material Flow Accounts (MFA)

Subcomponent 2.2: Energy Resources

- Final Energy Consumption (G1)
- Total Primary Energy Supply (G2)
- Energy Intensity (G3)
- Renewable Energy Supply (G4)

Subcomponent 2.3: Land

- Unified database of land resources development

Subcomponent 2.4: Soil Resources

- Roadmap for updating soil quality monitoring and assessment system

Subcomponent 2.5: Biological Resources

- Illegal Logging
- Volume of Felled Timber
- Production of Annual Crops
- Sown Area of Annual Crops
- Average Yield of Annual Crops
- Production of Permanent Crops
- Land Area Under Permanent Crops
- Livestock Numbers
- Production of Animal Husbandry

Subcomponent 2.6: Water Resources

- Water Supply Industry and Population Connected to Water Supply Industry (C5)
- Water Losses (C7)

Component 3: Residuals

Subcomponent 3.1: Emissions to Air

- Emissions of Pollutants into the Atmospheric Air (A1)
- Consumption of Ozone-depleting Substances (A3)
- Greenhouse gas emissions (B3)

Subcomponent 3.3: Generation and Management of Waste

- Municipal Waste

Subcomponent 3.4: Release of Chemical Substances

- Fertilizer Consumption (F2)
- Pesticide Consumption (F4)

Component 4: Extreme Events and Disasters

Subcomponent 4.1: Natural Extreme Events and Disasters

- Data on Natural Extreme Events and Disasters

Component 5: Human Settlements and Environmental Health

Subcomponent 5.1: Human Settlements

- Population by regions and urban-rural settlements
- Household Water Use Per Capita (C4)
- Population Connected to Wastewater Treatment (C14)

Subcomponent 5.2: Environmental Health

- Data on morbidity with acute and chronic diseases by main disease groups

Component 6: Environmental Protection, Management, and Engagement

Subcomponent 6.1: Environmental Protection and Resource Management Expenditure

- General Government budget expenditure by functions

5.2 Priority environment statistics identified within NSS

The identified priority areas for implementation or further development consider both national policy needs and the requirements defined in the "Statistical Requirements Compendium" of Eurostat (https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/w/ks-gq-23-008). Priority setting also considers the feasibility of implementation considering available resources and existing compilations as presented in section 4.1.

The following priority areas on environment statistics have been identified:

- Environment Statistics:
  - Waste statistics
  - Water statistics
  - Biodiversity statistics
- Environmental-Economic Accounts:
  - Environmental Protection Expenditure Accounts
  - Environmental Taxes
  - Economy-wide Material Flow Accounts
  - Physical Energy Flow Accounts
  - Air Emissions Accounts
  - Water Accounts

5.2.1 Waste statistics

5.2.1.1 Current situation

Georgia reports waste statistics data via the "UNSD/UNEP Questionnaire on Environment Statistics – Section Waste Statistics" which includes statistics on waste generation, management of hazardous waste, management of municipal waste and the composition of municipal waste on both the national and city levels. A special data collection on e-waste generation and collection is included. The Environment Statistics Division of the Agricultural and Environment Statistics Department of Geostat coordinates the compilation of the questionnaire and submits it to UNSD and EUROSTAT.

The responses to the 2022 questionnaire were used to discuss and to identify the main problem in national waste statistics:

- Table R1 (Generation of waste by source): only data on generation of waste by households is available since 2014 (a footnote explains that this refers to "municipal waste")
- Table R2 (Management of hazardous waste): only data on hazardous waste exported is available (for the years since 2008) and stock of hazardous waste in 2007. This is astonishing as the reporting of Georgia under the Basel Convention [1]includes all relevant data.
- Table R3 (Management of municipal waste): Only data on landfilling and population connected to municipal waste collection available.
- Table R4 (Composition of municipal waste): Data for some years (2004, 2005, 2007 and 2021) available.
- Table(s) R5 (Management of municipal waste – city data): Time series for Tbilisi, Batumi and Kutaisi available.
- Table R6 (e-waste generation and collection): no data available

Waste statistics were not published in the latest annual statistical publication *Natural Resources of Georgia and Environmental Protection* (2022).

An important new data collection is the EPR electronic registry which is maintained by MEPA. This registry provides data on the EPR waste streams oil, e-waste, tires and batteries.

5.2.1.2 Assessment

Geostat and MEPA consider enhancing the production of waste statistics as one of the priority areas.

There is still a lack of data on waste management, including waste collection, recycling, landfill diversion rates, and the implementation of waste-to-energy technologies. Action has been taken in this direction, and the Waste Management System was launched in 2021 to gather data on specific waste generation and management falling under the Extended Producer Responsibility (EPR) umbrella.

It is suggested to also expand the scope of waste statistics to inform policies related to sustainable use of natural resources and the circular economy. See *CES Framework on Waste Statistics* [2].

5.2.2 Water statistics

5.2.2.1 Current situation

Statistics on water describe the quantitative characteristics (stock, abstraction, use, discharge) and quality characteristics (drinking water quality, water quality in water bodies) of water resources.

[1] https://www.basel.int/Countries/CountryProfiles/tabid/4498/Default.aspx

[2] https://unece.org/statistics/publications/conference-european-statisticians-framework-waste-statistics

Data and statistics on water resources are collected at the national level by two entities: Geostat, specifically the Environment Statistics Division of the Agricultural and Environment Statistics Department, and MEPA.

- Geostat conducts an annual statistical survey of the Water Supply Industry, collecting data on drinking water, the population served by the water supply industry, the volume of water supplied, water losses, and the population connected to wastewater treatment facilities.
- MEPA collects statistics on stock, supply and use of water resources using the Water Use State Accounting Online System, as well as water quality data using the Water monitoring Network covering both surface water and groundwater bodies.

Geostat and MEPA disseminate water data and statistics through channels such as yearbooks, monthly bulletins, databases and others. For example, the latest publication (2022) *Natural Resources of Georgia and Environmental Protection* includes statistics on main lakes and reservoirs, and some indicators (national annual aggregates) on water supply and wastewater collection and treatment.

