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**Economic Commission for Europe**

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**Joint Task Force on Environmental Indicators****Eighth session**

Geneva, 14 and 15 May 2014

**Report of the Joint Task Force on Environmental Indicators  
on its eighth session**

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## I. Introduction

### A. Background

1. The Joint Task Force on Environmental Indicators was established by the United Nations Economic Commission for Europe (ECE) Committee on Environmental Policy and the Conference of European Statisticians with the objective to support the countries of Eastern and South-Eastern Europe, the Caucasus and Central Asia<sup>1</sup> (the target countries) in improving environmental statistics and in producing agreed indicators. The work aims in the long term to strengthen environmental reporting and make environmental statistics available and comparable throughout the pan-European region. The Joint Task Force's activities in 2013–2014 were governed by its mandate for that period, as approved by the parent bodies (see ECE/CEP/2012/2, annex IV).
2. The eighth session of the Joint Task Force was held in Geneva, Switzerland, on 14 and 15 May 2014.

### B. Attendance

3. Environmental experts and statisticians from the following countries attended the meeting: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Macedonia, Ukraine and Uzbekistan.
4. Representatives of the European Environment Agency (EEA), the European Topic Centre on Biological Diversity, the Interstate Statistical Committee of the Commonwealth of Independent States, the Regional Environmental Centre for Central Asia, the United Nations Statistics Division, the Union of the Electricity Industry (EURELECTRIC) and the non-governmental organization, Zoï Environmental Network, also attended the meeting.
5. The team implementing the European Union (EU)-funded projects, Environmental Protection of International River Basins (EPIRB) and Environmental Monitoring in Central Asia (MONECA), were also represented at the meeting.

### C. Organizational matters

6. The Joint Task Force adopted the agenda for its eighth session, as contained in document ECE/CEP-CES/GE.1/2014/1.<sup>2</sup> The Russian version of the report of the seventh session was not ready at the time of the meeting, and therefore its adoption was postponed to the ninth session.
7. The meeting was chaired by Ms. Irina Komosko (Belarus).

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<sup>1</sup> The countries of Eastern Europe, the Caucasus and Central Asia include Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. The countries of South-Eastern Europe include Albania, Bosnia and Herzegovina, Montenegro, Serbia and the former Yugoslav Republic of Macedonia.

<sup>2</sup> Meeting documentation, including national reviews and presentations, are available online from a dedicated ECE website (<http://www.unece.org/stats/documents/2014.05.environ.html>).

## **II. Review of the production and sharing of eight indicators from the revised Guidelines for the Application of Environmental Indicators in Eastern Europe, the Caucasus and Central Asia**

8. The Joint Task Force, further to its decision at its seventh session (Geneva, 5–7 November 2013), reviewed the progress made by the target countries with regard to the production and online sharing of the revised eight core indicators selected from the Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus, Central Asia and South-Eastern Europe<sup>3</sup> (Indicator Guidelines), as follows: (a) emission of pollutants into the atmospheric air (A1);<sup>4</sup> (b) ambient air quality in urban areas (A2); (c) consumption of ozone-depleting substances (A3); (d) greenhouse gas emissions (B3); (e) biochemical oxygen demand and concentration of ammonium in rivers (C10); (f) nutrients in freshwater (C11); (g) protected areas (D1); and (h) waste generation (I1). The discussions focused on the use of statistical classifications, data collection methods and procedures for the production of the selected indicators, including shortcomings identified with respect to the data structure, data format and the requested period.

9. The review was supported by an analytical paper prepared by consultants to the secretariat (ECE/CEP-CES/GE.1/2014/3) describing the status of production and online sharing of each of the core indicators in the target countries. The paper was based mainly on the information available on the national websites, but also on additional information or explanations sent by the target countries. In several cases, the additional information sent contained Excel tables filled out, to varying degrees, with data sets necessary for the calculation of the indicators.

10. A consultant to the secretariat introduced the analytical paper by explaining the criteria against which the indicator production and sharing analysis had been made. For indicator production, it had been analysed whether countries had applied the data structure, data format and the time series, as stipulated in the Indicator Guidelines. For indicator sharing, the online presentation of indicators on the national websites had been assessed in terms of the online availability of each indicator, the content of the indicator webpage and the languages in which the content was described.

