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## Committee on Environmental Policy

**Working Group on Environmental  
Monitoring and Assessment****Twentieth session**

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Item 5 of the provisional agenda

**Reporting on the Shared Environmental Information System****Draft mid-term review of the establishment of the Shared  
Environmental Information System****Note by the secretariat***Summary*

In the Declaration, “Greener, cleaner, smarter!”, adopted at the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8–10 June 2016), the ministers and heads of delegations invited countries to continue their efforts and to further develop their national information systems to have the Shared Environmental Information System (SEIS) in place in the countries of Europe and Central Asia by 2021 (ECE/BATUMI.CONF/2016/2/Add.1, para. 10). They also invited the United Nations Economic Commission for Europe (ECE) Committee on Environmental Policy to convene in 2018 a mid-term review to assess progress in the implementation of the main outcomes of the Conference (ibid., para. 16).

At its twenty-third session (Geneva, 14–17 November 2017), the Committee on Environmental Policy agreed to hold the mid-term review of the Batumi Conference’s main outcomes within the framework of its twenty-fourth session and invited partners and stakeholders to proceed with the preparation of the mid-term review reports in accordance with a reporting template (ECE/CEP/2017/16, annex II).

The present document, which sets out the draft mid-term review on the establishment of SEIS in the pan-European region, was produced using an assessment framework (ECE/CEP/AC.10/2018/5). The Working Group is invited to review the document with a view to its submission to the Committee.

## I. Overview of main achievements and key findings

### A. General achievements and findings

1. This draft mid-term review of the establishment of SEIS is based on an assessment framework (ECE/CEP/AC.10/2018/5) that was developed by the Working Group on Environmental Monitoring and Assessment in cooperation with the United Nations Economic Commission for Europe (ECE), the United Nations Environment Programme (UNEP) and the European Environment Agency (EEA). The assessment framework focuses on the quality of environmental indicators and data flows and their ability to overcome a weakness in the earlier assessment of progress in establishing SEIS.<sup>1</sup>

2. The assessment framework is based on countries' responses to a questionnaire on selected data flows in seven categories: relevance; accuracy; timeliness and punctuality; accessibility; clarity; comparability; and institutional and organizational arrangements. Thus, unlike previous reviews, it addresses all three of the SEIS pillars — content, infrastructure and cooperation — and all seven of the SEIS principles. Replies to 15 of the 25 questions contained in the questionnaire were mandatory. A performance score was calculated on the basis of the answers to the mandatory questions, with averages calculated for countries and subregions. The results presented in this document are based primarily on countries' responses to the 15 mandatory questions.

3. For the mid-term review, the assessment was limited to seven data flows. For theme A of the ECE environmental indicators<sup>2</sup> (on air pollution and ozone depletion) and indicator A2 (on ambient air quality in urban areas), the four data flows were of annual average concentrations of PM<sub>10</sub> (particulate matter with a diameter of 10 micrometres or less), 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> (5-day BOD) and ammonium in major rivers. Lastly, for theme D (on biodiversity) and indicator D1 (on protected areas), the data flow was of total protected areas.

4. As part of the mid-term review, 30 of the 53 ECE member States in Europe and Central Asia<sup>3</sup> submitted a self-assessment by 15 June 2018:<sup>4</sup> Albania, Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Finland, France, Germany, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Montenegro, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Sweden, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Turkmenistan and Uzbekistan.

5. EEA pre-filled the assessment questionnaire for its 33 members and 5 cooperating countries in South-Eastern Europe;<sup>5</sup> for EEA members that did not submit a self-assessment,

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<sup>1</sup> Report on progress in establishing the Shared Environmental Information System in support of regular reporting in the pan-European region (ECE/BATUMI.CONF/2016/8).

<sup>2</sup> See the online *Guidelines for the Application of Environmental Indicators*, available at <http://www.unece.org/env/indicators.html>.

<sup>3</sup> The 56 ECE member States, with the exception of Canada, Israel and the United States of America.

<sup>4</sup> Only 12 countries responded by the deadline of 6 May 2018; the others responded at a later date.

<sup>5</sup> The five cooperating countries are Albania, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia. In addition, Kosovo (without prejudice to its status and in compliance with United Nations Security Council Resolution 1244 (1999) and with the advisory opinion of the International Court of Justice on the accordance with international law of the unilateral declaration of independence in respect of Kosovo (*I.C.J. Reports* 2010, p. 403), Kosovo is recognized by the European Union and, as an EEA cooperating country, was invited by EEA to submit a completed questionnaire but did not do so.

the default values were used for the review at the suggestion of EEA. 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 did so and their comments will be used to refine the two instruments.

