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**The Eighth Environment for Europe Ministerial Conference:  
developing the Shared Environmental Information System and  
keeping the pan-European environment under review — the  
European regional assessment of the Sixth Global Environmental Outlook**

### **Draft report on progress in establishing the Shared Environmental Information System in support to regular reporting in the pan-European region**

#### **Note by the Working Group on Environmental Monitoring and Assessment with support from the secretariat\*\*\***

#### *Summary*

At its twenty-first session (Geneva, 27–30 October 2015), the United Nations Economic Commission for Europe Committee on Environmental Policy welcomed the work of the Working Group on Environmental Monitoring and Assessment in assessing the progress in developing the Shared Environmental Information System across the pan-European region, and mandated the Working Group to work with the countries and the European Environment Agency to validate the data and information and continue to monitor progress in developing SEIS, with a view to submitting an updated report to the Committee at its special session in February 2016 (see ECE/CEP/2015/2, Report of the twenty-first session, forthcoming).

The present document was prepared by the Working Group, with support from the secretariat, in accordance with the above mandate. The Committee will be invited to consider the revised draft with a view to submitting it to the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8–10 June 2016) for supporting the ministerial discussion on keeping the pan-European environment under review.

\* This note was submitted on the above date owing to the need to consult with external partners.

\*\* This document was not formally edited.



## Contents

	<i>Page</i>
Introduction .....	3
I. Background .....	3
II. Performance in developing a Shared Environmental Information System in the pan-European region .....	6
A. Review process .....	6
B. Progress in data collection and in establishing the Shared Environmental Information System .....	9
C. Performance by thematic areas and individual data sets.....	11
D. Performance by review criteria.....	15
E. Extended analysis on data accessibility .....	15
III. Conclusions and the way forward .....	19
A. Key messages and issues for consideration .....	20
<b>Annex</b>	
A. Reviewing online accessibility .....	22
B. SEIS data sets with highest performance scores .....	23
C. SEIS data sets with lowest performance scores .....	26
<b>Tables</b>	
1. Criteria for Review .....	7
2. Results from the extended analysis .....	19
<b>Figures</b>	
1. Variations in performance scores compared to the overall average .....	11
2. SEIS data sets with highest performance scores .....	13
3. SEIS data sets with lowest performance scores .....	14
<b>Boxes</b>	
1. Case study examples of improved performance scores .....	10
2. Summary results from an extended analysis on online accessibility .....	16

## Introduction

1. The Reform Plan of the Environment for Europe process (ECE/CEP/S/152, annex I, and Corr.1) adopted by the United Nations Economic Commission for Europe (ECE) Committee on Environmental Policy in 2009, and subsequently endorsed by ECE, mandated the Committee to act as the convening body for the preparatory processes for the Environment for Europe (EfE) ministerial conferences.
2. At its twentieth session (Geneva, 28–31 October 2014), the Committee mandated the Working Group on Environmental Monitoring and Assessment, in accordance with its renewed mandate for 2015, to review the progress in establishing the Shared Environmental Information System (SEIS) based on the targets and performance indicators adopted by the Committee (ECE/CEP/2014/8) with a view to preparing an evaluation report on progress made in establishing SEIS in the pan-European region for the Eighth EfE Ministerial Conference (Batumi, Georgia, 8–10 June 2016). The Committee also requested that a first report on that activity should be presented at its next session (see ECE/CEP/2014/2, para. 98 (ff) (iii)).
3. At its twenty-first session (Geneva, 27–30 October 2015), the Committee welcomed the work of the Working Group on Environmental Monitoring and Assessment in assessing the progress in establishing SEIS across the pan-European region, and mandated the Working Group to work with the countries and the European Environment Agency (EEA) to validate the data and information and continue to monitor progress in developing SEIS, with a view to submitting an updated report to the Committee at its special session in February 2016 (see ECE/CEP/2015/2, Report of the twenty-first session, forthcoming).
4. The present document was prepared by the Working Group, with support from the secretariat and in consultation with EEA, in accordance with the above mandate.
5. The Committee will be invited to consider the revised draft with a view to submitting it to the Batumi EfE Ministerial Conference for supporting the ministerial discussion on keeping the pan-European environment under review.

## I. Background

6. A vast amount of environmental data on the state of Europe's environment, trends, pressures and drivers is being collected not only for policy-makers but also to provide public access to data. As part of this process, and to maximise the use of environmental data, the European Commission called for SEIS, in 2008, to connect existing databases and to make data more accessible (COM(2008) 46; SWD(2013) 18).
7. 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 with 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 harmonise environmental monitoring requirements.
8. In the pan-European region<sup>1</sup>, SEIS should function within this framework of enhanced networking and cooperation with and between national authorities concerned

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<sup>1</sup> The pan-European region under the Environment for Europe Process covers the full membership of ECE, i.e., the 56 ECE member States.

with environmental information and statistics. It should serve multiple policy purposes including reporting for Multilateral Environmental Agreements.

9. Recognising the challenges inherent in access to the type of data and information needed for the next generation of environmental assessments (European Union- and United Nations-related), ministers of the environment from the pan-European region present at the Seventh Efe Ministerial Conference (Astana, 21–23 September 2011) decided to establish a regular process of environmental assessments and to develop the SEIS across the pan-European region (ECE/ASTANA.CONF/2011/2/Add.1).

10. In response to the ministers' decision, in accordance with the approved pan-European SEIS targets and performance indicators (see ECE/CEP/AC.10/2015/2) and based on a mandate given by the Committee on Environmental Policy, the Working Group on Environmental Monitoring and Assessment prepared this document as part of a preparatory and stock-taking exercise to assess how far member States have built SEIS leading up to the Batumi Efe Ministerial Conference.

11. In the preparatory phase the Working Group defined a framework to review progress towards SEIS. This included identifying specific data sets<sup>2</sup> for the pan-European SEIS and proposing a reporting mechanism that would enable member States to collect data in line with the SEIS targets and performance indicators. The Working Group decided at its sixteenth session (Istanbul, Turkey, 16-17 April 2015) that the SEIS should facilitate access to data and information produced in common formats and standards as defined by 67 data sets grouped across seven thematic areas:

(a) Air pollution, air quality and ozone depletion: 25 data sets, covering the emissions of pollutants into the atmospheric air, ambient air quality, consumption of ozone-depleting substances, etc.

(b) Climate change: 4 data sets, covering air temperature, atmospheric precipitation, and greenhouse gas emissions, etc.

(c) Water: 20 data sets, covering renewable freshwater resources, freshwater abstraction, total water use, population connected to water supply industry, BOD5 and concentration of ammonium in rivers, nutrients in freshwater, population connected to wastewater treatment, etc.

(d) Biodiversity: 4 data sets, covering protected areas, forests and other wooded land, threatened and protected species, etc.

(e) Land and soil: 2 data sets, covering land uptake, etc.

(f) Energy: 4 data sets, covering final energy consumption, total primary energy supply, etc.

(g) Waste: 8 data sets, covering waste generation, management of hazardous waste, etc.

12. The thematic areas and data sets are linked to the performance of each ECE member State with regard to the provision of priority data and information in line with global and regional Multilateral Environmental Agreements and subject to further negotiations. The thematic areas were furthermore generally accepted as corresponding to regional priorities

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<sup>2</sup> The term "data sets" covers both environment statistics and environmental indicators.

and/or Global Environmental Goals.<sup>3</sup> More details on the data sets can be found in ECE/CEP/AC.10/2015/2.