11. The consultant further explained that the findings of the analysis should help each country to better understand their shortcomings in relation to production of the indicator and sharing criteria so that concrete actions could be identified to overcome them. That, however, required further clarification of the findings. To that end, the speaker invited the Joint Task Force to discuss the findings on the production of each of the eight indicators (sub-item A below) and their sharing (sub-item B below) based on the questions prepared by consultants and related to the data structure, the data format and time series for indicator production as well as the online presentation for indicator sharing.

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<sup>3</sup> The revised Indicator Guidelines are available on the ECE website from <http://www.uncece.org/env/indicators.html>.

<sup>4</sup> The letters and numbers in parentheses (A1, B3, etc.) are references to the numbering of the indicators in the Indicator Guidelines.

**A. Review of the production of eight indicators from the revised Indicator Guidelines**

**1. Emission of pollutants into the atmospheric air (A1)**

12. The information that had been made available by the target countries on the production of the indicator on emission of pollutants into the atmospheric air had not been complete in a number of cases<sup>5</sup> (Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova and Ukraine), e.g.: (a) certain sub-indicators had not been presented; (b) data had been presented for stationary but not for mobile sources of pollution; or (c) certain time-series data had been missing. In a number of other cases (Bosnia and Herzegovina, Tajikistan and Uzbekistan) no information to analyse the production of the indicator had been provided. The countries were requested to clarify if the necessary data — not presented at the meeting — were available to produce the indicator in line with the Indicator Guidelines.

13. The experts of several countries (Azerbaijan, Belarus, Republic of Moldova, Tajikistan and Ukraine) clarified that all the data underpinning the production of that core indicator and its sub-indicators were available and could be provided. Experts of Kazakhstan and Kyrgyzstan explained the restrictions in their countries with regard to the availability of data on pollution from mobile sources.

14. An expert from Bosnia and Herzegovina informed the Task Force that the process for data collection and processing was under development in the country for indicator A1 and it was expected to take several more months until all the difficulties in producing the indicator were resolved.

15. In addition, experts from the target countries requested that the template for emissions reporting be modified so that there were separate lines for reporting on emissions from stationary and mobile sources, with the “total” being the sum of those two lines. That would facilitate the reporting in cases where the data from one type of source were not available.

**2. Ambient air quality in urban areas (A2)**

16. Two countries (Tajikistan and Uzbekistan) had not provided the data necessary for the analysis of the production of the indicator on ambient air quality in urban areas. In a number of other cases, times series data had been incomplete (Belarus, Kyrgyzstan, Republic of Moldova, Montenegro and the former Yugoslav Republic of Macedonia), whereas two countries (Russian Federation and Ukraine) had presented data in a unit of measurement other than that stipulated in the Indicator Guidelines and for one year only. Those countries were requested to clarify the availability of the necessary data not presented at the meeting.

17. Regarding the availability of time-series data, experts of several countries (Belarus, Russian Federation and Ukraine) clarified that they were available; experts from other countries (Kyrgyzstan, Republic of Moldova) said they needed to verify the data availability with the relevant national agencies processing those data, while an expert from the former Yugoslav Republic of Macedonia explained that data before 2003 were not available due to an interruption of the monitoring. In connection with the latter, the Joint Task Force agreed that it was sufficient if time series were available for several past years (e.g., since 2005–2006).

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<sup>5</sup> The review of the indicators does not cover Albania and Turkmenistan as they did not attend the meeting.

18. Experts of the Russian Federation and Ukraine further clarified that they could present the data in the unit of measurement stipulated in the Indicator Guidelines.

19. Experts from Tajikistan and Uzbekistan reported that monitoring of air in urban areas had been established and that data would be provided.

20. In addition, during the discussions, the Joint Task Force members indicated they faced challenges in financing the maintenance of monitoring stations, due to which continuous monitoring might be interrupted. Experts of some countries noted that they were using old methodologies for data quality assurance (the so-called Green book), hence, good practice should be shared on implementing accredited methods for measurement by national laboratories.

### **3. Consumption of ozone-depleting substances (A3)**

21. Eleven countries (Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Serbia and the former Yugoslav Republic of Macedonia) had provided complete data on the total amount of the consumed ozone-depleting substances (ODS) and on the breakdown by the various ODS. Information for most of the countries was available on the website of the Vienna Convention for the Protection of the Ozone Layer.

