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# **Economic Commission for Europe**

Committee on Environmental Policy

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# Mid-term review report on the establishment of the Shared Environmental Information System

Note by the Working Group on Environmental Monitoring and Assessment

### Summary

At the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8–10 June 2016), ministers invited countries to develop their national information systems to have the Shared Environmental Information System in place by 2021 (ECE/BATUMI.CONF/2016/2/Add.1, para. 10). They also invited the Committee on Environmental Policy to convene in 2018 a mid-term review to assess progress in the implementation of the Batumi Conference's main outcomes (ibid., para. 16).

The present document, prepared by the Working Group on Environmental Monitoring and Assessment with support from the secretariat, aims to facilitate the Committee's midterm review, which will be conducted during the Committee's twenty-fourth session. The report was prepared in accordance with the template for mid-term review reports (ECE/CEP/2017/16, annex II) and using the updated assessment framework for monitoring progress in establishing the Shared Environmental Information System (ECE/CEP/AC.10/2018/5).







# I. Overview of main achievements and key findings

The present document, prepared for the mid-term review of the Shared Environmental 1. Information System in Europe and Central Asia, is based on an assessment framework developed by the Working Group on Environmental Monitoring and Assessment (ECE/CEP/AC.10/2018/5), in close cooperation with the United Nations Economic Commission for Europe (ECE), the United Nations Environment Programme (UNEP) and the European Environment Agency. The assessment framework focuses on the quality of the ECE environmental indicators<sup>1</sup> and addresses limitations associated with the earlier assessment of the Shared Environmental Information System 2016 in (ECE/BATUMI.CONF/2016/8).

2. The present report builds on countries' responses to the self-assessment questionnaire contained in the assessment framework, covering seven categories that are associated with data production and use of the ECE environmental indicators: relevance; accuracy; timeliness and punctuality; accessibility; clarity; comparability; and institutional and organizational arrangements. The review report addresses all three pillars of the Shared Environmental Information System — common content, infrastructure and cooperation — and all seven Shared Environmental Information System principles (ECE/CEP/AC.10/2018/5, para. 36), unlike previous assessments. The present exercise is furthermore a trial run of the updated assessment framework, leading up to the assessment to be presented to ministers at the Ninth Environment for Europe Ministerial Conference in 2021.

3. Self-assessments were submitted by 34 of the 53 ECE member States in Europe and Central Asia:<sup>2</sup> Albania, Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Finland, France, Germany, Georgia, Hungary, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan. All member States with economies in transition submitted self-assessments.

4. The mid-term review report is limited to seven data flows, covering three of the ECE environmental indicators. For theme A on air pollution and ozone depletion and indicator A2 (on ambient air quality in urban areas), the four data flows were for annual average concentrations of particulate matter with a diameter of 10 micrometres or less ( $PM_{10}$ ), sulphur dioxide, nitrogen dioxide and ground-level ozone. For theme C on water and indicator C10 (on biochemical oxygen demand (BOD) and concentration of ammonium in rivers), the two data flows addressed the mean concentration of BOD<sub>5</sub> (five-day BOD) and ammonium in major rivers. Lastly, for theme D on biodiversity and indicator D1 (on protected areas), the data flow was for total protected areas.

5. More information on the assessment framework and data collection for the mid-term review report is provided in an annex to the present document.

### A. Working Group recommendations

6. Based on key findings and results of the present assessment, as presented in the sections below, the Working Group recommends that countries:

<sup>&</sup>lt;sup>1</sup> See the online Guidelines for the Application of Environmental Indicators, available from http://www.unece.org/env/indicators.html.

<sup>&</sup>lt;sup>2</sup> Excluding the ECE member States of Canada, Israel and the United States of America.

