

# State of SEIS implementation in 2018

## Country Factsheet

### TURKMENISTAN

Turkmenistan has been working on establishing SEIS through the implementation of the SEIS principles and three pillars - Content, Infrastructure and Cooperation - even though progress has arguably been slow. Turkmenistan participates in 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 Turkmenistan and offers recommendations on how to fully achieve the SEIS 2021 target.

#### KEY MESSAGES

##### Content

- Environmental information and indicators are not available online, it is therefore difficult to determine the number of environmental indicators produced in 2018.
- National reports are outdated (i.e. the latest SoER was produced in 2008)

##### Infrastructure

- Availability of data online is not developed, data is provided mainly upon request
- There is no unified platform for environmental data

##### Cooperation

- Cooperation on information engagement between data producers is based on national legislation and aimed at fulfilling the commitments under international conventions and UN programmes.
- The traditional methods (through direct request) of information exchange are applied
- The EU FLERMONECA project<sup>1</sup> on environmental monitoring in Central Asia was successfully implemented

#### THE SEVEN SEIS PRINCIPLES<sup>2</sup> AND STATE OF THEIR APPLICATION IN TURKMENISTAN<sup>3</sup>

According to the SEIS principles, information should be:

Managed as close as possible to its source

Collected once and shared with others for many purposes

Readily available to easily fulfill reporting obligations

Easily accessible to all users

Accessible to enable comparisons at the appropriate geographical scale and citizen participation

Fully available to the general public at the national level in the relevant national language(s)

Supported through common free open software standards

● fully applied

● partially applied

● application is limited









<sup>1</sup>The EU-funded project "Forest and Biodiversity Governance Including Environmental Monitoring" ([FLERMONECA project](https://www.eionet.europa.eu/seis/principles))

<sup>2</sup> More information on SEIS principles is available at: <https://www.eionet.europa.eu/seis/principles>

<sup>3</sup> Evaluation is based on expert opinion; there is the possibility of changes or clarifications after discussions with Turkmenistan's counterparts.

## MANAGEMENT OF ENVIRONMENTAL INFORMATION – OVERVIEW

 <p><b>Organizations</b> responsible for collecting, producing, managing and sharing environmental data and information</p>	<p>The Committee on Environmental Protection and Land Resources </p> <p>The State Committee on Statistics </p> <p>The Hydrometeorological Service </p>
 <p><b>Accessibility and availability</b> of environmental information, data and indicators</p>	<p><b>WHERE?:</b> On the <a href="#">Committee on Environmental Protection and Land Resources</a>, the <a href="#">State Committee on Statistics</a> websites (upon request only), websites of various Conventions</p> <p>In <a href="#">SoER</a>, the <a href="#">Statistical Yearbook on the Environment and Use of Nature Resources</a> (upon request only)</p> <p>In national implementation reports to MEAs (<a href="#">UNFCCC</a>, <a href="#">UNCCD</a>, <a href="#">UNCBD</a>, <a href="#">BRS</a> etc.)</p> <p><b>IN WHAT FORMATS?:</b> Reports (e.g. SoER), additional information provided (for some indicators), metadata provided (for some indicators)</p> <p><b>IN WHICH LANGUAGES?:</b> Turkmen, Russian</p>
 <p><b>Environmental indicators in use</b></p>	<p>UNECE environmental indicators (potential needs to be studied)</p> <p>SDGs (potential needs to be studied)</p> <p>OECD Green Growth indicators (potential needs to be studied)</p> <p>Reports to MEAs</p>



## CONTENT AND INFRASTRUCTURE

## FROM INDICATOR PRODUCTION TO USE

### STATE OF PRODUCTION AND SHARING OF ENVIRONMENTAL INDICATORS

Some indicators, produced either nationally or locally by the State Committee on Statistics, are format-compatible with the UNECE set of indicators. The 2016 UNECE analysis assessed the following parameters of the indicators' quality: availability in the internet, updates, methodology used, provided analysis and indication of sources (the results are presented in the table below). It is worth noting that environmental information and indicators are available only upon request internally in the country, as none of UNECE environmental indicators was found online (except for a map providing information on protected areas on the Committee's website).

