

Current state and development of the Shared Environmental Information System (SEIS)



July 2019

Georgia



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BACKGROUND

IMPROVED ENVIRONMENTAL MONITORING AND ASSESSMENT IN SUPPORT OF THE 2030 SUSTAINABLE DEVELOPMENT AGENDA IN SOUTH-EASTERN EUROPE, CENTRAL ASIA AND THE CAUCASUS

Led by the United Nations Economic Commission for Europe (UNECE) and implemented together with the United Nations Environment Programme (UNEP), this project aims to strengthen the national capacities of seven target countries: Armenia, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, North Macedonia and Tajikistan. The target countries have requested support to improve environmental monitoring and assessment for the 2030 Agenda, highlighting the need to enhance the comparability of environmental statistics in the ECE region.

The project will focus on the following expected accomplishments:

- strengthened capacities of national environmental authorities and statistical agencies to collect and produce required data and application of environmental indicators in accordance with the Shared Environmental Information System (SEIS) principles and practices;
- improved accessibility and use of regularly updated and high-quality environmental indicators, within the framework of SEIS, to respond to international indicator-based reporting obligations, including monitoring progress towards the Sustainable Development Goals.

The current report intends to address some of the national gaps and needs identified for this project on SEIS establishment and on the collection and management of environmental information and data for regular reporting, such as for the 2030 Agenda. The gap analysis also intends to address the use of environmental data and information in decision-making processes and communication.

The gap analysis review will serve multiple purposes, including defining existing gaps in data collection in the target country as a basis for developing training materials and as a background paper for two national workshops with national officials and experts responsible for environmental data collection. It will also contribute to the development of national roadmaps to monitor the SDGs for each target country to support country ownership and future endorsement and implementation.

This project is funded by the United Nations Development Account (UNDA) and implemented by UNECE Environmental Monitoring and Assessment Programme¹ in cooperation with the UNEP.

¹ See <http://www.unece.org/environmental-policy/environmental-monitoring-and-assessment/envema.html>

INTRODUCTION

Georgia became an independent state after the fall of the Soviet Union in 1991. In administrative and territorial terms, Georgia includes two autonomous republics – Abkhazia and Ajara – nine regions and Tbilisi city, each with separate administrative status. The diverse natural environments of Georgia include the Greater Caucasus Mountain Range with glaciers and volcanic rocks in the north, the Lesser Caucasus Mountain Range in the south, and the Colchis Lowlands and Black Sea in the west. The largest rivers are the Kura and Alazani in the Caspian Sea basin, and the Rioni and the Enguri in the Black Sea basin.

Georgia currently has 14 Strict Nature Reserves, 12 National Parks, 20 Managed Reserves, 40 Natural Monuments and 2 Protected Landscapes. These protected areas cover 9,6% of the country's total area.

The World Bank 2018 Doing Business report placed Georgia 6th in the global rankings – the highest ranked economy in the Europe and Central Asia region.²

Georgia's main environmental problems relate to:

- waste management;
- climate change;
- forest cover loss;
- urban air pollution;
- pollution of rivers.

The Ministry of Environment Protection and Agriculture of Georgia is the main state executive authority, responsible for the implementation of environmental policy (1).³

STATUS AND DEVELOPMENT OF SEIS

A Shared Environmental Information System rests on three pillars – content, infrastructure and cooperation – and this assessment considers each in turn.

SEIS PILLAR I CONTENT

Current system of collection of environmental data

The main organizations responsible for collection, production and processing of statistical environmental data in Georgia are:

- departments within the Ministry of Environment Protection and Agriculture (MEPA) responsible for atmospheric air, water bodies, statistical accounting of water use, soil, biodiversity, landscapes, wastes;
- the National Statistics Office of Georgia (GeoStat).

² See <http://www.worldbank.org/en/news/immersive-story/2018/10/31/doing-business-2019-a-year-of-record-reforms-rising-influence>

³ Reference materials are indicated by a number in parentheses and listed at the end of the report.