From the ECE list of recommended environmental indicators the following are being produced:

- Geostat publishes four: C4 “Household Water Use Per Capita”, C5 “Water Supply Industry and Population connected to water supply industry”, C7 “Water losses”, C14 “Population connected to wastewater treatment”;
- MEPA publishes five: C1 “Renewable Freshwater Resources”, C2 “Freshwater Abstraction”, C3 “Total Water Use”, C10 “BCO and Concentration of Ammonium in Rivers”, and C11 “Nutrients in Freshwater”.

The Environment Statistics Division of the Agricultural and Environment Statistics Department of Geostat coordinates the compilation of the UNSD/UNEP Questionnaire on Environment Statistics (water section) and submits it to UNSD.

5.2.2.2 Assessment

Geostat and MEPA have shown high interest in strengthening statistics on water resources at the national level. At the same time, additional coordination and collaboration is needed, especially with regard to statistics on water quantity. Both entities may collaborate in analyzing the lists of respondents providing data. This work will help them avoid double counting, reduce the reporting burden on respondents and harmonize their outputs. More collaborative work will also allow them to improve the quality of the national data and statistics provided in the “UNSD/UNEP Questionnaire on Environment Statistics – Section Water Statistics” where inconsistencies of some data can be noticed.

There seem to be problems related to the integration of data from different sources.

A temporal and spatial disaggregation of water statistics would be desirable to show the seasonal and local variations of water availability and water demand. Spatial disaggregation could be by administrative region and by river basin.

5.2.3 Biodiversity statistics

5.2.3.1 Current situation

According to the UN FDES, biodiversity indicators describe flora and fauna species and population. The biodiversity section in the ECE list of recommended environmental indicators is broader and also covers data on protected areas and partly forest resources.

Data and statistics on biodiversity in Georgia are mainly collected by the Department of Biodiversity and Forestry of MEPA and agencies under MEPA such as the Agency of Protected Areas, the Forestry Agency of Adjara, the National Forestry Agency. A Biodiversity Monitoring Division has been established within the Biodiversity and Forestry Department. Additionally, work is in progress on

creating an electronic platform for biodiversity monitoring, which will house all types of statistical information related to biodiversity monitoring.

Data on forest resources are available from the National Forest Inventory, coordinated by MEPA. MEPA also provides some relevant data through the Forest and Land-Use Atlas of Georgia/Ministry of Environmental Protection and Agriculture's Geographic information portal. It should also be noted that work is underway on the Forest Information and Monitoring System(FIMS).

From the ECE list of recommended environmental indicators, out of 4 indicators on biodiversity, Geostat publishes one – D1 "Protected areas". Statistics on protected areas, species preserved in protected areas and expenses on the maintenance of protected areas (including number of employees) are published in the annual statistical report *Natural Resources of Georgia and Environmental Protection*.

An important example of a consolidated list of biodiversity indicators is the Global Biodiversity Framework (GBF), adopted in 2022, which includes indicators. As a party to the Convention on Biological Diversity (CBD), Georgia is obliged to report the global set of GBF indicators on a national level.

MEPA is responsible for the implementation of the Convention on Biodiversity (CBD) at the national level and for reporting on the Global Biodiversity Framework (GBF) to the CBD Secretariat. With support of UNEP, MEPA is currently implementing an international project on Technical Support for the Global Biodiversity Framework Early Action Support.

5.2.3.2 Assessment

Statistics on biodiversity are coordinated by MEPA. At the same time, continuous and regular cooperation on data and statistics on biodiversity between Geostat and MEPA is needed. It is important that Geostat is aware of current progress and plans in the area of biodiversity data and statistics, since Geostat, as a national statistical body, is involved in various multi-dimensional initiatives at the national and international level. Geostat can also contribute to national reporting under the Global Biodiversity Framework by supporting MEPA on economic and social indicators.

5.3 Environmental-Economic Accounting

5.3.1 Current situation

The System of Environmental-Economic Accounting (SEEA) provides an internationally standardised framework for integrating environment and economic statistics. Its implementation enables the generation of additional information that is valuable for policymakers and helps guide decisions on relevant measures for achieving a sustainable society.

Recognising the importance of compiling these accounts, the Environment Statistics Division of the Agricultural and Environment Statistics Department of Geostat has identified the development of SEEA at the national level as a priority. In 2018, Geostat initiated a pilot project to compile Economy-wide material flow accounts (EW-MFA). The first results were published on the Geostat official website in 2019 and have been updated annually since then. The annual compilation of EW-MFA typically takes nearly a month, requiring the efforts of one expert from the Environment Statistics Division, who utilises data from both Geostat and MEPA.

Geostat and MEPA are committed to the continued advancement of environmental-economic accounts. Initial research has been conducted to understand harmonised international methodologies and to identify available data for the compilation of other accounts, both physical and monetary. Based on this research, an initial list of potential accounts to be developed has been proposed: water accounts, air emissions accounts (AEA), and physical energy flow accounts (PEFA).

During interviews conducted for this assignment, Geostat expressed strong interest in the environmental-economic accounts which are currently mandatory for EU Member States. MEPA also highlighted its interest in Environmental protection expenditure accounts (EPEA).

5.3.2 Assessment of monetary accounts

MEPA's request in Environmental Protection Expenditure Accounts (EPEA) reflects the Ministry's recognition of their importance. However, compiling these accounts involves complex methodology, requires numerous data sources, and demands specialised expertise. At this stage, launching a comprehensive monetary accounts program may be overly ambitious.

On the other hand, accounts like environmental taxes could be developed relatively quickly. Budget data from the Ministry of Finance, aligned with the Classification of the Functions of Government (COFOG), is already available, making these accounts a feasible and early success for Geostat with the support of initial training and expert guidance.

Environmental transfers represent another module that does not require a highly complex methodology. However, the current level of detail in the data provided by the Ministry of Finance appears insufficient for immediate compilation.

For both of these accounts, close collaboration between Geostat, in particular the experts of the National Accounts Department and the Environment Statistics Division, and the Ministry of Finance is essential. This partnership would help clarify the objectives for developing these accounts, define their content, and establish the appropriate data formats necessary for their construction.

The new Classification of Environmental Purposes (CEP) is not yet widely known or implemented. A first step would be to train relevant staff in using this classification and apply it to economic data available in national accounts. Once this stage is complete, Geostat could move forward with developing methodologically more complex accounts, such as Environmental Goods and Services Sector (EGSS) and Environmental Protection Expenditure Accounts (EPEA).