13. The outline for a reporting mechanism was accepted at an extraordinary meeting of the Working Group's sub-group on the development of the reporting mechanism (Geneva, 3 July 2015) in order to assess the effective production and online sharing of the agreed data sets in line with the SEIS targets and performance indicators (see ECE/CEP/AC.10/2015/2). The reporting mechanism requires each SEIS data set to be assessed according to five criteria for review, namely, online accessibility, update regularity, production methodology, data interpretation and use, and data sources (see Table 1).

14. The extraordinary meeting also recommended to the Working Group that each country, as part of a national coordination mechanism, should decide which entity will be responsible for the SEIS or that each country should be offered the possibility to nominate a SEIS focal point for the self-assessment.<sup>4</sup> This recommendation was accepted at the seventeenth session (Geneva, 7-8 September 2015) of the Working Group and it was agreed to be included in the report to the Committee on Environmental Policy. It was further recommended by the Working Group that the self-assessment should be done by each respective SEIS focal point and that the review by reviewers be carried out by EEA<sup>5</sup> for its pan-European member States and by the ECE secretariat for member States from the Caucasus, Central Asia and Eastern and South-Eastern Europe as well as other pan-European countries not covered by EEA (ECE/CEP/AC.10/2015/4).

15. The pan-European SEIS reporting mechanism is foreseen to be developed as an online application that allows each entity or focal point at the national level to provide summary records and information for each data set. It would become a self-assessment tool for each country to help identify performance gaps in accordance with the SEIS targets and performance indicators and to monitor progress in addressing these gaps over time. The development of the online application, however, can only be achieved in the medium term. Thus, for the current review, the Working Group's sub-group on the development of the reporting mechanism agreed that an excel table should be designed and pre-filled by the secretariat for each country and data set in line with the five criteria for review (see Table 1). This process has provided most of the data for this document as a trial run for the SEIS reporting mechanism.

16. It has been proposed by the Working Group to use the United Nations Environment Programme (UNEP) platform UNEP Live<sup>6</sup> to develop the simple online mechanism as a basis for regular monitoring and assessment through National Reporting Systems. The Committee, at their twenty-first session approved the proposed organisation and shape of the regular environmental assessment process based on SEIS (ECE/CEP/2015/10) that includes the provision for UNEP Live to serve as the main platform at the pan-European level, linking with national platforms to provide centralized access to the knowledge base, including assessments, the data and information regularly published by countries. The data and information flows at the member States level would allow countries to track changes across the thematic areas and to assess any changes against the policy framework as well as

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<sup>3</sup> See the United Nations Environment Programme (UNEP) Global Environment Goals (see <http://geg.informea.org>).

<sup>4</sup> This is also in line with the approach taken for the ENPI-SEIS East Region Synthesis Report.

<sup>5</sup> EEA members are the ECE countries members of the European Union as well as Iceland, Lichtenstein, Norway, Switzerland and Turkey. The capacity for the review body should be examined by the EEA and ECE secretariat.

<sup>6</sup> See [www.unep.org/uneplive](http://www.unep.org/uneplive).

to provide information on the progress made on the agreed regional or global commitments. The accessibility, production and sharing of data by pan-European countries is foreseen to be managed by the Working Group as part of an annual review process of countries' performance in establishing and operating SEIS, based on the SEIS targets and performance indicators adopted by the Committee (see ECE/CEP/2015/10 and UNEP/GEO-6/REIN/1.2).

17. The sections below contain the updated initial review of the progress of developing SEIS in the pan-European region. Only data sets and other related information published online on the national websites of the countries in the pan-European region have been assessed and presented therein.

## **II. Performance in developing a Shared Environmental Information System in the pan-European region**

### **A. Review process**

18. Data collection and analysis (as part of a desk study) for the current progress report was conducted in the period between August and December 2015. It was implemented in two steps:

(a) As a first step, the secretariat collected all relevant information related to each environmental data set available online and across all national platforms, covering the entities and/or focal points responsible for the implementation of SEIS.

(b) As a second step, all data sets were rated according to the five criteria for review as proposed by the secretariat in its concept for a reporting mechanism. The rating process was achieved by evaluating the collected material and asking simple dichotomous (yes/no) questions in line with each review criteria. The rating was done with a "yes" (value of 1) or "no" (value of 0) depending on whether the requirements for each review criteria were or were not met. This generated an overall performance score that range between 0 and 5 for each data set.

19. Table 1 provides the criteria for review as agreed by Working Group:

Table 1  
Criteria for Review

<i>Rating Element</i>	<i>Description</i>
<b>I. Online accessibility</b>	The data set can be easily accessed by anybody at any time online.
<b>II. Update regularity</b>	The data set is updated with figures of the latest agreed production period.
<b>III. Production methodology<sup>a</sup></b>	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.
<b>IV. Data interpretation and use<sup>a</sup></b>	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 policy making). Information should furthermore be provided in the national language and in an international language – English and/or Russian – to be accessible to the national and international community.
<b>V. Data sources<sup>a</sup></b>	The institution responsible for the production of the data set, its source, and contact details are available.

*Note:* As accepted at the seventeenth session of the Working Group and advanced by the development sub-group for a reporting mechanism (see ECE/CEP/AC.10/2015/4).

<sup>a</sup> During the validation process it was recognised that the meaning of the criteria for review had to be clarified. The rating elements have consequently been updated to reflect comments received.

20. **Online accessibility.** The rating process was performed by giving the value of 1 when the necessary information for each data set was found available online and with the value of 0 when it was absent. Each data set was assessed first in terms of online accessibility and, if the data set was accessible online, it was further assessed on the remaining four criteria. If the data set was not available online, it could not be assessed and the review process did not go further for that particular data set. This resulted in an overall performance score of 0 for the data set in these cases. It should be noted that when referring to SEIS development status at the pan-European level it is at this stage principally about availability of data on line. This issue is recognised and addressed in the extended analysis (see section E) and also considered in the key messages in connection with how to improve the review process.

21. It is also important to note that all EEA member States report their SEIS-related data directly to EEA, often without publishing them on national platforms. These data sets were not considered within the scope of the present review for two reasons. Firstly, it is not aligned with SEIS principles on data management and accessibility for end-users. Publishing information and data through public telecommunication networks is also required in accordance with article 5 of the ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), its Protocol on Pollutant Release and Transfer Registers (Protocol on PRTRs) and the Recommendations on a more effective use of electronic information tools.

Secondly, it was not included in the review as it did not comply with the approach approved by the Committee when it adopted the pan-European SEIS targets and performance indicators.

22. **Update regularity.** The rating process was performed by giving the value of 1 when time series for each data set was provided and when the last series was not older than 2012. This review criteria are in accordance with SEIS principles on timely access to information and obligations set out in article 5, paragraphs 1 and 4, of the Aarhus Convention to update environmental information and to publish national reports on the state of the environment at regular intervals not exceeding three to four years. Most data sets are subject to annual update; however, there are some data sets for which the period of update is to be further clarified and where availability and accessibility on national websites is dependent on national data policies.