22. The Russian Federation had made available only partial data (only on hydrochlorofluorocarbons); however, during the discussion the Russian expert clarified that the Russian Federation also had the other requisite data. Three countries (Tajikistan, Ukraine and Uzbekistan) had not provided any data on indicator A3.

23. The representative of the United Nations Statistics Division noted that the data on “consumption of chlorofluorocarbons” were used less and less compared with data on other ODS. The reason was that other ODS might have more important impact even if their consumption was relatively small when measured in terms of volume. The expert from Ukraine clarified that Ukraine did not publish the indicator, as there was no interest from the user side. Tajikistan had had an interruption in their reporting system for several years, but it was currently resuming the collection of those data.

### **4. Greenhouse gas emissions (B3)**

24. Uzbekistan had not provided the information necessary to analyse the production of the indicator on greenhouse gas emissions. In a number of other cases, data had not been presented for certain greenhouse gases (Azerbaijan, Bosnia and Herzegovina, Georgia and the former Yugoslav Republic of Macedonia) or for the removals from sources and sinks through land use, land-use change and forestry (LULUCF) (Armenia and Montenegro). Some countries (Belarus, Republic of Moldova, Tajikistan and Ukraine) had not presented the sub-indicators. Some other countries (Belarus, Kyrgyzstan, Republic of Moldova, Serbia and Ukraine) had presented the emission data as carbon dioxide equivalent only. Also, the time-series data had not been complete in a number of cases. Countries were requested, therefore, to clarify their data availability.

25. Experts from all the countries that had not presented the sub-indicators reported at the meeting on the availability of the underpinning data.

26. Furthermore, experts from the majority of countries, including Uzbekistan, informed the Task Force that they were in the process of preparing the third communication to the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC), which should be finalized in the period 2014–2016, depending on the country. With the availability of the third communication, all the data, as stipulated by the Indicator Guidelines, would be provided.

## **5. Biochemical oxygen demand and concentration of ammonium in rivers (C10)**

27. The information made available on the indicator on biochemical oxygen demand and concentration of ammonium in rivers had not been complete in several cases with regard to the time-series data (Montenegro, Republic of Moldova, Russian Federation and Ukraine). Three countries (Bosnia and Herzegovina, Tajikistan and Uzbekistan) had not provided the necessary data; those countries were requested to clarify the availability of the necessary data.

28. Experts of all the countries having presented incomplete time-series data informed the meeting about their availability. Furthermore, Uzbekistan reported that the necessary data had been produced since 2000, whereas Tajikistan clarified that data on biochemical oxygen demand were provided while the availability of data on ammonium needed to be verified.

## **6. Nutrients in freshwater (C11)**

29. Four countries (Bosnia and Herzegovina, Montenegro, Tajikistan and Uzbekistan) had not provided the necessary data to analyse the production for the indicator on nutrients in freshwater. In a number of cases (Armenia, Georgia, Kazakhstan and Kyrgyzstan) the data on nutrients had been presented either for rivers or for groundwater, but not for lakes. Several countries (Belarus, Russian Federation and Ukraine) had not presented data on both of the stipulated nutrients. In addition, the time-series data had been limited in a number of cases. As previously, the countries were requested to clarify the data situation.

30. Experts from the majority of the above-mentioned countries, including Uzbekistan, informed the meeting that data on nutrients in lakes were available and would be provided or that they should be available from the relevant national institutions. Experts from Kyrgyzstan and Tajikistan explained that no monitoring networks had been established for lakes yet, and for that reason the data were absent.

## **7. Protected areas (D1)**

31. The data provided on protected areas in several cases had not been complete. Four countries (Belarus, Kyrgyzstan, Republic of Moldova and Russian Federation) had not provided data on the sub-indicators. Several countries (Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation and Ukraine) had not reported on protected areas in accordance with the international classification of the International Union for Conservation of Nature. In a number of cases, the times-series data had been limited. Finally, two countries (Tajikistan and Uzbekistan) had not provided the data at all. The countries were requested to clarify if the necessary data — not presented at the meeting — were available to produce the indicator in line with the Indicator Guidelines.

32. Experts from all of the countries mentioned above, including Tajikistan and Uzbekistan, clarified that all the data were produced and would be provided.