In 2016, the Government of Georgia adopted Decree No 160, “On the approval of the National Waste Management Strategy for 2016-2030 and the National Action Plan for 2016-2020” (in Georgian only). The Strategy and Action Plan anticipates the development of a legal framework for waste management that meets the requirements of the Association Agreement between the European Union and Georgia.⁴

In 2018 Georgia launched a waste management electronic reporting system,⁵ and waste generators, transporters and recyclers now have the opportunity to register their businesses and report electronically on the amount of waste generated, transported and recycled. Starting in 2019, waste-related businesses were obliged to provide annual quantitative reports to the state through the new system.

Production of environmental indicators

In 2015, in advance of the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8–10 June 2016), UNECE analysed the availability, accessibility and presentation of 67 data sets approved by the UNECE Working Group on Environmental Monitoring and Assessment (1). UNECE acknowledged 30 of 67 data sets as available in Georgia. In 2017, the European Environment Agency reported that 11 environmental indicators were available in Georgia (2).

A 2018 UNECE study (3) confirmed the full availability of 22 data sets (out of 67); some of the data sets previously reported as available were missing or lacking crucial components. The study assessed 13 out of 49 UNECE environmental indicators in detail, but the remaining 36 indicators were not presented, so no assessment of these was conducted. Among the 13 assessed indicators in Georgia:

- 12 showed the organizations responsible for producing the indicator;
- 1 included the time of update;
- 2 contained references to conformity with international standards;
- 3 included graphics or diagrams.

At the time of the mid-term progress review of the UNECE SEIS in 2018, Georgia did not provide self-assessment data for the environmental indicators (4). Georgia did, however, provide data after the deadline, and the self-assessment results were included in a combined mid-term report (5).

Since the Eighth Environment for Europe Ministerial Conference (which took place in Batumi 8–10 June 2016), Georgia has intensified significantly the production of the UNECE main set of environmental indicators (and exchange of data).

Fourteen UNECE environmental indicators – mainly developed by GeoStat with support from international organizations – were available in Georgian and English on the GeoStat’s specially designed website in 2018.⁶ These indicators reveal trends and explain the causes of current environmental situations, and can be used to develop, implement and evaluate environmental policy.

⁴ See <https://matsne.gov.ge/ka/document/view/3242506?publication=0> (the Georgian language)

⁵ See <http://waste.moe.gov.ge>

⁶ See <https://www.geostat.ge/en/modules/categories/565/environmental-indicators>

In addition, "Natural Resources and Environment Protection in Georgia", a statistical yearbook published by GeoStat, contains data that can be used to produce environmental indicators for air pollution and ozone depletion, water and biodiversity (6).

The data flows for the "Greenhouse gas emissions" indicator were selected from the Third National Communication of Georgia to the United Nations Framework Convention on Climate Change (submitted on 24 February 2016).

It was not possible to get information on environmental indicators, the production of which is within the competence of MEPA, due to the reorganization of the executive authorities and the lack of access to these data.

Twenty-four environmental indicators (14 from the UNECE main set and 10 additional), published on the unified GeoStat platform, as well as the data published in the statistical yearbooks, have been analyzed using the SEIS quality criteria. The analysis of the main set indicators makes the following findings (see Annex I for details):

- data are missing for the generation of 10 indicators – two in "Air pollution and ozone depletion"; two in "Climate change"; four in "Water"; and two in "Waste";
- fewer than half of the indicators meet the accuracy criteria, and "Emissions of pollutants into the atmospheric air", "Freshwater abstraction" and "Threatened and protected species" have incomplete data sets;
- the lack of additional information leaves some gaps in the relevance category;
- the geographical coverage is insufficient for some indicators, the possibilities for wider applications are not shown;
- statistical yearbook data on indicators are not published on the single GeoStat platform, so they are not easily accessible, and are presented in inconvenient formats;
- more than half of the main set indicators lack metadata, visualization tools and recommendations for use in shaping environmental policy;
- most indicators have a three-year time series and do not include references to the international measurement and calculation methods;
- the unified platform includes additional indicators in interactive format.

