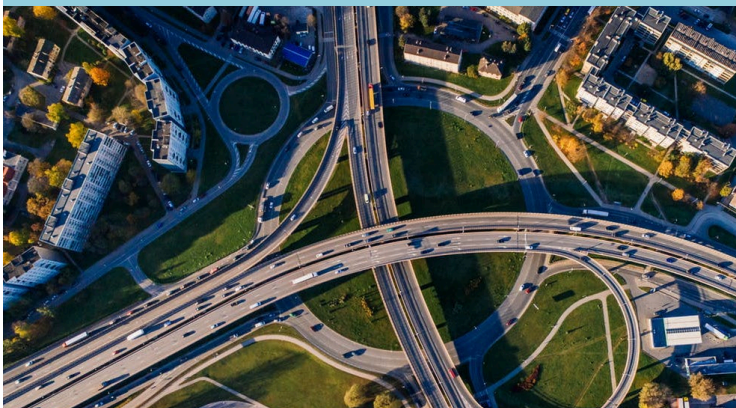


Current state and development of the Shared Environmental Information System (SEIS)



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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

The Kyrgyz Republic (Kyrgyzstan) became an independent state after the demise of the Soviet Union in 1991. In administrative and territorial terms, the country is divided into seven regions and two cities directly subordinated to the central government – Bishkek and Osh. More than three-quarters of the territory of the country is covered by mountains.

There are about 8,000 glaciers in the republic, which cover 4% of Kyrgyzstan's total area and are the main river sources. The total area covered with glaciers and permanent snow is 40.5% of the country territory. The largest river is the Naryn, and Issyk Kul is the largest lake. Eighty-eight protected areas cover 7.4% of the area of Kyrgyzstan. The Issyk Kul Reserve and the Sary-Chelek Biosphere Reserve are protected areas with international status.²

The main environmental problems of Kyrgyzstan are:³

- pollution and irrational use of water resources;
- climate change;
- waste management;
- biodiversity preservation;
- air pollution.

The State Agency for Nature Protection and Forestry Management (SANPFM) is the governmental authority for environment protection, environmental safety and natural resources management and policy implementation.

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

Collection, processing and publication of environmental and statistical environmental data in Kyrgyzstan are implemented on a regular basis by:

- the National Statistical Committee (NSC);
- the State Agency for Nature Protection and Forestry Management (SANPFM);
- the Ministry of Agriculture, Water Management and Processing Industries of Kyrgyzstan (Water Department, Department of Plant Chemization, Protection and Quarantine);
- the Ministry of Emergency Situations (Hydrometeorological Agency – KyrgyzHydromet);
- the state agency on registration of rights to immovable property (GosRegister).

² See <http://ecology.gov.kg/page/view/id/201>

³ See <http://ekois.net/ekologicheskoe-polozhenie-v-kyrgyzstane/>

The collection of data within the framework of environmental monitoring and statistical reporting is regulated by state standards and guidelines, which often take into account international experience and recommendations of international organizations (World Meteorological Organization, United Nations Statistics Division). The calculation of the UNECE environmental indicators set is based on these methodological recommendations (1).⁴

Since 2017 SANPFM jointly with the National Statistical Committee within the framework of the UNDP-GEF project, “Strengthening of institutional and legal capacities to enable improvement of the national monitoring system and management of environment information”, have been developing a system of environmental information management and monitoring. The operation of the system will enable the making of informed decisions and the shaping of environmental policy for the whole country and for its separate districts (2). The system includes a national representative set of environmental indicators that will help reliably assess the state of the environment.

The indicators related to wastes are the most complicated for Kyrgyzstan. Despite the presence of basic data on waste formation, significant gaps in actual measurement and calculation still exist, especially with regard to domestic and building wastes and their recycling. The documentation of industrial wastes is better. Many entities, including some in the private and informal sectors, are involved in the waste management process, so coordination among these entities is an important issue is the improvement of the system (3).

Production of environmental indicators

Kyrgyzstan has no unified platform for publishing the UNECE environmental indicators. The indicators are produced by different ministries and agencies and published commonly in annual statistical books – where the environmental indicator data sets are regularly updated – as well as in national environmental reports. The last update of the environmental indicator data sets in a national environmental report was in 2014 (4).

Thirty-nine UNECE environmental indicators, published in the Kyrgyz national report on the state of the environment for 2011-2014 and on the websites of the NSC, have been analysed using of the SEIS criteria. Twenty-two of the indicators come from the main set and 17 are additional. The results of the analysis are in Annex I.