23. **Production methodology.** It has not been possible to rate the application of standard production methodology to a satisfactory level, as it could not be verified whether the country-specific methodology was in line with the internationally accepted methodology for each data set. In this instance, the value of 1 was given if detailed information on the production methodology was made accessible on the national websites. It is foreseen that this review criteria may be subject to additional analysis in the next assessment.

24. **Data interpretation and use.** It has not been possible to rate the quality of the content available for each data set, i.e. 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 used to support environmental policy making (e.g. setting policy targets) as well as taking into account whether data interpretations were made available in other international languages (English or Russian). In this instance, the value of 1 was given if any information on the data set was provided. The issue of online accessibility and data interpretation and use has been subject to an extended analysis that is presented in section E below.

25. **Data sources.** The rating process was performed by giving the value of 1 when the institution responsible and contact details for each data set was made available. This review criteria is in line with SEIS principles on accessibility of data to end-users, including public authorities, the public and other stakeholders, and obligations under articles 3 and 5, paragraph 2 (b), of the Aarhus Convention to provide support and guidance to the public in seeking access to information as well as to identify points of contact.

26. Each criteria for review was given equal weight when assessing the effective production and sharing of the data sets. This makes up the overall performance score, which is presented as a quantitative measurement in per cent, referring to the pan-European countries' progress in developing the SEIS.

27. As part of the review process leading up to this report, consultations with partners and countries and the regular reporting mechanism, it was considered that a rating value of 0 or 1 for online accessibility does not fully reflect the diversity of how data sets and related information are published in practice. This recognition has been addressed by complementing the present review with an extended analysis that describes the online sharing of the agreed data sets and related information more fully. The intent has not been to change the criteria for review agreed by the Committee but to expand on what online accessibility means in practical terms.

28. Ten case-studies<sup>7</sup> were carried out on the online accessibility of the environmental data sets on the national websites in the countries of the pan-European region to increase the input and quality of the obtained information as presented in section E below. This was achieved by evaluating in how many languages each national data set and related information was published, across how many online platforms, in what formats the data sets and related information was published, and the user-friendliness of each online platform. These additional review questions have been added as part of a composite that make up the overall rating of 1 for online accessibility, corresponding to 20 per cent of the overall performance score (see the three annexes to the current document).

## **B. Progress in data collection and in establishing the Shared Environmental Information System**

29. The secretariat has assessed the performance of each country by thematic area, data set and review criteria. It has been important to study each of these components since the pan-European SEIS, which organizes, regulates and coordinates the pan-European environmental knowledge base, should provide data and information for the generation of assessments, whether for the environment as a whole or for each thematic area.

30. The availability and accessibility of the 67 SEIS data sets and related information has been rated for 53 pan-European countries: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, United States and Uzbekistan as well as Kosovo.<sup>8</sup>

31. Each country has been invited to validate the results from the review. At the time of preparation of the current document, 22<sup>9</sup> countries have as of December 2015 provided the secretariat with their comments and in doing so validated their SEIS status in relation to the 67 data sets as well as the overall results presented below and in following sections. An additional nine<sup>10</sup> countries are presently reviewing the data but have not yet sent their feedback to the secretariat.

32. The review establishes that out of the 67 SEIS-related data sets under investigation, 51 per cent were, as an overall average, available across all national websites for 53<sup>11</sup> of the ECE member States and Kosovo.

33. There are several member States where nearly all, or a majority, of the 67 data sets were found to be available and accessible online. These include Armenia, Austria, Belarus, Ireland, Italy, Kazakhstan, Russian Federation, Republic of Moldova, Slovakia and Sweden. There are also several countries for which none or only a few data sets were

<sup>7</sup> Austria, Bosnia and Herzegovina, Georgia, Germany, France, Kyrgyzstan, Lithuania, Russian Federation, Sweden, Switzerland.

<sup>8</sup> All references to Kosovo in this report should be understood to be in the context of United Nations Security Council resolution 1244 (1999).

<sup>9</sup> Albania, Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Czech Republic, Germany, Finland, France, Italy, Kyrgyzstan, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Spain, Switzerland, the former Yugoslav Republic of Macedonia and Ukraine.

<sup>10</sup> Belgium, Denmark, Georgia, Kazakhstan, Latvia, Luxembourg, Malta, Tajikistan and Uzbekistan.

<sup>11</sup> Canada, the United States of America and Israel were not included in the review.

available on national websites. These countries are still expected to validate the review and to confirm their SEIS performance status. The results are for this reason expected to change.

34. The validation process, as an integral part of the current review, and pending the establishment of a formal reporting mechanism, provides a SEIS development status concerning the production and online sharing of the environmental data sets. It is expected that these initial results will serve as a baseline against which future progress can be monitored and assessed.

35. It is interesting to note that significant progress has been made since the Working Group was mandated to conduct the review on the progress made by the reviewed countries in establishing SEIS. Examples provided in Box 1 below demonstrate steps taken by two countries to improve the availability and accessibility of SEIS data sets and related information. These are not meant for comparison, only to demonstrate positive developments as part of the review process.

#### Box 1

##### **Case study examples of improved performance scores**

**Belarus** was assessed as having an overall performance score of 36 per cent in September 2015. This score refers to how environmental data sets were published on national websites. When re-assessed in December 2015, Belarus had considerably improved online accessibility of environmental data sets by updating available information as well as adding new relevant information. The implemented changes resulted in an increase of its performance score to 77 per cent. This increase was largely due to content on environmental data sets now being collected and accessible on one national website (as facilitated by its National Environmental Monitoring System), providing content in two languages (Russian and English) and that the data sets are now updated according to ECE requirements. The national website also provides basic background information on methodology, a brief analysis of the data and the data sources. The data sets are easily accessible via the main page of the National Statistical Committee of the Republic of Belarus and clearly presented in a separate section of the website.

**Italy** was assessed during the same time period as having an above-average performance score of 56 per cent. However, between September and December 2015, Italy managed to improve its performance score to 87 per cent. The improvements consisted of updating available and related information as well as adding new data sets. The data sets were collected and are now shared through one platform that can be reached via a clearly indicated menu on the Institute for the Environmental Protection and Research website. The content on the website includes background information on all environmental indicators and associated data sets, information about the data structure and format, methodology and a brief interpretation of data. Data sets are presented in only one language (Italian), which may create obstacles for the international community in terms of accessibility.

36. The two case study examples in Box 1 demonstrate some of the steps taken towards improving content accessibility (referring to relevant SEIS data and information) and that it was in principle a matter of simply uploading and updating content on pre-existing online

platforms that facilitate data sharing and exchange. This is an issue that was recognised for several countries. It should further be noted that it is most often not a matter of updating infrastructure, which can be resource intensive, only making content available online. It is for this reason positive to note that the current SEIS progress report has not only facilitated awareness concerning prevailing performance gaps and it confirms that relevant data and information can be uploaded relatively easy and fast.

