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**Reporting on the Shared Environmental Information System:
data quality, comparability and self-assessment****Reporting on progress in establishing a Shared
Environmental Information System: data quality
considerations****Note by the secretariat***Summary*

At its eighteenth session (Geneva, 28-29 June 2016), the Working Group on Environmental Monitoring and Assessment requested the secretariat to prepare for its next session a proposal on how the review criteria for the Shared Environmental Information System (SEIS) could be updated and to integrate a quality component as part of the SEIS assessment framework (ECE/CEP/AC.10/2016/2). The aim is to use the revised assessment framework in the preparation of the mid-term progress report on the establishment on SEIS in Europe and Central Asia.

The present paper contains the secretariat's analysis of the SEIS review criteria, including a review of different data quality assessment frameworks and suggested amendments to the SEIS assessment framework. The Working Group will be invited to consider the secretariat's proposal for a revised SEIS assessment framework with a view to deciding on the appropriate approach to be taken for the mid-term report on SEIS establishment in 2018. The document concludes with some issues for consideration. If approved, the proposed SEIS assessment framework will be also submitted in 2018 to the Committee on Environmental Policy for its consideration.

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Contents

	<i>Page</i>
Introduction	3
I. Background	3
II. Reviewing the establishment of the Shared Environmental Information System	5
III. Data quality assessment frameworks	7
IV. Assessment framework for the Shared Environmental Information System.....	9
V. Issues for consideration.....	10
Tables	
1. Criteria for review	6
2. Updated SEIS assessment framework	12
Figure	
Mapping of data quality components assessed by international statistical organizations	8

Introduction

1. At the Seventh Environment for Europe Ministerial Conference (Astana, 21-23 September 2011) ministers of the United Nations Economic Commission for Europe (ECE) region decided to establish a regular process of environmental assessment and to develop a Shared Environmental Information System (SEIS) across the pan-European region.
2. At its twentieth session (Geneva, 28-31 October 2014), the ECE Committee on Environmental Policy mandated the Working Group on Environmental Monitoring and Assessment to review progress in establishing SEIS based on targets and performance indicators adopted by the Committee (ECE/CEP/2014/8). The intention was to prepare a progress report on the establishment of SEIS in the pan-European region for the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8-10 June 2016).
3. At the Working Group's seventeenth session (Geneva, 7-8 September 2015), the secretariat presented a draft report on progress in establishing SEIS in the pan-European region (ECE/CEP/AC.10/2015/5). The draft report provided the basis for the first report on progress in establishing SEIS in support of regular reporting in the pan-European region (ECE/BATUMI.CONF/2016/8).
4. Following the successful launch of the SEIS progress report at the Batumi Conference, ECE ministers welcomed the progress in developing SEIS to support a regular process of environmental assessment and reiterated the need for countries to continue their efforts and to further develop their national information systems (ECE/BATUMI.CONF/2016/2/Add.1, para. 11).
5. Nevertheless, in the course of preparing the first SEIS progress report, the secretariat recognized a number of limitations of the review process, some of which were noted already in the first progress report. More specifically, it was recognized that the criteria for review were not adequate to reflect, among other things, data quality considerations and comparability. Furthermore, the process only allowed for the review of data sets that were accessible online, which meant that the reported national and thematic performance scores only reflected online accessibility.
6. For the foregoing reasons, at its eighteenth session (Geneva, 28-29 June 2016), the Working Group discussed the lessons learned and limitations of the SEIS review process. Following its discussions, the Working Group requested the secretariat to prepare a document for its nineteenth session to address data quality considerations (e.g., quality assurance or quality control standards) as part of the future SEIS review process.
7. The present document was prepared by the secretariat, in consultation with the ECE Statistics Division, the European Environment Agency and the United Nations Environment Programme (UNEP). The European Environment Agency indicated that adjustments may be necessary to the approach set out herein to develop a harmonized approach and to ensure that it is applicable across Europe and Central Asia.