There is a tendency to present the environmental indicators in the national report in accordance with the Revised UNECE Guidelines for the application of environmental indicators: the sources of data, necessary details, metadata, visualization, narrative assessment of the indicators and data corresponding with indicator content.

The additional indicators in the national report include the undeveloped indicators “Invasive alien species”, “Irrigation” and others, but the data series end by 2014. In addition, they are published with extensive delays, only in Russian, with few references to the international methods for calculations.

⁴ Reference materials are indicated by a number in parentheses and listed at the end of the report.

The indicators presented in the Statistical book of NSC have longer data series, which end by 2017. They have been presented in chart form without comments or explanations.

No data support the indicator “Renewable freshwater resources” in the common set of environmental indicators. The indicator “Wastewater treatment facilities” contains only text without the required data sets. Some indicators contain incomplete data sets (“Emissions of pollutants into the atmospheric air”, “Nutrients in freshwater”).

The absence of the information on the Internet and limited possibilities of contacts with specialists and organizations in Kyrgyzstan prevented the estimation of the indicators using the following SEIS quality criteria:

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

Kyrgyzstan works closely with the Organisation for Economic Co-operation and Development (OECD) on implementing a green economy. Kyrgyzstan became a pilot country in the Central Asia region for testing the OECD green growth indicators. The NSC produces 47 of the 65 indicators (2). Annex III has additional information regarding this issue.

Use of environmental information

Among the main principles of state environmental protection and natural resources management policies are the availability of environmental information and the active involvement of civil society, self-government bodies, and business groups in the preparation, discussion, adoption and implementation of environmental decisions (5).

The statistical sets of environmental data⁵ are continuously improved, and the last annual statistical books are well-compiled and contain many indicators from the UNECE main set. The last “Environment of the Kyrgyz Republic in 2013-2017” digest was published in 2018 (6).

Moreover, the environmental indicators are published in the national report on the state of the environment of the Kyrgyz Republic for 2011-2014 (4). The publication of this national report was approved by the decree of the government of the Kyrgyz Republic No 549-p dated 19.12.2016 (7). Both documents are published in Russian only.

The section, “The building of a sustainable environment for development” of the national development strategy of the Kyrgyz Republic for 2018-2040 (7) (approved by Presidential Decree of the Kyrgyz Republic No УП-221 dated 31.10.2018), notes that the improvement of environmental data management for environmental decision-making would be the basis for more efficient environmental activities.

⁵ <http://www.stat.kg/ru/statistics/turizm-otdyh-ohrana-okruzhayushej-sredy>

The formulation of country development strategies will be based on accurate information on environmental trends and previous environmental and economic evaluations of natural resources, and will set short-term exploitation limits.

SEIS PILLAR II INFRASTRUCTURE

Data collection

The organizations and agencies responsible for collecting environmental data all too often store the data in hard copies, and generally have no mechanisms for data sharing in the country. The cadasters of flora and mining wastes are fully digital (2).

Kyrgyzstan plans, with assistance of donor countries, to gradually launch automated systems for environmental measurements such as automated stations for measuring nitrogen oxides, SO₂, PMs in atmospheric air, or the automated collection, storage and processing of information on run-off in the Chu River basin (2).

Processing and analysis

Kyrgyzstan has initiated the development of electronic services, the electronic management of state and regional resources and data sharing-assistance,⁶ and the country adopted the concept of digital transformation in “Digital Kyrgyzstan – 2019-2023” (8). This document provides for the promotion of the digital fundamentals of the country's development in all areas of its activities, including environmental protection, by eliminating paper documents and introducing electronic interaction in government bodies, local governments and the business community.

At present, SANPFM is connected to the Tunduk interdepartmental electronic system for information on the status of specially protected territories of the Kyrgyz Republic.⁷ This database is integrated into the portal for wild animals, which contains information on mammals and birds of commercial value and animals listed in the Red Book of Kyrgyzstan.

Dissemination of environmental information

The national report for 2015-2017 is currently unavailable for dissemination. At a meeting on 8 May 2019 in Geneva, a representative of UNEP reported on the need to assist Kyrgyzstan in the preparation of a National Report on the State and Protection of the Environment. The environmental indicators are available in chart form in annual statistical books, “Environment in the Kyrgyz Republic”, and some appear in dynamic tables on the NSC website. The absence of a unified platform for environmental indicators prevents their wide application.