Limited possibilities of direct contacts with experts and organizations in Georgia did not allow estimating the indicators with using the following SEIS quality criteria:

- comparison of the data used with data from other sources;
- use of data validation and revision procedures;
- feedback to estimate the compliance with user requirements and data enhancement;
- availability of the state agencies' primary data for users.

One Georgian expert reported that these activities are carried out systematically.

Use of environmental information

An EEA survey conducted in Georgia (7), finds the majority of respondents (60%) noted that environmental reports influence the shaping of environmental policy. Some respondents noted that the impact on the sustainable use of environmental resources is significant.

About 60% of respondents indicated that the reports are likely to be valuable due to the uniqueness and simplicity of the information. All reports are analysed by professionals and used for environmental management.

SEIS PILLAR II INFRASTRUCTURE

Data collection

Georgia is introducing a network of automatic stations for air pollution monitoring in cities. Only one such station was operational in 2015, and 10 such stations, including one mobile, were operating in 2018 (8).

An interactive portal with the measurement data on atmospheric air quality (measured by both automatic stations and manual measurements) in Georgian cities has been developed. It includes eight pollutants (SO₂, NO₂, O₃, CO, C₆H₆, PM₁₀, PM_{2.5}, Pb)^{7, 8} recommended by the UNECE Guidelines for the Application of Environmental Indicators. These measurements are not, however, documented as UNECE environmental indicators.

The National Environmental Agency under MEPA is responsible for water quality monitoring in rivers and maintains more than 150 sampling sites.⁹

With the assistance of international organizations, the country has developed an Environmental Information Management System (EIMS) providing data on climate, biodiversity, land resources and desertification in interactive mode.¹⁰ Apparently the system is currently working in test mode since the matrix contains a limited set of environmental data.

Processing and analysis

Despite the progress made, Georgia has no integrated or unified electronic environmental database; there is no unified resource for easily accessing information such as state-of-the-environment reports, strategies and action programmes. Public authorities store a large amount of information only in hard copy.¹¹ In recent times, however, a number of reports, strategies and action programmes have been posted and are available on the MEPA web page.^{12, 13, 14}

The majority of respondents suggest that MEPA create an analytical centre or ministerial subdivision to carry out the analysis and assessments in order to improve institutional coordination and to involve more scientists, stakeholders and local specialists (8).

Dissemination of environmental information

The GeoStat website provides in interactive mode statistical data on 16 UNECE environmental indicators that fully meet the requirements, and on one indicator that partially meets the

⁷ See <http://109.234.112.90:20027>

⁸ See <http://air.gov.ge/>

⁹ See <http://nea.gov.ge/uploads/page/5c7fb828953fe.pdf> (in Georgian)

¹⁰ See <https://eims.eiec.gov.ge/en-us/app/>

¹¹ See <http://www.unece.org/info/ece-homepage.html>

¹² See <http://mepa.gov.ge/Ge/Strategy>

¹³ See <http://www.moe.gov.ge/>

¹⁴ See <http://eiec.gov.ge/NavMenu/Documents/National-Reports.aspx> (in Georgian)

requirements (mobile sources only for “Emissions of pollutants into the atmospheric air”). Separate emissions from stationary sources can also be found on the GeoStat web page.¹⁵

The GeoStat interactive system provides data in Georgian and English (6).

MEPA collects information on emissions of pollutants from stationary sources through an electronic system and disseminates the data online.¹⁶

SEIS PILLAR III COOPERATION

Basis and practice of inter-agency exchange of environmental information

A Memorandum of Understanding between MEPA and GeoStat regulates the exchange of environmental information between producers (8), and is the basis for a calendar of environmental data exchange. Statistical environmental data are instantly updated on the website of GeoStat. The creation of a bilateral working group is envisaged, and recommendations and suggestions are developed. GeoStat and MEPA employees are trained in environment statistics.

