State of SEIS implementation in 2018
Country Factsheet
THE REPUBLIC OF KAZAKHSTAN

Kazakhstan has been making progress in establishing SEIS while implementing SEIS principles and the three pillars: Content, Infrastructure and Cooperation. Kazakhstan participates actively in the work of the United Nations Economic Commission for Europe (UNECE) Working Group on Environmental Monitoring and Assessment (WGEMA) and the UNECE Joint Task Force (JTF) on Environmental Statistics and Indicators, which support countries in Europe and Central Asia to establish SEIS by 2021. The present document provides an overview of the state of SEIS implementation in Kazakhstan and offers recommendations on how to achieve the SEIS 2021 target.

KEY MESSAGES

Content

- Kazakhstan has been working on making UNECE environmental indicators available and accessible
- 36 out of 49 UNECE environmental indicators are available in 2018

Infrastructure

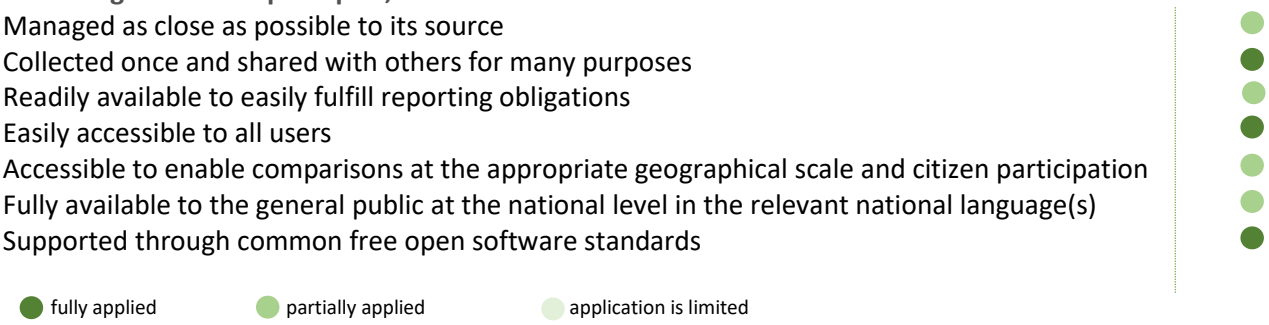
- Environmental information and indicators are available at the Committee on Statistics under the Ministry of National Economy
- Kazakhstan has started the work on monitoring indicators to achieve the SDGs

Cooperation

- Good collaboration and joint order on information engagement between the Ministry and the Committee on Statistics
- Kazakhstan participates actively in the UNECE indicator-related processes and SEIS-related projects supported by the European Union (EU) and the European Environment Agency (EEA)
- The EU FLERMONECA project[1] on environmental monitoring in Central Asia was successfully implemented in Kazakhstan.

THE SEVEN SEIS PRINCIPLES[2] AND STATE OF THEIR APPLICATION IN KAZAKHSTAN[3]

According to the SEIS principles, information should be:



[1]The EU-funded project "Forest and Biodiversity Governance Including Environmental Monitoring" (Flermoneca project)
[2] More information on SEIS principles is available at: https://www.eionet.europa.eu/seis/principles
[3] The evaluation is based on experts' opinion; there are possible changes or clarifications after discussions with Kazakhstan's counterparts.

MANAGEMENT OF ENVIRONMENTAL INFORMATION – OVERVIEW

Organizations responsible for collecting, producing, managing and sharing environmental data and information	The Ministry of Energy The Committee on Statistics of the Ministry of National Economy The State Enterprise Kazhydromet (Hydrometeorological Centre) «ZhasylDamu» LLC The Committee of Geology and Subsoil Use; the Ministry of Investment and Development, Committee for Construction, Housing and Communal Services The Ministry of Agriculture (Committee on Land Management, the Forestry and Wildlife Committee and the Committee on Water Resources) The Ministry of Healthcare Academia, NGOs
Accessibility and availability of environmental information, data and indicators	WHERE?: On the Ministry of Energy, Committee of Environmental Regulation and Control and Committee on Statistics websites, specific convention websites In SoER, Statistical publications, environmental indicator entries and monthly bulletins, thematic reports In reports to MEAs (UNFCCC, UNCCD, UNCBD, BRS, Minamata etc.) IN WHAT FORMATS?: Reports (e.g. SoER), visuals (tables, graphs, maps, diagrams) IN WHICH LANGUAGES?: Kazakh, Russian and English
Environmental indicators in use	UNECE environmental indicators (36 indicators) SDGs (there is a potential to use) OECD Green Growth indicators (there is a potential to use) Reports to MEAs

air water climate change waste biodiversity land cover soil env. statistics public relations information dissemination