In 2015 in collaboration with the MONECA component of the European Union project FLERMONECA, the structure of a website for an interactive online version of the national report on the state of the

⁶ <http://tazacoom.kg>

⁷ <http://www.tunduk.gov.kg/connection-progress/>

environment of the Kyrgyz Republic was developed. The website structure was prepared in compliance with the UNECE and EEA recommendations to EECCA countries on developing web resources in accordance with the SEIS principles.

Only 4 of 49 of the UNECE indicators have been developed, and UNEP has agreed to support further improvement of this system (2).

SEIS PILLAR III COOPERATION

Basis and practice of inter-agency exchange of environmental information (focus on data producers)

Kyrgyzstan encourages interdepartmental data sharing and makes environmental information easily accessible. Relevant governmental agencies take part in the environmental report preparation and provide information to NSC. Interdepartmental working groups have been created, and data and information sharing agreements between SANPFM and NSC have been signed. Kyrgyzstan has carried out its obligations regarding public sharing of the main set of the UNECE indicators available in the country (3).

Other organizations and agencies also provide information to NSC.

Inter-sectoral exchange: producers vs. users of information

The main users of information are the government of Kyrgyzstan, environmental agencies, scientific institutions, higher educational institutes, non-governmental organizations, international environmental organizations and the mass media. The kinds of information most in demand are generalized monthly and annual environmental data; analyses of the state of the environment of cities, regions and basins; cadastre data (wastes, flora and other); and cartographic documents and analytical graphs (1).

International exchange and reporting

Kyrgyzstan is a party to 160 international environmental conventions and agreements, as well as some international and regional processes. In accordance with the decree of the government of the Kyrgyz Republic No13-p dated 16.01.2006, SANPFM has been appointed as executive agency for fulfilment of the majority of the obligations to international environmental conventions.⁸

The reporting on international liabilities is accomplished in compliance with the requirements of conventions and organizations in terms of format of reporting, periodicity, etc. (1).

On the regional level Kyrgyzstan shares information within the framework of activities of agencies of the CIS, the EEU and the Economic Cooperation Organization. All the main open information is published on the NSC and SANPFM websites (2).

⁸ <http://cbd.minjust.gov.kg/act/view/ru-ru/18432>

SEIS PRINCIPLES AND CONCLUSIONS

SANPFM is responsible for implementing SEIS in Kyrgyzstan.

The Zoï Environment Network analysis of the implementation of SEIS in Kyrgyzstan (1) finds that:

- organizations process and store the information they collect, but the lack of information in an electronic format inhibits data sharing;
- a limited set of information is widely available for multiple applications;
- information is readily available for routine reporting, but some problems related to inter-agency sharing persist;
- a limited set of information is available for all users;
- the general public has access to information in Russian, but only limited information is available in Kyrgyz.

The implementation of the SEIS principles regarding the use of information for comparative study at different geographic levels and the support of citizen participation in decision-making is less advanced, and information at the local level is limited.

The National Development Strategy of the Kyrgyz Republic for 2018–2040 noted that the improvement of environmental data management for decision-making would be the basis for more efficient environmental activities (7).

SDG MONITORING AND REPORTING FRAMEWORK

Country approach to Sustainable Development Goal (SDG) reporting

The Kyrgyz Republic on 22 December 2015 adopted Resolution No867 providing for the establishment of a coordination committee, with the Prime Minister as Chairman, for the adaptation and realization of the SDGs, and for monitoring progress until 2030.⁹ The Executive office of the Government of the Kyrgyz Republic determines the Secretariat.¹⁰ An inter-agency expert group was created for the purposes of implementing an SDG global indicator system and the subsequent development of national indicators.

The first stage of development of the SDG monitoring and reporting system began in early 2017 and included the development of an inventory of global indicators, national analogue-indicators and additional national indicators to be used to introduce SDG indicators into national and sectoral strategic programmes (2).

All 17 goals, 169 tasks and 239 indicators were considered and discussed in detail.

Sixty-seven of the 169 global targets were adapted to national targets. National indicators were developed for 170 of the 239 global indicators, and additional national analogue-indicators were developed for 159 of the global indicators. Thirteen global targets and five global indicators were excluded due to their irrelevancy to Kyrgyzstan (2).