5.3.3 Assessment of physical accounts

The completion of the first Economy-wide Material Flow Account (EW-MFA) is a significant achievement, and the publication of the initial results is encouraging. However, key indicators such as Domestic Material Consumption (DMC) have not yet been transmitted to international bodies as part of the Sustainable Development Goals (SDG) indicator collection. Geostat has confirmed that this data will be submitted shortly.

Despite this progress, merely publishing tables on Geostat's official website is not enough to ensure that these results are utilised by policymakers. More efforts are needed to raise public awareness about the importance of these data and their potential to inform policy decisions. This can be achieved by publishing technical and exploratory analyses, as well as organising information sessions for potential users.

Both MEPA and Geostat are eager to move forward with the compilation of Physical Energy Flow Accounts (PEFA) and Air Emissions Accounts (AEA). Since these two accounts are interconnected, collaboration between the two institutions is crucial. Geostat produces energy statistics, including the energy balance, while MEPA is responsible greenhouse gas (GHG) inventories and air emissions data. Developing PEFA and AEA will require addressing the distribution of energy consumption by economic sector using the Classification of Economic Activities (NACE). It is therefore advisable to begin the methodological work with the compilation of PEFA. Given the expertise of Geostat staff, this work should ideally be conducted by the **Industry, Construction and Energy Statistics Division** of the Business Statistics Department, in close collaboration with the Environment Statistics Division of the Agricultural and Environment Statistics Department.

Regarding water accounts, particularly the physical flow account for water, experts from Geostat's Environment Statistics Division have demonstrated a solid understanding of the existing international frameworks and the data requirements in this area. Both Geostat and MEPA have shown that various relevant data sources are available for water statistics, including the statistical survey of the water supply industry conducted by Geostat and water abstraction data collected by MEPA. However, challenges remain, particularly in terms of the clarity of respondent coverage and potential inconsistencies between the data collected by Geostat and MEPA (see also assessment of water statistics in section 5.2.2.2). Additionally, data for the physical flow account for water must be presented by NACE sector. Geostat has indicated that they plan to provide pilot water accounts by early 2025, which is feasible, though the initial results will likely be general and highlight data gaps. This will help in developing a plan to address these gaps in the future.

5.4 Other comments and observations

Temporal and spatial disaggregation: Currently, almost all environment statistics is presented as national annual aggregates, for some a disaggregation by city or region exists. For some policy questions further disaggregation of the data is needed (e.g. to inform about seasonal variations in water uses or the impacts of heatwaves and floods). See recommendation number 5b in chapter 6 on how to identify the needs for data disaggregation.

Environment Statistics Portal: Establishment of the portal on environment statistics will not only address the current users' demands but may also lead to the identification of new areas of interest. As environment statistics overlaps with other statistical domains (e.g. agriculture statistics, transport statistics, etc.) the portal should provide the necessary links. See also recommendation number 17 in chapter 6.

Climate change-related statistics: Even if not discussed in detail at the sector review, there is a high potential for development of climate change-related statistics, for example published in form of a dashboard or set of indicators. The further development of accounts on physical supply and use of energy, air emissions accounts, water accounts, land accounts etc. will support the implementation of relevant indicators, e.g. the *CES Set of Core Climate Change-Related Indicators and Statistics Using SEEA*[3] and the much broader *Global Set of Climate Change Statistics and Indicators*[4].

Disaster-related statistics: Some data on extreme events are already available in the annual Publication *Natural Resources of Georgia and Environmental Protection*[5]. The data from MEPA could be gradually complemented with statistics on disaster risk (e.g. population and infrastructure in disaster-prone areas) and disaster impacts (physical and monetary). Guidance for this can be found in the *ESCAP Framework on Disaster-related Statistics* [6]and the *CES Recommendations on the Role of Official Statistics for Measuring Hazardous Events and Disasters*[7].

Measuring Circular Economy: Even if there is no special policy related to circular economy, the improvement of statistics on waste and material flow accounts will allow to measure some important aspects of the circularity of the economy. Georgia's Green Growth Strategy (3GS) that is currently being prepared, is an opportunity to instigate using Circular Economy indicators. More information

3. https://unece.org/statistics/publications/CES-set-of-core-climate-change-related-indicators
4. https://unstats.un.org/unsd/envstats/climatechange.cshtml
5. https://www.geostat.ge/en/single-categories/109/environment
6. https://www.unescap.org/sites/default/d8files/event-documents/%21DRSF%20Manual_20220620_0.pdf
7. https://unece.org/statistics/publications/recommendations-role-official-statistics-measuring-hazardous-events-and-disasters

and a list of proposed indicators is available in the *Guidelines for Measuring Circular Economy (Part A: Conceptual Framework, Indicators and Measurement Framework)*[8].

Monitoring SDG indicators: While there is a national SDG platform that allows tacking SDG indicators at the nation level (https://sdg.gov.ge/sdg-tracker), more coordination is still needed regarding the dissemination of consolidated data, for example on environment-related SDG indicators such as 6.3.2 "Proportion of bodies of water with good ambient water quality" or 8.4.2/12.2.2 "Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP". In case of any difficulties in calculating SDG indicators at the national level, national SDG focal points may contact the relevant custodian agencies using the email addresses provided on the Global SDG Indicators Data Platform (https://unstats.un.org/sdgs/dataContacts/).

6 Recommendations

6.1 Strategic recommendations

1. As the coordinator of the national statistical system of Georgia, Geostat should in consultation with relevant members of the national statistical system provide strategic guidance and clarity on environment statistics by:

   a) defining the national scope of environment statistics using the United Nations Framework for the Development of Environment Statistics as a reference;

   b) determining short and long-term priorities for environment statistics development.

   Consultations on priorities should in addition to national priorities consider the requirements defined in the Eurostat Statistical Requirements Compendium, as highlighted in the National Strategy for the Development of Official Statistics of Georgia, 2024–2027.[9]

2. To improve the quality and scope of environment statistics in Georgia, the number of professional staff working on environment statistics in Geostat must be increased. It is suggested that a minimum of 4 permanent professional staff are required to create a professional environment where institutional knowledge and expertise can be built and maintained sustainably. When recruiting, prioritize candidates with subject-matter expertise.