Inter-sectoral exchange: producers vs. users of information

In accordance with the Directive 2003/4/EC of the European Parliament on public access to environmental information, Georgia is ensuring public access to environmental information and involving all interested parties in decision-making processes by improving environmental information exchange in accordance with SEIS principles (8).

The system makes the environmental information easily accessible to the public, facilitates the environmental information exchange between stakeholders, enables the implementation of the country's international obligations related to environmental activities and increases the efficiency of environmental policy decisions (8).

The Aarhus Center of Georgia – established in 2005 and renamed the Environmental Information and Education Centre in 2013 – is the result of a joint initiative of the OSCE and the former Ministry of Environment and Natural Resources of Georgia.

The Centre provides access to environmental information through a regularly updated website, promotes public participation in environmental decision-making including environmental impact assessment, and conducts information campaigns to raise environmental awareness.¹⁷

In accordance with the Law on Environmental Protection in Georgia, state-of-the-environment reports were prepared annually from 2001 to 2006, and were submitted for approval to the President of Georgia. These reports were mostly descriptive. All approved reports were posted on the website of the Ministry and Aarhus Center of Georgia.^{18, 19}

¹⁵ See <https://geostat.ge/media/17826/Air-Pollution.xls>

¹⁶ See <http://map.emoe.gov.ge/> (in Georgian)

¹⁷ See <https://aarhus.osce.org>

¹⁸ See <http://www.moe.gov.ge/ka/strategiuli-dokumentebi/shefasebiti-dokumentebi/>

¹⁹ See <http://www.moe.gov.ge/ka/საზოგადოებასთან-ურთიერთობა/strategiuli-dokumentebi/shefasebiti-dokumentebi/> (in Georgian)

The latest State-of-the-Environment Report 2010-2013 was prepared and published in 2015 in Georgian. The subsequent State-of-the-Environment Report 2014-2017 was planned for publication in 2018. This document currently cannot be found on the websites of MEPA and GeoStat, and is under development.

The regularly published statistical yearbooks include a “Natural Resources and the Environment” section containing a series of data in tabular form for generating the UNECE environmental indicators. These yearbooks are published in Georgian and English (6).

International exchange and reporting

Georgia is a party to global and regional Multilateral Environmental Agreements (MEAs), including 18 conventions, and a number of protocols, amendments and agreements. MEPA is designated as the executive body for implementation of all obligations arising out of these MEAs.¹²

Georgia regularly reports to the secretariats of MEAs to which it is a party, and since March 2009 has been maintained a database that includes reports to the convention secretariats.¹⁰ The UNECE environmental indicators are used in reports to the UN Framework Convention on Climate Change, the Convention on Biodiversity, the Convention to Combat Desertification, and several others. Reporting to the MEAs remains one of the main tasks of the country. The use of environmental indicators for various purposes, including MEA reporting, should be encouraged and enhanced. Report quality should be improved (9).

Georgia cooperates with Armenia on surface water quality monitoring for the Debed River basin, and with Armenia and Azerbaijan for the Kura River basin.¹⁷

SEIS PRINCIPLES AND CONCLUSIONS

Georgia has made definite progress in creation and implementation of the three SEIS pillars (9):

- 23 the UNECE environmental indicators are increasingly being published on the websites of national environmental authorities, statistical agencies and open data portals in accordance with UNECE requirements, but due to administrative reforms, many indicators are not available on the web pages;
- Georgia actively participates in processes related to the UNECE indicators and in SEIS projects, supported by the European Union (EU) and the European Environment Agency (EEA);
- A letter of intent on political commitments regarding sharing environmental information in the framework of SEIS East project was signed between EEA, MEPA and GeoStat in 2017.

Although Georgia has few reports prepared on the basis of the UNECE environmental indicators, such indicators are used as illustrative materials (time series, charts, tables, maps) in such documents as the State-of-the-Environment Report and the Statistical Yearbook of Georgia. These documents must be supplemented with an analysis of environmental conditions (9).

The most important condition for the successful coordination of SEIS implementation is the appointment of an organization responsible for interdepartmental coordination, or the creation of a special steering committee for more efficient use of resources, but no such organization or working group is yet identified (10).