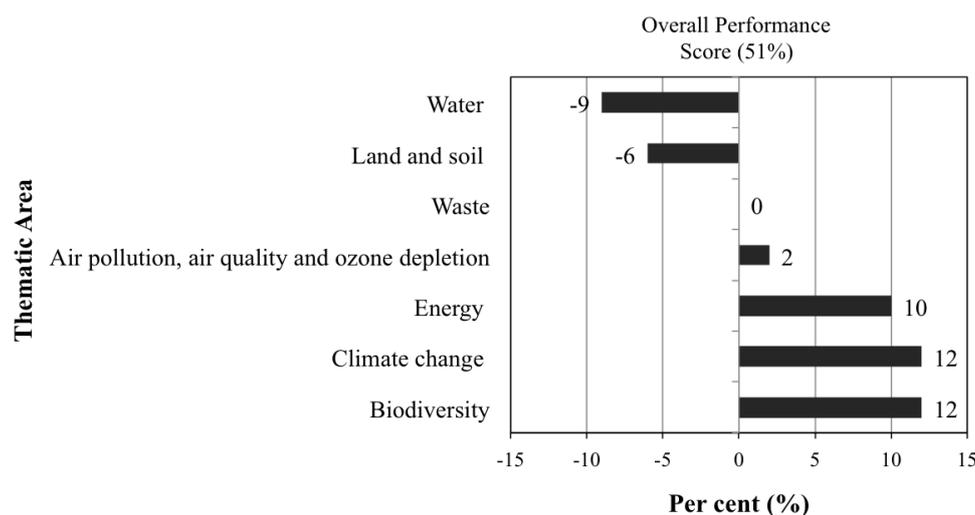
### C. Performance by thematic areas and individual data sets

37. The availability and accessibility of data sets and related information vary significantly per thematic area.<sup>12</sup> The performance score is above or the same as the overall average for biodiversity (63 per cent), climate change (63 per cent), energy (61 per cent), and air pollution and ozone depletion (53 per cent) and waste (51 per cent) data sets. The performance score for land and soil (45 per cent) and water (42 per cent) are below the overall average.

38. These differences in reporting across the thematic areas, as a variation from the overall performance score of 51 per cent, is illustrated in Figure 1.

Figure 1

#### Variations in performance scores compared to the overall average



39. Reviewing individual data sets and related information demonstrate that the emissions of nitrogen oxides and sulphur dioxide into the air are the most accessible data sets. For eight out of ten countries<sup>13</sup> (88 and 83 per cent, respectively) the relevant data is accessible online. These are followed by other types of air emission data (e.g. carbon monoxide, of non-methane volatile organic compounds and of ammonia), waste data (e.g. total waste generation), greenhouse gas emissions, biodiversity data (e.g. total areas under protection), and air quality data (e.g. concentration of nitrogen dioxide), that is accessible, on average, in more than six out of ten countries (62 per cent). Figure 2 presents

<sup>12</sup> The themes correspond to regional priorities and/or Global Environmental Goals (See UNEP Global Environment Goals website <http://geg.informea.org/>).

<sup>13</sup> Covering the same member States as indicated in Section B, paragraph 30.

the 20 data sets with the highest performance scores. See also annex B for the legal obligations associated with each rated data set.

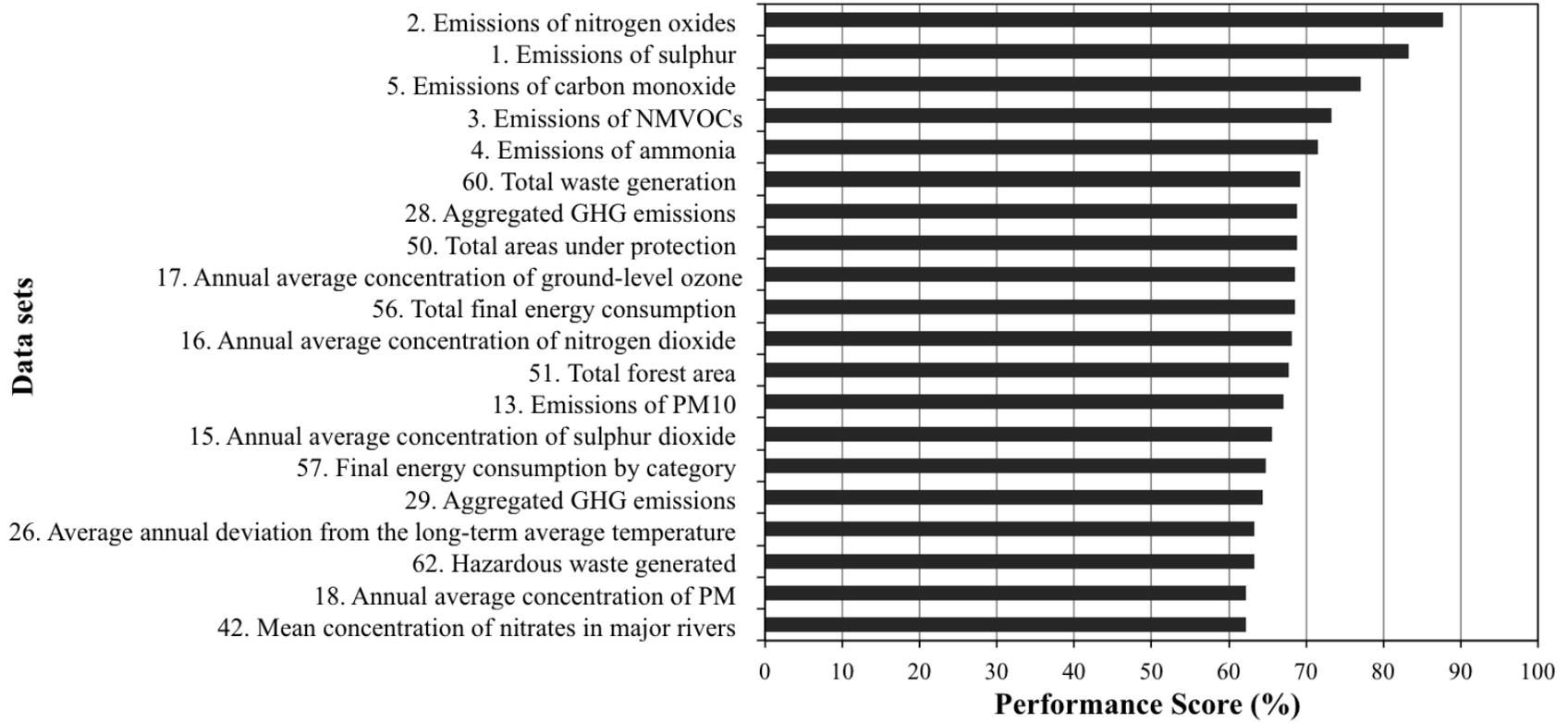
40. The least accessible data sets are those concerned with water (e.g. populations connected and not-connected to water supply industry and water exploitation index). These are followed by other water and POPs air emission data sets as well as waste data sets that are accessible, on average, in 30 to 39 per cent of all countries. Figure 3 presents a list of the 20 data sets with lowest performance scores. See also annex C for the legal obligations associated with each rated data set.

41. Water-related data sets are seemingly not published adequately online as well as associated background information on methodologies, analysis of the data and data sources. These results are not fully in line with what was found in the European Neighbourhood and Partnership Instrument SEIS East Region Synthesis Report, which found increasing accessibility to environmental indicators associated with water-related data sets.<sup>14</sup> Differences in accessibility can presently not be fully explained in terms of variations in legal reporting obligations nor by variations in national legislation and confidentiality requirements. It has furthermore been noted that certain data sets (e.g. concerned with ozone-depleting substances) is no longer being collected in some countries. This latter issue would have implications for the overall performance score of each country and would suggest that the data sets included in the review may need to take account of changing reporting obligations.