3. Consider additional measures to strengthen the resource base of the Environment Statistics Division such as increased use of interns, targeted subject-matter training for current staff, engagement in regional or international expert groups by current staff, leveraging capacity development projects for consultancies and other support, and leveraging environmental expertise at universities through technical and strategic partnerships.

4. Designate responsibilities for environment statistics within Geostat for clarity and workload management, including, as appropriate to units other than the Environment Statistics Division. These could for example include the Industry, Construction and Energy

[8] https://unece.org/statistics/publications/guidelines-measuring-circular-economy-part-conceptual-framework-indicators

[9] Statistical requirements compendium - 2023 edition - Eurostat (europa.eu). Requirements include monetary environmental accounts (environmental taxes, environmental goods and services sector, environmental protection expenditure accounts), physical environmental accounts (physical energy flow accounts, economy-wide material flow accounts, air emission accounts), water statistics, and statistics on waste and biodiversity.

Statistics Division (for energy statistics, balances, and accounts), the National Accounts Department (for environmental taxes), and the Software and Geoinformation Systems Development Division (for land accounts and ecosystem extent accounts).

5. Establish coordination mechanisms for environment statistics at the strategic and technical levels:

   a) At the strategic level, establish an **inter-agency environment statistics group** to strengthen collaboration with users and producers of environment statistics. Members should include management-level representatives from Government ministries and agencies, academia, business associations and other relevant stakeholders. Responsibilities of the group should include (but not be limited to):

      - identification of demand for environment statistics (topics, frequency, and levels of disaggregation);
      - environment statistics priority setting, planning, monitoring, and review;
      - designation of responsibilities for environment statistics within the NSS;
      - exchange of information and coordination of related activities funded by international donors.

   b) At the technical level, establish **working groups on specific topics** (such as water, waste, air, etc.) as need arises. Members of these groups should include expert-level representatives from appropriate Government and non-government stakeholders, including focal points for reporting to Multilateral Environmental Agreements (MEAs) where relevant. Responsibilities of these groups could for example include:

      - development and agreement on methodologies;
      - agreement on the level of detail/disaggregation;
      - identification and selection of classifications;
      - choice of data sources (including data from earth observations);
      - geocoding;
      - data gap filling;
      - development and agreement on metadata requirements;
      - development and agreement on data validation rules;
      - agreement on dissemination format and communication media;
      - provision of inputs to the inter-agency environment statistics group, such as on opportunities for reduction of response burden, need for new or revised inter-agency agreements, etc.

6. Geostat should propose to relevant organizations that Geostat gets engaged in environmental policy and planning processes to advise on developing monitoring frameworks for environmental legislation and programmes so that related performance indicators would be included in the annual statistics programme.

7. Explore options for better understanding the demands by other stakeholders, for example by organizing annual forums for users of environment statistics.

8. When developing environment statistics on new topics, involve users from the beginning and integrate communication strategies in the plans for developing the new statistics.

6.2 Technical recommendations

The order and speed with which each recommendation below can be implemented are subject to the outcome of the priority-setting and planning processes mentioned in recommendation 1 and resource increases as per recommendation 2.

Water statistics

9. Establish a technical working group on water statistics (as per recommendation 5(b)) to improve water statistics. A first objective could be to complete the UNSD/UNEP questionnaire on environment statistics (water section). A longer-term objective could be the regular compilation of SEEA Water Accounts (physical flow accounts). Leverage the EU4Environment Project[10] to progress the work of the technical working group.

Waste statistics

10. Establish a technical working group on waste statistics (as per recommendation 5(b)) to improve waste statistics. A first objective could be to complete the UNSD/UNEP questionnaire on environment statistics (waste section). Include the newly developed Extended Producer Responsibility (EPR) data platform of the Ministry of Environmental Protection and Agriculture (MEPA) and MEPA's reporting under the Basel Convention when considering data sources.

Biodiversity statistics

11. In the short-term, follow and support the efforts of MEPA to establish a biodiversity coordination unit and system, for example by regular MEPA reporting to the inter-agency environment statistics group (as per recommendation 5(a)). When these efforts are more progressed, determine the ambition level for national statistics on biodiversity, including roles and responsibilities of relevant NSS entities.

Environmental-economic accounts

12. For the development of environmental-economic accounts, prioritize improving the quality of input statistics and making them fit-for-purpose (national accounts, energy statistics and balances, water statistics, etc.).

13. System of Environmental-Economic Accounting (SEEA) Central Framework monetary accounts:

    - Start with environmental taxes accounts (by the National Accounts Department in consultation with the Environment Statistics Division) in close collaboration with the Ministry of Finance.

14. SEEA Central Framework physical accounts:

    - Continue the regular production and dissemination of economy-wide material flow accounts (EW-MFA), with added emphasis on dissemination and user engagement.

[10] EU4Environment - Georgia (eu4waterdata.eu)

- Initiate a pilot exercise on developing physical energy flow accounts (by the Industry, Construction and Energy Statistics Division in consultation with the Environment Statistics Division). This would also be a first important step for the future development of air emissions accounts.

15. SEEA Ecosystem Accounting:

- Explore the possibility to develop ecosystem extent accounts (by the Software and Geoinformation Systems Development Division in consultation with the Environment Statistics Division); base the efforts on past CORINE Land Cover work.[11]

Dissemination

16. Once clarified by the inter-agency environment statistics group (see recommendation 5(a)), an overview of designated NSS entities, their roles and responsibilities for environment statistics should be made publicly available and actively communicated to users.

17. Environment Statistics Portal: Subject to the definition of the national scope of environment statistics (see recommendation 1), include already available statistics on energy, transport, and agriculture in the soon-to-be launched Environment Statistics Portal.

[11] 30 July 2019 | Launch the result layers of Pilot CORINE Land Cover Project in Georgia — ENI SEIS II East (europa.eu)

Annex I: Diagnostic tool

Environment Statistics: Diagnostic Tool for Strategic Planning
Version 1.4, April 5, 2024 (Draft)
Based on ESCAP Diagnostic Tool

WHAT IS THE PURPOSE OF THIS DIAGNOSTIC TOOL?

This Diagnostic Tool focuses on strategic planning for implementing environment statistics. It is intended to guide early-stage, structured conversations among stakeholders. The tool assists with identifying policy priorities, foundational information, stakeholders and institutional mechanisms necessary to develop a national work plan for improving environment statistics. When using this tool, it is important to include potential *producers*, *users* and *supporters* in the conversation.