## **8. Waste generation (I1)**

33. Eight countries (Armenia, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, Serbia, Tajikistan and the former Yugoslav Republic of Macedonia) had provided complete data on municipal waste generation by type of waste and per capita. Four countries (Azerbaijan, Belarus, Republic of Moldova and Russian Federation) had provided only partial information. Two countries (Georgia and Uzbekistan) had not provided data on indicator I1.

34. Experts of two countries (Ukraine and Russian Federation) informed the Task Force about using conversion coefficients to report municipal waste in tons rather than in cubic meters. That significant advance had been made following the two ECE workshops on Waste Statistics held in Geneva in 2012 and 2013.

35. Experts of some countries reported difficulties in separating municipal from household wastes when reporting. For example, in cases where solid construction waste was collected by a special agency, it was included under municipal waste rather than under household waste. Similarly, waste from commerce and small enterprises was sometimes collected by a special agency and not by the municipal waste collection facilities, and hence, was not accounted for as municipal waste.

36. In some countries data on waste were collected by several agencies, e.g., the national statistical office, the ministry of housing construction, etc. That created various problems, for example, in terms of duplication of efforts, use of different data classifications and reporting different figures for the same data items.

## **B. Review of the sharing of eight indicators from the revised Indicator Guidelines**

37. All but three target countries (Georgia, Tajikistan and Uzbekistan) had shared links to the national websites containing the indicators. More than a half of them had websites containing information for at least five indicators. Only in a few cases (Kazakhstan, Kyrgyzstan, Montenegro, Serbia and the former Yugoslav Republic of Macedonia) had the website provided information on more than merely the data presentation, and included information on the data structure, data format and methodology and sometimes a brief interpretation of the data, their sources and validation procedures. To that end, the target countries were requested to inform the Task Force whether any further work regarding online indicator sharing had been conducted that had not been reflected in the analysis.

38. The expert of Armenia presented a new interactive website with environmental indicators that had been launched only shortly prior to the eighth meeting. The expert of the former Yugoslav Republic of Macedonia clarified that work on an interactive format for the country's website with indicators was in progress and should be finalized shortly. Experts from some other countries also informed the meeting about efforts taken by their countries to provide more indicators through national websites, as well as to improve their content, including links to the methodologies used and reports with data interpretation.

## **III. Way forward for the production and sharing of the indicators**

39. The Joint Task Force, further to the discussion clarifying the status of the production and sharing of the eight core indicators, considered the actions, as a way forward, to be recommended to the target countries in order to further enhance indicator production and sharing.

40. The secretariat had prepared a proposal for tailor-made recommendations to the target countries for the production and sharing of the environmental indicators (ECE/CEP-CES/GE.1/2014/4) to facilitate the Joint Task Force in its deliberations. The proposal contained 14 recommendations, of which 6 addressed indicator production and 8 their online sharing. For each recommendation, the proposal named the countries that should implement it.

41. The Joint Task Force, after a careful consideration of the recommendations contained in the secretariat's proposal, reformulated recommendations 11 and 12. Following the reformulation, recommendation 12 addressed the limitation of methodologies relevant for data validation. The possibility of providing further reading regarding the description of the indicator, its interpretation, etc., was included in both recommendations 11 and 12. The Joint Task Force decided that it should be a country decision whether to include links to further reading or to include brief content information directly on the indicator webpage.

42. The Joint Task Force endorsed the recommendations contained in the secretariat's proposal, as amended at the meeting, and asked the secretariat to reproduce the list of the recommendations, together with the specification of actions by country and implementation timelines — i.e., prior to or beyond the ninth meeting of the Joint Task Force scheduled for November 2014 (see annex).

43. The Joint Task Force agreed that there was little experience in the target countries with regard to data quality control, including data validation. To that end, the target countries might not be in a position to implement recommendation 12 in a short period of time. In that regard, the Joint Task Force further invited the secretariat, together with the cooperating partners such as EEA, to explore possibilities for providing the necessary capacity-building.

44. A representative of EEA informed the Task Force about possible cooperation opportunities related to indicator production and sharing through which countries could be supported in implementing the endorsed recommendations. Such opportunities existed within the European Neighbourhood and Partnership Instrument-Shared Environmental Information System (SEIS) 2010–2014 project for Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine, or the Forest and Biodiversity Governance Including Environmental Monitoring (FLERMONECA) project for Central Asian countries. The ongoing projects would be succeeded by new ones helping gradual implementation of SEIS. EEA welcomed expressions of interest from countries to further enhance data quality control and validation procedures, and the representative reaffirmed the Agency's commitment to working with the secretariat in organizing related capacity-building.