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<sup>14</sup> The geographical area covered by the project is laid out in regulation EC/1638/2006 establishing a European Neighbourhood and Partnership Instrument, covering Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine (see [www.eea.europa.eu/publications/enpi-seis-east-region-synthesis-report](http://www.eea.europa.eu/publications/enpi-seis-east-region-synthesis-report)).

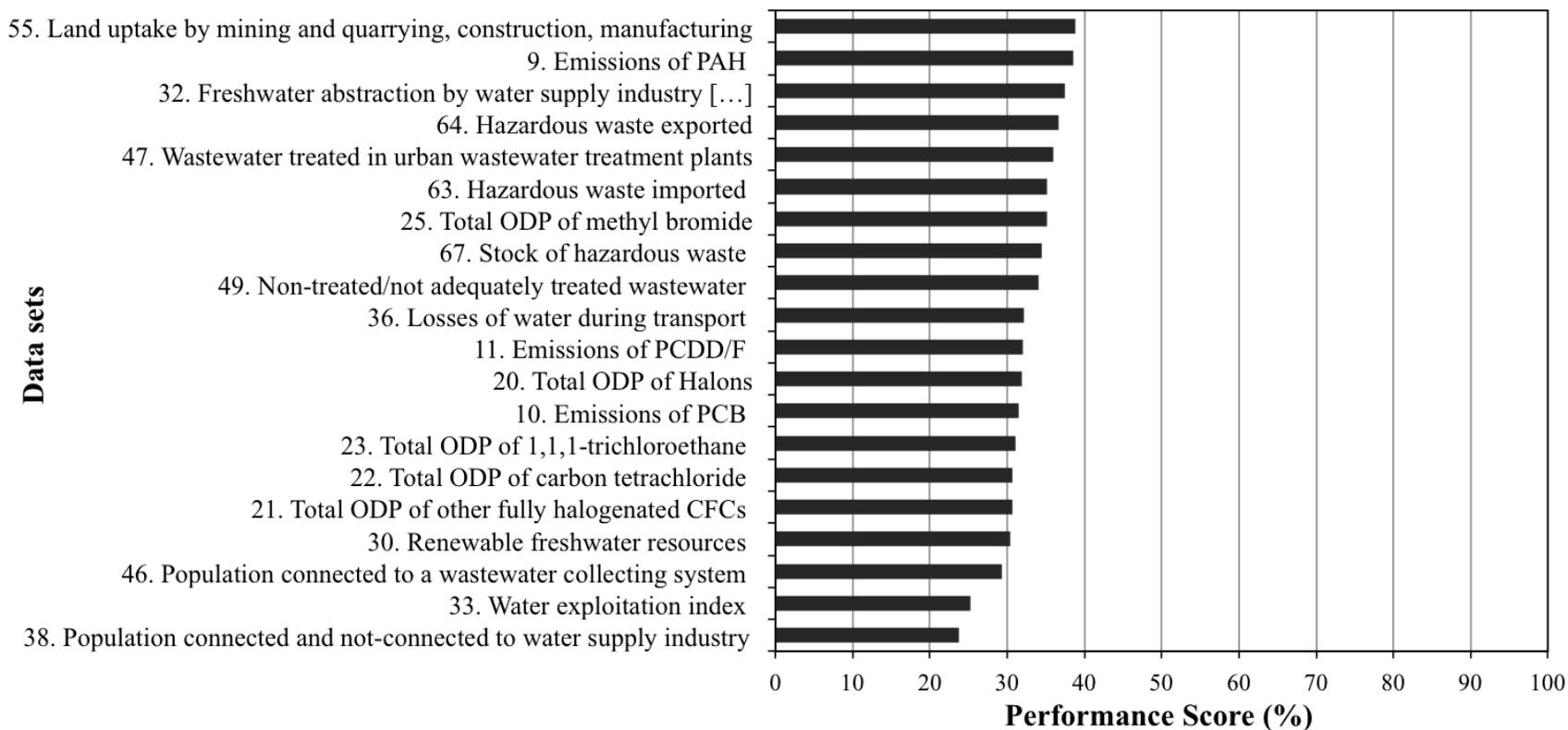
Figure 2  
SEIS data sets with highest performance scores



Note: See annex B for the legal obligations associated with each data set.

Abbreviations: NMVOC: Non-methane volatile organic compounds; GHG: Greenhouse gas; PM: particulate matter.

Figure 3  
SEIS data sets with lowest performance scores



Note: See annex C for the legal obligations associated with each data set.

Abbreviations: ODP: Ozone depletion potential; PAH: Polycyclic aromatic hydrocarbons; PCB: Polychlorinated biphenyl; PCDD/F: Polychlorinated dibenzo-p-dioxin and polychlorinated dibenzofuran; CFC: Chlorofluorocarbon.

## **D. Performance by review criteria**

42. It is encouraging to note that for nearly all data sets that have been published online (covering 51 per cent), member States also provide information on methodologies, data interpretation and use, and data sources. On average, it was found that information on data sources and interpretation is 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. As noted in Section A, this review cannot make any inferences as regards the quality of this material, only to confirm that it is accessible online.

43. Similarly to the preceding section, this coverage varies according to thematic area and individual data sets. The range of materials available that is concerned with data interpretation and use is between 84 per cent (3 data sets) up to 100 per cent (31 data sets). Data sources range between 81 per cent (1 data set) up to 100 per cent (27 data sets) and the range for information available on production methodologies is between 77 per cent (1 data set) up to 100 per cent (4 data sets).

44. It is expected that the rating concerned with the methodologies applied may decline when assessed against its fulfilment of internationally accepted standards. The same argumentation applies for materials on data interpretation and use as the performance score may decline if aspects such as language and policy targets are taken into account.

45. It is relevant to highlight that member States have not been as successful in regularly updating the content available online. It was in many cases found that time series were out-of-date, meaning that times series more recent than 2012 were not made available. In this instance it was found that 79 per cent of the provided data was up-to-date, representing a range between 64 per cent (1 data set) to 95 per cent (1 data set). There was in fact not a single data set for which all countries provided up-to-date time series according to the established criteria for review.

46. Finally, as illustrated by the examples provided in Box 1, it is expected that the absence of up-to-date information may simply be part of a delay in publishing information that is already available for the respective entities and/or focal points. The foreseen reporting mechanism may for this reason help to facilitate that information is updated more regularly and to monitor progress in this area.

## **E. Extended analysis on data accessibility**

47. As part of the review process, the secretariat realised that the approaches taken by member States to share and present information online vary significantly. This reflects varying legislative backgrounds, ministerial setups, competencies and strategies at the national level. It is beyond the scope of this review to analyse the contextual background for each pan-European country, however, the consequence is that the diversity in how SEIS-relevant data set are published online is not fully reflected in the results. This can range from one member State having all their data available on only one website to cases where a member State has several focal points and the information is spread across many platforms and types of media. Naturally, in the latter case, this presents a problem when searching and trying to access data.

48. To further demonstrate, most websites still present all publically available information in the local language of the country in question. Sharing content in a second language or more (English, Russian) is still rare. This creates a barrier for the international community when trying to utilise published data. Another example is that most websites seem to have clear contact information for relevant focal points (as stipulated by the Aarhus Convention) while user friendliness vary significantly both in terms of clarity and the way

data is being presented online (referring in this case to the format). These types of variations were not captured by the initial steps taken by the Working Group.