⁹ <http://cbd.minjust.gov.kg/act/view/ru-ru/98265>

¹⁰ <http://cbd.minjust.gov.kg>

For each indicator, a state body was identified as responsible for collecting data, implementing the related targets and developing the methodology. For a number of indicators, the responsible agencies prepared “passports” that included a general description of the indicator, the methodology for data collection and processing, the calculation methods, the data sources, the timing of the data collection and reporting, the funding needs, additional information and references.¹¹

The work of the interagency expert group resulted in the creation of an SDG indicator inventory and adaptation matrix.¹²

The transition to sustainable development specifies a step-by-step recovery of natural ecosystems to achieve a level that provides environmental sustainability and the preservation of biodiversity. The sustainable waste management policy focuses on total elimination of uncontrolled waste dumping, reduction of existing waste landfills, recycling, reuse and the safe utilization of wastes.

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

Our assessment of SDG monitoring considers 31 global environmental indicators in the indicator system of Kyrgyzstan (See Annex II). Indicators 14.1.1, “Index of shore eutrophication and density of floating plastics scrap”, and 14.5.1, “Share of protected sea areas”, are not relevant to the country.

Kyrgyzstan uses national indicators or additional indicator-analogues for 29 of the 31 SDG global environmental indicators. Global SDG indicators 3.9.2, 6.2.1 and 6.4.1 have two national indicators each, and indicator 15.3.1 has four national indicators.)

National and/or additional indicator-analogues were defined for four global SDG indicators (2.4.1; 6.1.1; 9.4.1; 12.2.1), but they are not yet in production.

The analysis shows that UNECE environmental indicators can be used for the majority of developed national and additional indicator-analogues. However, unlike in other countries, the matrix of inventory and adaptation of national indicators in Kyrgyzstan does not include the actual data values to monitor SDG implementation.

National indicators are not yet developed for two global SDG indicators: 6.3.2 “Share of water reservoirs with good water quality” and 12.2.2 “Aggregated internal material consumption and internal material consumption per capita and GDP percentage ratio”. UNECE environmental indicators can be used for the development of “Biochemical oxygen demand and ammonium load in rivers” and “Nutrients in freshwater” (for indicator 6.3.2) and “Energy consumption”, “Final energy consumption” and “Final consumption of electricity” (for indicator 12.2.2).

Documents related to environmental protection and natural resources management, as well as other state documents, include environmental indicators for monitoring progress towards achieving the SDGs (2).

¹¹ <http://www.stat.kg/media/files/db000a89-d47d-4922-aa68-01a09f18a504.pdf>

¹² <http://www.stat.kg/ru/celi-ustojchivogo-razvitiya/>

The matrix of inventory and adaptation of SDG indicators, which contains national and additional indicator-analogues, is presented only in Russian.

GAPS AND SUGGESTED ACTIONS

The table below summarizes the gaps in Kyrgyzstan'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
Absence of unified platform for allocation of environmental UNECE indicators		Assistance in development of unified platform for allocation of environmental indicators
No systematic update of environmental indicator dataset	Take steps to update of environmental indicators annually and set specific deadlines	
Limited access to, and partial protection of, environmental information	Provide open access and transparency of environmental information	
Problems with data exchange among agencies	Improve inter-agency cooperation in data exchange, official protocols, IT systems	
Environmental information in some organizations stored in paper (hard copy)	Transition environmental data to electronic format, and start using data in that format	Methodological assistance in digitalization of environmental information
Deficit of available environmental information that is produced locally and applicable in comparative analysis at different geographic levels	Improve the production of environmental information at the local level	
Low level of implementation of modern internationally accepted methods of analysis, calculation and recommendations in environmental monitoring (atmospheric emissions, water object pollution, waste management)		Training to support necessary level of qualification and use of international standards in environmental monitoring

Need to implement automated system for measuring environmental parameters and for modern methods of analysis	Modernization of national hydrometeorological service, adoption of modern methods of analysis, development and implementation of automated systems of measurement of environmental conditions	
Shutdown of development of interactive online version of national report on environmental conditions (only 4 out of 49 UNECE indicators were developed)		Assistance in upgrade of fully interactive version of national report on environmental conditions
Incomplete data sets for some UNECE environmental indicators	Increase quantity of data sets in UNECE environmental indicators	
No monitoring data for achieving SDGs in the matrix of indicator inventory and adaptation in Kyrgyzstan	Implement system of monitoring national SDG indicators	
National indicators not yet developed for some UNECE global environmental indicators	Use UNECE environmental indicators for development of national SDG indicators	
National report on environmental conditions, matrix of inventory and adaptation of SDG indicators and some other documents available only in Russian	Translate main published documents into Kyrgyz and, as possible, into English	

CONCLUSIONS

Kyrgyzstan seeks to make progress in the production of environmental indicators in accordance with the revised UNECE Guidelines. The National Environmental Report of the Kyrgyz Republic for 2011-2014 and the NSC web pages used 39 UNECE environmental indicators (22 indicators of the core set and 17 additional). The indicators include the data sources and disclose the necessary details, and the data correspond to the content of the indicator. Metadata, visualization tools and textual analysis are available, but the time series of most of the indicators in the report are limited to 2014. The lack of a unified environmental indicator platform creates access difficulties that inhibit widespread use.