6. Of the 30 countries that responded, 27 submitted results for all 7 data flows and answered all 15 mandatory questions; some of the optional questions were not answered. The other three countries (Kyrgyzstan, Poland and Tajikistan) did not answer some of the mandatory questions for one or two data flows. A small selection of countries' responses to some of the questions is summarized in factsheets in Chapter IV below.

7. Over the past few years, many countries have facilitated data harmonization and improved the quality of the produced environmental indicators and underpinning data sets. This was confirmed by their self-assessments.

8. The self-assessment conducted by EEA members and cooperating countries revealed an overall good performance. However, EEA members were also the least likely to provide a response (only 15 did so), whereas all five countries in South-Eastern Europe and all five Central Asian States submitted information and five out of seven countries in the Caucasus and Eastern Europe, as well as the Russian Federation, did so.

9. While there was generally consistency between national data flows and the ECE indicators and data flows, many countries provided information on national categories of protected areas rather than using the categories established by the International Union for the Conservation of Nature, as foreseen by the ECE environmental indicator.

10. Countries' self-assessments were, on average, highest for theme A (on air pollution and ozone depletion), followed by D (on biodiversity) and C (on water). The same was true at the indicator level since only one indicator was assessed per theme. At the data flow level, too, the average scores were highest for air quality (sulphur dioxide, PM<sub>10</sub>, ground-level ozone and nitrogen dioxide), followed in descending order by total protected areas, ammonium in major rivers and BOD<sub>5</sub> in major rivers.

11. Almost all of the countries reported that metadata was available for all data flows, thus ensuring greater clarity and quality of the information provided.

12. A positive development compared to the 2016 progress report (ECE/BATUMI.CONF/2016/8), where data usage could not be assessed, is that most of the countries that responded confirmed that the data flows were used for multiple purposes, including the production of national and regional indicators; various reporting purposes related to national legislation, European Union directives and multilateral environmental agreements; and the elaboration of state-of-the-environment reports (see section IV.A below). However, only some countries reported explicitly that the data flows were used for environmental policymaking and reporting on implementation of the Sustainable Development Goals. A few countries reported limitations in using the data flows on ground-level ozone, BOD<sub>5</sub> in major rivers and ammonium in major rivers for multiple purposes.

## **B. Achievements and key findings by subregion**

### **1. The Caucasus and Eastern Europe, as well as the Russian Federation**

13. Of the seven countries in this group, no response was received from Georgia or Ukraine. Of the five reporting countries, Armenia obtained the highest ("very good") overall performance score for the seven data flows. The other four countries all achieved a "good" performance score. In this group of five countries, the theme with the highest rating was C,

(water), followed by A (air pollution and ozone depletion) and D (biodiversity). The data flows with the highest performance scores were BOD<sub>5</sub> in major rivers and ammonium in major rivers, followed by annual average concentration of sulphur dioxide, PM<sub>10</sub> and ground-level ozone. According to the responses, the categories in which improvements are most needed are accuracy and accessibility.

14. The six countries of Eastern Europe and the Caucasus are engaged in a major project, funded by the European Union and carried out by EEA, to support implementation of the SEIS principles and practices. The project has contributed significantly to the overall good performance of Armenia, Azerbaijan, Belarus and the Republic of Moldova in the mid-term review. Similar support for countries with lower performance scores would enhance the establishment of SEIS in Europe and Central Asia.

## **2. South-Eastern Europe**

15. Five (EEA cooperating) countries in South-Eastern Europe submitted self-assessments, responding to all 15 of the mandatory questions. All of them reported an overall “good” performance score for the seven selected data flows with the former Yugoslav Republic of Macedonia reporting the highest score. The theme with the highest rating was A (on air pollution and ozone depletion). The data flows with the highest performance scores (the same score for all) were annual average concentration of sulphur dioxide, annual average concentration of nitrogen dioxide, PM<sub>10</sub> and ground-level ozone, followed by total protected areas.

16. The five countries showed a “moderate” to “good” performance in relevance, accuracy, timeliness and punctuality; these are the categories where the greatest improvement is needed.