I. Background

8. The initial steps to prepare the SEIS progress report were taken during the fifteenth session of the Working Group (Geneva, 6-7 November 2014). At that meeting, the Working Group discussed the work that had been done for the establishment of a regular assessment and reporting process. The secretariat also briefed the Working Group about its role in preparing the first SEIS progress report for the Batumi Ministerial Conference.

9. The aim of the sixteenth session of the Working Group (Istanbul, 16-17 April 2015) was to consider various environmental assessment reports, reviews and outlooks and to discuss alternative approaches to assess SEIS establishment in the pan-European region. The Working Group agreed on a list of 67 specific data sets, across eight thematic areas (e.g., water, waste and biodiversity), which would constitute the indicators of a pan-European SEIS (see ECE/CEP/AC.10/2015/2), in line with the ECE Online Guidelines for the Application of Environmental Indicators.¹

10. During the Working Group's seventeenth session (Geneva, 7-8 September 2015), the secretariat presented an initial draft progress report on SEIS establishment in the pan-European region (ECE/CEP/AC.10/2015/5) and the Working Group continued the discussion regarding the SEIS review process and its first results. The recommendations made during the course of that meeting allowed the secretariat to make further improvements and to present findings (ECE/CEP/2015/11) to the Committee on Environmental Policy at its twenty-first session (Geneva, 27-30 October 2015).

11. At its twenty-first session, the Committee welcomed the work of the Working Group in assessing the progress made in establishing SEIS and mandated it to work with its member States and the European Environment Agency to validate the data and information and to continue monitoring progress in developing SEIS (see ECE/CEP/2015/2). At its special session in 2016 (Geneva, 23-25 February 2016), the Committee approved the first SEIS progress report (ECE/CEP/S/2016/L.9), and agreed that it would be launched at the Batumi Ministerial Conference.

12. Shortly after the Batumi Ministerial Conference, the Working Group organized its eighteenth session (Geneva, 28-29 June 2016). This meeting was taken as an opportunity to discuss the outcomes from the Ministerial Conference and to consider lessons learned from the SEIS review process. The Working Group also discussed the next steps for the implementation of the directions given by ministers in the Batumi Declaration regarding the further establishment of SEIS in Europe and Central Asia by 2021 (see ECE/BATUMI.CONF/2016/2/Add.1).

13. In response to the decision taken by the Working Group to integrate additional data quality control standards into the SEIS assessment framework, and as a follow-up to the discussion during its eighteenth session, the next chapter outlines the SEIS review process taken for the first progress report as an initial step to present the suggested changes to the SEIS assessment framework. For instance, during the validation process of the criteria it was noted that:

- (a) The meaning of the criteria for review had to be clarified;
- (b) The online availability of the ECE set of environmental indicators was not an adequate measure of SEIS performance;
- (c) Quality assurance and quality control standards would need to be integrated into the SEIS assessment framework.

14. The review of the performance criteria in developing SEIS in Europe and Central Asia will provide the basis for the continued review of SEIS establishment in preparation for a mid-term progress report in 2018 and a final SEIS progress report for the Ninth Environment for Europe Ministerial Conference in 2021. Results from the assessment in 2018 will also contribute to the mid-term assessment on the outcomes from the Batumi Conference.

¹ See http://www.unece.org/env/europe/monitoring/IandR_en.html and <http://www.unece.org/env/indicators.html>.

II. Reviewing the establishment of the Shared Environmental Information System

15. SEIS is an approach that facilitates regular environmental assessments and reporting. It links existing data and information flows relevant for national authorities in their monitoring and assessment activities by means of information and communication technologies. It advances the dissemination, application and comparability of environmental indicators and associated data sets to share existing information networks and harmonize environmental monitoring requirements.

16. In the pan-European region, SEIS should function within this framework of enhanced networking and cooperation with and between national authorities concerned with environmental information and statistics. It should serve multiple policy purposes, including reporting under multilateral environmental agreements.