CONTENT AND INFRASTRUCTURE FROM INDICATOR PRODUCTION TO USE

STATE OF PRODUCTION AND SHARING OF ENVIRONMENTAL INDICATORS

UNECE environmental indicators are regularly calculated on the basis of relevant recommendations. The quality of available online indicators is assessed. A 2016 UNECE analysis and a 2017 review assessed the following parameters of the indicators' quality: availability on the internet, updates, methodology used, provided analysis and indication of sources (the results are presented below in the table). In 2016, Kazakhstan was recognized as one of the leaders among countries of the Pan-European region with regard to environmental information.

Indicators	I	U	M	A	S
A. Air pollution and ozone depletion					
A1: Emissions of pollutants into the atmospheric air	■	■	■	■	■
A2: Ambient air quality in urban areas	■	■	■	■	■
A3: Consumption of ozone-depleting substances	■	■	■	■	■
B. Climate change					
B1: Air temperature	■	■	■	■	■
B2: Atmospheric precipitation	■	■	■	■	■
B3: Greenhouse gas emissions	■	■	■	■	■
C. Water					
C1: Renewable freshwater resources	■	■	■	■	■
C2: Freshwater abstraction	■	■	■	■	■
C3: Total water use	■	■	■	■	■
C5: Water supply industry and population connected	■	■	■	■	■
C10: BOD and concentration of ammonium in rivers	■	■	■	■	■
C11: Nutrients in freshwater	■	■	■	■	■
C14: Population connected to wastewater treatment	■	■	■	■	■

C15: Wastewater treatment facilities					
C16: Polluted (non-treated) wastewater					
D. Biodiversity					
D1: Protected areas					
D3: Forests and other wooded land					
D4: Threatened and protected species					
E. Land and soil					
E1: Land uptake					
G. Energy					
G1: Final energy consumption					
G2: Total primary energy supply					
I. Waste					
I1: Waste generation					
I2: Management of hazardous waste					

less than 33% | 33 to 67% | over 67% of the maximum possible number

Rating criteria:

I – *Availability of data sets on the internet;* **U** – *Time of update*; **M** - *Conformity with methodological standards;* **A** – *Analysis provided;* **S** – *Indication of the source of an indicator.*

QUALITY OF SEVEN DATA FLOWS BASED ON KAZAKHSTAN'S SELF-ASSESSMENT (2018)

Kazakhstan has conducted a self-assessment of 7 data flows underpinning 3 UNECE indicators that were selected for the SEIS mid-term review. The mid-term review was based on the SEIS Assessment Framework and a questionnaire with 25 questions on quality, which are aligned with quality criteria used by the UNECE Statistical Division and EEA, and correspond to the three SEIS pillars:

Relevance | Accuracy | Timeliness and punctuality | Accessibility | Clarity | Comparability | Institutional and organizational arrangements

Extract: Data Flow - SO_2[a]

User feedback is actively collected and used for many purposes. Information is available at the Committee on Statistics and used for the preparation of various reports

Data produced by other producers is used. Data validation is in place. Regular mandatory revision of data is conducted. There is no data from other sources to make a comparison

Annual dissemination. Latest release: October 2017. Deviation: less than 4 days. Timeliness: less than 1 year

Reports/SoER, visuals. Data is available at: http://stat.gov.kz/faces/homePage/ecolog?_afrLoop=4571171828258064#%40%3F_afrLoop%3D4571171828258064%26_adf.ctrl-state%3De8oyyfxol_4

Quality assurance/quality control procedures are applied to data quality management. Information on methodology, data sources, geographic coverages, and information are in Russian

Internationally agreed procedures are applied partly. Time series from 1990 up to date

The Work Plan of the Department on Industry and Environmental Statistics; activities of Republican State Enterprise "Kazgidromet" of the Ministry of Energy; Joint Order "On Information Engagement between the Statistics Agency of the Republic of Kazakhstan and the Ministry of Environmental Protection of the Republic of Kazakhstan"

[a]**Theme:** A. Air pollution and ozone depletion / **Indicator:** A2. Ambient air quality in urban areas / **Data flow:** Annual average concentration of sulphur dioxide

Atmospheric air: Data on SO_2, NO_2, PM_{10} concentration and the ground-level ozone of the annual average concentrations is available online for the period of 1990-up-to-date. There is reference to the responsible authority for the data – the Committee on Statistics, Ministry of National Economy, as well as the indication of the last page update, 04.12.2017. A graph representing the concentrations is also available. The information on the website is published in Kazakh, Russian and English. There are references to measuring methods and their conformity with international standards. It is linked to policy context and targets. *Areas to improve:* Metadata and additional information are not provided (could be provided upon request and subject to fees).