## **3. Central Asia**

17. In Central Asia, all five countries submitted a self-assessment with three of them responding to all of the mandatory questions. In the case of Tajikistan, because some of the mandatory information was missing for one data flow (annual average concentration of sulphur dioxide) and, in the case of Kyrgyzstan, information was missing for two data flows (PM<sub>10</sub> and ground-level ozone), it was not possible to calculate an overall performance score for these two countries. Of the three other countries, Kazakhstan reported the highest performance score with an overall “good” performance. The other two countries’ assessments showed an overall “moderate” performance score or a need for improvement. Tajikistan has achieved “very good” performance for total protected areas and “good” performance for ammonium in major rivers but requires improvement for the other four data flows. Kyrgyzstan requires improvement for all data flows.

18. For the three countries that provided information on all data flows, the environmental theme with the highest rating was D (on biodiversity), followed by C (on water) and, lastly, A (on air pollution and ozone depletion). In all five countries, except for the annual average concentration of sulphur dioxide, PM<sub>10</sub> and ground-level ozone (for which only four countries could be considered), the highest average performance score was for total protected areas (80 per cent), followed by ammonium in major rivers (67 per cent). All five countries showed “medium” performance in the categories of relevance; accuracy; timeliness and punctuality; and accessibility. The lowest score was in the “comparability” category. Accordingly, the categories in which improvement is most needed are comparability; relevance; accuracy; timeliness and punctuality; and accessibility.

#### 4. European Environment Agency members

19. Fifteen of the 33 EEA members completed self-assessments and responded to the questionnaire, with 14 responding to all of the mandatory questions. Poland responded to all of the mandatory questions for only six data flows; for the seventh (total protected areas), the default values provided by EEA were used to calculate an overall performance score. Those default values were used also for the 18 EEA members that did not submit self-assessments.

20. Finland reported the highest overall performance score in the group of responding countries, followed in descending order by Estonia and (all with the same score) France, Germany, Hungary and Sweden. Most of the other nine responding countries reported an overall “good” national performance score, with only a few cases of a “moderate” score. The 18 countries for which the default values were used achieved an overall “good” score. Among the 15 reporting countries, the environmental theme with the highest rating was A (on air pollution and ozone depletion). The data flows with the highest performance scores among the 15 reporting countries (all with the same score) were annual average concentration of sulphur dioxide and annual average concentration of nitrogen dioxide and PM<sub>10</sub>, followed by ground-level ozone and total protected areas. The average performance scores per data flow for all 15 countries are slightly lower than the default values provided by EEA. The lowest performance scores were in the “accuracy” category, followed by “relevance”; these are the areas in which improvement is most needed.

## II. Lessons learned and challenges

21. The review represents a milestone in the establishment of SEIS as it records considerable progress in addressing all three of the SEIS pillars with a focus on the quality of information, which is crucial for the successful establishment of SEIS throughout the pan-European region in support of a regular assessment process. However, on the basis of the information collected for this review, it is not possible to determine categorically whether countries are fully on track to establish SEIS in Europe and Central Asia by 2021.

22. The mandatory part of the mid-term review was limited to a few selected indicators and underpinning data flows. This approach was taken so that the review could pilot the revised assessment framework and focus on quality aspects as decided by the Working Group. It was therefore impossible to assess progress in the production and sharing of all ECE environmental indicators. While countries were encouraged to report on a longer list of ECE environmental indicators and underpinning data flows based on the assessment framework and reporting tool, none of them did so.

23. Moreover, full participation in the mid-term review by all countries in the pan-European region was not achieved with a particularly low response rate from the European Union countries. The next review would therefore benefit significantly from a higher response rate from all member States in Europe and Central Asia in order to provide a complete assessment across the entire region.

24. The main challenge is therefore to encourage all States to report on a higher number of indicators and data flows across all themes so as to provide a more complete picture of the progress achieved.

25. A positive development is the fact that in the category “institutional and organizational arrangements”, most countries reported that national legislation, plans, programmes or strategies related to the production of the data flows and legal or institutional arrangements for regular production and sharing of data between various institutions at national level were in place. These arrangements are crucial for SEIS establishment.

26. The ongoing work by countries, supported by projects, in establishing SEIS at the pan-European level has had a positive impact on the accessibility and availability of the data flows on national platforms. Most countries reported that the selected data flows were readily available and accessible on integrated platforms (see section IV.B). Some limitations have been reported, notably for BOD<sub>5</sub> and ammonium in major rivers and total protected areas. There is a particular need for further improvement in Central Asia.

27. Of the three themes examined, countries in South-Eastern Europe and EEA members, performed least well on theme C (on water). Further efforts by all subregions are needed in the categories of “timeliness and punctuality”, “accuracy” and “relevance” in support of regular assessments and reporting.