49. To address this shortcoming, the Working Group conducted an extended analysis utilising the review questions presented in annex A. The extended analysis was done for the following countries: Austria, Bosnia and Herzegovina, Georgia, Germany, France, Kyrgyzstan, Lithuania, Russian Federation, Sweden, and Switzerland. Box 2 presents a summary of the results for each country.

#### Box 2

#### Summary results from an extended analysis on online accessibility

##### Austria

- Most of the data sets (80 per cent) are published online.
- Information is principally located on two platforms (87 per cent) but some content is spread out across four additional (international and national) platforms.
- Data sets are published online in varying formats, ranging from text, graphs (dynamic and static) and reports.
- Nearly all data sets have clear contact information but user-friendliness vary significantly depending on the platform.
- Data sets missing are for water use and abstraction and emission of ozone-depleting substances. Measurements have however been stopped entirely in the latter case.
- Most of the information is presented in only one language, which complicates the search for data.

##### Bosnia and Herzegovina

- More than half of the data sets (63 per cent) are published online.
- Information is located on one platform that provides easy access to published data sets.
- All data sets are presented online both in the format of text and graphs.
- All data sets have clear contact information but only around 60 per cent of the data sets can be considered as user friendly.
- All biodiversity and waste data sets are published; however, soil and land as well as air pollution and ozone depletion data sets have several information gaps.
- Both national and international communities can easily access the information as all published data sets are presented in four languages.

##### France

- Around half of the data sets (57 per cent) are published online.
- Information is spread across two platforms that do not meet the criteria for user friendliness (referring in this case to the platforms).
- Most of the information is presented in only one language (79 per cent), which complicates the search for data.
- Most of the data sets do not have clear contact information.
- All energy and most air pollution and ozone depletion data set are presented online, while climate change, water, biodiversity, land and soil, and waste data sets are below average (ranging from 35 to 50 per cent).
- More than half of the data sets are shared through both reports as well as online using tables, graphs and text.

**Georgia**

- Less than half of the data sets (45 per cent) are published online.
- Information is located on one platform that provides easy access to published data sets.
- All data sets are published online in text or excel table format.
- Do not report on the waste, land and soil, energy related data sets.
- Available data sets are not completely user friendly but clear contact information is provided for all.
- Information is presented into two languages that make it easier for national and international communities to access the data.

**Germany**

- More than half of the data sets (60 per cent) are published online.
- Information is widely spread across four websites, which complicates access to the published data sets.
- Almost all information is presented in both text and graphic formats.
- Only 20 per cent of the published data sets can be considered as user friendly but clear contact information is provided for all.
- Sharing water and biodiversity related data sets are significantly low (ranging between 25 and 30 per cent).
- More than half of the information is presented in two languages, which makes it moderately easy to access information for national and international communities.

**Kyrgyzstan**

- Most of the data sets (70 per cent) are published online.
- Information is spread across two platforms that meet the criteria for user friendliness (referring in this case to the platforms).
- All information is presented in only one language, which complicates the search for data.
- Clear contact information is provided for all data sets.
- Only energy, land and soil data sets are not published fully online.

**Lithuania**

- More than half of the data sets (67 per cent) are published online.
- Information is spread across two platforms where only one of the platforms can be considered as user friendly.
- Around half of the information is presented in both text and graphic formats.
- No clear contact information is provided.
- No energy data sets are shared and only half of the waste as well as land and soil data sets are not published online.
- Half of the information is presented in two languages, which makes it moderately easy to access information for national and international communities.

**Russian Federation**

- Nearly all data sets (91 per cent) are published online.
- Information is principally located on one platform (85 per cent) but some content is spread out across three additional (national) platforms.
- Information is presented in both text and graphic formats.
- No clear contact information is provided.
- Only emission-related data sets are not published fully online.

- All of the information is presented in only one language, which creates obstacles for international communities trying to access the data sets.

#### Sweden

- Nearly all data sets (98 per cent) are published online.
- Information is located on one platform that provides easy access to published data sets. The website is interactive and completely user friendly.
- All information is presented in both text and graphic formats
- Clear contact information is provided for all data sets.
- Most of the information is presented in only one language, which creates obstacles for international communities trying to access the data sets.

#### Switzerland

- More than half of the data sets (67 per cent) are published online.
- Information is located on one platform that provide easy and user friendly access to published data sets.
- All information is shared through the focal point's website in the format of report as well as text, tables and graphs.
- Only water-related data sets are reported below average (40 per cent)
- Both national and international communities can easily access the information as all published data sets are presented in four languages.

50. The results presented throughout Box 2 and in Table 2 demonstrate some of the variations in content and quality across member States, referring to the number of data sets published, website user friendliness, covered thematic areas as well as languages used, etc. The point of this extended analysis has been two-fold. First and foremost, it highlights that the initial approach has not been satisfactory in addressing variations in online accessibility. Secondly, it emphasise the increased relevance to further develop the reporting mechanism for member States to address and monitor these performance gaps over time. It is crucial that the reporting mechanism can capture these types of variations. In that context, it is noted that e.g. the Working Group of the Parties to the Protocol on PRTRs at its fourth meeting (Madrid, 26 November 2015) encouraged Governments and stakeholders to consider implementation of the Protocol on PRTRs and SEIS in synergy.<sup>15</sup> The Parties to the Protocol face similar challenges and the Protocol on PRTRs provides instructions on how to present the registers' data in a clear and user-friendly way which can facilitate also the work on the implementation of SEIS.

51. Through decision V/1, the Meeting of the Parties to the Aarhus Convention also mandated the Task Force on Access to Information continue monitoring and supporting the development of SEIS across the region. At its fourth meeting (Geneva, 8-10 December 2015), the Task Force reiterated the importance of practical measures ensuring public access to up to date, accurate and comparable environmental information and suggested that release of such information through the internet should be accompanied, as appropriate, by information on data source, date of its production or update, information on production and verification methodology, validation methods and interpretation data. Greater integration of SEIS with INSPIRE and other processes related to the management of geospatial information was considered useful.<sup>16</sup>

<sup>15</sup> See document PRTR/WG.1/2015/Inf.4 (available from [www.unece.org/prtrwgp4.html](http://www.unece.org/prtrwgp4.html)).

<sup>16</sup> See document AC/TF.AI-4/Inf. 5 (available from [www.unece.org/env/pp/aarhus/tfai4.html](http://www.unece.org/env/pp/aarhus/tfai4.html)).

Table 2  
**Results from the extended analysis**

Questions	Country									
	AUT	BIH	FRA	GEO	DEU	KGZ	LTU	RUS	SWE	CHE
In how many languages are the national data sets and related information published?	2	4	2	2	2	1	2	1	1	4
Across how many online platforms are the national data sets and related information published?	6	1	2	1	4	2	2	4	1	1
In how many formats are the data sets and related information published?	2	1	2	1	2	2	2	2	1	2
How user friendly is the online platform? (%)	70	60	80	60	80	90	70	70	100	100

*Abbreviations:* AUT = Austria; BIH = Bosnia and Herzegovina; FRA = France; GEO = Georgia; DEU = Germany; KGZ = Kyrgyzstan; LTU = Lithuania; RUS = Russian Federation; SWE = Sweden; CHE = Switzerland.