17. In the preparatory phase, the Working Group defined criteria to review progress towards SEIS. This included identifying specific data sets² for the pan-European SEIS and a proposal for a reporting mechanism that would enable member States to collect data in line with the SEIS targets and performance indicators. Table 1 below sets out the criteria agreed by the Working Group that were used for the first SEIS progress report.

18. Based on inputs received during the preparation of the draft SEIS progress report, some of the following comments were considered during its revision:

(a) **Online accessibility:** Online accessibility is principally about the availability of data online. One of the core problems that emerged was that countries did not always publish information on national platforms, but rather reported their SEIS-related data directly to the European Environment Agency or had it stored offline;

(b) **Update regularity:** Most data sets are subject to annual update. However, there were some data sets for which the period of update has to be further clarified and where availability and accessibility on national websites is dependent on national data policies;

(c) **Production methodology:** It was not possible to rate the application of standard production methodology satisfactorily, as it could not be verified whether the country-specific methodology was in line with internationally accepted methodologies and standards for each data set;

(d) **Data interpretation and use:** It was not possible to rate the quality of the content available for each data set, that is, how the data was interpreted and used (e.g., for state-of-the-environment reporting) or whether it was used to answer key policy questions and/or to support environmental policymaking (e.g., setting policy targets). Nor was it possible to take into account whether data interpretations were made available in other international languages (English or Russian);

(e) **Data sources:** Information on data sources and interpretation was provided on average in 96 and 97 per cent of the cases, respectively, and a link to applied methodologies was provided for 90 per cent of the published data sets.

² The term “data sets” covers both environment statistics and environmental indicators.

Table 1
Criteria for review

<i>Rating element</i>	<i>Description</i>
I. Online accessibility	The data set can be easily accessed by anybody at any time online.
II. Update regularity	The data set is updated with figures of the latest agreed production period.
III. Production methodology	Detailed information on standard methodologies and calculation methods for the production of the data set is provided. The detailed information should further confirm that the applied methodology is in accordance with the agreed standard methodology for the production of the particular data set.
IV. Data interpretation and use	The data set is supported by information about what it presents and how to understand the changes in data sets over time. Information should also be provided on how the collected data was interpreted and used (e.g., for state-of-the-environment reporting or to support environmental policymaking). Information should furthermore be provided in the national language and in an international language — i.e., English and/or Russian — to be accessible to the national and international community.
V. Data sources	The institution responsible for the production of the data set, its source and contact details are available.

19. Furthermore, as part of the steps taken to prepare the final version of the SEIS progress report for the special session of the Committee on Environmental Policy in 2016, the secretariat realized that the approaches taken by countries to share and present environmental information and data online differ significantly. This reflects varying legislative backgrounds, ministerial set-ups, competencies and strategies at the national level. In response to this variation and general comments on the SEIS review process, the Working Group conducted an extended analysis for the revised draft report on progress in establishing SEIS in the pan-European region (ECE/CEP/S/2016/L.9). The extended analysis of online accessibility incorporated the following components:

- (a) The number of languages in which environmental information and data sets were published online by countries;
- (b) The number of online platforms through which environmental information and data were published by countries;
- (c) The format (e.g., only online or both in a report format and online) in which the data sets were published online;
- (d) The user-friendliness (referring to the infrastructure where the data sets and related information is published) of national online platform(s).

20. The results of the extended analysis demonstrated that the initial approach was not satisfactory in addressing variations in online accessibility, and that there was a need to further develop the SEIS assessment framework.

21. Taking into consideration all the issues that were raised and the amendments made for the extended analysis, the Working Group decided to consider a new SEIS assessment framework that would reflect data quality considerations as part of the review process.

III. Data quality assessment frameworks

22. Part of the approach taken to update the SEIS review process has been to examine the approaches taken by other organizations to assess data quality. The aim was to consider the range of existing approaches and frameworks applied to measure and/or evaluate data quality that could be used for reviewing SEIS establishment.