28. A particularly important point that was raised by countries, including EEA members, in completing their self-assessment was the fact that there are limitations in comparing data flows across the region or between countries, for example for protected areas. These limitations highlight the need for further efforts in the area of data and indicator harmonization across the region, including in view of reporting obligations and for use in thematic assessments at different geographical levels (e.g., for transboundary ecosystems or river basins).

29. These initial results will serve as a baseline for future progress reports on the establishment of SEIS and, in particular, in assessing country performance related to quality aspects, the effective operationalization of all three pillars of SEIS and the data flows underpinning the ECE set of environmental indicators. It is expected that the validation and continued review process will help to improve performance or make it more evident in support of regular assessment and reporting in the region.

### **III. Further steps**

30. The establishment of SEIS by some countries is supported by several international capacity development mechanisms. In addition to the work of the ECE Working Group on Environmental Monitoring and Assessment and the Joint Task Force on Environmental Statistics and Indicators, a number of projects are being implemented, with support from donor countries, by EEA in Eastern Europe and the Caucasus through the European Union’s European Neighbourhood Policy Instrument; and by UNEP in Central Asia through another project funded by the European Union.

31. ECE is responsible for a portion of the EEA project in Eastern Europe and the Caucasus and, together with UNEP, is implementing a project funded by the United Nations Development Account in seven selected countries across the Caucasus, Central Asia and South-Eastern Europe. This project focuses on assessment of the status of SEIS establishment, production of 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.

32. It is vital that ECE, UNEP and EEA continue to collaborate closely so as to maximize the effectiveness and efficiency of their activities.

33. While the above projects cannot fully address all three of the SEIS pillars, they provide a valuable source of information on and support for the production and use of ECE environmental indicators and the establishment of SEIS. At the same time, some of the performance gaps identified by the self-assessments demonstrate the continued need for assistance with a view to full compliance with all of the SEIS pillars and principles, and thus to full production and sharing of all agreed ECE environmental indicators and associated data flows by 2021.

34. The purpose of the self-assessment process is to encourage each country to identify and implement measures in order to improve or maintain a high level of performance from year to year. It is therefore essential to motivate countries to participate in the regular review process. Given the low response rate from EEA members, further efforts to achieve an adequate level of participation are needed.

35. It is therefore recommended that the establishment of SEIS and production of the ECE environmental indicators and underpinning data flows be harmonized and aligned with other monitoring and assessment processes at the regional and global levels, including in the context of the 2030 Agenda for Sustainable Development.

36. At the same time, countries are encouraged to continue to improve their regular data production and to publish environmental information online. Environmental authorities are also encouraged to work closely with their respective national statistical and other relevant agencies in order to integrate and share information.

37. As the focus of this mid-term review is on quality aspects, it would be valuable to include, as part of the next annual reporting round, an assessment of a longer list of environmental indicators and underpinning data flows. Future assessments should also aim to monitor variation from the baseline established through this review. Therefore, the following international milestones with regard to the mid-term review and the establishment of SEIS by 2021 are anticipated:

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

(b) In 2019 and 2020, countries provide data for the next periodic reviews;

(c) In November 2020, the Committee considers a final review of the establishment of SEIS;

(d) In 2021, the Ministers consider the final review.

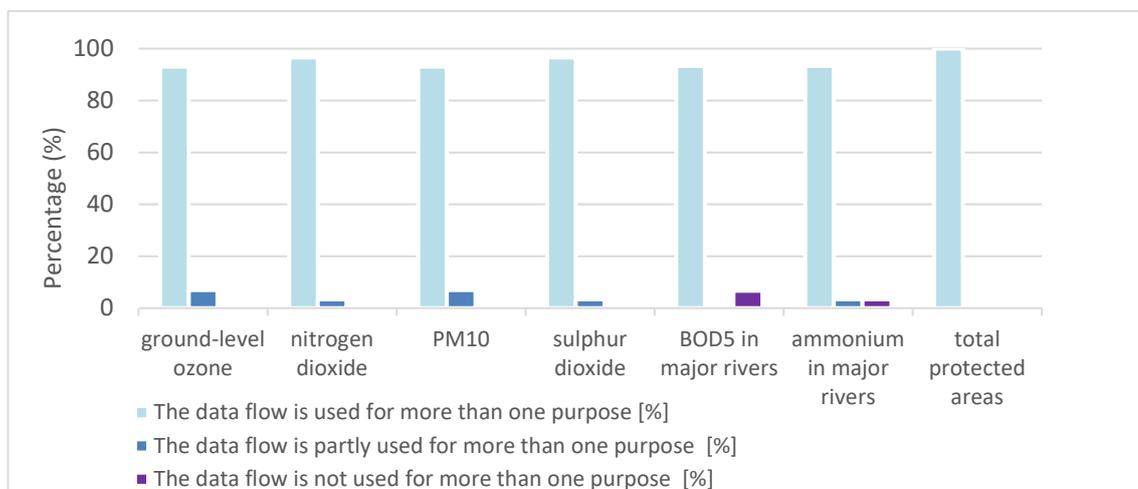
38. The online reporting tool, which was developed by UNEP in consultation with the Working Group, supported by ECE and EEA and made available during the mid-term review for testing, should be completed and improved as needed so that it can be used during the next review. To that end, it would be useful to identify, for each country, the national administrators in charge of environmental information and data and to encourage them to share data and information as a way of encouraging multiple uses of data and reducing the reporting burden.