45. Finally, the Joint Task Force requested the secretariat to update the analytical paper prepared for the current meeting to reflect the short-term actions taken by the countries as per the endorsed recommendations, so as to facilitate the discussion at the ninth meeting on the further progress made in indicator production and sharing.

#### **IV. Further revision of the Indicator Guidelines**

46. Further to the Joint Task Force's request to the secretariat at its seventh session to incorporate additional agreed changes in the Indicator Guidelines and, where necessary, to verify the consistency of the terms and definitions used, so as to ensure that the terms were unified with those used by the United Nations Statistics Division and Eurostat, the secretariat informed the meeting about the status of the revision of the Guidelines.

47. While the revision regarding all the indicators from the Guidelines was a work in progress at the time of the eighth session, it had been finalized for the eight core indicators. The finalization included the incorporation of comments to the revised indicator documents from two countries (Kazakhstan and Russian Federation) as well as designing and implementing a new, reader-friendly layout for those documents (indicator descriptions and glossaries).

48. The Joint Task Force welcomed the progress in the revision process and the new layout. It then requested the secretariat, if possible, to finalize the revision in time for the ninth meeting in November 2014.

## V. Other business

49. The secretariat informed the Joint Task Force that the ECE Transport Statistics Programme was working on the elaboration of the definitions of energy types for road motor vehicles, which would be discussed within relevant intergovernmental groups later that year. Further information in that regard should be available for the ninth meeting.

## Annex

### Recommendations<sup>a</sup>

<i>Recommendation</i>	<i>Country</i>	<i>Action</i>	<i>Completion by the ninth meeting</i>	<i>Completion beyond the ninth meeting</i>
<b>Recommendation 1:</b> All required core parameters (sub-indicators and underpinning data sets) for the eight core indicators should be produced.	Bosnia and Herzegovina	Develop a process for air emission data collection and processing (related to indicator A1)	Progress achieved to be reported	Further progress to be reported at subsequent meetings
	Georgia	Establish regular monitoring system for waste by introducing relevant regulations to that end (related to indicator I1)	Progress achieved to be reported	Further progress to be reported at subsequent meetings
	Kyrgyzstan	Establish monitoring network for rivers (related to indicator C11)	Progress achieved to be reported	Further progress to be reported at subsequent meetings
	Tajikistan	Establish monitoring network for rivers, lakes and groundwater (related to indicators C10 and C11)	Progress achieved to be reported	Further progress to be reported at subsequent meetings
	All countries except Georgia and the former Yugoslav Republic of Macedonia	Confirm the production of all core parameters by presenting them on the indicator webpages	Fully implemented	
<b>Recommendation 2:</b> Parameters (sub-indicators and underpinning data sets) not included in the core set but constituting integral part of the eight indicators should be increasingly produced.	All target countries	Gradually implement data set for:  A1: NMVOC, NH <sub>3</sub> , CO, PM <sub>10</sub> , PM <sub>2.5</sub> , TSP, POPs, heavy metals  A2: PM <sub>10</sub> , SO <sub>2</sub> and O <sub>3</sub>  C11: Rivers and groundwaters	2-3 selected data sets implemented	All remaining data sets implemented

<sup>a</sup> The recommendations are valid for consideration by Albania and Turkmenistan.