### III. Conclusions and the way forward

52. The progress report demonstrates that 32 countries in the pan-European region have improved their SEIS performance score. Above 51 per cent of data and related information was found available online on national websites of reviewed countries. There are only a limited number of countries for which only a few or no data sets could be found online.

53. Several data sets and thematic areas are published by only a limited number of pan-European countries. In addition, routines for updating data sets with more recent content (e.g. up-to-date time series) has been identified as a challenge that needs to be addressed. At the same time, providing materials concerned with production methodologies, data interpretation and use as well as data sources for accessible data sets has not been found to be a concern. This review has not taken internationally accepted standards for data set production nor data quality<sup>17</sup> into account. Neither the type nor quality of data interpretation and use was assessed. This shortcoming should be rectified in the next review round.

54. The review was also done to test the SEIS reporting mechanism. This was achieved by letting the secretariat pre-fill records (in accordance with the agreed criteria for review) that was subsequently validated by each country. This validation process provides the basis for assessing the progress of each member State's SEIS performance vis-à-vis the 67 SEIS data sets and thematic areas. It should be noted, however, that only 22 countries have completed the validation to date.

55. Once the validation process has been completed by all reviewed countries, the results could serve as a baseline for future reviews as well as to monitor and assess progress made in establishing the SEIS. The baseline will also be used to assess country performance related to an effective operation of SEIS for all data sets made available and accessible

<sup>17</sup> The ECE data quality framework should be considered in future performance analysis (see <http://unstats.un.org/unsd/dnss/docs-nqaf/UNECE-Quality%20Improvement%20Programme%202010.pdf>).

online. It is expected that the validation and continued review process will help to improve the SEIS performance in the pan-European region as demonstrated by the case study examples in Box 1.

56. It is foreseen that all 53 countries will continue to be assessed by the Working Group against their past SEIS performance. The purpose of this process would be to ensure that each country improves their performance score from year to year. This applies both to countries who may consider its performance score as not yet satisfactory as well as for countries interested in maintaining its high performance level. Overall, the objective is that all reviewed countries will achieve and maintain high SEIS performance levels.

57. The current status of SEIS implementation demonstrates the need to progress in developing the simple online application to facilitate and improve reporting on implementation. To this end, at the seventeenth session of the Working Group (Geneva, 7–8 September 2015), UNEP proposed its support to assist in developing a simple online application within the available capacity of its Information Technology service in charge of UNEP Live. This was accepted by the Working Group and communicated to the Committee at their twenty-first session (see para 16 above). It could provide the framework for continued efforts in evaluating the progress in establishing the SEIS in a sustainable way.

58. The review can be seen as a milestone as it illustrates the considerable progress that has been achieved in the establishment of the SEIS process in the pan-European region. At the same time, some of the identified performance gaps demonstrate the continued need for assistance to achieve the complete production and sharing of all environmental indicators and associated data sets, to the extent possible, in the years to come. It is for this reason recommended that the updating and extension of the environmental data set should be done in line with the work of the EEA Eionet network as well as UNEP. Coordinated efforts and more extensive cooperation is strongly encouraged between the ECE, EEA and UNEP to support the development of SEIS.

59. Given the limitations identified in the extended review concerned with data accessibility, it would be valuable to move beyond evaluating SEIS implementation across thematic areas and data sets to include an assessment of the content (referring in this case to content quality) as well as national barriers for implementing the SEIS as part of the reporting mechanism. It is suggested that a follow-up, concerned with production methodologies and data interpretation and use, focus on reviewing how comparable the data sets are across the pan-European countries and the need for common format requirements. The continued review should also take into account the need to identify gaps, monitor changes over time and to continue collaborative and capacity building activities within the scope of its activities.

## **A. Key messages and issues for consideration**

60. Key results from the review demonstrate that the drive towards establishing the SEIS (and to facilitate data harmonisation) has had a positive impact, not only on capacities and comparability of environmental data, but also on data accessibility across the pan-European countries. It has however also highlighted the prevalence of performance gaps and areas in need of improvements. In particular the lack of systematic reporting as part of certain thematic areas (e.g. water) and the significant variations across member States in how the respective data sets are provided and made accessible online (e.g. user-friendliness and number of online platforms).

61. Taking into account the progress achieved by countries in developing SEIS and the challenges identified as a result of the first review process, countries are encouraged to

continue improving data collection to regularly produce and publish environmental information online.

62. Additional efforts are required to develop the simple online application for the reporting mechanism, together with the Working Group's sub-group on the development of the reporting mechanism and the UNEP Information Technology service. It is suggested that activities in this area continue and that the reporting tool is developed for piloting amongst the members of the sub-group to investigate how it could be operationalised within existing national monitoring infrastructure (e.g. taking into account the needs for technical and financial capacities).

63. The continued development of the self-assessment procedure and reporting mechanism could take some of the following issues into consideration:

(a) Include a voluntary and complimentary component in the reporting mechanism that address obligations under the Aarhus Convention for those member States that are Parties to the Convention. This component could facilitate increased capacities and knowledge transfer in fulfilling obligations that Parties have in providing access to information and in extension assist in the implementation of the SEIS;

(b) Conduct, as part of the continued SEIS review, a study that focus on the best approach for the operationalization of the reporting mechanism. Results from the study would feed into the work that has so far been done by the Working Group' development sub-group and provide concrete and useful inputs into the design and operationalization of the simple online application as well as provide recommendations on how systematic reporting can be made easier for member States;

(c) Consider how cooperation, as an inherent part of SEIS, should be accounted in the review process. The current review criteria (see Table 1) are principally useful in assessing progress towards two of the three SEIS pillars (namely, content and infrastructure);

(d) The consultations raised some concerns for how production methodologies and data interpretation and use have been assessed. More specifically, how the data sets have been utilised and interpreted in national assessments. Addressing these concerns would help to further harmonise data formats and improve comparability across the pan-European countries as a prerequisite for improved sharing of environmental data.

64. Building on experiences and results from the review, continued efforts are needed in measuring progress in the SEIS process. The ongoing review may benefit from structuring future assessments more closely to the three main SEIS pillars (cooperation, content and infrastructure) and to expand on the review criteria to enhance data quality (referring to data for the review process) when assessing the design and implementation of SEIS across the pan-European countries.

65. The review process should, in its activities, take into account the need for updating the environmental indicators and associated data sets (such as the need to report on ozone-depleting substances) and facilitate capacities of national administrators in their use of environmental indicators. The Joint Task Force on Environmental Statistics and Indicators should be involved in this process and provide advice to the Working Group on the application of SEIS data production methodologies by the target countries (e.g. address specific challenges related to methodology and data quality during data collection and for producing environmental indicators) and assist in building capacities for the compilation and integration of environmental data in support of measuring sustainable development.