Donor countries are helping Kyrgyzstan plan and gradually introduce automated systems for measuring environmental parameters, but in most cases, organizations and departments store environmental data on paper.

The preparation and publication of the National Report on the State and Protection of the Environment is significantly delayed. The latest report was published in 2015.

Kyrgyzstan is making efforts to implement the SEIS principles. The environmental monitoring system is being improved, and access to environmental information and indicators on the NSC, SANPFM, and Kyrgyzhydromet websites is improving. A legislative and regulatory framework is being created, and inter-agency cooperation is improving, but without the help of international organizations and donors, the country's efforts are not enough.

Kyrgyzstan has made significant progress in implementing the SDGs. All 17 goals, 169 tasks and 239 indicators were reviewed and discussed in detail. The country has developed a matrix of inventory and adaptation of SDG indicators, but has no monitoring data on the implementation of the SDGs and cannot track the dynamics and trends in the implementation of global environmental indicators of the SDGs at the national level. Kyrgyzstan uses national indicators or additional indicator-analogues for 29 of the 31 SDG global environmental indicators.

In the short term, the UNDA project may be able to support Kyrgyzstan through advice and operational and methodological guidance on the development of a 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	Comparabili- ty	Inst / org arrange- ments
Air emissions (14)	-/+	-/+	+/-	+/-	+	+/-	
Air quality (4)	+/-	+	-/+	+/-	+/-	-/+	
OSD consumption (8)	+	+	-	-/+	+/-	+	
Air temperature (1)	-/+	-/+	-	-	+/-	-/+	
Precipitation (1)	-/+	-/+	-	-	+/-	-/+	
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)	+	+	-	+/-	+/-	+/-	
Nutrients in freshwater (5)	+/-	+	-	+/-	+/-	+/-	
Pop. connected to WWT (1)	+/-	+/-	+	+/-	+/-	-/+	
WWT facilities (1)	-	-	-	-	-	-	
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)	+	+	+	+/-	+/-	+/-
Hazardous waste management (6)	+	+	+/-	+/-	+/-	+/-
Additional indicators						
Household water use per capita (3)	-	-	-/+	-/+	+/-	-/+
Water losses (3)	+/-	+/-	+/-	+/-	+	+/-
Reuse and rec. of freshwater (2)	-	-/+	-	-	-/+	-
Drinking water quality(4)	+/-	+	-/+	+/-	+/-	+/-
Biosphere reserves and wetlands of international importance*	+	+	n/d	+	+	n/d
Invasive alien species*	+	+	n/d	+	+	n/d
Area affected by soil erosion (2)	+	-/+	+	+	-/+	+/-
Irrigation*	+	+	+	+/-	+	+/-
Fertilizer consumption (4)	-/+	+/-	+/-	+/-	+/-	+/-
Pesticide consumption (3)	+/-	+	+/-	+/-	+	+/-
Energy intensity (3)	+	+	-/+	+/-	-/+	+/-
Renewable energy consumption (2)	+/-	+/-	-/+	-/+	+/-	-/+
Passenger transport demand (3)	+/-	+/-	-/+	+/-	+/-	-/+
Freight transport demand (3)	+/-	+/-	-/+	+/-	+/-	+/-

Age of road motor vehicle fleet (5)	+	+	+/-	+/-	+/-	+/-
Waste reuse and recycling (3)	+	+	+/-	+/-	+	+
Environm. Protect. Expenditure*	+	+	+/-	+/-	+	+

* indicator not reviewed by the UNECE Join 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.

UNECE environmental indicators are in the National Report on the State of the Environment of the Kyrgyz Republic for 2011-2014 (http://aarhus.kg/wp-content/uploads/2017/01/NDSOS_1114_sait.pdf); and in the statistical compilation Environment in the Kyrgyz Republic in 2013-2017; (<http://www.stat.kg/media/publicationarchive/69c50a26-74ca-4fe9-8816-26447055f3fb.pdf>).