<i>Recommendation</i>	<i>Country</i>	<i>Action</i>	<i>Completion by the ninth meeting</i>	<i>Completion beyond the ninth meeting</i>
<b>Recommendation 3:</b> The structure of indicators should be adjusted following the latest revision of the Indicator Guidelines	All target countries	Adjust the structure of the indicator:  C10: Maximum, minimum, mean, standard deviation  C11: Maximum, minimum, mean, standard deviation  I1: Waste generation by households	Fully implemented	—
<b>Recommendation 4:</b> The current standards for the format of data specified in the Indicator Guidelines should be applied for all core indicators.	Belarus, Republic of Moldova, Russian Federation, Ukraine	Confirm the production of data in the required unit of measurement (related mainly to I1 and in some cases to A2 and C10)	Fully implemented	—
<b>Recommendation 5:</b> Indicators, as per the required structure, should be produced for 2011–2012.	Armenia, Bosnia and Herzegovina, Kyrgyzstan, Montenegro, Republic of Moldova, Serbia and the former Yugoslav Republic of Macedonia	Confirm the production of data for 2011–2012 (related to all core indicators)	Fully implemented except indicators A3 and B3	For indicators A3 and B3 at the time of communication to the UNFCCC and Montreal Protocol secretariats
<b>Recommendation 6:</b> Data should be produced for all eight indicators for 2013.	All countries	Confirm the production of data for 2013 (related to all core indicators)	Fully implemented except indicators A3 and B3	For indicators A3 and B3 at the time of communication to the UNFCCC and Montreal Protocol <sup>a</sup> secretariats
<b>Recommendation 7:</b> All produced indicators should be published online on websites of national agencies.	Armenia, Azerbaijan, Kazakhstan, Montenegro, Republic of Moldova, Serbia, Ukraine, Uzbekistan  Bosnia and Herzegovina	Publish indicator on the website (related to all core indicators)	Fully implemented for all core indicators	—
			Fully implemented for all core indicators except A1	Publishing of A1

<i>Recommendation</i>	<i>Country</i>	<i>Action</i>	<i>Completion by the ninth meeting</i>	<i>Completion beyond the ninth meeting</i>
	Georgia		Fully implemented for all core indicators except I1	Publishing of I1
	Kyrgyzstan		Fully implemented for all core indicators except C11	Publishing of C11
	Tajikistan		Fully implemented for all core indicators except C10 and C11	Publishing of C10 and C11
<b>Recommendation 8:</b> Indicators should be easily accessible from the main/home page of national agencies.	Armenia, Bosnia and Herzegovina, Georgia, Montenegro, Russian Federation, Tajikistan, the former Yugoslav Republic of Macedonia, Uzbekistan	Make indicators easily accessible (related to all core indicators)	Fully implemented for all published indicators	—
<b>Recommendation 9:</b> Indicators should be available on individual webpages or be structured by thematic area.	All target countries except Armenia, Azerbaijan, Kazakhstan, the former Yugoslav Republic of Macedonia, Ukraine	Publish indicators thematically or individually (related to all core indicators)	Progress to be reported	Fully implemented
<b>Recommendation 10:</b> Indicators should be available in an interactive file format that permits easy navigation between indicators and indicator content.	All target countries except Armenia and Serbia	Publish indicators in interactive file format (related to all core indicators)	Progress to be reported	Fully implemented

<i>Recommendation</i>	<i>Country</i>	<i>Action</i>	<i>Completion by the ninth meeting</i>	<i>Completion beyond the ninth meeting</i>
<b>Recommendation 11:</b> Information on indicator structure and format, methodology, policy targets and a brief interpretation of the data, including trends, should be provided on webpages presenting indicators or be directly accessible via a link from webpages presenting indicators.	All target countries	Improve content information (related to all core indicators)	Progress to be reported	Fully implemented
<b>Recommendation 12:</b> Information on limitations of the applied methodology and on data validation procedures should be provided on webpages presenting indicators or be directly accessible via a link from webpages presenting indicators.	All target countries	Include data quality assurance information as part of the content information (related to all core indicators)	—	Gradual implementation
<b>Recommendation 13:</b> Webpages should clearly specify the time of the last update of the content.	All target countries	Include information about last update of the content	Fully implemented	—
<b>Recommendation 14:</b> Indicator webpages and the main/home webpages of relevant agencies should be shared in the national language and at least a second language (English/Russian).	Bosnia and Herzegovina, Montenegro, Serbia, the former Yugoslav Republic of Macedonia	Introduce availability of indicator information in English and/or Russian	—	Fully implemented

*Abbreviations:* CO = carbon monoxide; NH<sub>3</sub> = ammonia; NMVOC = non-methane volatile organic compound; O<sub>3</sub> = ozone; PM<sub>2.5</sub> = particulate matter up to 2.5 micrometres in diameter; PM<sub>10</sub> = particulate matter between 2.5 and 10 micrometres in diameter; POPs = persistent organic pollutants; TSP = total suspended particles; and SO<sub>2</sub> = sulphur dioxide.

<sup>a</sup> The Montreal Protocol on Substances that Deplete the Ozone Layer to the Vienna Convention for the Protection of the Ozone Layer;