Indicators	I	U	M	A	S
<b>A. Air pollution and ozone depletion</b>					
A1: Emissions of pollutants into the atmospheric air					
A2: Ambient air quality in urban areas					
A3: Consumption of ozone-depleting substances					
<b>B. Climate change</b>					
B1: Air temperature					
B2: Atmospheric precipitation					
B3: Greenhouse gas emissions					
<b>C. Water</b>					
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					
<b>D. Biodiversity</b>					
D1: Protected areas					
D3: Forests and other wooded land					
D4: Threatened and protected species					

<b>E. Land and soil</b>					
E1: Land uptake					
<b>G. Energy</b>					
G1: Final energy consumption					
G2: Total primary energy supply					
<b>I. Waste</b>					
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 TURKMENISTAN'S SELF-ASSESSMENT (2018)

Turkmenistan has conducted a self-assessment of 7 data flows underpinning 3 UNECE indicators 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, aligned with quality criteria used by the UNECE Statistical Division and EEA, and corresponding to three SEIS pillars:



#### Extract: Data Flow - SO<sub>2</sub><sup>a</sup>



Any user feedback is not provided. Used for many purposes (information is provided upon request). Information was never improved for users' convenience



Use of the data produced by other producers. Data validation is in place. Mandatory revision of data is conducted. There is no data from other sources for comparison



No regular dissemination. Deviation: 8 weeks. Timeliness: less than 1-2 years.



Reports (i.e. SoER). Data is not available online for users, and is only made available upon requests.

SEIS template is used



The procedures are applied to data quality management (methodological recommendations, standards, regulations). Metadata is available. Information on data quality, methodology, data sources, timeframe and geographical coverage, contacts are available in Russian and Turkmen



Internationally agreed procedures are partly applied. Time series are not complete; data for some periods is lost



Laws on the statistics, on nature protection, on atmospheric air protection. State Committee to fulfil commitments under the international conventions and UN programmes.

<sup>a</sup>**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:** According to Turkmenistan's self-assessment, data on PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub> is collected internally by the Committee on Environmental Protection and Land Resources and the Hydrometeorological Centre. Information is only accessible upon request. Data validation and a mandatory revision of the data are conducted. Information is presented in the SoER (although the report is considered as outdated as it was produced in 2008). The SEIS template is used for some data sets. Metadata is provided. Internationally agreed procedures are partly applied for data quality management. The information is published in Russian and Turkmen.

**Areas to improve:** Information is not made available to a broad public; user feedback is not collected. There is no regular dissemination of data, and deviation of data release could be up to 8 weeks. There is no mention of the last content update, and reports generally provide outdated information. No reference is made to measuring methods. Data is not presented in visual form.

**Water:** According to Turkmenistan's self-assessment, data on annual averages of BOD<sub>5</sub> and the concentration of NH<sub>4</sub> is collected, but not publicly available to users. Data validation and a mandatory revision of the data are conducted. The SEIS template is used. Metadata is provided. Internationally agreed procedures are partly applied for data quality management. There is an indication of a legal basis – national laws and responsible commitments under the international conventions and UN programmes. The information is published in Russian and Turkmen.

**Areas to improve:** Information is not made available to a broad public; user feedback is not collected. There is no regular dissemination of data, and deviation of data release could be up to 8 weeks. The source, portal and date of last content update are not indicated. No reference is made to measuring methods. Data is not visually presented.

**Biodiversity:** According to Turkmenistan's self-assessment, data on the total territory of protected areas (in the form of a map) is available on the Committee's website, as well as in the report to the UNCBD. The SEIS template and EEA format for data flows are used. Metadata, Information on data quality, methodology, data sources, timeframe and geographical coverage, contacts are provided. Legal base is indicated. **Areas to improve:** User feedback is not collected. There is no regular dissemination of data, and deviation of data release could be up to 8 weeks. Reference is made to measuring methods, however it is not indicated whether the national categories of protected areas comply with the IUCN categories.