(a) Improve regular data production and the publication of environmental information online. Environmental authorities are encouraged to work closely with their corresponding national statistical agencies to integrate and share information;

(b) Continue work on the integration and harmonization of environmental data flows, in line with the Shared Environmental Information System principles and taking into account the System of Environmental-Economic Accounting;

(c) Address gaps in the establishment of the Shared Environmental Information System, particularly leading up to the next progress report, covering relevant pillars, thematic categories and data flows of the Shared Environmental Information System;

 (d) Better align data collection processes with national policy contexts and targets and improve the use of available data flows and related indicators in the production of environmental assessments and reports;

(e) Improve the use of relevant environmental assessments and reports to measure progress against policy targets and objectives and improve policymaking.

7. The Working Group also recommends that ECE, UNEP and the European Environmental Agency continue their long-standing and effective cooperation in support of the establishment of the Shared Environmental Information System in Europe and Central Asia. These organizations should also actively support countries in the review of progress.

### **B** Key findings

8. The self-assessments confirm that many countries have continued to harmonize relevant data flows and improve the quality of the selected environmental indicators and underpinning data flows since 2016. This demonstrates a positive trend since the Batumi Conference.

9. Results reveal that theme A (air pollution and ozone depletion) has the highest performance scores, followed by D (biodiversity) and C (water). The same applies to the indicator level, as only one indicator was assessed per theme. At the data flow level, the average score was highest for air quality (sulphur dioxide, PM<sub>10</sub>, ground-level ozone and nitrogen dioxide), followed by total protected areas, ammonium in major rivers and BOD5 in major rivers.

10. Most of the data flows are used for different purposes and are converted into different formats, such as tables and maps. There is also generally consistency between national and ECE indicators included in the review. These are positive developments. However, the use of the indicators in state-of-the-environment reporting remains poor.

11. Nearly all countries highlighted limitations in comparing data flows across regions or between countries. A prominent example is that for protected areas many countries provided information on national categories of protected areas rather than using the categories established by the International Union for Conservation of Nature (IUCN), as foreseen by the relevant ECE environmental indicator. Further efforts are therefore needed to harmonize data flows across the region, including in view of reporting obligations and for use in thematic assessments at different geographical levels, such as for transboundary ecosystems or river basins.

12. These findings demonstrate the inherent value in continued monitoring of the establishment of Shared Environmental Information System through a regular self-assessment of progress, particularly as the System improves the use of relevant environmental data flows across multiple contexts, bodies of knowledge and policymaking approaches.

### C. The pillars of the Shared Environmental Information System

13. The Shared Environmental Information System is basically a set of principles, operationalized as a distributed environmental information system that is connected and integrated with the help of modern technologies. The pillars of the Shared Environmental Information System reinforce the importance of linking environmental data flows, networks, policymakers and governance. All three pillars are considered within the mid-term review report to account for the entire data value chain.

### 1. Common content

14. Countries reported that nearly all of the seven data flows are being produced at the national level (90 per cent). In most cases, primary data from public authorities are accessible (71 per cent).

15. Almost all countries reported that procedures and guidelines for data quality management exist (89 per cent) and that metadata is available for the seven data flows (92 per cent), thus ensuring greater clarity and quality of the information provided.

16. The data flows are most often used to produce different types of content (69 per cent), such as reports and visual representations. This is a positive development, aside from the relatively low use of indicators in state-of-the-environment reporting (see figure 3).

#### 2. Infrastructure

17. Nearly all of the seven data flows are readily available and accessible online for users on national platforms (see figure 2). This suggests a positive development regarding the accessibility and availability of the data flows, in part, due to efforts to establish the System.

18. Most countries also reported that the seven data flows were readily available and accessible on integrated platforms (90 per cent). Some limitations have, however, been reported, notably for  $BOD_5$  and ammonium in major rivers and total protected areas. Inconsistencies have, moreover, been found in the self-assessments regarding the links provided for the respective data flows, as many are not operational or do not indicate a relevant source or platform.

19. Many countries have also established internal procedures, such as regular data validation (79 per cent) and revision (61 per cent) for all the seven data flows. The prevalence of internal procedures for how to use and manage the data flows implies that the trustworthiness of the data infrastructure has increased.

#### 3. Cooperation

20. Countries reported having in place national legislation, plans, programmes or strategies related to the production of the indicators and legal or institutional arrangements for regular production and sharing of data between various institutions at the national level (97 per cent). Effective institutional and administrative capacities at the local, regional and national levels are crucial for the establishment of the Shared Environmental Information System.