Water: The data characterize the annual averages of BOD_5 and the concentrations of NH_4 in the Ertis river in 1990–2017 without breaks in the time-series at three sample places. The website refers to the organization responsible for the BOD_5 and NH_4 data – the Ministry of Energy. Information is presented in graphs showing change of the BOD_5 and NH_4 concentrations in the river. Information on the website is published in Kazakh, Russian and English. The date of the last update of content is indicated - 30.11.2017. There are references to measuring methods and their conformity with international standards. It is linked to policy context and targets. *Areas to improve:* Metadata and additional information are not provided (could be provided upon request and for fees).

Biodiversity: There is data on the total territory of protected areas, their share in the total country area, as well as areas of different national categories (nature and biosphere reserves, national parks, landscape parks, special reserves, nature monuments) for 1990-2016. The information source is indicated – the Committee on Forestry and Wildlife, the Ministry of Agriculture – the date of the last update of the content is provided, 4.12.2017. Data is expressed in visual form.
Areas to improve: Information is posted on the website in Russian and Kazakh, but not in English. There are references on measuring methods, however, it is not indicated whether the national categories of protected areas comply with the IUCN categories.

Summary of selected data flows quality

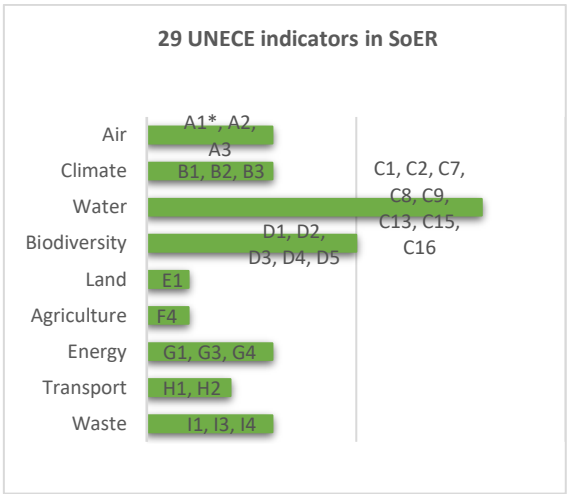
For 7 data flows underpinning 3 UNECE indicators, Kazakhstan has reported on long-time series of continuous monitoring since 1990. There is reference to the information source and the indication of the last update time. Information is available in Kazakh (partly), Russian and English (apart from biodiversity). Some published data are illustrated (graphs). There are references to measuring methods and their conformity with the international standards, but there is no indication if national categories of protected areas comply with the IUCN categories.

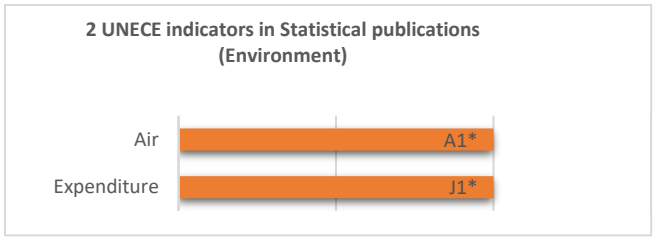
Kazakhstan ranked its performances as **86.67%** - a very good performance.

USE OF ENVIRONMENTAL INDICATORS

Use of environmental indicators in environmental assessments, state of the environment reports and other thematic environmental reports or statistical bulletins

With the support of UN Environment, the Ministry of Energy is preparing an interactive, indicator-based electronic version of the latest SoER; it is also developing an electronic information portal. UNECE environmental indicators are progressively used in visual materials (time-series graphics, tables) in several national documents, such as the 2015 SoER[4], National Statistical publications and bulletins[5], and other thematic reports[6]. Additionally, the environmental indicators of Kazakhstan are linked to the environmental policy targets outlined in the National Strategy "Kazakhstan 2050: Common goal, common interests, common future"[7]).These have the potential to become a policy monitoring tool.