The Diagnostic Tool is organised along seven steps of strategic planning:

1. STATEMENT OF STRATEGY AND POLICY PRIORITIES: Document **national visions and priorities** related to the environment, biodiversity, sustainable development and green economy, including managing natural assets and flows of services from them.
2. INSTITUTIONS: Identify the **stakeholders** including producers and users of related information (government agencies, academia, NGOs, international agencies), but also other groups such as civil society that can benefit from improved information. As well, identify relevant **institutional mechanisms** currently in place.
3. KNOWLEDGE: Identify **key national data sources** that can be used as a basis for further development.
4. PROGRESS: Understand **what progress has already been made in developing environment statistics**.
5. CONTEXT: Identify **related statistical development activities** that could benefit (and benefit from) environment statistics initiatives.
6. PRIORITIES: Determine the **priorities for action** to develop selected environment statistics.
7. CONSTRAINTS AND OPPORTUNITIES: Assess (a) **constraints to implementing** specific environment statistics and (b) opportunities for **immediate actions** to address these constraints.

The Diagnostic Tool has been designed for use in a workshop setting. However, iteration will be required to achieve consensus. For example, a small core group may draft initial responses and then present them to a larger group for discussion and revision.

Since achieving consensus is an iterative process, the steps in this diagnostic can be taken in any order. Also, if any sections require more deliberation to answer, it is acceptable to leave these blank.

Experience has shown that environment statistics implementation works best when:

8. Producers and users of information collaborate to define their needs and opportunities,
9. Organisations actively link the production and use of information to reporting and monitoring policy priorities,
10. Organizations are prepared to change the way they do things to provide better information and to use it effectively, and
11. Statistical activities across the National Statistical System are well coordinated.

The international community has developed extensive guidance documents and training materials to support technical capacity building on the selected priority topics. See **Appendix 1** for links to related materials.

APPLICATION OF THE DIAGNISTIC TOOL AT THE SECTORIAL REVIEW ON ENVIRONMENT STATISTICS IN KAZAKHSTANRGIA (30 APRIL – 2 MAY 2024)

Geostat is invited to complete the diagnostic tool in collaboration with other relevant governmental stakeholders (i.e. Ministries) as far as possible, return it to the international review team by 24 April 2024, and present the draft completed tool for discussion at the stakeholder meeting on 30 April 2024.

In addition, it is suggested that Geostat asks the relevant Ministries to prepare a short presentation (or an oral only intervention) on the following questions, to be presented and discussed at the stakeholder meeting on 30 April 2024:

1. Could you describe the main environmental data collections carried out by your ministry/agency?
2. Could you present the main environmental indicators calculated by your ministry/agency?
3. Could you list the environmental statistical reports transmitted to national government and international agencies?
4. What is your own demand on official environmental statistics?

WHAT ARE ENVIRONMENT STATISTICS?

Environment statistics provide information about environmental conditions, the quality and availability of natural resources, and the impacts of human activities and natural events. They also provide information about the social actions and economic measures that societies take to avoid, mitigate or adapt to these impacts. Also included are actions taken to restore and maintain the capacity of the environment to provide services that are essential for life and human well-being.

Environment statistics cover a wide range of information and are thus interdisciplinary. They originate from many institutions that use numerous methods to compile them. Environment statistics, therefore, requires appropriate frameworks and standards to guide their development, coordination, measurement, organization and integration into the National Statistical System.

There are two main international frameworks for guiding the development of environmental statistics:

12. The Framework for the Development of Environmental Statistics (FDES), and
13. The System of Environmental Economic Accounting (SEEA)

The **FDES** provides guidance on a core set of environmental indicators that has proven beneficial to inform policy. It is designed to assist all countries in articulating environment statistics programmes by: (i) delineating the scope of environment statistics and identifying its constituents; (ii) contributing to the assessment of data requirements, sources, availability and gaps; (iii) guiding the development of multipurpose data collection processes and databases; and (iv) assisting in coordination and organization across institutions.

The SEEA, an international statistical standard, provides a coherent and integrated framework for collecting, organizing, analysing, presenting environmental data and relating it to economic and social data. It adheres to the principles of the **System of National Accounts (SNA)**, and expands its scope by:

14. taking an accounting approach to record the stocks and flows of natural inputs into the economy,
15. providing standard terminology, definitions, methods and classifications,
16. adding measures and classifications of:

physical stocks of natural capital (including ecosystems) and their monetary values,
physical resource flows (land, metals and minerals, timber, energy, water, fish) into the economy
residual flows from the economy (air emissions, water effluents, solid waste) into the environment

environmental activities such as protection expenditures, taxes and subsidies, ecosystems and their services, including biodiversity and carbon sequestration, and linking economic activities (producers and consumers) to societal benefits.

Together, FDES and SEEA can address many of the requirements for monitoring and reporting on progress towards national and international environmental, sustainable development, biodiversity and green economy priorities. These requirements include addressing the demand for information in support of integrated policies of the 2030 Agenda for Sustainable Development.

Most FDES and SEEA indicators and accounts have been implemented in many national contexts. Since national institutional arrangements, environmental contexts and priorities and capacities differ, the guidance on implementation is flexible and modular. This allows countries to select priority information and adapt the guidance to their individual requirements.

1. STATEMENT OF STRATEGY AND POLICY PRIORITIES

NATIONAL VISION

Linking environment statistics to a national vision is an effective way to ensure their relevance. If a national vision is to be attained, it should be evident that appropriate statistics are required to monitor and report on progress towards that vision. Such vision statements could be derived from national development plans, sustainable development strategies or statements to international bodies. What is important is that they represent a comprehensive view and a national consensus.

- ***1a.*** *What is the* ***national vision*** *for sustainable development, biodiversity, green economy and ecosystems for your country? (Please note the source.)*

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POLICY PRIORITIES AND POLICY TOOLS AVAILABLE OR PLANNED

"*We are determined to protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations.*" Transforming our world: the 2030 Agenda for Sustainable Development

There are many different pathways for progress towards the Sustainable Development Goals depending on national priorities and contexts. Elements common to many include low-carbon development, climate resilience, disaster risk reduction, resource efficiency, conserving natural heritage, social equity and protection, gender equality, poverty reduction, and decent green job creation.