21. Countries from across the region noted that the self-assessment questionnaire facilitated communication between data producers that normally do not share or exchange information. This demonstrates the added value of the assessment framework as an instrument that can improve communication between data producers. It also highlights the need to improve institutional cooperation between fragmented data producers and users.

#### Developments since the Eighth Environment for Europe Ministerial Conference

Gaps identified in the Shared Environmental Information System progress report in 2016 indicated the continued need for assistance to achieve the production and sharing of the ECE environmental indicators and data flows (see ECE/BATUMI.CONF/2016/8).

One positive development since 2016, when data usage was not assessed, is that most countries report that the data flows are being used for multiple purposes, in line with the Shared Environmental Information System principles. Those purposes include the production of national and regional indicators and national frameworks for reporting on multilateral environmental agreements and the state of the environment.

The mid-term review report provides a more holistic and complete picture of data sharing and access, data practices and quality and information infrastructure than the 2016 report. However, it also reveals limitations in using certain data flows, such as ground-level ozone and BOD<sub>5</sub> in major rivers, for multiple purposes and that only some countries explicitly use the indicators for environmental policymaking, for example, tracking progress towards policy targets, and reporting on implementation of the Sustainable Development Goals.

# D. Assessment framework for the Shared Environmental Information System

22. Piloting the assessment framework in preparing the mid-term review report has been a significant step forward in assessing the establishment of the Shared Environmental Information System. Lessons learned, as provided by countries, nevertheless demonstrate the need to adjust the framework leading up to the next Environment for Europe ministerial conference.

23. The present report is based on self-assessments by countries. The secretariat has not verified the information. Inconsistencies in the information provided do, however, suggest the need for a validation mechanism. The significant time invested by countries in answering a questionnaire for each data flow furthermore suggests the need to simplify the assessment process.

24. The Working Group has therefore decided that the assessment framework should be revised for the preparation of the next progress report, to be presented to ministers in 2021, in accordance with a timeline to be established by the Committee on Environmental Policy.

### II. Lessons learned and challenges

25. The mid-term review report is a milestone in reviewing the Shared Environmental Information System, particularly as the assessment framework considers all three pillars of the Shared Environmental Information System in contrast to the earlier assessment. This is an important step forward. Nevertheless, due to the limited scope of the present progress report, it is not yet possible to determine whether countries are fully on track to establish the Shared Environmental Information System by 2021.

26. The present assessment was limited to three indicators and seven data flows. One key challenge would be to encourage countries to report on all data flows associated with the ECE core environmental indicators, across all themes, to provide a more complete picture of the progress achieved since the Batumi Conference.

27. Furthermore, full participation in the preparation of the report by all countries in the pan-European region was not achieved. For instance, even though the European Environment Agency pre-filled the self-assessment questionnaires for its member countries, participation from European Union countries remained moderate, with 15 out of 28 countries responding. Despite a clear upward trend since 2016, further steps to achieve higher participation are therefore needed. This should include collaborative efforts, together with the European Environment Agency and UNEP, to identify mechanisms to motivate countries to participate in the regular self-assessment of progress.

28. The purpose of a regular self-assessment is to encourage countries to implement measures that address gaps in the establishment of the System over time. The assessment framework consequently provides a tool that allows countries to monitor progress and identify solutions. Among lessons learned from using the self-assessment questionnaire, however, is that it needs to be easier for countries to respond. This could be achieved by reducing the number of questions at the data flow level.

29. It may also be relevant for the self-assessment questionnaire to look beyond the data flow to quantitively and qualitatively assess how countries use the data in policymaking, in monitoring progress towards policy targets and in streamlining reporting processes. This may help to make the framework more relevant for the countries in the region.

30. The online reporting tool, developed by UNEP in consultation with the Working Group and supported by ECE and the European Environment Agency, was made available for the preparation of the present report for testing only. It would be useful to complete and improve the online reporting tool, so that it can be operational for the next review.