23. Most significantly, in accordance with International Organization for Standardization (ISO) standard 9000:2005 on quality management systems, quality is defined as the “degree to which a set of inherent characteristics fulfils requirements”. This means that the quality of the SEIS data sets should be determined by the extent to which they meet user needs.

24. It should be noted that several national statistics institutions have formulated their own quality models, mostly in line with the European Statistical System quality criteria and components. The quality components adopted by ECE,³ the Organization for Economic Cooperation and Development (OECD),⁴ Eurostat⁵ and the International Monetary Fund (IMF)⁶ were reviewed and compared to obtain a general overview.

25. From this review, it can be observed that each data quality assessment framework shares fundamental similarities. For example, OECD views quality in terms of seven dimensions, namely: relevance, accuracy, credibility, timeliness, accessibility, interpretability and coherence. Eurostat views quality in terms of relevance, accuracy, timeliness and punctuality, accessibility and clarity, and also comparability and coherence (in line with the European Statistics Code of Practice). The IMF Data Quality Assessment Framework differs somewhat in that it is divided into five dimensions of quality and a set of prerequisites for the assessment of data quality.

26. The ECE data quality framework draws heavily on frameworks and experiences of other international statistical organizations, particularly Eurostat, OECD and IMF, adapting them to the ECE context. It also takes into account the work of the Committee for the Coordination of Statistical Activities towards harmonizing the frameworks. The figure below provides a comparison between the different organizations in terms of their approaches to assessing data quality.

³ For more information on the ECE framework, see ECE report on “Statistical Data Quality (2010 version)”, available from <https://unstats.un.org/unsd/dnss/docs-nqaf/UNECE-Quality%20Improvement%20Programme%202010.pdf>.

⁴ For more information on the OECD framework, see “Quality Framework and Guidelines for OECD Statistical Activities”, version 2011/1 (STD/QFS(2011)1), available from <http://www.oecd.org/std/qualityframeworkforoecdstatisticalactivities.htm>.

⁵ For more information on the Eurostat framework, see *ESS Handbook for Quality Reports, 2014 Edition*, Eurostat manuals and guidelines (Luxembourg: Publications Office of the European Union, 2015). Available from <http://ec.europa.eu/eurostat/web/ess/-/the-ess-handbook-for-quality-reports-2014-edition>.

⁶ For more information on the IMF framework, see “Data Quality Assessment Framework (DQAF): A Factsheet”, available from <https://unstats.un.org/unsd/dnss/QualityNQAF/nqaf.aspx> and <http://www.paris21.org/node/467>.

Figure
Mapping of data quality components assessed by international statistical organizations

	ECE	OECD	Eurostat	IMF
Degree to which statistics meet the needs of current and future users	Relevance	Relevance	Relevance	Prerequisites of quality*
				Methodological soundness
Closeness of statistical estimates to true values	Accuracy	Accuracy	Accuracy	Accuracy and reliability
Time between collection and release of data	Timeliness	Timeliness	Timeliness and Punctuality	Serviceability*
Time lag between release of data and the target date	Punctuality			
Physical means available to obtain the data	Accessibility	Accessibility	Accessibility and clarity	Accessibility
Availability of metadata, graphs, maps, etc.	Clarity	Interpretability		Assurances of integrity*
Comparability across statistical domains, space and time	Comparability	Coherence	Coherence	Serviceability*
			Comparability	
Institutional and organizational arrangements, which can include the legal environment, credibility and concepts of professionalism		Interpretability		Prerequisites of quality*
				Assurances of integrity*

* Several of the IMF data quality components are relevant for more than one component. They have consequently been divided to indicate where they are applicable and in line with the other data quality components.