Environment statistics can support a variety of related policy priorities including:

- Making informed decisions about trade-offs between conservation and development,
- Improving access to and equitable distribution of natural resources and ecosystem services,
- Managing supply and demand for natural resources and ecosystem services,
- Improving the state of the environment and managing the impacts of development,
- Mitigating risks of extreme events and adapting to them, and
- Coordinating and streamlining efforts in research, data collection, reporting and decision making.

➢ ***1b.*** *What are your country's main environmental* ***concerns*** *(e.g., water scarcity, deforestation, air quality, environmental crime…)? (Please note the source.)*

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➢ ***1c.*** *Within the scope of your national vision, what are your country's sustainable development* ***policy priorities****? (Please note the source.)*

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➢ ***1d.*** *What related* ***policy tools*** *(e.g. national development plan, strategies, laws, regulations, taxes/subsidies, and education initiatives) are in place or are planned? (Please note the source and explain which environmental aspects they cover.)*

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➢ ***1e.*** *Which* ***national legislative frameworks*** *cover the production and dissemination of environment statistics? Please specify.*

➢ Click here and start typing

2. INSTITUTIONS

STAKEHOLDERS & INSTITUTIONAL MECHANISMS

Stakeholders include producers of data as well as potential users and other interests that could benefit from improved information. Groups that may be considered include:

17. Data users: Government, business, international organizations, academia, NGOs, media and civil society;
18. Data providers: administrative authorities, enterprises, institutions, households, individuals;
19. Other stakeholders: specific groups such as funding agencies, senior government officials, relevant community organizations, and others

➢ ***2a.*** *Who are the main* ***stakeholders*** *in environment, sustainable development and green economy policy? Please specify.*

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Integrated decisions about environment, sustainable development and green economy require collaboration among many stakeholders. Institutional mechanisms to make these decisions may already be in place.

➢ ***2b.*** *Please describe any important interdepartmental institutional* ***mechanisms****, such as senior committees, coordination bodies, technical groups already in place to make sustainability and green economy decisions.*

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➢ ***2c.*** *Please describe* ***the role of the National Statistical Office*** *in monitoring and reporting on progress towards achieving national sustainable development priorities.*

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➢ ***2d****. Please describe the* ***human resources/capacity of the National Statistical*** *Office for the production and dissemination of environment statistics.*

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3. KNOWLEDGE

DATA SOURCES

What are the main data sources and what is their availability and quality? Depending on the policy priorities, these could include (among others):

Making informed decisions about trade-offs between conservation and development:

- National Accounts (natural resource inputs, value added, resource productivity)
- Business and government finance (environmental protection expenditures; environmental taxes and subsidies)
- International trade statistics (imports and exports of natural resources)

Improving access to and equitable distribution of natural resources and ecosystem services:

- Spatially-detailed socio-economic statistics (population, gender, dwellings, income, industry of work, access to clean water, sanitation and energy)
- Agriculture, forestry and fisheries statistics (locations, extraction quantities and value)
- Water stock, supply and use statistics (sources, quality, abstraction, distribution and use)
- Tourism statistics (visitors, expenditures)

Managing supply and demand for natural resources and ecosystem services:

- Energy statistics (stock, supply and use)
- Land taxes, ownership and management regimes (e.g., private, conservation, exploitation)
- Environmental goods and services sector
- Ecosystem services (supply, regulation, recreational)

Improving the state of the environment and managing the impacts of development:

- Emissions inventories (air, water, greenhouse gases, solid wastes, hazardous wastes)
- Air, water and soil quality statistics
- Basic spatial boundaries (national and state/provincial boundaries, topographic, hydrological, digital elevation models, bio-regions, etc.)
- Land cover, land use and land use planning data (remote sensing, administrative data on ownership and designated use);
- Protected area locations and protected species lists
- Condition of ecosystems

Mitigating risks of extreme events and adapting to them:

- Incidence and location of extreme events and disasters
- Population at risk of extreme events
- Mitigation and adaptation activities (expenditures, programs)

Coordinating and streamlining efforts in research, data collection, reporting and decision making:

- Activities and expenditures on research, data collection, reporting and decision making

➢ ***3a.*** *Please describe the* ***national main data sources*** *(depending on the policy priorities) and what is their availability and quality?*

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4. PROGRESS

EXISTING NATIONAL COMPILATIONS

The **United Nations Framework for Development of Environment Statistics (FDES)** is a flexible, multi-purpose conceptual and statistical framework that is comprehensive and integrative in nature. It marks out the scope of environment statistics and provides an organizing structure to guide the collection and compilation of environment statistics at the national level. It brings together data from the various relevant subject areas and sources, and defines the scope of environment statistics. It is broad and holistic in nature, covering the issues and aspects of the environment that are relevant for policy analysis and decision making by applying it to cross-cutting issues such as climate change. FDES organises environment statistics in form of the following six main components and subcomponents:

1. Environmental conditions and quality
    - Subcomponent 1.1: Physical Conditions
    - Subcomponent 1.2: Land Cover, Ecosystems and Biodiversity
    - Subcomponent 1.3: Environmental Quality
2. Environmental resources and their use
    - Subcomponent 2.1: Mineral Resources
    - Subcomponent 2.2: Energy Resources
    - Subcomponent 2.3: Land
    - Subcomponent 2.4: Soil Resources
    - Subcomponent 2.5: Biological Resources
    - Subcomponent 2.6: Water Resources
3. Residuals
    - Subcomponent 3.1: Emissions to Air
    - Subcomponent 3.2: Generation and Management of Wastewater
    - Subcomponent 3.3: Generation and Management of Waste
    - Subcomponent 3.4: Release of Chemical Substances
4. Extreme event and disasters
    - Subcomponent 4.1: Natural Extreme Events and Disasters
    - Subcomponent 4.2: Technological Disasters
5. Human settlements and environmental health
    - Subcomponent 5.1: Human Settlements
    - Subcomponent 5.2: Environmental Health
6. Environmental protection, management and engagement
    - Subcomponent 6.1: Environmental Protection and Resource Management Expenditure
    - Subcomponent 6.2 : Environmental Governance and Regulation
    - Subcomponent 6.3: Extreme Event Preparedness and Disaster Management
    - Subcomponent 6.4: Environmental Information and Awareness