### **III.** Further steps

31. The establishment of the Shared Environmental Information System is supported by several international capacity development mechanisms in the pan-European region, including the ECE Working Group on Environmental Monitoring and Assessment, the Joint Task Force on Environmental Statistics and Indicators and relevant projects being carried out by ECE, the European Environment Agency and UNEP. These activities are being implemented with financial support from donor countries, the European Union European Neighbourhood Policy Instrument and the United Nations Development Account.

32. ECE has received funding from the European Environment Agency to assist in the implementation of one European Environment Agency project in Eastern Europe and the Caucasus.<sup>3</sup> Together with UNEP, ECE is also implementing a project funded by the United Nations Development Account in the Caucasus, Central Asia and South-Eastern Europe. This project focuses on assessing the status of the establishment of the Shared Environmental Information System and the production of data flows for the full set of ECE environmental indicators and their use for various reporting purposes, including in the context of the 2030 Agenda for Sustainable Development.

<sup>&</sup>lt;sup>3</sup> See https://eni-seis.eionet.europa.eu/east.

33. While the above projects cannot fully address all three pillars of the Shared Environmental Information System, they provide a valuable source of information on and support for its establishment and the production and use of the ECE environmental indicators. They moreover contribute to reaching the Batumi target to have the Shared Environmental Information System in place in the countries of Europe and Central Asia by 2021.

34. The gaps identified by the self-assessments indicate that countries still need assistance to fully implement the pillars and principles of the Shared Environmental Information System and for the full production and sharing of all data flows associated with the ECE environmental indicators by 2021.

35. Results from the present assessment will serve as a baseline for the next progress report and, in particular, help to evaluate country performance related to data quality aspects, the effective operationalization of all three pillars of the Shared Environmental Information System and data flows underpinning the ECE set of environmental indicators. It is expected that the continued review of the establishment of the Shared Environmental Information System will help to address gaps, and by doing so, ensure that it supports regular assessments and reporting in the region.

36. The responses to the questionnaire not only indicate a continued demand for improved data sharing and use of available data for multiple purposes but also the need to streamline reporting and to harmonize it with the reporting under other indicator-based initiatives, such as the Organization for Economic Cooperation and Development green growth indicators. It is recommended that the establishment of the System and the production of relevant data flows that underpin the ECE environmental indicators be harmonized and aligned with other monitoring and assessment processes at the regional and global levels, including in the context of the 2030 Agenda.

37. The next reporting round should include the data flows that underpin the ECE core environmental indicators. Future reports should also aim to monitor variations from the baseline established through the mid-term review process and the earlier review in 2016.

38. It would be useful to identify national contact points for the System. The continued monitoring of progress on establishing the System in Central Asia and Europe will require contact points who can assist in data collection.

39. The expected timeline for the review of progress in establishing the Shared Environmental Information System to 2021 is as follows:

(a) January 2019: the Committee on Environmental Policy considers the mid-term review report;

(b) May 2019: the Working Group on Environmental Monitoring and Assessment reviews and revises the assessment framework, as necessary;

(c) In 2020: Countries provide data for the next review;

(d) November 2020: the Committee considers the final progress report on the establishment of Shared Environmental Information System in Europe and Central Asia;

(e) In 2021: Ministers consider the final review report at the Ninth Environment for Europe Ministerial Conference.

### IV. Fact sheets on key findings and messages

#### A. Relevance

40. In the category of "relevance", countries were invited to specify, for each data flow, whether it was used for more than one purpose, such as for the production of national indicators and in order to meet reporting obligations, with the option of replying "yes", "partly" or "no". The results from the 34 submissions are shown in figure 1. The default response provided by the European Environment Agency was "yes" for all seven data flows. Data flows were used for multiple purposes in 95 per cent of cases.