ANNEX II STATUS AND ASSESSMENT OF SDG ENVIRONMENTAL INDICATORS

SDG indicators	National indicators of Kyrgyzstan	Additional national counterpart indicators of Kyrgyzstan	UNECE Indicators
SDG target 2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality			
2.4.1 Proportion of agricultural area under productive and sustainable agriculture	2.4.1.1 The volume of new irrigated lands and lands that have undergone ameliorative improvement	2.4.1.a Share of arable land fertilized: - with mineral fertilizers - with organic fertilizer	F1. Irrigation (indicator is not currently developed) F2. Fertilizer consumption F3. Gross nitrogen balance (indicator is not currently developed)
		2.4.1.b The proportion of the area with drip irrigation in the total irrigated area of arable land	
		2.4.1.c The share of the area occupied by organic farming in the total area of arable land	
SDG target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination			
3.9.1 Mortality rate attributed to household and ambient air pollution	3.9.1.1 Mortality from toxic effects of carbon monoxide per 100,000 population		A1. Emissions of pollutants into the atmospheric air A2. Ambient air quality in urban areas

3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene	3.9.2.1 Mortality from intestinal infections per 100 000 population 3.9.2.2 Mortality from typhoid fever per 100,000 population		C5. Water supply industry and population connected to water supply industry C6. Connection of population to public water supply C9. Drinking water quality C14. Population connected to wastewater treatment
3.9.3 Mortality from unintentional poisoning	3.9.3.1 Mortality from accidental poisoning and exposure to toxic substances		F4. Pesticide consumption
SDG target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all			
6.1.1 Proportion of population using safely managed drinking water services	6.1.1.1 Proportion of population with access to clean drinking water	6.1.1.a The proportion of diseases associated with drinking water GENDER 6.1.1.b The proportion of drinking water samples in drinking water supply systems that meet established standards of the total number of samples	C5. Water supply industry and population connected to water supply industry C6. Connection of population to public water supply C9. Drinking water quality
SDG target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations			
6.2.1 Proportion of population using safely managed sanitation services, including a	6.2.1.1 Accessibility of the population to sanitary facilities.		C4. Household water use per capita C5. Water supply industry and population connected to water supply industry

hand-washing facility with soap and water	6.2.1.2 Percentage of households with a place for washing hands with soap and water		C14. Population connected to wastewater treatment
SDG target 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally			
6.3.1 Proportion of wastewater safely treated	6.3.1.1 Percentage of discharge of treated water (to discharged sewage in total)		C16. Polluted (non-treated) wastewaters
6.3.2 Proportion of bodies of water with good ambient water quality	No data		C10. BOD and concentration of ammonium in rivers C11. Nutrients in freshwater
SDG target 6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity			
6.4.1 Change in water use efficiency over time	6.4.1.1 Domestic water consumption per capita 6.4.1.2 The percentage of water loss during transportation from surface sources		C3. Total water use C4. Household water use per capita C7. Water losses
6.4.2 Level of Water Stress: freshwater withdrawal as a proportion of available freshwater resources	6.4.2.1 Total volume freshwater abstraction		C1. Renewable freshwater resources C2. Freshwater abstraction.
SDG target 6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes			
6.6.1 Change in the extent of water-related ecosystems over time	6.6.1.1 The area of protected areas included in the list of wetlands		D1. Protected areas D2. Biosphere reserves and wetlands of international importance (indicator is not currently developed)

SDG target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services			
7.1.1 Proportion of population with access to electricity		7.1.1.a Number of power outages consumers	G5. Final electricity consumption (indicator is not currently developed)
		7.1.1.b Number of emergency power outages	
SDG target 7.2 By 2030, increase substantially the share of renewable energy in the global energy mix			
7.2.1 Renewable energy share in the total final energy consumption	7.2.1.1 The share of renewable energy sources in the total volume of final energy consumption, excluding electric power of large hydropower plants		G1. Final energy consumption G4. Renewable energy consumption
SDG target 7.3 By 2030 double the global rate of improvement in energy efficiency			
7.3.1 Energy intensity measured in terms of primary energy and GDP	7.3.1.1 GDP electric intensity (kWh/som)		G3. Energy intensity
SDG target 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all			
9.1.2 Passenger and freight volumes, by mode of transport		9.1.2.a Passenger and freight traffic: - - car transport; - by rail; - water transport; - aviation.	H1. Passenger transport demand H2. Freight transport demand
SDG target 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities			
9.4.1 CO ₂ emission per unit of value added	9.4.1.1 The volume of CO ₂ emissions from stationary sources per km ² and in the territory		B3. Greenhouse gas emissions