➢ ***4a.*** *Which of the* ***environment statistics*** *above have been* ***piloted or produced*** *as official statistics? Which of them would be important, but are not yet available as official statistics?*

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The **SEEA Central Framework (SEEA-CF)** accounts includes:

Asset accounts:

- Mineral and energy resources (physical and monetary12)
- Land cover and land use (physical and monetary)
- Soil resources (physical)
- Timber resources (physical and monetary)
- Aquatic resources (fish and crustaceans) (physical and monetary)
- Other biological resources (e.g., wild game) (physical and monetary)
- Water resources (physical)

Physical flow accounts:

- Economy-wide material flow accounts
- Supply and use for water
- Supply and use for energy
- Supply and use for timber
- Emissions to water
- Emissions to air
- Supply and use for wastes

Monetary flow accounts (environmental activities):

- Environmental protection expenditure accounts (EPEA)
- Resource use and management accounts (RUMEA)
- Environmental goods and services sector (EGSS)
- Environmentally related payments to and by government (taxes and transfers)

The **SEEA Ecosystem Accounting (SEEA-EA)** includes spatially-detailed accounts for:

- Ecosystem extent and condition (physical)
- Ecosystem services (physical)
- Ecosystem services and assets (monetary valuation)

➢ ***4b.*** *Which of the* ***accounts*** *above have been* ***piloted or produced*** *as official statistics?*

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➢ ***4c****. Please describe the ways in which* ***environment statistics and environmental-economic accounts are published*** *and* ***existing feedback*** *from different groups of users.*

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[12] Physical accounts record the volumes of the stocks and flows. Monetary accounts record their values.

5. CONTEXT

OTHER STATISTICAL DEVELOPMENT ACTIVITIES

It is useful to put environment statistics into context with other statistical development activities that are underway or planned. These activities are often complementary with improving environment statistics and can produce synergies. These could include, among others (see **Annex 3** for links to sources):

- National statistical legislation (NSO mandate and role in the National Statistical System),
- National quality assurance frameworks,
- National data frameworks or strategies (e.g., harmonization of statistical or spatial data),
- Paris21 National Strategy for the Development of Statistics (NSDS),
- SNA 2008 Implementation Strategy,
- Reporting on Sustainable Development Goals (SDGs),
- Global, regional (supra-national) environmental reporting initiatives or agreements (e.g., UNSD/UNEP Questionnaire on Environment Statistics; MEAs reporting using statistics and data),
- Country reviews by international organizations (e.g., UNECE Global Assessments/ESCAP National Statistics Systems Reviews; IMF Data Quality Assessments; OECD country reviews)

➢ ***5a.*** *Please list current and planned* ***national activities*** *focussed on statistical development:*

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1 OTHER INTERNATIONAL ACTIVITIES RELATED TO ENVIRONMENT STATISTICS

It is also useful to understand other international activities in your country that are focussed on environment, sustainable development, biodiversity or green economy. These include bilateral (e.g., development assistance from individual countries), multilateral and international activities. They may be focussed on specific sub-national regions (such as one province) or inter-regional concerns (e.g., a shared river delta or common issues such as sea-level rise). Several international platforms use the FDES and SEEA as underlying measurement frameworks: UNEP TEEB (The Economics of Ecosystems and Biodiversity), World Bank WAVES (Wealth Accounting and Valuation of Ecosystem Services, part of the broader World Bank umbrella initiative, the Global Program for Sustainability, GPS), REDD+ (Reducing Emissions from Deforestation and Forest Degradation), SCP (Sustainable Consumption and Production), OECD Green Growth, UNEP Green Economy, UNDP Biofin, and most recently the Kunming-Montreal Global Biodiversity Framework (GBF) monitoring framework.

➢ ***5b.*** *Please list current and planned* ***international activities*** *focussed on environment, sustainable development, biodiversity or green economy:*

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6. PRIORITIES

PRIORITY STATISTICS, ACCOUNTS AND INDICATORS

- ***6a.*** *Given the policy priorities, availability of knowledge and stakeholder interest, which* ***environment statistics, environmental-economic accounts and environmental indicators are of the highest priority*** *to begin implementation?*
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7. CONSTRAINTS & OPPORTUNITIES

CONSTRAINTS

- ***7a.*** *Of the priority statistics, accounts and indicators, what are the* ***constraints*** *to implementing them as ongoing statistical activities?*

  Some may have few constraints and are ready to test. Others may require a combination of capacity building (training, guidance documents), data development (improving source data) and institutional coordination (establishing or adapting mechanisms, securing funding). Please explain, which are ready to test, which require capacity building, which require data development and where there is need for improving institutional coordination or financing.

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OPPORTUNITIES

- ***7b.*** Given the above context and priorities, are there **opportunities**, such as budget cycles for national planning, technical support, new data sources, etc.*? Please explain*

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PRIORITY ACTIONS

- ***7c.*** *What are immediate* ***actions*** *that can be taken to overcome the constraints and take advantage of the opportunities to begin implementing priority statistics, accounts and indicators?*

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APPENDIX 1: LINKS TO OTHER INTEGRATED ENVIRONMENT STATISTICS MATERIALS

FDES (Framework for the Development of Environmental Statistics):
http://unstats.un.org/unsd/environment/fdes.htm
ESSAT (Environment Statistics Self-Assessment Tool) http://unstats.un.org/unsd/environment/FDES/essat.htm

Global Set of Climate Change Statistics and Indicators:
https://unstats.un.org/unsd/envstats/climatechange.cshtml

SEEA website:

https://seea.un.org/SEEA Central Framework (SEEA-CF):
http://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf (Also available in Arabic, Chinese (draft), French, Russian and Spanish
Briefing Note: http://unstats.un.org/unsd/envaccounting/Brochure.pdf
Briefing Note: http://unstats.un.org/unsd/envaccounting/SEEA-Brochure-SC-2013.pdf
SEEA Ecosystem Accounting (SEEA-EA):
https://seea.un.org/sites/seea.un.org/files/documents/EA/seea_ea_white_cover_final.pdf
Briefing Note: http://unstats.un.org/unsd/envaccounting/workshops/int_seminar/note.pdf
SEEA Applications and Extensions: http://unstats.un.org/unsd/envaccounting/ae_white_cover.pdf
SEEA Energy: http://unstats.un.org/unsd/envaccounting/energy.asp
International Recommendations for Energy Statistics (IRES):
http://unstats.un.org/unsd/energy/ires/IRES_Whitecover.pdf
SEEA Water: http://unstats.un.org/unsd/envaccounting/water.asp
International Recommendations for Water Statistics (IRWS): http://unstats.un.org/unsd/envaccounting/irws/
Compilation Guidelines: http://unstats.un.org/unsd/envaccounting/WCG14.pdf
SEEA-Agriculture, Fisheries and Forestry (Draft, SEEA-AFF):
http://unstats.un.org/unsd/envaccounting/aff/chapterList.asp