Figure 1 Use of data flows for more than one purpose



41. Countries were asked to provide examples of the multipurpose use of data flows. The replies included combinations of the following:

(a) Reporting under European Union directives, ECE multilateral environmental agreements and for other national and international reporting purposes;

(b) Provision of data for the European Air Quality Portal and for posting on the websites of national statistical agencies;

(c) Provision of data for the European Environment Agency and Eurostat environmental indicators and other national and regional indicators;

(d) Inputs to European Environment Agency reports, such as the Air Quality in Europe report series, and Eurostat reports, for example, on Sustainable Development Goal 6 (clean water and sanitation);

(e) Production of national state-of-the-environment reports and thematic bulletins;

(f) Production of technical reports on, for example, urban air quality for specific purposes and requests; the improvement of a national monitoring programme; legislative frameworks concerning air quality; and justifying the need for an increase in air quality monitoring capacity at the national level;

- (g) Policymaking at the national level;
- (h) Public information.

### B. Accessibility

Figure 2

42. In the category of "accessibility", countries were invited to specify, for each data set, whether it was readily available and accessible online for users on any national platform, with the option of replying either "yes" or "no". The results from the 34 submissions are shown in figure 2. The default response provided by the European Environment Agency was "yes" for all seven data flows. Data flows were readily available and accessible online in 90 per cent of cases, though that proportion dropped to 77 per cent for water-related data flows. Countries were also asked in what formats information on the data flows was presented with the option to select all applicable options. The results are shown in figure 3. The most popular formats were reports, such as state-of-the-environment reports, and visual presentations.







Figure 3 Formats in which information on the data flows is presented

### C. Comparability

43. Within the category of "comparability", countries were invited to specify, for each data flow, whether they applied internationally agreed procedures in its production with the option of replying "yes", "partly" or "no". The results from the submissions are shown in figure 4. The default response provided by the European Environment Agency was "yes" for all seven data flows. Internationally agreed procedures were applied in 72 per cent of cases, falling to 67 per cent for total protected areas.

#### Figure 4





44. Within the same category, countries described limitations in comparing data flows across regions and between countries owing to differences in, for example:

(a) Densities of measurement stations and configurations of monitoring networks;

(b) The means of data collection, for example automated stations versus laboratory processing, and determination methodologies;

(c) Data flow definitions, for example the use of seven-day BOD instead of fiveday BOD and differing definitions of protected areas;

(d) Legislation.

### Annex

### **Background information**

### A. Assessment framework

1. The Working Group agreed at its sixteenth session (16–17 April 2015) that the data and information included in the preparation of the mid-term review report should allow the measurement of progress towards agreed global and regional priorities in line, as relevant, with global and regional multilateral environmental agreements. The Working Group also agreed on a first development milestone: 67 specific data flows that every country in the pan-European region should aim to make available and accessible online during 2015.

2. During the first assessment in 2015, full participation of all countries in the pan-European region could not be achieved and the assessment was not able to take into account internationally accepted standards for data set production or data quality, given the limited resources available. Neither data quality nor data usage was, as such, assessed. It was suggested that these shortcomings should be rectified in the next review round.

3. At its eighteenth session (28–29 June 2016), the Working Group agreed that the secretariat would revise the review criteria and integrate a quality component as part of the assessment framework. The purpose of that continuing review of the assessment framework was to utilize the revised assessment framework in the preparation of the mid-term review report.

4. At its nineteenth session (27–28 June 2017), the Working Group examined the results of the review of the assessment framework (see ECE/CEP/AC.10/2017/5). The Working Group agreed that it would be necessary to pilot the assessment framework and its associated reporting application before moving on to data collection for the mid-term assessment report. It was also noted that steps would need to be taken to ensure that the assessment framework was harmonized with other initiatives.

5. The self-assessment questionnaire, as part of the assessment framework, has been developed by the Working Group together with ECE, UNEP and the European Environment Agency. The questionnaire is available as an online reporting tool and as a Microsoft Excel workbook. These two reporting tools provided the basis to pilot the reporting across the pan-European region and for preparing the mid-term review report.

6. During a technical meeting and country workshop in Vienna (13–15 September 2017), the self-assessment questionnaire was further developed with countries that had volunteered to do so at the thirteenth session of the Joint Task Force on Environmental Statistics and Indicators (29–30 June 2017). The workshop was attended by representatives of ECE, UNEP and the European Environment Agency.