27. Given the significant similarities between the different data assessment frameworks, it was decided to use the ECE data quality framework as a basis for the updated SEIS assessment framework. The update of the criteria for review therefore took into account the following components:

(a) **Relevance:** The degree to which statistics meet the needs of current and potential users. Relevance therefore refers to whether the statistics that are needed are produced. It also covers methodological soundness and particularly the extent to which the concepts used (definitions, classifications, etc.) reflect user needs;

(b) **Accuracy:** The closeness of statistical estimates to true values, with the provision that absolute accuracy can be difficult to determine when data are taken from other sources rather than directly collected. As this is often the case for the ECE region, two factors should be considered: the credibility of the source and the plausibility of the data, that is, the extent to which the data look reasonable when compared with other periods, similar countries and the values the statistician would expect;

(c) **Timeliness:** The length of time between data being made available and the event or phenomenon they describe;

(d) **Punctuality:** The time lag between the release date of data and the target date when they should have been released;

(e) **Accessibility:** The physical conditions in which users can obtain data: where to go, how to order, delivery time, pricing policy, convenient marketing conditions (copyright, etc.), availability of microdata or macrodata and the various formats that data is presented in (reports, file formats or online accessibility);

(f) **Clarity:** Whether the data is accompanied by sufficient and appropriate metadata, whether illustrations such as graphs and maps add value to the presentation of the data, and whether information on data quality is available;

(g) **Comparability:** The extent to which differences between statistics are attributed to differences between the true values of the statistical characteristic, or to methodological differences. Comparability includes:

(i) *Comparability over time:* The extent to which data from different points in time can be compared,

(ii) *Comparability through space:* The extent to which data from different countries and/or regions can be compared. The provision and application of international standards is particularly important here.

(iii) *Comparability between domains:* The extent to which data from different statistical domains can be compared.

28. In line with the ECE data assessment framework, a range of questions have been developed that are relevant to each component of that framework. Institutional questions have been added that address the bodies that are responsible for data collection and the preparation of indicators used for environmental monitoring and reporting. The proposed assessment framework furthermore takes into account the review questions asked for the first SEIS progress report (see ECE/BATUMI.CONF/2016/8, annex I).

IV. Assessment framework for the Shared Environmental Information System

29. Table 2 contains an updated assessment framework for SEIS, in the form of a set of 31 questions corresponding to each component of the ECE data quality framework, including questions on the institutional set-up. In creating the framework, the following steps were taken:

(a) The draft set of questions was developed, including questions related to each component of the ECE data quality framework;

(b) The draft was shared with and commented by the ECE Statistical Division;

(c) The draft was also shared with and commented by UNEP and the European Environment Agency (see also para. 7 above);

(d) The draft was circulated to the members of the Working Group for comments and feedback prior to the nineteenth session.

30. The assessment framework presented in table 2 replaces the criteria for review, which were used in assessing progress for the first review of SEIS establishment. The framework will serve as a basis for the SEIS reporting application, which is presently under development and will run through UNEP Live as an online application. The application, which will be launched during the nineteenth session of the Working Group, will provide a platform through which the self-assessment tool will be implemented. In practical terms, this means that when members of the Working Group provide information as part of SEIS progress reporting, they will be requested to do so through the reporting application. This

online process will include answering the questions in table 2. The Working Group will also develop guidelines for how to use the reporting application for 2018.

31. The 31 questions (including two sub-questions) are grouped according to the components of the ECE data quality framework. It is clearly indicated which questions should be answered by the member States as part of a SEIS self-assessment tool, which is being developed, and which questions should be answered by the secretariat when reviewing the results of the self-assessment. The questions have been made as easy as possible to answer, with most requiring only a yes or no response.

32. Table 2 also indicates whether each question should be answered at the general or indicator level. This means that the question will either be asked covering the whole ECE set of indicators (so only answered once) or be specific to the indicator in question (so answered for each separate indicator) as part of the SEIS reporting application. The table also provides a description of the purpose of each question.

33. Of the 31 proposed questions, 16 are at a general level (covering all indicators) and 15 are at the indicator level. Five questions include a request for additional information in case of a “yes” or “other” answer. There are also two conditional sub-questions that only require an answer in case of a “yes” answer in the preceding question (see questions 8.2 and 16.2 in table 2). Sixteen questions are of the yes/no type, six provide a range of options and two are open.