SDG target 11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries			
11.3.1 Ratio of land consumption rate to population growth rate	11.3.1.1 Commissioning of residential buildings per 1000 population		E1. Land uptake E2. Area affected by soil erosion
SDG target 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management			
11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban waste generated, by cities	11.6.1.1 Volume of municipal solid waste exported (per person)	11.6.1.a Disposal of solid household waste by households by type (garbage chute; collection by truck, container; dump into garbage heaps; incineration; landfilling)	I3. Waste reuse and recycling I4. Final waste disposal
11.6.2 Annual mean levels of fine particulate matter (i.e. PM2.5 and PM10) in cities (population weighted)	11.6.2.1 Percentage of urban population exposed to pollutant concentrations exceeding permissible ambient air quality standards		A2. Ambient air quality in urban areas
SDG target 12.2 By 2030, achieve the sustainable management and efficient use of natural resources			
12.2.1 Material footprint, material footprint per capita, and material footprint per GDP		12.2.1.a. Number of implemented water saving technologies	C2. Freshwater abstraction D3. Forests and other wooded land E1. Land uptake
12.2.2 Domestic material consumption, domestic material consumption per	No data		C3. Total water use G1. Final energy consumption G5. Final electricity consumption (indicator is not currently developed)

capita, and domestic material consumption per GDP			
SDG target 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment			
12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	12.4.2.1 The volume of waste production and consumption in the territory (per person)	12.4.2.a Volume of waste by hazard class by territory	12. Management of hazardous waste 13. Waste reuse and recycling
SDG target 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse			
12.5.1 National recycling rate, tons of material recycled	12.5.1.1 Transferred waste to other enterprises for: - use; - neutralization; - landfilling; - storage		12. Management of hazardous waste 13. Waste reuse and recycling 14. Final waste disposal
SDG target 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution			
14.1.1 Index of coastal eutrophication and floating plastic debris density	For Kyrgyzstan, the indicator is not relevant. The country has no outlet to the sea.		C12. Nutrients in coastal seawaters
SDG target 14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information			

14.5.1 Coverage of protected areas in relation to marine areas	For Kyrgyzstan, the indicator is not relevant. The country has no outlet to the sea.		D1. Protected areas
SDG target 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements			
15.1.1 Forest area as a proportion of total land area	15.1.1.1 Forest area as a percentage of the total area of the country.	15.1.1.a Natural forest area	D3. Forests and other wooded land
15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	15.1.2.1 Protected area from the total area of the corresponding Protected area.		D1. Protected areas
SDG target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally			
15.2.1 Progress towards sustainable forest management	15.2.1.1 Reforestation area	15.2.1.a Area of artificial forests Percentage of forests covered by forest management and reforestation projects. The share of the forest industry in the gross national product	D3. Forests and other wooded land
SDG target 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation neutral world			
15.3.1 Proportion of land that is degraded over total land area	15.3.1.1 Land area subject to degradation 15.3.1.2 Area of agricultural land subject to degradation	15.3.1.a Load on pastures	E2. Area affected by soil erosion

	15.3.1.3 The amount of irrigated land protected from floods and mudslides. 15.3.1.4 Volumes of land reclamation works to prevent secondary salinization	15.3.1.b Pasture area subject to degradation, by region 15.3.1.c The area of arable land subject to degradation, by region 15.3.1.d The proportion of arable land degraded	
SDG target 15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development			
15.4.1 Coverage by protected areas of important sites for mountain biodiversity	15.4.1.1 The area of the corresponding mountain Protected areas from the entire area of the country		D1. Protected areas
SDG target 15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species			
15.5.1 Red List Index	15.5.1.1 The number and number of endangered species and protected species		D4. Threatened and protected species
SDG target 15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species			
15.8.1 Proportion of countries adopting relevant national	15.8.1 1 The availability of regulatory acts aimed at preventing the penetration or regulation of the number of alien invasive species	15.8.1.a Number of invasive alien species	D6. Invasive alien species (indicator is not currently developed)

legislation and adequately resourcing the prevention or control of invasive alien species			
SDG target 15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts			
15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020	15.9.1.1 Number of sectoral and regional biodiversity conservation programs		D4. Threatened and protected species