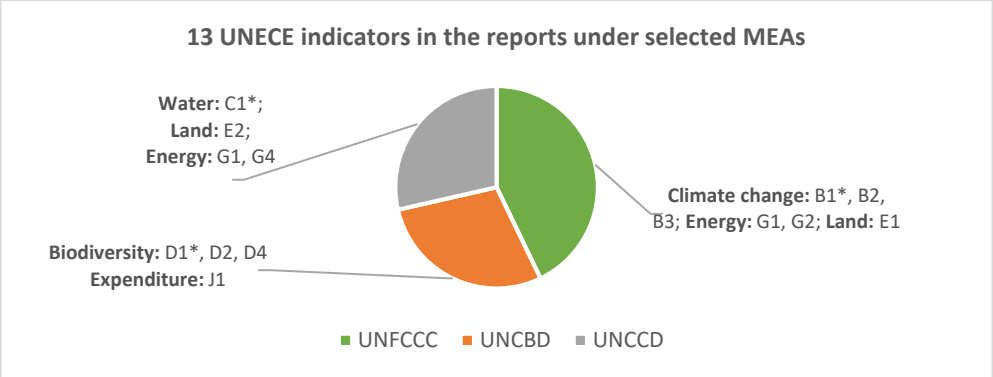
* Abbreviations as used in the Guidelines for the Application of Environmental Indicators are accessible at https://www.unece.org/env/indicators.html.

Use of environmental indicators for reporting on international obligations under MEAs

One of the SEIS principles stipulates that environmental information and indicators should be readily available to easily fulfill reporting obligations, including under the MEAs. The UNECE environmental indicators are used for country

[4]State-of-the-environment report (2015, in Russian).
[5]National Statistical publications and bulletins provide data that correspond to UNECE environmental indicators. Monthly. quarterly and annual bulletins (in Russian).
[6] Some thematic reports are available at the Ministry of Energy's website.
[7]Introduction on National Strategy "Kazakhstan 2050: Common goal, common interests, common future" (2014).

implementation reports under UNFCCC[8], UNCBD[9], UNCCD[10], in different formats and to certain extents. These indicators are also used to a smaller extent for three BRS Conventions[11] and the Minamata Convention.[12]



* Abbreviations as used in the Guidelines for the Application of Environmental Indicators are accessible at https://www.unece.org/env/indicators.html.

Use of environmental indicators for reporting on the Sustainable Development Goals (SDGs) and Green Growth

In 2014, the Green Economy indicators[13] of Kazakhstan were developed in pursuance of paragraphs 6 and 7 of the Plan of Measures for the Implementation of the Concept for the Transition to Green Economy for 2013-2020, and in accordance with the Indicators of Green Growth of the OECD. Kazakhstan has the potential to use some of the UNECE environmental indicators to monitor SDGs.

The potential use of UNECE indicators for SDGs monitoring in Kazakhstan

	**Water:** C5*, C14
	**Energy:** G2, G3, G4
	**Water:** C3 **Waste:** I2
	**Biodiversity:** D2, D3

Linking of 14 UNECE indicators to the OECD Green Growth indicators in Kazakhstan

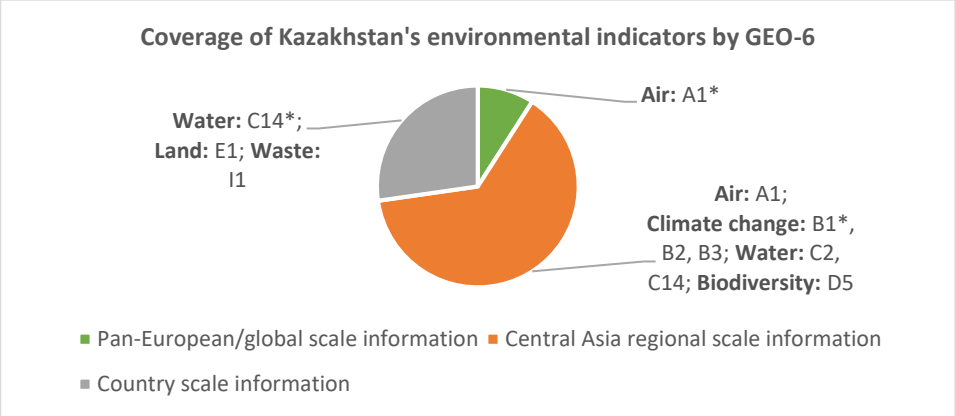
1. CO_2 productivity (1.1)**	**Climate change:** B3*
2. Energy productivity (2.1, 2.2, 2.3)	**Energy:** G2, G3, G4
3. Material productivity (non-energy) (3.3, 3.4)	**Agriculture:** F4
4. Water productivity	**Waste:** I1 **Water:** C2
7. Freshwater resources	**Water:** C1 **Biodiversity:** D3
11. Land resources	**Agriculture:** F2
12. Soil resources	**Land:** E2
13. Wildlife resources	**Biodiversity:** D5
16. Access to sewage treatment and drinking water (16.1, 16.2)	**Water:** C5, C14