20. Economy-Wide Material Flow Accounts (EW-MFA):
    https://wedocs.unep.org/handle/20.500.11822/36253

SEEA-EEA country examples:
Canada:

Human Activity and the Environment 2013: Measuring Ecosystem Goods and Services: English:
http://www.statcan.gc.ca/pub/16-201-x/16-201-x2013000-eng.htm; French:
http://www.statcan.gc.ca/pub/16-201-x/16-201-x2013000-fra.htm.
Human Activity and the Environment 2014: Agriculture in Canada: English:
http://www.statcan.gc.ca/pub/16-201-x/16-201-x2014000-eng.htm; French:
http://www.statcan.gc.ca/pub/16-201-x/16-201-x2014000-fra.htm

Australia:

Land and Ecosystem Accounting:
http://www.abs.gov.au/ausstats/abs@.nsf/Products/4655.0.55.002~2013~Main+Features~Chapter+6+Land+and+ecosystem+accounting?OpenDocument
Completing the Picture - Environmental Accounting in Practice, May 2012
http://www.abs.gov.au/ausstats/abs@.nsf/mf/4628.0.55.001

Victoria, Australia: Experimental Ecosystem Accounts:
https://ensym.dse.vic.gov.au/cms/index.php?option=com_content&view=article&id=60&Itemid=71

CICES V4.2 (The Common International Classification of Ecosystem Services: http://cices.eu.

CBD (Convention on Biological Diversity) Aichi Targets: http://www.cbd.int/sp/targets/

International Monetary Fund Data Quality Assessment Framework (IMF DQAF):
http://dsbb.imf.org/images/pdfs/dqrs_factsheet.pdf

SNA 2008 Implementation Strategy: http://unstats.un.org/unsd/nationalaccount/imp.asp.

SDGs (Sustainable Development Goals) Open Working Group: http://sustainabledevelopment.un.org/owg.html

Global SDG Indicators Data Platform: Metadata repository: https://unstats.un.org/sdgs/metadata/

Paris21 National Statistical Development Strategy (NSDS): .

UNECE Global Reviews of National Statistical Systems: https://unece.org/statistics/global-assessments-and-sector-reviews

UNECE Environmental Performance Reviews: https://unece.org/environment-policy/environmental-performance-reviews

OECD Environmental Country Reviews: http://www.oecd.org/env/country-reviews/oecdenvironmentalperformancereviews.htm.

Annex II: Meeting agenda (30 April – 2 May 2024)

30 April

Time	Agenda Item	Topics to be discussed
10:00 – 11:00	Meeting with the Geostat senior management	Getting to know the team, discussion of main objectives and expectations. Information about available resources and plans and developments
11:00 - 11:15	**Coffee break**	
11:15 – 12:30	2. Meeting with Geostat experts on environmental statistics The following structural units of Geostat are encouraged to attend: • Agriculture and Environmental Statistics Department • Business Statistics Department	Discuss expectations from an expert point of view
12:30 – 14:00	**Lunch break**	
14:00 – 17:30 **15:45 – 16:00**	Discussion with experts from: • Geostat • Ministry of Envrionmental protection and Agriculture (MEPA) • National Forestry Agency • Parliament of Georgia **Coffee break**	Discussion on relevant findings from the 2023 global assessment of the NSS of Georgia; purpose and expected outcomes of the environment statistics sector review in Georgia. The Ministry/agency should discuss about the following topics: • Main environmental data collections carried out by your ministry/agency? • Main environmental indicators calculated by your ministry/agency? • Existing environmental statistical reports transmitted

Time	Agenda Item	Topics to be discussed
		to national government and international agencies? • Own demand on official statistics? Discussion on how the NSS could be improved to fulfil national and international information demands on environment statistics.

1 May

Time	Agenda item	Topics to be discussed
10:00 – 12:30 **11:30 – 11:45**	Discussions with Experts from: • Geostat • MEPA • National Environment Agency (NEA) • Environmental Information and Education Center • National Forestry Agency **Coffee break**	Resume Discussion on biodiversity statistics, waste statistics and water statistics (including water accounts), involving relevant stakeholders.
12:30 – 14:00	**Lunch break**	
14:00 – 15:30	Discussions with Experts from: • Geostat • MEPA	1. Short SEEA introduction by international experts 2. Discussion on SEEA implementation (6 Eurostat SEEA Accounts). Could be divided into 2 parts: Montetary accounts and physical accounts Part A – monetary accounts: • Environmental Protection Expenditure Accounts (EPEA) • Environmental Goods and Services Sector (EGSS)

Time	Agenda item	Topics to be discussed
		• Environmental Taxes
15:30 – 15:45	**Coffee break**	
15:45 – 17:30	Discussions with Experts from: • Geostat • MEPA	Part B – physical accounts : • Air emissions accounts • Economy-wide material flow accounts (EW-MFA) • Physical Energy Flow Accounts
19:30	**Dinner (organized by Geostat)**	

2 May

Time	Agenda item	Explanation, objectives
09:30 – 10:30	Consultation with NGOs, academia and media: • CENN • Rec Caucasus • GeoGraphic • WEG • Media representatives • Tbilisi State University • Georgian Technical University	
10:30-12:00	Consultation with international organizations: • FAO • USDA	

Time	Agenda item	Explanation, objectives
	• UNDP • UN Women	
12:00 – 15:00	**Lunch break and internal meeting of experts**	Formulation of draft recommendations
15:00 – 16:00	Meeting with Geostat experts	Discussion of draft recommendations
16 :00 – 17 :00	Closing meeting with Geostat senior management	Presentation of draft recommendations and discussion of next steps