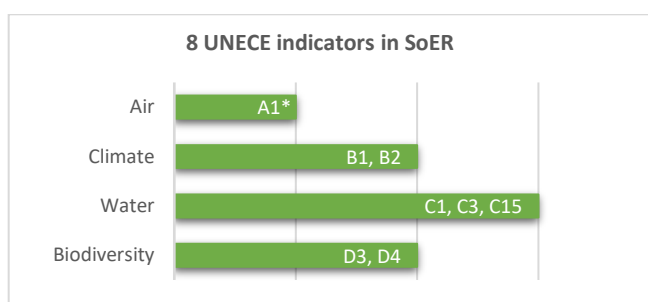
### Summary of selected data flows quality

Regarding 7 data flows underpinning 3 UNECE indicators, Turkmenistan has reported on a long time series of continuous data monitoring (18 years), with some breaks. It is difficult to assess the information provided through the self-assessment tool (presented above), as information is not available online. Turkmenistan self-ranked its overall national performance as **48,57%** - indicating a need for improvement.

### USE OF ENVIRONMENTAL INDICATORS

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

In 2008, the State Committee on Environmental Protection and Land Resources with support of UN Environment prepared a pilot SoER<sup>4</sup> using some UNECE indicators, with support from the FLERMONECA project and the Regional Ecological Centre for Central Asia. The 2017 Statistical indicators only refer to two indicators from the list of UNECE environmental indicators on transport: passengers and freight transport<sup>5</sup> demand. Overall, it is difficult to check whether the UNECE environmental indicators are used for the 2017 Statistical Yearbook, as the report is not available online.



\* 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 for various reporting purposes under the MEAs. The UNECE environmental indicators are used for the national implementation reports under the UNFCCC<sup>6</sup>, UNCBD<sup>7</sup>, and UNCCD<sup>8</sup> in different formats and to certain extents. To a smaller extent, the indicators could also potentially be used for the Basel Convention<sup>9</sup>.

<sup>4</sup>State-of-the- environment report (2008, [in Russian](#)).

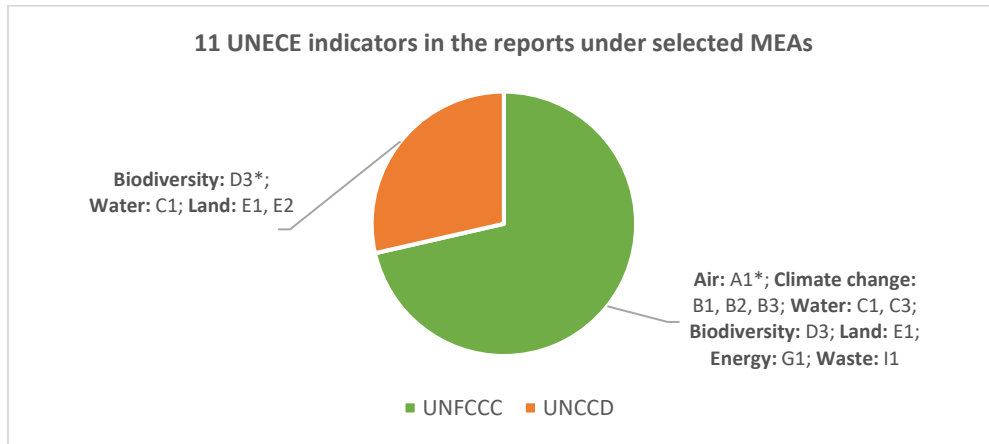
<sup>5</sup> Main socio-economic indicators in 2017 ([in Russian](#)).

<sup>6</sup>[Third National Communication of Turkmenistan under the United Nations Framework Convention on Climate Change](#) (2015, in English).

<sup>7</sup>[Third National Report of Turkmenistan to the Convention on Biological Diversity](#) (2006, in English).