Plans to increase SEIS sustainability and further development in Georgia include (8):

- developing and integrating additional thematic modules into the EIMS;
- combining and systematizing all available information about forests, developing an information and monitoring system, and providing public access to information about forests;
- providing access to other environmental databases in the country.

SDG MONITORING AND REPORTING FRAMEWORK

Country approach to Sustainable Development Goal (SDG) reporting

In September 2015, Georgia took the voluntary responsibility toward implementation of the 2030 Agenda for Sustainable Development, and in 2016 was one of the first countries to submit the Voluntary National Review to the High-level Political Forum on Sustainable Development mostly highlighting country's aspiration to support sustainability at national and global levels. Since then, Georgia has taken important steps towards the implementation of the SDGs and made significant progress (11).

The implementation of the SDGs at the national level is coordinated by the Administration of the Government of Georgia through the SDG Coordination Council that oversees the implementation of SDGs in accordance with the existing National Strategies and Action Plans as well as ensures the effective communication and dialogue among public agencies. The Council has established four thematic working groups composed of experts from line ministries and GeoStat in order to promote the implementation of the SDGs at the national level and launch the discussion process of nationalizing the SDGs.

At the first stage, the Council in close cooperation with the ministries and all stakeholders has identified SDG objectives and indicators for nationalization in accordance with country's priorities. In 2015, Georgia prioritized 14 SDGs out of 17. Moreover, 90 global indicators have been selected and 125 national indicators have been identified as baseline data (12). The country then started the process of integrating SDG targets and indicators into national policy and strategies – the annual government work plan and other national and sectoral strategies and action plans (11).

According to one expert, Georgia has taken the responsibility for implementation of all 17 goals and more than 95 targets and 215 indicators at national level, and is working on nationalizing all SDG targets and indicators in the near future. The goals and targets are aimed at economic growth and take into account a range of social needs, including education, health, social protection and employment opportunities, climate change and environmental protection, inequality, energy and consumption (12). The lack of statistical data for reliable calculation of quantitative values remains a challenge (12).

With the support of GeoStat, reliability of the database was analysed to determine a baseline indicator for each goal. GeoStat and the ministries collect relevant data and analyse deficiencies in disaggregated statistical data.

In an innovative approach, Georgia developed an SDG Electronic Monitoring System and SDG Toolkit that ensure distribution of up-to-date information about the performance of public agencies on the

SDG goals and targets, and provide links to policy and strategic documents related to sustainable development goals. The launch of the system was planned for 2018 (11), but the system is not yet accessible, and one expert reports that the process was delayed until the summer of 2019.

No targets have been identified for Goal 6, “Ensure availability and sustainable management of water and sanitation for all” or for Goal 10, “Reduce inequality within and among countries”. Goal 14, “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”, was nationalized, and target 14.4 on fisheries is to be implemented. The Georgian government is working on nationalizing both the SDG objectives and indicators, and expects to be finished in the near future (11).

Overview of the readiness of UNECE indicators for SDG monitoring and reporting

As a first step, MEPA took responsibility for the implementation of 11 global environmental protection indicators (11):

- 11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities;
- 11.6.2 Annual mean levels of fine particulate matter (e.g. PM_{2.5} and PM₁₀) in cities (population weighted);
- 12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment;
- 13.2.1 Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change, and foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production (including a national adaptation plan, nationally determined contribution, national communication, biennial update report or other);
- 14.4.1 Proportion of fish stocks within biologically sustainable levels;
- 15.1.1 Forest area as a proportion of total land area;
- 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type;
- 15.2.1 Progress towards sustainable forest management;
- 15.3.1 Proportion of land that is degraded over total land area;
- 15.4.1 Coverage by protected areas of important sites for mountain biodiversity;
- 15.5.1 Red List Index.

This assessment, however, found no specific cases of Georgia using the UNECE environmental indicators for monitoring and reporting on SDGs, and no mechanism for nationalizing the global SDG environmental indicators. As a result, no further assessment was possible.