34. Aside from the main set of questions, a template has been prepared to support the analysis of inputs provided through the SEIS reporting application.⁷ The expectation is for the template to be populated automatically by the application. The purpose of this template is to provide an overview of the answers provided by each member State through the self-assessment. Where the template reveals that data on an indicator is incomplete, the member State concerned would be asked to explain, as appropriate:

- (a) Why are recent relevant data on the indicator not available?;
- (b) What concrete actions are being taken to collect and report such data?;
- (c) When will the missing data be reported?

35. As a second step in the review process, the template will be used to respond to those questions that will be answered by the secretariat (e.g., questions 10-12) and as the first step to assess SEIS performance (e.g., calculate performance scores) and to make recommendations. The information in the template will provide the basis for the production of country profiles. The following questions — to be answered by the secretariat — will for this reason be integrated into the template:

- (a) What is the overall conclusion regarding the quality of the data?;
- (b) What is the significance of any limitations?;
- (c) What actions are needed to address limitations prior to the next assessment?

V. Issues for consideration

36. The following issues are proposed for consideration by the Working Group when reviewing the draft SEIS assessment framework:

⁷ The draft template will be made available on the web page for the meeting.

- (a) How can the SEIS assessment framework be made more user-friendly and simpler so as to minimize the national reporting burden?;
- (b) What should be the modalities of the Working Group to allow for the timely reporting on progress in establishing SEIS and the production of the ECE set of environmental indicators?;
- (c) How should the various components (relevance, accuracy, timeliness and punctuality, accessibility, clarity, comparability and institutional arrangements) of the SEIS assessment framework be weighted for the production of a national SEIS performance score?;
- (d) What should be the milestones for SEIS establishment until 2021 (in accordance with the Batumi Declaration) with each milestone specifying the area and deadline for implementation? Should any particular area be prioritized?;
- (e) How should the SEIS assessment framework and its underlying questions be used to identify gaps in the production of national environmental statistics? For instance, the questions on comparability and metadata could be used to identify gaps in applied methods for collecting and presenting data.

Table 2
Updated SEIS assessment framework

<i>Question</i>	<i>Format</i>	<i>Self-assessment by member State and/or review by secretariat</i>	<i>General or indicator level</i>	<i>Purpose</i>
Relevance				
1. Do you collect user feedback to assess whether the statistics are fit for purpose?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Identify whether the information is adjusted to the users' needs
2. Do the indicators produced satisfy the demand (and/or reporting obligations) of current and potential users?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Assess the impact of an indicator
3. How have you improved the relevance of your statistics for users?	Open question	Self-assessment	General	See the actions taken to improve the needs of the users
Accuracy				
4. Where do you get the primary data from (please select all that apply)?	<u>Options</u> <input type="checkbox"/> We collect the data <input type="checkbox"/> We use other producers' data <input type="checkbox"/> We estimate the data <input type="checkbox"/> Other (please specify)	Self-assessment	Indicator	Check the reliability of the data
5. Are any independent data sources available on the same topic?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Determine whether the data provided by a source is biased
6. Do you systematically compare the data or indicator with data from other sources?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Determine whether there are any discrepancies
7. Are the source data, intermediate results and/or statistical outputs regularly assessed and validated?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Determine whether the data correctly represents the whole population
8.1. Do you carry out revisions to the indicator if necessary?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Determine whether data are adjusted when necessary