7. Based on the outcomes of the Vienna workshop, the self-assessment questionnaire was updated and then further discussed during the fourteenth session of the Joint Task Force (2–3 October 2017). During this meeting, member States agreed on the modalities and data flows to be included in the mid-term review report.

8. At the Working Group's twentieth session (3–4 September 2018), the secretariat presented the assessment framework and the draft mid-term review report. Members of the Working Group also reported on their experiences in monitoring progress towards the establishment of the System and commented on both the assessment framework and the draft mid-term review report. It was agreed that the assessment framework would be further improved for the next reporting period.

### **B.** Data collection

9. Data collection based on the assessment framework and self-assessment questionnaire and the analysis for the current mid-term review report was conducted in the period between March and June 2018:

 (a) The secretariat shared the self-assessment questionnaire at the beginning of March 2018 and member States were invited to complete the self-assessment questionnaire by 6 May 2018;

(b) Replies to 15 of the 25 questions contained in the self-assessment questionnaire were mandatory. The performance score was calculated based on the answers to the mandatory questions, with averages calculated for countries and subregions. The results presented in this document are based on countries' responses to the 15 mandatory questions;

(c) The scoring of mandatory questions according to the seven review criteria was done automatically, using calculation formula based on the scoring system in the assessment framework that had been incorporated in the Excel workbook reporting template;

(d) Based on the submitted self-assessments, the secretariat compiled the draft mid-term review report. All self-assessments submitted were integrated into the report;

(e) Only a few countries requested clarifications concerning the filling out of the questionnaire template. The secretariat and the European Environment Agency provided clarifications where needed.

10. The European Environment Agency pre-filled the self-assessment questionnaire for its 33 members and 5 cooperating countries in South-Eastern Europe;<sup>1</sup> for European Environment Agency members that did not submit a self-assessment, the default values were used for the review at the suggestion of the Agency. Countries were invited to report on other data flows underpinning the ECE set of environmental indicators, in addition to the seven listed, but none did so. They were also invited to review the assessment framework, test an online reporting tool and provide suggestions for improvement of the framework and tool. Several countries did so and their comments are being used to refine the two instruments.

11. Of the 34 countries that responded, 30 submitted results for all seven data flows and answered all 15 mandatory questions. Four countries (Kyrgyzstan, Poland, Tajikistan and Ukraine) did not answer some of the mandatory questions for one or two data flows.

12. Of the countries that responded, 19 answered all 10 non-mandatory questions for at least one data set: Albania, Belgium, Bulgaria, Croatia, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, Poland, Republic of Moldova, Romania, Russian Federation, Sweden, Switzerland, Turkmenistan and Ukraine.

13. The self-assessment conducted by the European Environment Agency members and cooperating countries revealed an overall good performance. However, European Environment Agency members were also the least likely to provide a response (only 17 did so), whereas all countries in the Caucasus, Central Asia and Eastern and South-Eastern Europe and the Russian Federation did so.

<sup>&</sup>lt;sup>1</sup> The five cooperating countries are Albania, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia. In addition, the authorities of Kosovo were invited by the European Environment Agency to submit a completed questionnaire but did not do so.

### C. Indicator and national performance scores

14. For the 2016 progress report, the assessment was not able to review the progress for all three pillars of the Shared Environmental Information System and it was highlighted that the next assessment would benefit from an adequate review of all three main pillars — cooperation, content and infrastructure.

15. The revised assessment framework addressed this shortcoming through the introduction of 25 review questions grouped into seven categories. These categories (review criteria) are linked to one or more of the pillars.

16. The results of the self-assessments submitted by countries are presented in the table below, based on the mandatory questions. The fact that the current report includes an assessment of all the pillars of the Shared Environmental Information System is one of the major achievements of this review report and illustrates the progress made by countries in self-assessing their performance in the different categories.