* Abbreviations as used in the Guidelines for the Application of Environmental Indicators are accessible at https://www.unece.org/env/indicators.html.
**Consult the list of OECD Green Growth indicators to see the full name of indicator(s).

[8] Third-Sixth National Communication of the Republic of Kazakhstan under the United Nations Framework Convention on Climate Change (2013, in English).
[9] Fifth National Report of the Republic of Kazakhstan to the Convention on Biological Diversity (in English).
[10] Third National Report on implementation of the United Nations Convention to Combat Desertification in the Republic of Kazakhstan (2006, in Russian and English). Indicators are mainly linked to Aichi biodiversity targets.
[11] Kazakhstan submitted an Electronic Reporting System of the Basel convention (2015), on-line reporting 2014 under the Stockholm conventions.
[12] International projects under the Minamata convention in Kazakhstan.
[13] The Green Economy indicators of Kazakhstan in accordance with the OECD Green Growth indicators (in Russian).

Use of indicators in the Pan-European volume of GEO-6[14]

The 6th Global Environmental Outlook (GEO-6), produced in 2016 by UNEP and UNECE covers the use of environmental indicators by Kazakhstan in the regional context.



* Abbreviations as used in the Guidelines for the Application of Environmental Indicators are accessible at https://www.unece.org/env/indicators.html.

COOPERATION NATIONAL AND INTERNATIONAL SUPPORT FOR THE DEVELOPMENT OF SEIS

Kazakhstan engages in good internal cooperation among national producers of data based on different agreements and practices, i.e. the Joint Order "On Information Engagement between the Statistics Agency of the Republic of Kazakhstan and the Ministry of Environmental Protection of the Republic of Kazakhstan" (later the Ministry of Environmental Protection was re-organized and integrated into the Ministry of Energy).

Kazakhstan maintains good cooperation with the neighboring countries in the field of environmental information, within the framework of activities of the Interstate Commission on Sustainable Development (ICSD) for Central Asia. The SIC ICSD branch operates in Kazakhstan, which among other things is responsible for the development and maintenance of the ICSD Internet portal. Exchange of information programs at the basin-level of the Caspian Sea is being implemented in collaboration with Russia, Kyrgyzstan and China.

Kazakhstan participates in the work of various Commonwealth of Independent States (CIS) bodies, including the CIS Statistical Committee and the CIS Interstate Council for Hydrometeorology, and in the corresponding exchange of data and information.

Kazakhstan is a member of the Eurasian Economic Union, including the Customs Union and the Eurasian Economic Commission (although environmental information exchange is not a priority). Kazakhstan engages in cooperation and exchange of statistical and sectoral information within the framework of the Organization for Economic Cooperation (ECO) of Central Asia and the Middle East.

The EU-funded project “Forest and Biodiversity Governance Including Environmental Monitoring” (FLERMONECA) was successfully implemented in five Central Asia countries, including Kazakhstan. The project was implemented from 2013 to 2015 and was aimed at enhancing regional cooperation and partnerships with Europe in the fields of forest and biodiversity governance, including environmental monitoring through supporting the sustainable use and management of natural resources in Central Asia.

[14]United Nations Environment Programme. Global Environment Outlook GEO-6. Assessment for the pan-European region. 2016.