The source of information:

https://docviewer.yandex.ru/view/0/?*=DJgobl4MKXqWiEOwyXMTjFBo3l7InVybcI6InlhLWJyb3dzZXI6Ly80RFQxdVhFUFJySIJYbFVGb2V3cnVLSmltcmtIZEY4Q3FYVBWZjJSVHhoMkRrOXBFLW5mYXY3Slhmbml5bDVGSVI5YnpfblZrSjlRNUhxTXZUQ0VsNIZ2Tmg5Umg3eWhaaG9FZG9tRjdOZ0pVSW1CeW5BLUdnSEFuOFFGUXJmaE94a0loS18zNjJPSFp2WWtsXzExSnc9PT9zaWduPU5LSHlnTXdaQnZXUEswLXdmMDNnVzBab0Y1NEZRN1A1NXJRSjdhWF9DSXM9liwidGI0bGUiOiJhYTZmYTNmNi00ZjYyLTRmOTEtYWU1MCO2N2NkNDQ0NzAyYmYueGxzliwidWkljoiMClsl1l1joiNjQxMTg0Njk2MTQ5Mzg5MTk2MyIsIm5vaWZyYW1lIjpmYWxzZSwidHMiOjE1NTA0OTU0MjEzNzN9&page=1

Зеленая экономика в Кыргызстане

Организация Экономического Сотрудничества и Развития (ОЭСР) разработает для Кыргызстана программу зеленых государственных инвестиций. Данная программа станет одним из продуктов проекта, который ОЭСР реализует совместно с Министерством Экономики Кыргызской Республики¹³.

Парламентом Республики принято постановление от 28 июня 2018 года № 2532-VI об утверждении Концепции "Кыргызстан - страна зеленой экономики" и мерах по внедрению принципов зеленой экономики в Кыргызской Республике¹⁴.

Для перехода к зеленой экономике предлагается развивать "зеленые" направления по следующим секторам:

1. "Зеленый" транспорт в зеленом городе, предусматривающий создание благоприятных условий для организации в Кыргызстане производства электробусов и электромобилей; введение поэтапного отказа от использования этилированного бензина и топлива с высоким содержанием серы и перехода транспорта на высококачественный бензин, газовое топливо и электричество внедрение международных стандартов для внутренних производителей горюче-смазочных материалов.
2. "Зеленая" энергетика и энергосбережение предусматривающие внедрение низкоуглеродных, возобновляемых источников энергии и повышения энергоэффективности; рассмотреть вопрос о введении полного отказа от проектирования и строительства тепловых электростанций и котельных, использующих в качестве топлива уголь; максимально задействовать гидроэнергетический потенциал малой гидроэнергетики; стимулировать развитие солнечной и ветровой энергетике; внедрение технологий получения биогаза из бытовых и коммунальных органических отходов и сточных вод.
3. "Зеленое" сельское хозяйство, обеспечивающее сокращение применения неорганических удобрений и пестицидов; внедрить новые сберегающие воду методы орошения, в частности капельное, дискретное и распылительное; стимулирование развития производства биоудобрений с использованием биомасс, органических и пищевых отходов; восстановление площади всех лесных насаждений в Кыргызстане.
4. "Зеленая" промышленность, предусматривающая повышение эффективности использования ресурсов, оптимизацию использования природных ресурсов в производстве, предотвращение загрязнения окружающей среды.
5. "Зеленая" переработка отходов, обеспечивающая повышение уровня повторного использования коммунально-бытовых отходов, упаковки и запрета на захоронения на полигонах любых перерабатываемых и биологически разлагаемых отходов; применение современных технологий по утилизации и уничтожению опасных отходов; введение полного запрета на сжигание твердых бытовых отходов.

¹³ <http://greeneconomy.kg/oesr-razrabotaet-dlya-kyrgyzystana-programmu-zelenyih-gosudarstvennyih-investitsiy/>

¹⁴ <http://cbd.minjust.gov.kg/act/view/ru-ru/83126?cl=ru-ru>

6. Охрана биологического разнообразия, предусматривающая восстановление особо ценных экосистем для сохранения глобально значимого биоразнообразия; расширение площади особо охраняемых природных территорий до 10 процентов от общей территории страны; Усиление контроля и строгое научное обоснование в отношении ввозимых в страну инвазивных видов.

Отдельным разделом в Статистическом сборнике представлены национальные индикаторы «зеленого роста», состоящие из 65 показателей, разработка и распространение значительной части которых возложена на Национальный статистический комитет Кыргызской Республики.