# Indicator and national performance scores

	A. Air pollution and ozone depletion					C. Water		
	A	2. Ambient air qualit	y in urban areas	C10. BOD <sub>5</sub> and concentration of ammonium in rivers		D1. Protected areas		
Country	Annual average concentration of PM <sub>10</sub> – validated	Annual average concentration of sulphur dioxide – validated	Annual average concentration of nitrogen dioxide – validated	Annual average concentration of ground-level ozone – validated	Mean concentration of BOD <sub>5</sub> in major rivers	Mean concentration of ammonium in major rivers	Total protected areas (by IUCN categories)	National performance score
Albania	87%	87%	87%	87%	87%	87%	87%	87%
Armenia	97%	97%	85%	97%	100%	100%	100%	96%
Azerbaijan	90%	90%	90%	90%	90%	90%	93%	90%
Belarus	90%	90%	90%	90%	85%	85%	60%	84%
Belgium	87%	87%	87%	87%	85%	85%	83%	86%
Bosnia and Herzegovina	90%	90%	90%	90%	92%	92%	82%	89%
Bulgaria	87%	87%	87%	87%	70%	70%	98%	84%
Croatia	90%	90%	90%	90%	92%	85%	85%	89%
Estonia	90%	90%	90%	90%	93%	93%	88%	91%
Finland	93%	93%	93%	93%	98%	98%	82%	93%
France	88%	88%	88%	88%	92%	92%	93%	90%
Georgia	80%	80%	80%	80%	78%	78%	68%	78%
Germany	100%	100%	100%	100%	73%	80%	77%	90%
Hungary	87%	87%	87%	87%	93%	93%	93%	90%
Italy	88%	88%	88%	88%	87%	87%	82%	87%
Kazakhstan	87%	87%	87%	87%	87%	87%	87%	87%
Kyrgyzstan	N/A	53%	48%	N/A	50%	53%	65%	39%
Latvia	100%	90%	100%	90%	95%	95%	97%	95%
Lithuania	85%	85%	85%	85%	80%	80%	73%	82%
Montenegro	100%	100%	100%	100%	77%	77%	65%	88%
Poland	97%	97%	97%	97%	62%	62%	82%	85%

		A. Air pollution and	d ozone depletion		C. Water		D. Biodiversity	
	A	2. Ambient air qualit	y in urban areas		C10. BOD <sub>5</sub> and concentration of ammonium in rivers		D1. Protected areas	
Country	Annual average concentration of PM10 – validated	Annual average concentration of sulphur dioxide – validated	Annual average concentration of nitrogen dioxide – validated	Annual average concentration of ground-level ozone – validated	Mean concentration of BOD <sub>5</sub> in major rivers	Mean concentration of ammonium in major rivers	Total protected areas (by IUCN categories)	National performance score
Republic of Moldova	70%	72%	70%	70%	95%	95%	73%	78%
Romania	63%	63%	63%	63%	50%	50%	100%	65%
Russian Federation	93%	93%	93%	93%	87%	87%	95%	92%
Serbia	97%	97%	97%	97%	47%	47%	93%	82%
Slovakia	52%	52%	52%	52%	38%	38%	45%	47%
Sweden	87%	87%	87%	87%	93%	93%	100%	90%
Switzerland	95%	95%	95%	95%	95%	95%	95%	95%
Tajikistan	43%	N/A	42%	55%	62%	77%	100%	54%
The former Yugoslav Republic of Macedonia	93%	93%	93%	93%	83%	83%	93%	90%
Turkey	85%	92%	90%	85%	65%	65%	42%	75%
Turkmenistan	47%	47%	47%	40%	47%	47%	67%	49%
Ukraine	62%	62%	62%	N/A	62%	62%	70%	54%
Uzbekistan	73%	68%	75%	75%	67%	72%	80%	73%
Average for all countries	84%	84%	83%	84%	78%	79%	83%	81%

*Abbreviation*: N/A= Data not available; performance score for the indicator is assumed to be zero. *Notes*: Calculation of the performance scores is explained in the assessment framework.

Key:



0%–50%: Requires improvement 51%–75%: Moderate performance 76%–95%: Good performance 96%–100%: Very good performance

ECE/CEP/2019/7