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

### **A. Relevance**

39. In the category of “relevance”, countries were invited to specify, for each data flow, whether it was used for more than one purpose (e.g., 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 30 submissions are shown in figure 1. The default response provided by EEA 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



40. Countries were also asked to provide examples of multipurpose use of data flows. The replies included, among other things, combinations of the following:

- (a) Reporting under European Union directives and ECE multilateral environmental agreements, as well as 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 (EEA and Eurostat) Environmental Indicators and other national and regional indicators;
- (d) Inputs to EEA reports, such as the *Air Quality in Europe* report series, and Eurostat reports (e.g., under 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; improvement of a national monitoring programme; legislative frameworks concerning air quality; and justification of the need for an increase in air quality monitoring capacity at the national level;
- (g) Policy-making at the national level;
- (h) Public information.

## B. Accessibility

41. In the category of “accessibility”, countries were invited to specify, for each data flow, 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 30 submissions are shown in figure 2. The default response provided by EEA 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 2.  
**Ready availability and accessibility online of data flows on a national platform**

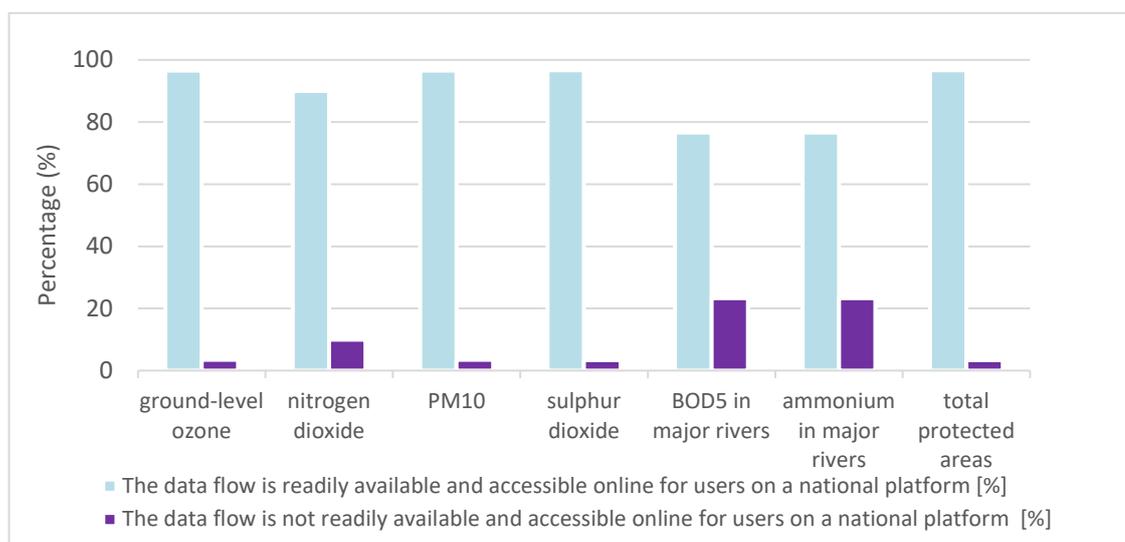
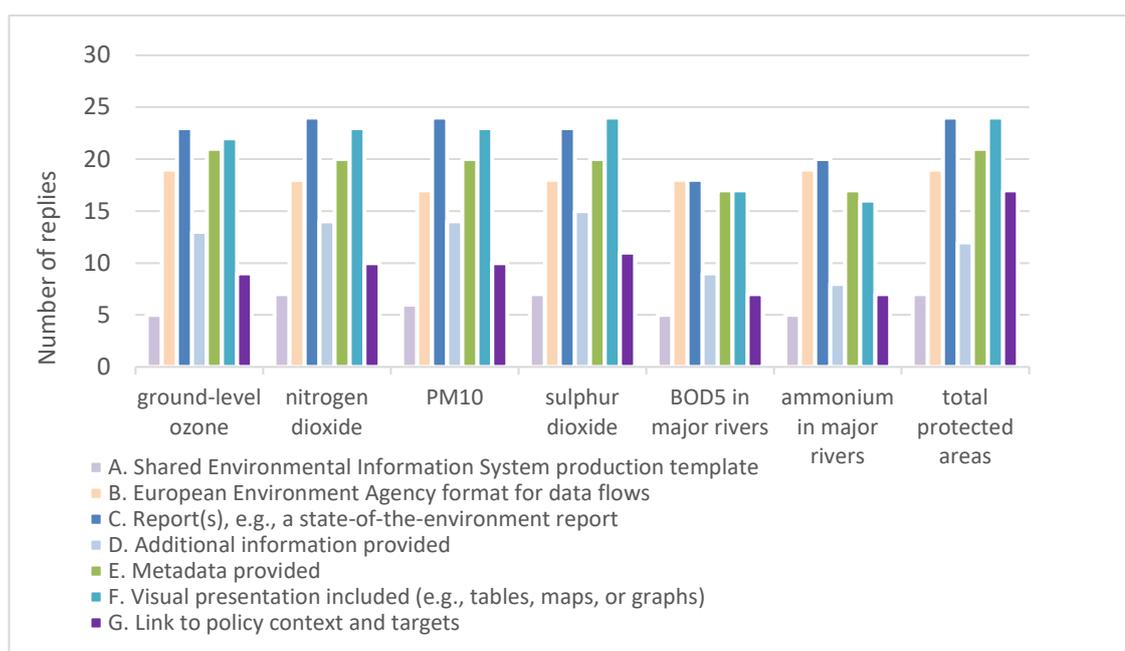