GAPS AND SUGGESTED ACTIONS

The table below summarizes the gaps in Georgia’s environmental information, and suggests actions for moving forward. The country needs to take the lead on the longer-term actions, some of which may require long-term support from the international community. The short-term actions can and should occur quickly, supported in some cases by international partners through the UNDA project.

Gaps	Long-term actions not directly associated with the UNDA Project	Short-term actions that can be taken by UNDA Project partners
No regular monitoring of wastes	Develop and implement monitoring, accounting and reporting systems for the indicators in the wastes category	
UNECE environmental indicators related to the MEPA responsibility for quality of atmospheric air and water bodies, atmospheric air temperature, precipitation and a number of others not posted on the MEPA website	Publish the UNECE environmental indicators related to the Ministry’s responsibility on the MEPA website	
Data for environmental indicators in statistical yearbooks not published on a unified platform of GeoStat online	Publish all data collected for the generation of environmental indicators on a unified platform of GeoStat online	
Significantly less than half of the main set UNECE environmental indicators not yet developed	Increase the number of the UNECE environmental indicators being developed	
Missing data flows and additional information for a number of indicators; the possibilities for wide application of the indicators not shown; no metadata, visualization tools, narrative analysis, or recommendations on indicator use for state environmental policy; and three-year time series for most indicators	Ensure full compliance with the requirements of the SEIS indicator quality criteria	
Incomplete databases (partially in hard copies) in a number of state agencies	Create complete environmental databases in state agencies based on modern innovative technologies and software solutions	Methodological assistance in digitizing environmental information

Inadequate level of modern, international environmental monitoring methods		Training to maintain the required level of qualification and use of international standards in environmental monitoring
Data from automated stations not used to generate environmental indicators	Increase the use of automated data in the generation of environmental indicators	
Environmental indicators not fully used in the preparation of reports on environmental issues	Intensify the use of environmental indicators in the preparation of reports, including state-of-the-environment reports	Methodological assistance in the preparation of regular reports and publications on the state of the environment based on the use of environmental indicators (including reports on the fulfilment of requirements stipulated by international conventions and agreements to which Georgia is a party)
National reports published only in Georgian.	Provide an English translation of the main informational environmental publications	
No organization responsible for the coordination of the SEIS implementation	Designate an organization, responsible for interdepartmental coordination or create a special body to coordinate the implementation of SEIS	Methodological assistance in the preparation of regular state-of-the-environment reports and widening the use of official environmental indicators in reports on the fulfilment of requirements stipulated by international conventions and agreements to which Georgia is a party
No specific programme for the further development of SEIS	Develop a programme to further develop and improve the sustainability of SEIS in Georgia	Methodological assistance in developing a SEIS development roadmap
No matrix of global and nationalized environmental indicators	Create a matrix of global and nationalized environmental indicators and publish monitoring and reporting data in the matrix	
No data on the use of UNECE environmental indicators in adapting global environmental SDG indicators to national conditions	Use the UNECE environmental indicators to develop nationalized SDG indicators	

CONCLUSIONS

In recent years, Georgia has significantly intensified the production of environmental indicators from the UNECE core set, has developed 14 indicators with international support and has increased the exchange of data. These indicators are available on the GeoStat single integrated platform, and can be used to identify trends, to understand the causes of environmental conditions and to implement environmental policy and evaluate its effectiveness.

None of the UNECE environmental indicators related to MEPA was found on official websites, possibly due to the recent reorganization of the former environmental protection agency into the new Ministry of Environment Protection and Agriculture.

Georgia provides data on atmospheric air quality and has developed an environmental information management system providing data on climate, biodiversity, land resources and desertification, all of which is available via an interactive portal.

The timeliness of reports on the state of the environment is problematic. The 2010-2013 report was prepared and published in 2015, and the 2014-2017, planned for publication in 2018, is not yet available.

To improve the implementation of SEIS, Georgia needs to define a structure responsible for inter-agency coordination in order to make more efficient use of available resources.