## Annex

### A. Reviewing online accessibility

<i>Review Questions</i>	<i>Description</i>
In how many languages are the national data sets and related information published?	Tentatively this was divided into three categories (national language, national languages plus English or Russian, and more than 2 languages) once data has been collected.
Across how many online platforms are the national data sets and related information published?	Data should not only be regularly updated but also presented in a clear manner. This implies that the data sets and related information should be presented in a cohesive manner. If the data sets are fragmented across many platforms this indicates low accessibility.
In what formats are the data sets and related information published?	This is foreseen to cover three categories: whether the data set is only published in a report format (1), or only published online (not as a report) (2) or both in a report format and online (3). It should be distinguished that online publishing implies that the data sets are shared through specific infrastructure in this case (e.g. graphical representation of the data, etc.).
How user friendly is the online platform(s)?	User friendliness is subjective and principally referees to the infrastructure where the data sets and related information is published. It will be addressed through a number of sub-questions in a YES/NO format as follows: <ol style="list-style-type: none"> <li>a. Is the platform easy to use?</li> <li>b. Are there available search functions?</li> <li>c. Are the data sets presented in text format?</li> <li>d. Are the data sets presented in graphic format?</li> <li>e. Are there clear contact points for the public to access more information?</li> </ol>

### B. SEIS data sets with highest performance score

<i>No.</i>	<i>Data set</i>	<i>Grounds for collecting, updating and sharing data set</i>
2	Emissions of nitrogen oxides expressed in nitrogen dioxide (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
1	Emissions of sulphur expressed in sulphur dioxide (total, stationary and mobile sources) total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).

<i>No.</i>	<i>Data set</i>	<i>Grounds for collecting, updating and sharing data set</i>
<b>5</b>	Emissions of carbon monoxide (total, stationary and mobile sources) total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
<b>3</b>	Emissions of non-methane volatile organic compounds (NMVOCs) (total, stationary and mobile sources)( total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
<b>4</b>	Emissions of ammonia (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol
<b>60</b>	Total waste generation and its transfer	Pan-European priority (chemicals and waste), Global Environmental Goal, Data collection under the Protocol on PRTRs <sup>b</sup> and the Basel Convention <sup>c</sup>
<b>28</b>	Aggregated GHG emissions including emissions/removals from LULUCF	Pan-European priority Global Environmental Goal Data collection under the UNFCCC
<b>50</b>	Total areas under protection (IUCN-categories)	Pan-European priority, Global Environmental Goal, Resilience, considerations under the green economy concept, United Nations Convention on Biological Diversity (CBD)
<b>17</b>	Annual average concentration of ground-level ozone	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
<b>56</b>	Total final energy consumption	Global Environmental Goal Efficiency, considerations under the green economy concept, Data collection for the International Energy Agency energy balance
<b>16</b>	Annual average concentration of nitrogen dioxide	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
<b>51</b>	Total forest area (forest and other wooded land)	Pan-European priority, Global Environmental Goal, Resilience, considerations under the green economy concept, United Nations Convention on Biological Diversity (CBD)
<b>13</b>	Emissions of PM10 (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> ,

<i>No.</i>	<i>Data set</i>	<i>Grounds for collecting, updating and sharing data set</i>
		Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
15	Annual average concentration of sulphur dioxide	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
57	Final energy consumption by category (industry, transport, households, commercial and public services, agriculture forestry and fishery, non-specified, non-energy use)	Global Environmental Goal Efficiency, considerations under the green economy concept, Data collection for the International Energy Agency energy balance
29	Aggregated GHG emissions by energy, industrial processes, solvent and other product use, agriculture, land use and forestry, waste	Pan-European priority, Global Environmental Goal Data collection under the UNFCCC
26	Average annual deviation from the long-term average temperature	Pan-European priority, Global Environmental Goal, Data collection under the UNFCCC
62	Hazardous waste generated and its transfer and its transfer	Pan-European priority (chemicals and waste), Global Environmental Goal, Data collection under the Protocol on PRTRs <sup>b</sup> and the Basel Convention <sup>c</sup>
18	Annual average concentration of PM	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
42	Mean concentration of nitrates in major rivers	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health

<sup>a</sup> The Convention on Long-Range Transboundary Air Pollution (CLRTAP).

<sup>b</sup> Protocol on Pollutant Release and Transfer Register (PRTR).

<sup>c</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

<sup>d</sup> Montreal Protocol on Substances that Deplete the Ozone Layer.

<sup>e</sup> Vienna Convention for the Protection of the Ozone Layer.

### C. SEIS data sets with lowest performance score

<i>No.</i>	<i>Data set</i>	<i>Grounds for collecting, updating and sharing data set</i>
55	Land uptake by mining and quarrying, construction, manufacturing, technical infrastructure, transport and storage	Pan-European priority, Global Environmental Goal, Resilience, considerations under the green economy concept

No.	Data set	Grounds for collecting, updating and sharing data set
	infrastructure, residential including recreational, landfills waste dumps tailing pits	
9	Emissions of polycyclic aromatic hydrocarbon (PAH) (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol
32	Freshwater abstraction by water supply industry, households, agriculture forestry and fishing, manufacturing, electric industry, other economic activities	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health
64	Hazardous waste exported	Pan-European priority (chemicals and waste), Global Environmental Goal, Data collection under the Protocol on PRTRs <sup>b</sup> and the Basel Convention <sup>c</sup>
47	Wastewater treated in urban wastewater treatment plants (primary, secondary, tertiary)	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health
63	Hazardous waste imported	Pan-European priority (chemicals and waste), Global Environmental Goal, Data collection under the Basel Convention <sup>c</sup>
25	Total ODP of methyl bromide	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
67	Stock of hazardous waste	Pan-European priority (chemicals and waste), Global Environmental Goal, Data collection under the Basel Convention <sup>c</sup>
49	Non-treated/not adequately treated wastewater	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health
36	Losses of water during transport	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE

No.	Data set	Grounds for collecting, updating and sharing data set
Protocol on Water and Health		
11	Emissions of polychlorinated dibenzo-p-dioxin and polychlorinated dibenzofuran (PCDD/F) (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Protocol on PRTRs <sup>b</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
20	Total ODP of Halons	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
10	Emissions of polychlorinated biphenyl (PCB) (total, stationary and mobile sources)	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
23	Total ODP of 1,1,1-trichloroethane	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
22	Total ODP of carbon tetrachloride	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
21	Total ODP of other fully halogenated CFCs	Pan-European priority, Global Environmental Goal, Data collection under the ECE, CLRTAP <sup>a</sup> , Health and well-being considerations under the green economy concept, Data collection under the Montreal Protocol <sup>d</sup> (a protocol to the Vienna Convention <sup>e</sup> ).
30	Renewable freshwater resources	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health
46	Population connected to a wastewater collecting system (with and without treatment facilities)	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE

<i>No.</i>	<i>Data set</i>	<i>Grounds for collecting, updating and sharing data set</i>
		Protocol on Water and Health
<b>33</b>	Water exploitation index	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health
<b>38</b>	Population connected and not-connected to water supply industry	Pan-European priority, Global Environmental Goal, Resilience, efficiency, health and well-being considerations under the green economy concept, Data collection through the UNEP/United Nations Statistics Division questionnaire, Data collection under the ECE Protocol on Water and Health

<sup>a</sup> The Convention on Long-Range Transboundary Air Pollution (CLRTAP).

<sup>b</sup> Protocol on Pollutant Release and Transfer Register (PRTR).

<sup>c</sup> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

<sup>d</sup> Montreal Protocol on Substances that Deplete the Ozone Layer.

<sup>e</sup> Vienna Convention for the Protection of the Ozone Layer.