<i>Question</i>	<i>Format</i>	<i>Self-assessment by member State and/or review by secretariat</i>	<i>General or indicator level</i>	<i>Purpose</i>
8.2. If yes, revisions are carried out if there are (please select all options that apply):	<u>Options</u> <input type="checkbox"/> Methodological changes <input type="checkbox"/> New data <input type="checkbox"/> Errors	Self-assessment	Indicator	Identify the reason for revisions
9. Do procedures and guidelines for data quality assessment exist?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment and secretariat	General	Determine reliability
Timeliness and punctuality				
10. When was the indicator published or reported to the database?	Year	Secretariat	Indicator	Determine whether there is any discrepancy
11. What is the freshness of the indicator?	Months or weeks from release at a point in time	Secretariat	Indicator	Check how recent the data is
12. What is the reference period?	Years, quarters or months	Secretariat	Indicator	Determine whether the time period is consistent and appropriate
Accessibility				
13. Is the indicator accessible online on any national platform?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Double-check the information and its availability to the public
14. Do you provide access to more detailed data related to the indicator?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Identify transparency of data and methodology
15. Are the data set and indicator easily accessible?	<u>Score</u> : 1 to 5 (5 is easiest)	Self-assessment	Indicator	Identify user-friendliness and transparency
16.1. Do you have a centralized platform through which users can find all the core indicators?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Identify user-friendliness and transparency
16.2. If yes, please provide the link.	Link	Self-assessment	General	
17. Is the primary data available for free?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Determine whether it is open source

<i>Question</i>	<i>Format</i>	<i>Self-assessment by member State and/or review by secretariat</i>	<i>General or indicator level</i>	<i>Purpose</i>
18. Can users obtain the indicators and use them for their own production and work?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Secretariat	General	Identify property rights and availability to the public
19. In what formats are the indicators and data set(s) presented?	<u>Options</u> <input type="checkbox"/> SEIS reporting template <input type="checkbox"/> Report(s) <input type="checkbox"/> Graphical presentation <input type="checkbox"/> Table(s) <input type="checkbox"/> Time series <input type="checkbox"/> Maps <input type="checkbox"/> Other (please specify)	Self-assessment	General	See how information is represented and made available to the public
20. In what languages are the core indicators and data set(s) available?	<u>Options</u> <input type="checkbox"/> National <input type="checkbox"/> English <input type="checkbox"/> Russian	Self-assessment	General	Determine whether the data fulfils reporting requirements
21. Do you provide contact information so that users can ask for more information?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Identify transparency
Clarity				
22. What kind of metadata do you provide to users? (Please select all options that apply.)	<u>Options</u> <input type="checkbox"/> No metadata provided <input type="checkbox"/> Information on data quality <input type="checkbox"/> Information on data sources <input type="checkbox"/> Information on methods <input type="checkbox"/> Information on classifications <input type="checkbox"/> Information on definitions <input type="checkbox"/> Other (please specify)	Self-assessment	General	Determine if explanations of the methods are provided and if they meet standards

<i>Question</i>	<i>Format</i>	<i>Self-assessment by member State and/or review by secretariat</i>	<i>General or indicator level</i>	<i>Purpose</i>
23. Is the source for the indicator and data set(s) provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	Indicator	Determine reliability of a source
Comparability				
24. Do you apply internationally agreed statistical techniques in the production of the indicators (e.g., compilation, data adjustments and transformations and statistical analysis)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Determine whether the standards and norms are used
25. Are there any breaks in the time series of the indicator (e.g., owing to a change of methods)? If yes, please explain.	<input type="checkbox"/> Yes (please explain) <input type="checkbox"/> No	Self-assessment and secretariat	Indicator	Determine consistency and/or impacts
26. Are there any limitations in comparing the indicators across regions and countries? If yes, please explain.	<input type="checkbox"/> Yes (please explain) <input type="checkbox"/> No	Self-assessment and secretariat	Indicator	Explain possible external impacts on data
Institutional and organizational arrangements				
27. What institution(s) are involved in producing the core indicators used for environmental monitoring?	Open question	Self-assessment	General	Determine reliability of the indicator sources (institutions)
28. Is there a national statistical plan, programme or strategy in place that includes the production of these indicators?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Self-assessment	General	Determine whether there is plan in place to identify necessary information
29. If yes, please specify:	<u>Options</u> <input type="checkbox"/> Name of plan, programme or strategy <input type="checkbox"/> Period covered <input type="checkbox"/> Responsible institution <input type="checkbox"/> Website	Self-assessment	General	