The government of Georgia is working on nationalizing the SDG goals, objectives and indicators aimed at economic growth and the solution of social problems, but has not used the UNECE environmental indicators in adapting SDG indicators to national conditions.

In the short term, the UNDA project may be able to support Georgia through advice and operational and methodological guidance on the development of the national environmental information system, and on monitoring, indicators and environmental assessment and reporting. This support may include training the staff of responsible organizations in the specifics of the best global and European practices.

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ANNEX I EVALUATION OF SELECTED UNECE INDICATORS AGAINST THE SEIS ASSESSMENT FRAMEWORK CRITERIA

Core indicators

Indicators (no. of data flows)	Accuracy	Relevance	Timeliness & punctuality	Accessi- bility	Clarity	Comparabil ity	Inst / org arrange- ments
Air emissions (14)	+/-	-/+	+/-	-/+	+/-	-/+	
Air quality (4)	n/d	n/d	n/d	n/d	n/d	n/d	
OSD consumption (8)	n/d	n/d	n/d	n/d	n/d	n/d	
Air temperature (1)	n/d	n/d	n/d	n/d	n/d	n/d-	
Precipitation (1)	n/d	n/d	n/d	n/d	n/d	+/-	
GHG emissions (2)	+	+	-/+	-/+	+	+/-	
Renewable water res (1)	n/d	n/d	n/d	n/d	n/d	n/d	
Water abstraction (3)	-/+	-/+	+/-	-/+	-/+	-/+	
Water use (4)	+/-	-/+	+/-	-/+	-/+	-/+	
Water supply (1)	+	+/-	+	+	-/+	-/+	
BOD and NH ₄ in rivers (2)	n/d	n/d	n/d	n/d	n/d	n/d	
Nutrients in freshwater (5)	n/d	n/d	n/d	n/d	n/d	n/d	
Pop. connected to WWT (1)	+	+/-	+	+	-/+	-/+	
WWT facilities (1)	n/d	n/d	n/d	n/d	n/d	n/d	
Polluted waste water (2)	+/-	-/+	+/-	-/+	-/+	-/+	
Protected areas (1)	+	+	-/+	+/-	+	+/-	
Forests and woodland (1)	+	+	-/+	+	+/-	-/+	
Threatened and protect. species (2)	-/+	-/+	+/-	-/+	-/+	+/-	
Land uptake (2)	+/-	-/+	-/+	-/+	-/+	-/+	
Final energy consumption (2)	+	+	+	+	+/-	+	

Primary energy supply (2)	+	+	+	+	+/-	+
Waste generation (2)	n/d	n/d	n/d	n/d	n/d	n/d
Hazardous waste management (6)	n/d	n/d	n/d	n/d	n/d	n/d
Additional indicators						
Household water use per capita (3)	+	+	+	+	-/+	+/-
Water losses (3)	+/-	+/-	+	+	-/+	+/-
Fertilizer consumption (4)	+/-	-/+	+	+	-/+	+/-
Pesticide consumption (3)	+	+/-	+	+	+/-	+/-
Passenger transport (3)	+/-	+/-	+	+	-/+	+/-
Energy intensity (3)	+	+/-	+/-	+	-/+	+
Renewable energy consumption (2)	+	+/-	+/-	+	-/+	+/-
Passenger transport demand (3)	+/-	+/-	+/-	+	-/+	+/-
Freight transport demand (3)	+	+/-	+/-	+	-/+	+/-
Composition of road motor vehicle fleet by fuel type	-	-	-	-	-	-
Age of motor vehicles (5)	-	-	-	-	-	-

* indicator not reviewed by the UNECE Joint Task Force on Environmental Indicators

THE APPLIED RATING SCALE

- + all is well
- +/- not all is well
- / + all is not that well
- all is not well

Explanations of the criteria and the further analysis are provided in Annex III.

All indicators are posted on the National Statistical Office of Georgia website: (<http://geostat.ge>), which contains 23 indicators from the UNECE Guidelines for the Application of Environmental Indicators.