<sup>8</sup>[National Report on implementation of the United Nations Convention to Combat Desertification in Turkmenistan](#) (2006, in Russian and summary in English). Indicators are mainly linked to Aichi biodiversity targets.

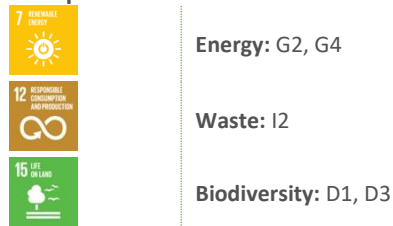
<sup>9</sup>Turkmenistan submitted the report under [Electronic Reporting System of the Basel Convention](#) back in 2005.



\* 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**  
 The Turkmen potential and capacity to use the UNECE environmental indicators to monitor SDGs and Green Growth indicators are properly assessed. An assessment on the potential to monitor SGDs is made below. Potential to use OECD Green Growth indicators should be better assessed in sight of the preparation of the green strategy.

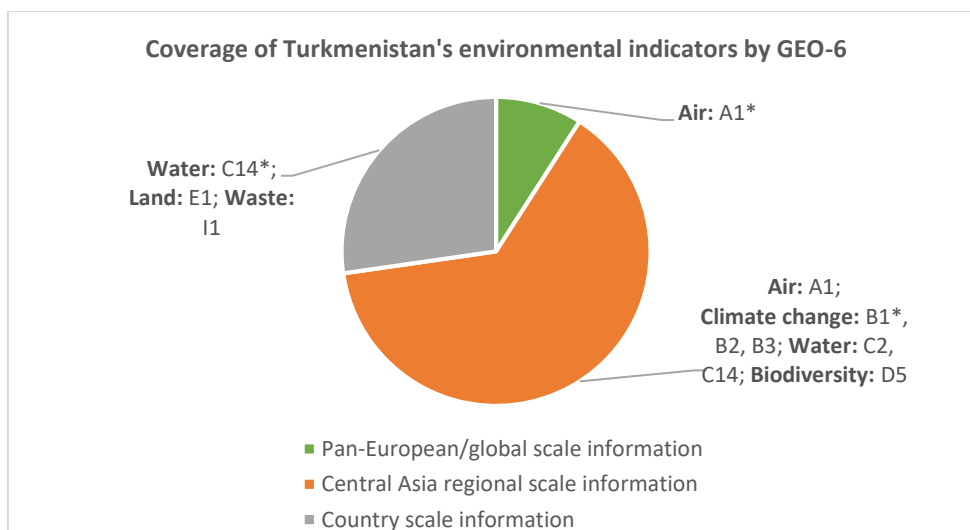
#### The potential use of UNECE indicators for SDGs monitoring in Turkmenistan



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

#### Use of indicators in the Pan-European volume of GEO-6<sup>10</sup>

The 6<sup>th</sup> Global Environmental Outlook (GEO-6), produced in 2016 by UNEP and UNECE, covers the Turkmen use of environmental indicators 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>.

<sup>10</sup>United Nations Environment Programme. [Global Environment Outlook GEO-6. Assessment for the pan-European region](#). 2016.

Cooperation and interaction on information engagement among data producers are weak and require development. Cooperation is mainly based on national laws on statistics, on nature protection and other thematic laws. A special Committee checks if the country fulfils the commitments under international conventions and UN programmes. Overall, Turkmenistan has to develop and maintain the system of information exchange to make sure that data is produced, validated and published regularly.

Within the framework of activities of the Interstate Commission on Sustainable Development (ICSD) for Central Asia, the SIC ICSD branch operates in Turkmenistan, which participates in regional assessment activities under the supervision of UN Environment and Regional Ecological Centre for Central Asia.

Turkmenistan 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 and Environmental Programme for the Caspian Sea.

The EU-funded project “Forest and Biodiversity Governance Including Environmental Monitoring” ([FLERMONECA project](#)) was successfully implemented in five Central Asia countries, including Turkmenistan. 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.

Environmental data and indicators of Turkmenistan are not made available to users online. There are no requirements and regulations for SoER production. Data could be provided upon request. Data quality control and data validation are in place. The cooperation among data holders should be improved.

- ✓ Work on making all produced data and indicators available online, accessible and free of charge;
- ✓ Continue advancing the production and sharing of environmental data and indicators, including introducing data in electronic formats vs. paper formats;
- ✓ Maintain and enhance cooperation and interaction among environmental information producers in the country to achieve full SEIS implementation.

Turkmenistan should collaborate more closely with UNECE on environmental indicators for data to be published on the websites of national environmental authorities, statistical agencies and open data portals, in compliance with the UNECE requirements;

There is large room for improvements to achieve the 2021 target on UNECE indicators' availability, as well as SEIS implementation.

- ✓ Initiate and maintain advancing the production and sharing of environmental indicators in compliance with the recommendations of the UNECE WGEMA and the JTF on Environmental Statistics and Indicators;
- ✓ Continue methodological work on existing and new environmental indicators for all UNECE environmental indicators to be produced, available and accessible by 2021;
- ✓ Improve the quality and content of indicators according to the international standards.

Turkmenistan should study its potential to use UNECE environment indicators to monitor the progress under SDGs and Green Growth Indicators.

- ✓ 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 of the progress made on achieving the SDGs and Green Economy.

With support from the FLERMONECA project and Regional Ecological Centre, Turkmenistan has produced a pilot electronic SoER (the previous report was produced in 2008 with support from UN Environment). Existing reports do not always provide sufficient environmental information and data. Some reports should be complemented with analysis, assessments and concrete recommendations; reports should include relevant material, case studies and data should be illustrated. For the most part, reports are produced with international support while national capacities remain weak.

- ✓ Improve the quality of nationally produced reports and capacity of national institutions to produce data and indicators;
- ✓ Improve the analytical and recommendation sections of the SoER/thematic reports, by using indicators (including a shift from the simple provision of environmental information, to a detailed environmental assessment with linkages between economic processes and the use of natural resources, including visual explanations);
- ✓ Prepare indicator-based reports in a reader-friendly manner;
- ✓ Improve the capacity of organizations working with environmental information.

One of the SEIS principles relates to the full availability of information to the public at the national level in the relevant national language(s). Turkmenistan has data in Turkmen and Russian. Turkmenistan would benefit from having a unified portal with all environmental indicators in Turkmen, Russian and English.

- ✓ Make sure all produced environmental information is gathered in one place and/or made available to a broader public in the national and English languages.

The use of environmental indicators for different purposes, including reporting under the MEAs, should be promoted and strengthened. The produced reports are available on the website of the Conventions. Awareness of the assessment is very low, and any feedback of users is not collected

- ✓ Increase usage of the environmental indicators when preparing reports under the MEAs;
- ✓ Improve the quality of the reports under the MEAs (analytical and visual parts);
- ✓ Make sure all produced reports are available on nationally managed websites in the national language(s) and well presented to a broader public;
- ✓ Improve the communication with the users of environmental data and indicators, including for collection of the user feedback.



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### 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

ICWC – Interstate Commission for Water Coordination of Central Asia

IUCN – International Union for Conservation of Nature

MEA – Multilateral Environmental Agreement

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 the countries to gradually consolidate a shared vision on how to select, calculate, present and use environmental indicators to reflect the trends and patterns in the overall state of the environment. The European Environment Agency is supporting SEIS development in the EU Neighbourhood region.

This activity, funded by the Russian Federation, aims to support the activities under the Environmental Monitoring and Assessment (EMA) Programme. It also aims at strengthening 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 (Turkmenistan's self-assessment), February 2018; SEIS Central Asia scorecard. Turkmenistan (draft, 2017); Turkmenistan SDG datasheet (Statistical Yearbook for Asia and Pacific 2017); Committee on Environmental Protection and Land Resources of Turkmenistan, State Committee on Statistics of Turkmenistan.

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