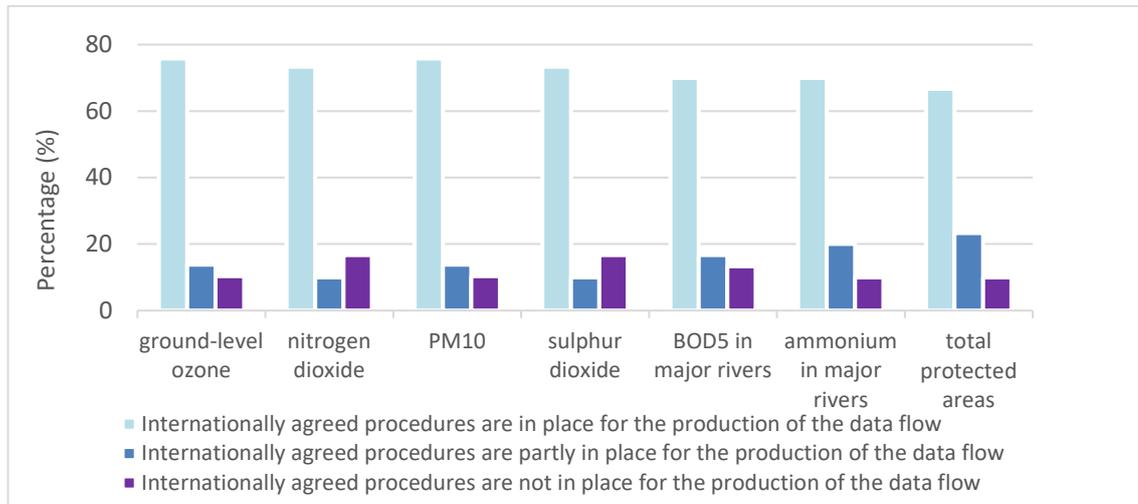
Figure 3.  
**Formats in which information on the data flows is presented**



### C. Comparability: application of internationally-agreed procedures in the production of data flows

42. 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 30 submissions are shown in figure 4. The default response provided by EEA 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.  
**Application of internationally-agreed procedures in the production of data flows**



43. 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) Means of data collection (e.g., automated stations and laboratory processing) and determination methodologies;
- (c) Data flow definitions (e.g., use of 7-day BOD instead of 5-day BOD and differing definitions of protected areas);
- (d) Legislation.