CONTENT, INFRASTRUCTURE, COOPERATION	CONCLUSIONS AND RECOMMENDATIONS
Kazakhstan has been making progress on the accessibility of UNECE environmental indicators which are published on the websites of national environmental authorities, statistical agencies and open data portals in compliance with UNECE requirements. Cooperation between data holders is taking place, however, the regulations on information exchange remain quite strict; Kazakhstan is a leader in environmental information in the region and it has the potential to achieve the 2021 target on UNECE indicators' availability, as well as on SEIS implementation.	✓Continue advancing the production and sharing of environmental indicators in compliance with recommendations of the UNECE WGEMA and the JTF on Environmental Statistics and Indicators; ✓Continue methodological work on existing and new environmental indicators so that all UNECE environmental indicators are produced, available and accessible by 2021; ✓Maintain cooperation and interaction between environmental information producers in the country to improve accessibility of the data , to ensure that SEIS implementation is achieved.
Kazakhstan has assessed its capacities to monitor the OECD Green Growth Indicators for Implementation of the Concept for the Transition to Green Economy for 2013-2020. Kazakhstan has the potential to use UNECE environment indicators to monitor the progress under SDGs.	✓Assess in detail and/or promote the use of UNECE environmental indicators to monitor the SDGs and Green Growth progress; ✓Increase the use of indicators for different purposes and monitoring capacity for making progress in achieving the SDGs and Green Economy.
Kazakhstan has no indicator-based report, however, SoER, statistical publications on the environment and thematic reports provide sufficient environmental information and data. These reports should be complemented with analysis, assessments and concrete recommendations; they should include relevant material, case studies and visuals. Reports should better analyze the connection between economic processes, sectoral strategies and use of natural resources.	✓Improve the analytical and recommendation sections of the SoER/thematic reports by using indicators (shift from providing environmental information to environmental assessment with linkages between economic processes and use of natural resources, visual explanations); ✓Prepare indicator-based reports in a reader-friendly manner.
One of the SEIS principles relates to the complete availability of information to the general public at the national level in the relevant national language(s); Information should be up-to-date and placed on the unified portal with all environmental indicators in both national language and English.	✓Make sure all produced environmental information is gathered in one place and/or made available in different places to a broader public in the national as well as the English language; ✓Make sure information is up-to-date and information exchange is occurring;
Reporting under the MEAs remains one of the main tasks for the country. The use of environmental indicators for different purposes, including reporting under the MEAs should be promoted and strengthened. The produced reports are not always available on the website of the Ministry. Some reports to the MEAs are available on the website of the Conventions. The thematic and geographic coverage of some reports could be improved.	✓Increase the use of environmental indicators for the preparation of the reports under the MEAs; ✓Improve the quality of the reports under the MEAs (analytical and visual parts), thematic and geographic coverage; ✓Make sure all produced reports are available on nationally managed websites in the national language and well presented to a broader public.

Abbreviations and Acronyms:

BRS – Basel, Rotterdam and Stockholm Conventions (on waste, chemicals and POPs): Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; Stockholm Convention on Persistent Organic Pollutants
CIS - Commonwealth of Independent States
ECO - Organization for Economic Cooperation of Central Asia
EEA – European Environment Agency
EU – European Union
ICSD - Interstate Commission on Sustainable Development for Central Asia
IUCN – International Union for Conservation of Nature
MEA – Multilateral Environmental Agreement
Minamata – Minamata Convention on Mercury
ME– Ministry of Energy
OECD – Organization for Economic Cooperation and Development
SoER – State-of-environment report
SEIS – Shared Environmental Information System
UNFCCC – United Nations Framework Convention on Climate Change
UNCCD – United Nations Convention to Combat Desertification
UNCBD - United Nations Convention on Biological Diversity

About the activity:

Countries of Eastern Europe, the Caucasus and Central Asia have long traditions in the fields of environmental information, assessment and reporting. At the Seventh Environment for Europe Ministerial Conference (Astana, 2011) the participating ministers decided to establish a regular process of environmental assessment and to develop SEIS across the region to keep the Pan-European environment under review. The UNECE Working Group on Environmental Monitoring and Assessment and the Joint Task Force on Environmental Statistics and Indicators created a platform for countries to gradually consolidate a shared vision on how to select, calculate, present and use environmental indicators to reflect the state of the environment. The European Environment Agency is supporting SEIS development in the EU Neighbourhood region.

This activity, funded by the Russian Federation, is aimed at supporting the activities under the Environmental Monitoring and Assessment (EMA) Programme. It also aims to strengthen national capacities in Central Asia, the Caucasus and Eastern Europe in environmental monitoring and assessment and at enhancing the understanding by ECE member States of environmental data sharing and the SEIS reporting application.

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Sources:

Reporting on Progress in Establishing SEIS in the Pan-European Region for the mid-term review and for piloting the SEIS Assessment Framework (Kazakhstan's self-assessment), February 2018; SEIS Central Asia scorecard. Kazakhstan (draft, 2017); Kazakhstan SDG datasheet (Statistical Yearbook for Asia and Pacific 2017); The Green Economy indicators of Kazakhstan in accordance with the OECD Green Growth indicators (2014); Ministry of Energy of the Republic of Kazakhstan and Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan.