

Progress in the production and sharing of core environmental indicators

**in countries of South-Eastern and Eastern Europe,
Caucasus and Central Asia**

Updated analysis as of May 2015

Tenth Session of the UNECE Joint Task Force on Environmental Indicators

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Legal notice

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I. Introduction

The countries of South-Eastern and Eastern Europe, Caucasus and Central Asia¹ have been working together since 2009 in the United Nations Economic Commission for Europe (UNECE) Joint Task Force on Environmental Indicators (Joint Task Force) to enhance the comparability of environmental statistics between each other and within the entire pan-European region. The ongoing work for the establishment of the national Shared Environmental Information System (SEIS) in those countries is implemented in close cooperation with the ENPI-SEIS project led by the European Environment Agency (EEA) and funded by the European Union.

The Joint Task Force serves as a forum for joint work on improving environmental data collection, reporting and assessment. In their efforts to achieve the above-mentioned goals, the countries have reviewed and agreed to apply a set of 41 environmental indicators contained in the Online Guidelines for the Application of Environmental Indicators (Indicator Guidelines)². The countries have the common ambition to produce and share all the indicators and their underpinning datasets in the near future, which is an important step towards establishing SEIS. With this, the target countries aim at having a solid set of indicators ready for use for a possible pan-European assessment cycle.

The availability of data flows and the calculation of meaningful environmental indicators are important to help policy makers at national and international levels to better understand the undergoing changes to the environment, to compare the results with neighbouring countries, and to take informed policy actions for safeguarding the environment. They also enable citizens to access comprehensive information about the ambient environment in an effective manner.

The process focused on the production and sharing of the environmental indicators has accelerated since 2013 under the Joint Task Force. The countries, in this process, have started working with eight indicators and 14 of their underpinning data flows referred to as ‘core indicators’. Those cover five thematic areas: air, climate change, water, biodiversity and waste. At its Ninth Session in November 2014 the Joint Task Force decided to expand their focus by taking up additional six indicators into the agreed core set. The new core set of 14

¹ Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Macedonia, Turkmenistan, Ukraine and Uzbekistan.

² <http://www.unece.org/env/indicators.html>

indicators and 44 data flows (the core set) contains further indicators on water and biodiversity and opens up to the thematic areas of agriculture and transport (see Table 1).

Since 2014 the review of the countries' production and sharing of the environmental indicators is supported by regular analyses prepared by the secretariat and presenting the status of production and sharing for each core indicator in every country. This paper contains the third review of this kind. The first analysis was presented and discussed at the Eighth Session of the Joint Task Force in May 2014 (CEP-CES/GE.1/2014/3). It helped to formulate a set of 14 tailor-made recommendations for the countries to guide them in strengthening the production and sharing of indicators (CEP-CES/GE.1/2014/4). An update of the initial analysis was presented and discussed at the Ninth Session of the Joint Task Force in November 2014 (CEP-CES/GE.1/2014/8).

The present analysis, that shows the performance of the target countries as of May 2015, was prepared to take into account progress in implementing the recommendations on the production and sharing of indicators and to review the availability of the extended core set of 14 indicators. It is based on indicators, underpinning data flows and background information shared through national websites.

Links to those websites were provided by the following 14 target countries: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, the former Yugoslav Republic of Macedonia and Ukraine.

In addition, Tajikistan and Turkmenistan confirmed that a number of the core indicators are produced and should be published online soon.

The paper consists of a summary of the progress achieved by the countries in terms of making available the core indicators in a clear and informative manner (chapter II). This is followed by the in-depth analysis of the production of the 14 indicators (chapter III). This section presents the analysis of countries' performance in producing the indicators according to the methodologies stipulated in the Indicator Guidelines. The paper closes with concluding remarks (chapter IV).

II. Summary – Availability of online data flows for the core set of 14 indicators and progress between May 2014 and May 2015

A. Overview on the production and sharing of indicators

The analysis as of May 2015 shows that the majority of the 14 core indicators and underpinning data flows are produced and shared by the 14 target countries that submitted links (see Table 1). Ten of these countries produce and share data for each of the eight indicators that have been in the focus since 2013, and two countries (Bosnia and Herzegovina and Georgia) produce and share seven of those indicators. With regard to the additional six core indicators that were selected only in November 2014, the paper also finds a good performance: five of those are already produced and shared by the vast majority of the countries, while only the indicator *Renewable freshwater resources (C1)* is not yet produced and shared by a number of countries.

Besides these encouraging results, however, the paper also points out a number of cases in which further improvements are necessary by the countries. On the one hand, those gaps include cases in which not all data flows under certain indicators are shared or are not produced according to the agreed methodology of the Indicator Guidelines (see chapter III). On the other hand, the paper suggests tailored improvements in terms of providing background information and a brief interpretation with the shared data as well as making it available to the national public and international community.

Table 1: Production and sharing of 14 core indicators by countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Indicator	Data flow	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
<i>Emissions of pollutants into the atmospheric air (A1)</i>	SO ₂	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NO _x	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	NMVOCs	✗	✓	✓	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓
	NH ₃	✗	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
	CO	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	CH	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	POPs	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✗	✓	✗	✗
	Heavy metals	✗	✓	✗	✓	✗	✗	✓	✓	✗	✓	✓	✓	✗	✓
	PM	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓
<i>Ambient air quality (A2)</i>	NO ₂	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗
	SO ₂	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗
	O ₃	✓	✓	✗	✗	✗	✗	✓	✗	✓	✗	✓	✓	✓	✗
	PM ₁₀	✓	✗	✗	✓	✗	✗	✓	✗	✓	✓	✓	✓	✓	✗

Indicator	Data flow	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
Consumption of ozone-depleting substances (A3)	Total consumption of ODS	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓	✗
	ODS broken down by different substances	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
Greenhouse gas emissions (B3)	Total GHG emissions	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
	LULUCF	✗	✗	✓	✓	✗	✗	✓	✗	✗	✓	✓	✓	✗	✗
	GHGs broken down by different gases	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
Renewable freshwater resources (C1)	Total renewable freshwater resources	✗	✗	✓	✗	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Freshwater abstraction (C2)	Fresh surface water abstracted	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
	Fresh groundwater abstracted	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
	Total freshwater abstraction	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
	Water Exploitation Index	✗	✗	✗	✓	✗	✓	✓	✗	✗	✗	✓	✗	✓	✗
Total water use (C3)	Total freshwater available	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗
	Losses of water during transport	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗
	Total freshwater use (by economic activities)	✗	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✗	✓	✗
BOD ₅ and concentration of ammonium in rivers (C10)	BOD ₅ in rivers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Ammonium in rivers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
Nutrients in freshwater (C11)	Nitrates in lakes	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
	Total phosphorus in lakes	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗
	Phosphates in rivers	✗	✓	✗	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗
	Nitrates in rivers	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
	Nitrates in groundwater	✗	✓	✗	✗	✓	✗	✓	✗	✓	✓	✗	✓	✗	✗
Protected areas (D1)	Total protected areas by IUCN categories	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
Threatened and protected species (D4)	Number of species protected	✗	✗	✗	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗
	Number of species threatened	✗	✗	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✗
Fertilizer Consumption (F2)	Agricultural area	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Total consumption of mineral fertilizers	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓
	Area treated with mineral fertilizers	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓
	Total consumption of organic fertilizers	✓	✓	✓	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓
	Area treated with organic fertilizers	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓
Passenger transport demand (H1)	Total passenger transport demand	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
	Passenger transport demand by different modes of transport	✗	✓	✓	✓	✗	✓	✓	✗	✓	✓	✓	✗	✓	✓
Waste generation (I1)	Annual municipal waste generation	✓	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓

Legend

✓	Data flow produced and shared
✓	Data flow shared with issues in data structure
✗	Data flow not shared

B. Background information on the applied methodology

The website with an indicator or a set of indicators should be presented in a clear and comprehensive way. It should provide clear and brief information on the methodology applied for the production of the indicator. This important background information should be either embedded in the webpage presenting an indicator, or should be directly accessible from this webpage via a link. It should at least include definitions of the most important terms, so that it is clear how the data flow is calculated and what it measures, introduce data sources as well as methods of data collection and define the units of measurement. In addition, information on the legal framework for reporting on this indicator, as well as data validation procedures and limits of the applied methodology should be included into the background information.

The performance of countries in this regard is summarized in Table 2. Countries that meet or come close to meeting the optimal level described above for most indicators include Albania, which shares methodological background information in their Indicator-based State of the Environment Report.

Armenia makes the indicator description and the glossary of terms from the Indicator Guidelines available with the twelve core indicators it publishes. Azerbaijan shares very brief “methodological guidelines” as well as their statistical yearbook on their webpage on environmental indicators for references to methodology.

Belarus presents for each of their published indicators a brief summary of the applied methodology on their webpages and for most indicators more detailed information on methodology can be accessed via a link on “additional information”.

Bosnia and Herzegovina shares brief notes on the applied methodology for eight of its published core indicators, while on two of its indicators no such information can be found.

Kazakhstan makes detailed “guidelines for the formation of indicators” available on its webpage sharing indicators via the menu bar “methodology”, while Kyrgyzstan shows brief information on the applied methodology directly on its interactive website on the state of the environment.

Montenegro publishes most of the core indicators in its Indicator-based State of the Environment Report, in which brief descriptions of the applied methodology and data sources are made available and important definitions are provided. The Russian Federation provides brief background information for all of its indicators, either as part of their reports or accessible via a link from the webpages of the State Statistical Service.

Serbia publishes methodological background information on its interactive platform on environmental indicators. At the same time, for the air indicators reference to the “Centre on Emission Inventories and Projections” was made, which – being an international website publishing data for parties to the UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP) - cannot be considered in terms of providing background information.

The former Yugoslav Republic of Macedonia shows comprehensive definitions, information on data sources and units of measurement and the legal framework for data collection on its interactive website on environmental indicators. The Ukraine provides brief definitions of the most important terms in footnotes attached to its data.

Countries that do not fully meet the requirements in terms of the background information on methodology include the Republic of Moldova. The information published on the indicators in the country’s “Open Data Portal” currently cannot be considered sufficient in many cases. For Georgia no background information can be found yet on the respective webpage on environmental indicators.

C. Information on the responsible institutions

On a webpage presenting indicators the institution responsible for the production of the respective data flows should be clearly specified, in particular when data are shown on an overview page or portal.

The performance of countries in this regard is summarized in Table 2. Countries that specify the responsible institutions for the majority of their published indicators are Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation and the former Yugoslav Republic of Macedonia.

On the webpages of Albania, Armenia, Azerbaijan, Georgia, Serbia and Ukraine such information is not clearly specified.

D. Brief interpretation of data flows and trends

To facilitate the understanding of the presented data for policy makers and the public, the webpages on environmental indicators should contain a brief analysis of the data and trends or make such information easily accessible via a link. This analysis could include graphs or charts showing trends, references to policy targets, if available and an evaluation in how far those targets are met.

The performance of countries in this regard is summarized in Table 2. Interpretations are presented for most indicators by the following countries: Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova and the former Yugoslav Republic of Macedonia.

At the same time, the Russian Federation publishes complete analyses of its data in its state of the environment reports, while on some of the webpages showing data, such information cannot be found. Likewise, Serbia presents complete analyses using graphs and maps for the indicators published in their indicator portal, while on the websites for the other indicators such information is not shared.

For Armenia, Azerbaijan, Georgia and Ukraine no interpretation of the data are found on the websites.

Table 2: Background information published with indicators

	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
A1				 			 	 	 		 		 	
A2	 			 			 	 	 	 	 		 	
A3				 			 	 	 		 	 	 	
B3				 	 		 	 	 	 	 	 	 	
C1							 			 	 			
C2				 			 		 		 		 	
C3				 	 		 	 	 		 		 	

	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
C10														
C11														
D1														
D4														
F2														
H1														
I1														

<i>Legend</i>	
	Indicator published with background information on the applied methodology
	Indicator published with information on the responsible institutions
	Indicator published with a brief interpretation of data flows and trends
	No background information available
	Indicator not published

E. Languages

The webpage(s) presenting the indicators should be available in local languages to be accessible for the local public and policy makers and in a second language (English or Russian) so that it can be used by the international community and public of neighbouring

countries. The websites which contain information on the indicators, not the main pages of the relevant agencies are taken into account for the analysis of the available languages.

The performance of countries in this regard is summarized in Table 3. The analysis confirms findings of the previous analyses: Almost all countries publish their indicators in their national languages and in English or Russian. In the case of Kazakhstan all indicators are even available in Kazakh, Russian and English.

The only countries that do not make all their indicators available to both local and international users are Albania, the Republic of Moldova and Serbia. Albania’s State of the Environment Report is currently published in Albanian only. In the case of the Republic of Moldova the indicators that are shared via the “Open Data Portal” are not yet available in Russian or English. Likewise for Serbia the portal on environmental indicators is currently only available in Serbian.

Table 3: Languages in which indicators are published

	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
A1	✗	Na En	Na En	Na Ru En	✗	Na En	Na Ru En	Na Ru	Na En	Na En	Na Ru	En	Na En	Ru
A2	Na	Na En	Na En	Na Ru En	✗	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	En	Na En	✗
A3	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	Na	Na En	✗
B3	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	Na	Na En	✗
C1	✗	✗	Na En	✗	✗	✗	Na Ru En	✗	✗	Na	Na Ru	✗	✗	✗
C2	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	✗	Na En	Na En	Na Ru	Na En	Na En	✗
C3	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na En	Na Ru	Na En	Na En	✗
C10	Na	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	Na	Na En	✗
C11	Na	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	Na	Na En	✗
D1	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na Ru	Na Ru	Na	Na En	✗

	ALB	ARM	AZE	BLR	BIH	GEO	KAZ	KGZ	MNE	MDA	RUS	SRB	MKD	UKR
D4	✗	✗	✗	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na	Na Ru	Na	Na En	✗
F2	Na En	Na En	Na En	Na Ru En	✗	Na En	Na Ru En	Na Ru	Na En	Na Ru En	Na Ru	Na En	Na En	Ru
H1	✗	Na En	Na En	Na Ru En	Na En	Na En	Na Ru En	Na Ru	Na En	Na En	Na Ru	✗	Na En	Ru
H2	Na En	Na En	Na En	Na Ru En	Na En	✗	Na Ru En	Na Ru	Na En	Na En	Na Ru	Na	Na En	Ru

Legend	
Na	Indicator published in the national language
Ru	Indicator published in Russian
En	Indicator published in English
✗	Indicator not published

F. Evaluation of progress between May 2014 and May 2015

The countries have gone a long way in the production and sharing of the environmental indicators and their underpinning data since May 2014 when the first analysis on the production and sharing of the eight core environmental indicators was done. With all the success achieved in this work, they established a good part of the Shared Environmental Information System (SEIS).

The remarkable performance of the countries can be shown by applying a concept³ for measuring the progress in establishing and operating SEIS. This measurement can be done based on information on the production and sharing of the indicators and their underpinning data flows available at the points of the reviews in May 2014, November 2014 and May 2015. Following the concept, each data flow is measured on its online accessibility and online availability of additional information explaining what the accessed data flow is showing and how it is produced. It focusses on the following blocks; each of them assigned a magnitude specifying its significance in assessing the effective production and sharing of the data flows:

³ See *Reporting the performance in establishing and operating the Shared Environmental Information System*; Note by the Secretariat of the UNECE Working Group on Environmental Monitoring and Assessment, April 2015.

- a. On-line accessibility of data flow – the flow can be easily accessed by anybody at any time on-line (magnitude 3);
- b. Data flow up-to-date – the data flow is updated with figures of the latest agreed production period (magnitude 2);
- c. Data flow production methodology known and meeting the agreed standard – anybody can access detailed information on the applied methodology and calculation methods for the production of the data flow; the detailed information confirms that the applied methodology is the agreed methodology for the production of the particular data flow (magnitude 2);
- d. Data flow assessed – the data flow is supported by information about what it presents and how to understand the changes in figures over time; this information should be provided in the national language for the national public and in an international language – English and/or Russian – to be accessible to the international community (magnitude 2);
- e. Data flow source provided – the institution responsible for the production of the data flow and its contact details are available (magnitude 1).

This paper shows the results of applying the SEIS measurement concept on the production and sharing of data flows by the following five selected target countries: Armenia, Azerbaijan, Belarus, Georgia and the Republic of Moldova. As the number of data flows reviewed increased at each of the three review points when the analytical papers were prepared, the concept was applied for:

- a. 14 data flows for the review of May 2014, November 2014 and May 2015;
- b. 26 data flows for the review of November 2014 and May 2015.⁴

The results of the measurement are displayed in Figures 1–5. In terms of the performance over the three review points, similar patterns are noticeable for all five countries. Remarkable progress is found between May and November 2014 in producing and sharing the 14 data flows, while in the period between November 2014 and May 2015 the performance is still increasing but to a smaller degree.

This finding can be explained with several developments. At the Eighth Session of the Joint Task Force it was decided to focus on the online sharing of indicators for the next reviews, so that countries invested increased efforts to upload data that was already produced but not shared online. Georgia, for example, had submitted all its core indicators in Excel files for the assessment in May 2014, and already shared seven indicators online in November of the same

⁴ Additionally to the 14 dataflows assessed since May 2014, in the second analytical paper (November 2014) additional parameters under the indicators A1, A2 and C11 were reviewed.

year. Also the numbers show that progress was made when countries took into account the recommendations for the production and sharing of indicators that were presented and discussed at the Eighth Session of the Joint Task Force in May 2014.

With regard to the comparison of the performance in terms of production and sharing of 26 data flows between November 2014 and May 2015 the graphs for all countries show slight but important progress, mostly already starting from a high level in November 2014. This proves that the countries, having the production of the 26 data flows that are part of the original set of eight core indicators under control to a large degree, have conducted gradual improvements in optimizing the production and sharing of those indicators while focusing on the publication of the 18 new data flows.

Figure 1: Evaluation of the performance in producing and sharing 14 data flows between May 2014 and May 2015 (left) and in producing and sharing 26 data flows between November 2014 and May 2015 (right) - Armenia

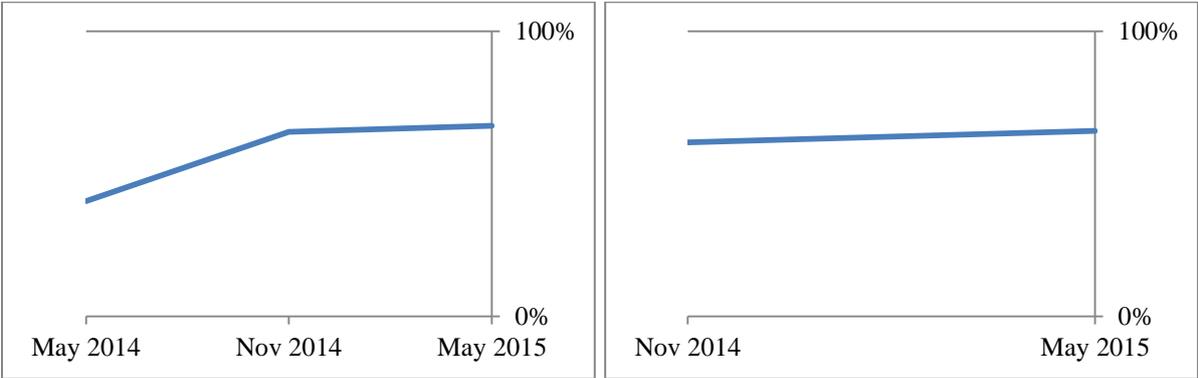


Figure 2: Evaluation of the performance in producing and sharing 14 data flows between May 2014 and May 2015 (left) and in producing and sharing 26 data flows between November 2014 and May 2015 (right) - Azerbaijan

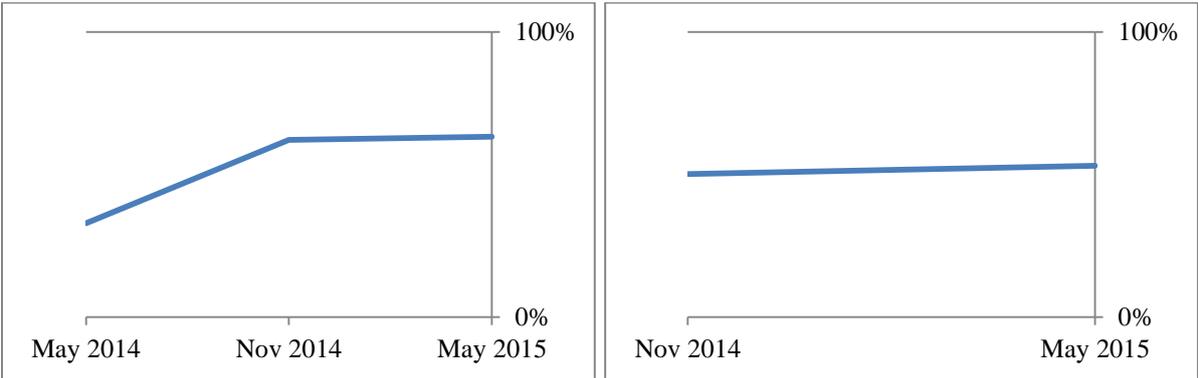


Figure 3: Evaluation of the performance in producing and sharing 14 data flows between May 2014 and May 2015 (left) and producing and sharing 26 data flows between November 2014 and May 2015 (right) – Belarus

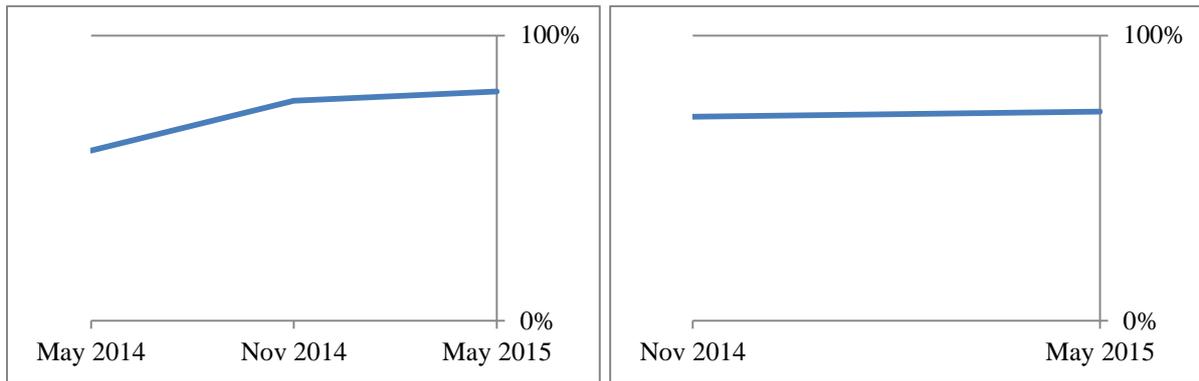


Figure 4: Evaluation of the performance in producing and sharing 14 data flows between May 2014 and May 2015 (left) and in producing and sharing 26 data flows between November 2014 and May 2015 (right) – Georgia

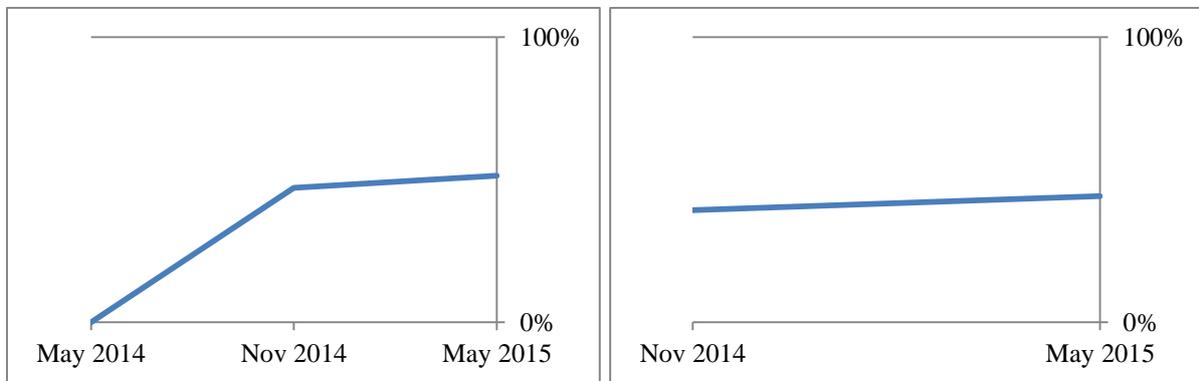
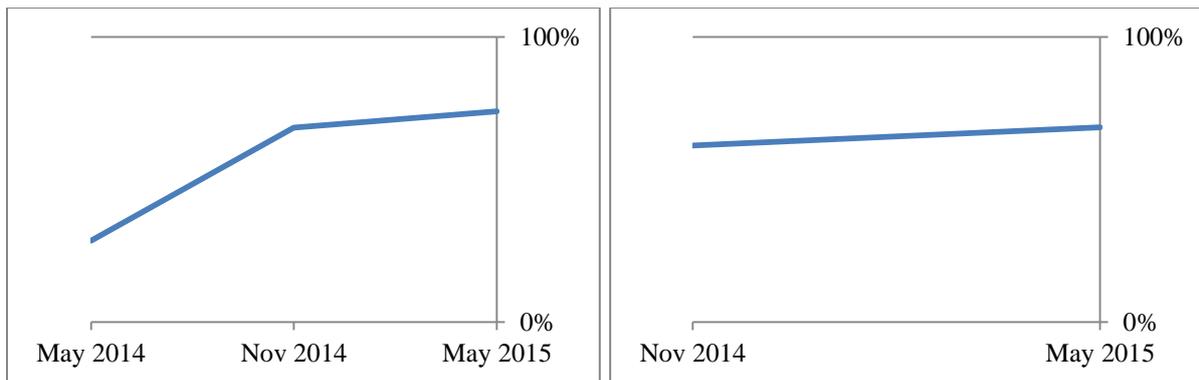


Figure 5: Evaluation of the performance in producing and sharing 14 data flows between May 2014 and May 2015 (left) and in producing and sharing 26 data flows between November 2014 and May 2015 (right) – Republic of Moldova



III. Analysis – Production of the core indicators and underpinning data flows

For this review of the production of the core indicators the websites of the relevant agencies with published indicators are examined to assess whether an optimal level of production for each of the 14 core indicators is reached with regard to data structure and format as well as the availability of time series. The links that are taken into account for the review are listed in Tables 4-17. The data structure, format and time series are applied as specified by the UNECE Indicator Guidelines.

The optimal level of structure is reached when all parameters are correctly used to produce the required data flows (see Table 1). The optimal level of format is reached if all data flows for the respective indicator are provided in a clear and sound way and in the required unit of measurement. In the following sections for each indicator the parameters and units of measurements required by the Indicator Guidelines are specified, before the performance of the target countries in meeting those requirements is discussed.

A. Emissions of pollutants into the atmospheric air (A1)

This core indicator provides a measure of the pressure on environment in terms of total emissions of pollutants into the atmospheric air from stationary and mobile sources, which are regulated in the Protocols of the UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP).

1. Structure

To reach the optimal level of indicator A1 in terms of structure, the calculation of total emissions of pollutants should include data from stationary and mobile sources for the following air pollutants:

- (a) Sulphur dioxide (SO₂)
- (b) Nitrogen oxides (NO_x), shown as nitrogen dioxide (NO₂)
- (c) Non-methane volatile organic compounds (NMVOCs)
- (d) Ammonia (NH₃)
- (e) Carbon monoxide (CO)
- (f) Hydrocarbons (CH)

- (g) Persistent organic pollutants (POPs)
- (h) Heavy metals (mainly lead (Pb), cadmium (Cd), mercury (Hg), nickel (Ni) and arsenic (As))
- (i) Particulate matter (PM₁₀ and/or PM_{2.5} and/or total suspended particulates (TSP))

For the calculation of sub-indicators 1.1, 1.2, 1.3 and 1.4, the emissions of SO₂ and NO_x are to be provided per capita and per Gross Domestic Product (GDP).

Countries' achievements in this regard are summarized in Table 4. None of the countries produce and share all of the parameters above.

The following countries partially meet the requirements: Armenia shows data on the emissions of NH₃, Pb, As and TSP from mobile sources, but does not share data on CO₃, PM₁₀ and PM_{2.5}. Azerbaijan produces data on the emissions of SO₂, NO_x, NMVOCs, CO and CH separately for stationary and mobile sources; it does not share data on the emissions of NH₃ and TSP from mobile sources as well as on CO₃, heavy metals, PM₁₀ and PM_{2.5}.

Belarus presents data on the emissions of SO₂, NO_x, NMVOCs, CO, CH, Pb, Hg, Cd and TSP from mobile sources, but does not share data on CO₃, PM₁₀ and PM_{2.5}. Georgia does not share data on emissions on NH₃, CH, heavy metals, PM₁₀ and PM_{2.5}.

Kazakhstan does not publish data on the emissions of all pollutants from mobile sources and does not share data on CO₃, PM₁₀ and PM_{2.5}. Kyrgyzstan does not show data on the emissions of Pb and Hg from mobile sources and does not share data on CO₃, PM₁₀ and PM_{2.5}.

Montenegro does not show data on the emissions of SO₂ and NO_x per capita and per GDP and does not publish data on CO₃ and heavy metals. The Republic of Moldova does not share data on the emissions of SO₂ and NO_x per capita and per GDP; it publishes data on the emissions of NO_x, CO, CH separately from stationary and mobile sources while not showing data on the emissions of SO₂, Pb and TSP from mobile sources. Moreover, it does not share data on NMVOCs and heavy metals.

The Russian Federation does not share data on the emissions of CH from mobile sources and on CO₃, PM₁₀ and PM_{2.5}. Serbia does not show data on the emissions of SO₂ and NO_x per capita and per GDP. The former Yugoslav Republic of Macedonia does not present data on the emissions of SO₂ and NO_x per capita and per GDP and does not present data on the emissions of CH from mobile sources. Moreover, it does not share data on NH₃, CO₃, heavy metals, TSP, PM₁₀ and PM_{2.5}.

Ukraine does not share data on emissions of POPs.

Albania and Bosnia and Herzegovina did not provide data on this indicator.

2. Format

The pollutants are to be provided in tons, thousands of tons or kilograms of the respective pollutant. The area of a country should be expressed in km². And population is measured in millions of people.

All countries that present data fully meet those requirements.

3. Time series

The following countries present data for this indicator for 2013 and for at least four additional years: All countries share data, except Montenegro, which shows data only until 2010.

Table 4: Production of indicator A1 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		SO ₂	NO _x	NMVOCS	NH ₃	CO	CH	POPs	Heavy Metals	PM	
Albania	Structure	x	x	x	x	x	x	x	x	x	
	Format	-	-	-	-	-	-	-	-	-	
	Time series	-	-	-	-	-	-	-	-	-	
	Link	-									
Armenia	Structure	✓	✓	✓	✓ (only stationary)	✓	✓	x	✓ Pb and As (only stationary)	✓ (only particulates stationary)	
	Format	✓	✓	✓	✓	✓	✓	-	✓	✓	
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	-	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	www.armstatbank.am/									
Azerbaijan	Structure	✓	✓	✓	✓ (only stationary)	✓	✓	x	x	✓ (only particulates stationary)	
	Format	✓	✓	✓	✓	✓	✓	-	-	✓	
	Time series	1990, 1995, 2000-2014	1990, 1995, 2000-2014	1990, 1995, 2000-2014	1990, 1995, 2000-2014	1990, 1995, 2000-2014	1990, 1995, 2000-2014	1990, 1995, 2000-2014	-	-	1990-2013
	Link	www.stat.gov.az/source/environment									
Belarus	Structure	✓	✓	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	✓ (only stationary - methane)	x	✓ Pb, Hg, Cd (only stationary)	✓ (only particulates stationary)	
	Format	✓	✓	✓	✓	✓	✓	-	✓	✓	
	Time series	2005-2013	2005-2013	2005-2013	2005-2013	2005-2013	2005-2013	2005-2013	-	2005-2009	2005-2009
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2									
Bosnia and Herzegovina	Structure	x	x	x	x	x	x	x	x	x	
	Format	-	-	-	-	-	-	-	-	-	
	Time series	-	-	-	-	-	-	-	-	-	
	Link	-									
Georgia	Structure	✓	✓	✓	x	✓	✓ (PAH)	✓ (only PAN stationary)	x	✓ (only particulates)	
	Format	✓	✓	✓	-	✓	✓	✓	-	✓	

Country		SO ₂	NO _x	NMVOCS	NH ₃	CO	CH	POPs	Heavy Metals	PM	
Kazakhstan	Time series	2000-2013	2000-2013	2000-2013	-	2000-2013	2000-2012-	2000-2013	-	2000-2013	
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864									
	Structure	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	✓ (only stationary)	×	✓ (Pb, Hg, Cd, As stationary)	✓ (only particulates stationary)
	Format	✓	✓	✓	✓	✓	✓	✓	-	✓	✓
Kyrgyzstan	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	2000-2013	-	2000-2013	1990, 1995, 2000-2013	
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afLooP=166701345604401#%40%3F_afLooP%3D166701345604401%26_adf.ctrl-state%3Dt7jpgjf80_84									
	Structure	✓	✓	✓	✓	✓	✓	×	✓ (Pb, Hg, stationary)	✓ (only particulate)	
	Format	✓	✓	✓	✓	✓	✓	-	✓	✓	
Montenegro	Time series	1995, 2000-2013	1995, 2000-2013	1995, 2000-2013	2004-2013	1995, 2000-2013	1995, 2000-2013	-	2007-2011 for Pb; 2010-2012 for Hg	1995, 2000-2013	
	Link	http://nd.nature.gov.kg/									
	Structure	✓	✓	✓	✓	✓	✓ (methane)	×	×	✓ (PM ₁₀ and PM _{2.5})	
	Format	✓	✓	✓	✓	✓	✓	-	-	✓	
Republic of Moldova	Time series	1990, 2000, 2006-2010	1990, 2000, 2006-2010	1990, 2000, 2006-2010	1990, 2000, 2006-2010	1990, 2000, 2006-2010	1990, 2000, 2006-2010	-	-	1990, 2000, 2006-2010	
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf									
	Structure	✓ (only total stationary)	✓ (only total)	×	✓	✓	✓	✓ (only stationary)	✓ (Pb only stationary)	✓ (only particulates stationary)	
	Format	✓	✓	-	✓	✓	✓	✓	✓	✓	
Russian Federation	Time series	2001-2013	2001-2013	-	2001-2013	2001-2013	2001-2013	2001-2013	2002-2013	2001-2013	
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=GEO0301_en&ti=Emission+of+detrimental+substances+in+atmospheric+air+by+stationary+sources+by++ingredients%2C+2001%2D2013&path=../Database/EN/01%20GEO/GEO03/&lang=3									
	Structure	✓	✓	✓	✓	✓	✓ (only stationary)	×	✓	✓ (only particulates)	
	Format	✓	✓	✓	✓	✓	✓	-	✓	✓	
Serbia	Time series	2000-2013	2000-2013	2000-2013	2000-2013	2000-2013	1992-2013	-	2012-2013	2012-2013	
	Link	http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/environment/#					http://www.mnr.gov.ru/upload/iblock/6c7/gosdoklady_co.pdf		http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/environment/#		
	Structure	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Format	✓	✓	✓	✓	✓	✓	✓	✓	✓	
The former Yugoslav Republic of Macedonia	Time series	1990, 1995, 2000, 2005, 2010-2013,	1990, 1995, 2000, 2005, 2010-2013,	1990, 1995, 2000, 2005, 2010-2013	1990, 1995, 2000, 2005, 2010-2013	1990, 1995, 2000, 2005, 2010-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	
	Link	http://www.ceip.at/ms/ceip_home1/ceip_home/status_reporting/									
	Structure	✓	✓	✓	✓	✓	✓ (only stationary)	×	×	×	
	Format	✓	✓	✓	✓	✓	-	-	-	-	

Country		SO ₂	NO _x	NMVOCS	NH ₃	CO	CH	POPs	Heavy Metals	PM
	Time series	2004-2012	2004-2012	2004-2012	2004-2012	2004-2012	2004-2012	-	-	-
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en								
Ukraine	Structure	✓	✓	✓	✓	✓	✓	-	✓	✓
	Format	✓	✓	✓	✓	✓	✓	-	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013	2004-2013	1990, 1995, 2000-2013	1990, 1995, 2000-2013	2004-2013	-	1990, 1995, 2000-2013	Particulates: 1990, 1995, 2000-2013; PM: 2004-2013
	Link	http://ukrstat.gov.ua/operativ/operativ2015/sg/ekolog/rus/sr_r.zip								

B. Ambient air quality in urban areas (A2)

This core indicator provides a measure of the state of the environment and in terms of air quality and the impact of air pollution on the population in urban areas.

1. Structure

For the optimal production of indicator A2, concentrations of NO₂, SO₂, O₃ and PM₁₀ in urban areas are to be provided. As a minimal requirement, the average annual concentration for those parameters and/or number of days with exceeded daily limit value for them in the capital city should be provided.

Countries' achievements in this regard are summarized in Table 5. The following countries fully meet the requirements: Albania, Kazakhstan, Montenegro, Serbia and the former Yugoslav Republic of Macedonia.

The following countries partially meet the requirements: Armenia does not share the concentration of PM₁₀. Azerbaijan, Georgia, and Kyrgyzstan do not publish the concentration of O₃ and PM₁₀.

Belarus and the Republic of Moldova do not show the concentration of O₃.

The Russian Federation publishes data, which does not meet the requirements of the indicator. Bosnia and Herzegovina and Ukraine did not provide data on this indicator.

2. Format

For this indicator the following units of measurement are to be used: concentration of pollutants in micrograms (µg) per m³ of ambient air and/or number of days with exceeded daily limit value for the pollutant.

The following countries fully meet those requirements: Albania, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Serbia, the former Yugoslav Republic of Macedonia.

The Russian Federation, which provides data in multiples of exceeding maximum allowable concentrations rather than in concentration or in the number of days with exceeded daily limit values, does not meet the requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova (concentrations of NO₂, SO₂) and the former Yugoslav Republic of Macedonia.

Table 5: Production of indicator A2 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		NO ₂	SO ₂	O ₃	PM ₁₀
Albania	Structure	✓	✓	✓	✓
	Format	✓	✓	✓	✓
		(4 cities) 2013	(1 city) 2013	(4 cities) 2013	(4 cities) 2013
	Time series	(2010-2013 – график)		(2010-2013 – график)	(2010-2013 – график)
Link	http://www.akm.gov.al/cil%C3%ABsia-e-mjedisit.html				
Armenia	Structure	✓ (3 cities)	✓ (3 cities)	✓ (1 city)	✗
	Format	✓	✓	✓	-
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013	2004-2013	-
	Link	www.armstatbank.am/			
Azerbaijan	Structure	✓ (7 cities)	✓ (7 cities)	✗	✗
	Format	✓	✓	-	-
	Time series	2003-2013	2003-2013	-	-
	Link	www.stat.gov.az/source/environment			
Belarus	Structure	✓ (12 cities)	✓ (12 cities)	✗	✓ (8 cities)
	Format	✓	✓	-	✓ (only the number of days exceeding the daily average / maximum single concentrations)
	Time series	2005-2013	2005-2013	-	2010-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2			
Bosnia and Herzegovina	Structure	✗	✗	✗	✗
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			
Georgia	Structure	✓ (3 cities)	✓ (3 cities)	✗	✗
	Format	✓	✓	-	-
	Time series	1990, 1995, 2000-2012	1990, 1995, 2000-2012	-	-
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864			
Kazakhstan	Structure	✓ (1 city)	✓ (1 city)	✓ (5 cities)	✓ (1 city)
	Format	✓	✓	✓	✓

Country		NO ₂	SO ₂	O ₃	PM ₁₀
	Time series	2000-2013	2000-2013	1990, 1995, 2000-2014	2014
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3Dt7jggjf80_84			
Kyrgyzstan	Structure	✓ (1 city)	✓ (1 city)	✗	✗
	Format	✓ (1 city)	✓ (1 city)	-	-
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013	-	-
	Link	http://nd.nature.gov.kg/			
Montenegro	Structure	✓ (3 cities)	✓ (2 cities)	✓ (2 cities)	✓ (4 cities)
	Format	✓ (mean annual concentrations; only text and graph)	✓ (only text and graph)	✓ (only text and graph)	✓ (only text and graph)
	Time series	2009-2012	2009-2012	2009-2012	2009-2012
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf			
Republic of Moldova	Structure	✓ (1 city)	✓ (1 city)	✗	✓ (1 city)
	Format	✓	✓	-	✓
	Time series	1995, 2000-2014	1995, 2002-2008, 2010-2014	-	2014
	Link	http://date.gov.md/ckan/ro/dataset/11688-calitatea-aerului-atmosferic-in-localitatile-urbane/resource/80277b9e-5183-46d1-93c6-581fce9bca07			
Russian Federation	Structure	Not met	Not met	Not met	Not met
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			
Serbia	Structure	✓ (4 cities)	✓ (4 cities)	✓ (4 cities)	✓ (4 cities)
	Format	✓	✓	✓	✓
	Time series	2010-2012	2010-2012	2010-2012	2010-2012
	Link	http://www.ceip.at/ms/ceip_home1/ceip_home/status_reporting/			
The former Yugoslav Republic of Macedonia	Structure	✓ (8 cities)	✓ (8 cities)	✓ (8 cities)	✓ (8 cities)
	Format	✓ (average annual concentration)	✓ (number of days with exceeded daily limit)	✓ (number of days with exceeded daily limit)	✓ (average daily mean)
	Time series	2004-2013	2004-2013	2004-2013	2004-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en			
Ukraine	Structure	✗	✗	✗	✗
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			

C. Consumption of ozone-depleting substances (ODS) (A3)

This core indicator is a measure of environmental pressure through substances that deplete the ozone layer. In particular it shows the amount of ozone-depleting substances (ODS), consumed in a country. ODS are regulated by the Vienna Convention for the Protection of the Ozone Layer, its Montreal Protocol on Substances that Deplete the Ozone Layer as well as by Montreal Protocol Amendments enacted in London, Copenhagen, Beijing and Montreal. The total consumption of ODS is defined as the production of ODS plus imports minus exports of ODS.

1. Structure

For the optimal production of indicator A3, the total amount of ODS consumed in a country should be calculated, which comprises the total consumption of chlorofluorocarbons (CFCs), halons, carbon tetrachloride, 1,1,1-trichloroethane (methyl chloroform), hydrochlorofluorocarbons (HCFCs) and methyl bromide.

Countries' achievements in this regard are summarized in Table 6. The following countries fully meet the requirements: Armenia, Bosnia and Herzegovina, Georgia, Kazakhstan, Republic of Moldova, Serbia and the former Yugoslav Republic of Macedonia show the total amount of ODS consumed as well as the total amount of ODS broken down by different substances.

The following countries partially meet the requirements: Azerbaijan and Belarus show the total amount of ODS consumed, but do not specify the amount of ODS broken down by different substances.

Kyrgyzstan, Montenegro and the Russian Federation show the total amount of ODS consumed broken down by different substances, but do not publish the total amount of ODS consumed.

Armenia and Ukraine did not provide data on this indicator.

2. Format

For this indicator the following units of measurement are to be used: tons of ODS weighted by their ozone depleting potential (ODP).

All countries except Serbia fully meet those requirements. Serbia only partially meets the requirements as it does not share the numeric values of ODS consumed and only summarizes the information in the tables and the texts.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation and the former Yugoslav Republic of Macedonia.

Table 6: Production of indicator A3 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Total consumption of ODS	ODS broken down by different substances
Albania	Structure	x	x
	Format	-	-
	Time series	-	-
	Link	-	-
Armenia	Structure	✓	✓
	Format	✓	✓
	Time series	1995, 2000-2013	1995, 2000-2013
	Link	www.armstatbank.am/	
Azerbaijan	Structure	✓	x
	Format	✓	-
	Time series	2006-2013	-
	Link	http://www.stat.gov.az/source/environment/index.php	
Belarus	Structure	✓	x
	Format	✓	-
	Time series	2009-2013	-
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmevnaya-sistema-ekologicheskoi-informatsii2	
Bosnia and Herzegovina	Structure	✓	✓
	Format	✓	✓
	Time series	2003-2013	2003-2013
	Link	http://www.bhas.ba/tematskibilteni/OPS_2013_001_01_bh.pdf	
Georgia	Structure	✓	✓
	Format	✓	✓
	Time series	1995, 2000-2013	1995, 2000-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864	
Kazakhstan	Structure	✓	✓
	Format	✓	✓
	Time series	1990/ 2000-2013	1990/ 2000-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afLoop=166701345604401#%40%3F_afLoop%3D166701345604401%26_adf.ctrl-state%3D77jggf80_84	
Kyrgyzstan	Structure	x	✓
	Format	-	✓
	Time series	-	2005-2013
	Link	http://nd.nature.gov.kg/	
Montenegro	Structure	x	✓
	Format	-	✓
	Time series	-	1995, 2004-2012
	Link	http://epa.org.me/images/dokumenti/Izvestaj-final-engl.pdf	
Republic of Moldova	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://date.gov.md/ckan/ro/dataset/11693-consumul-de-substante-care-distruge-stratul-de-ozon	
Russian Federation	Structure	x	✓
	Format	-	✓
	Time series	-	2008-2013
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf	
Serbia	Structure	✓	✓
	Format	✓ (only graph)	✓ (only graph)
	Time series	1995-2012	1995-2012
	Link	http://indicator.sepa.gov.rs/pretraga/indikator/allfindu/d1aa305a895c4a36ad01f253b709f17e	
The former Yugoslav Republic of Macedonia	Structure	✓	✓
	Format	✓	✓
	Time series	1995-2013	1995-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en	
Ukraine	Structure	x	x
	Format	-	-
	Time series	-	-
	Link	-	

D. Greenhouse gas (GHG) emissions (B3)

This core indicator is a measure of anthropogenic emissions of greenhouse gases (GHGs) included in Annex A to the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC).

1. Structure

To reach the optimal level of the production of indicator B3, the following parameters should be included in the calculation of the total GHG emissions: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆), as well as emissions/removals by sources and sinks through land use, land use change and forestry (LULUCF).

For the production of the sub-indicators 4.1 and 4.2 the total GHG emissions should be expressed per capita and per GDP.

Countries' achievements in this regard are summarized in Table 7. The following countries fully meet the requirements: Azerbaijan, Belarus, Kazakhstan, the Russian Federation, the Republic of Moldova and Serbia.

The following countries partially meet the requirements: Armenia, Bosnia and Herzegovina, Georgia, Montenegro and the former Yugoslav Republic of Macedonia present GHG emissions without specifying LULUCF.

Kyrgyzstan presents data only on total GHG emissions and neither shows LULUCF nor emissions broken down by different gases.

Albania and Ukraine did not provide data on this indicator.

2. Format

The GHGs should be presented in tones of CO₂ equivalent or in millions of tons of CO₂ equivalent. Population is measured in millions of people. GDP should be presented in international dollars in purchasing power parity (PPP). Additionally, emissions per GDP should be expressed in tones of CO₂ equivalent per 1000 dollars.

The following countries fully meet those requirements: Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia, the former Yugoslav Republic of Macedonia.

The following countries partially meet the requirements: Belarus, showing emissions by types of GHG summarized in percentages and Montenegro, presenting the same indicator summarized in a diagram without quantitative values.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Azerbaijan, Bosnia and Herzegovina and Georgia.

Table 7: Production of indicator B3 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Total GHG emissions	LULUCF	GHGs broken down by different gases
Albania	Structure	x	x	x
	Format	-	-	-
	Time series	-	-	-
	Link	-	-	-
Armenia	Structure	✓	x	✓
	Format	✓	-	✓
	Time series	1990, 1995, 2000-2010	-	1990, 1995, 2000-2010
	Link	http://www.armstatbank.am/		
Azerbaijan	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2000-2013	2000-2013	2005, 2010-2013
	Link	http://www.stat.gov.az/source/environment/index.php n003en.xls		
Belarus	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2005-2012	2005-2012	(only %) 2008
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmevnaya-sistema-ekologicheskoi-informatsii2		
Bosnia and Herzegovina	Structure	✓ (only from landfills, wastewater and agriculture)	x	✓
	Format	✓	-	✓
	Time series	2008-2013	-	2008-2013
	Link	http://www.bhas.ba/tematskibilteni/OPS_2013_001_01_bh.pdf		
Georgia	Structure	✓	x	✓
	Format	✓	-	✓
	Time series	1990, 1995, 2000-2013	-	1990, 1995, 2000-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864		
Kazakhstan	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	1990, 1995, 2000-2012	1990, 1995, 2000-2012	1990, 1995, 2000-2012
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3D7jgjf80_84		
Kyrgyzstan	Structure	✓	x	x
	Format	✓	-	-
	Time series	2000-2005	-	-
	Link	http://nd.nature.gov.kg/		
Montenegro	Structure	✓	x	✓
	Format	✓	-	✓
	Time series	1990, 2000, 2005-2010	-	(only graph) 1990-1994, 1996-2010
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf		
Republic of Moldova	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	1990-2010	1990-2010	1990-2010

Country		Total GHG emissions	LULUCF	GHGs broken down by different gases
	Link	http://date.gov.md/ckan/ru/dataset/9952-date-cu-privire-la-emisiile-de-gaze-cu-efect-de-sera		
Russian Federation	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2008-2012	2008-2012	2000, 2005, 2010-2012
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf		http://www.gks.ru/bgd/regl/b14_54/Main.htm
Serbia	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	1990, 1998	1990, 1998	1990, 1998
	Link	http://indicator.sepa.gov.rs/pretraga/indikatori/allfindp/1bf6f054ac764d2a97ade52b6ec89f32		
The former Yugoslav Republic of Macedonia	Structure	✓	✗	✓
	Format	✓	-	✓
	Time series	1990-2012	-	1990-2012
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en		
Ukraine	Structure	✗	✗	✗
	Format	-	-	-
	Time series	-	-	-
	Link	-		

E. Renewable freshwater resources (C1)

This core indicator provides a measure of the state of renewable freshwater resources in a country, which are of major environmental and economic importance

1. Structure

To reach the optimal level of the production of this indicator, total renewable freshwater resources are to be provided, which are calculated as internal flow plus inflow of surface and groundwaters.

Countries' achievements in this regard are summarized in Table 8. The following countries fully meet those requirements: Azerbaijan, Georgia, Kazakhstan, Russian Federation and the Republic of Moldova.

The following countries did not provide data on this indicator: Albania, Armenia, Belarus, Bosnia and Herzegovina, Kyrgyzstan, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Ukraine.

2. Format

Total renewable freshwater resources should be expressed as million cubic metres per year.

The following countries fully meet those requirements: Azerbaijan, Georgia, Kazakhstan, the Republic of Moldova and Russian Federation.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Azerbaijan, Kazakhstan and Republic of Moldova.

Table 8: Production of indicator C1 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Total renewable freshwater resources
Albania	Structure	x
	Format	-
	Time series	-
	Link	
Armenia	Structure	x
	Format	-
	Time series	-
	Link	
Azerbaijan	Structure	✓
	Format	✓
	Time series	2000-2014
	Link	www.stat.gov.az/source/environment
Belarus	Structure	x
	Format	-
	Time series	-
	Link	
Bosnia and Herzegovina	Structure	x
	Format	-
	Time series	-
	Link	-
Georgia	Structure	✓
	Format	✓
	Time series	2001-2012
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864
Kazakhstan	Structure	✓
	Format	✓
	Time series	2006-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3D7jggjf80_84
Kyrgyzstan	Structure	x
	Format	-
	Time series	-
	Link	-
Montenegro	Structure	x
	Format	-
	Time series	-
	Link	-
Republic of Moldova	Structure	✓
	Format	✓
	Time series	1990, 1995, 2000-2013
	Link	http://date.gov.md/ckan/ru/dataset/13313-surse-regenerabile-de-ape-dulci
Russian Federation	Structure	✓
	Format	✓
	Time series	2010-2013
	Link	http://www.ecogodsoklad.ru/ecodata/grWater1_1_1t.aspx
Serbia	Structure	x
	Format	-
	Time series	-
	Link	-
The former Yugoslav Republic of Macedonia	Structure	x
	Format	-
	Time series	-
	Link	-
	Structure	x
	Format	-

Country		Total renewable freshwater resources
Ukraine	Time series	-
	Link	-

F. Freshwater abstraction (C2)

This core indicator provides, in relation to total resources available for abstraction, a measure of the pressure on the environment in terms of the abstraction of freshwater resources. It can reflect the extent of water resource scarcity and the distribution of abstracted water among different economic activities (according to the International Standard Industrial Classification of All Economic Activities (ISIC)).

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Fresh surface water abstracted
- (b) Fresh groundwater abstracted
- (c) Total freshwater abstraction (by water supply industry, households, agriculture forestry and fishing, manufacturing, electric industry, other economic activities)
- (d) Water Exploitation Index (WEI)

Countries' achievements in this regard are summarized in Table 9.

Georgia, Kazakhstan, the Russian Federation and the former Yugoslav Republic of Macedonia fully meet the requirements.

The following countries partially meet the requirements: Belarus shows data on all four data flows, but does not outline the distribution of abstracted water among different economic activities in total resources available for abstraction. The WEI calculated separately for fresh surface water and for fresh groundwater. Armenia, Azerbaijan, Bosnia and Herzegovina and Republic of Moldova do not calculate the WEI. Montenegro and Serbia do not calculate WEI and do not outline the distribution of abstracted water among different economic activities in total resources available for abstraction.

Albania, Kyrgyzstan and Ukraine did not provide data on this indicator.

2. Format

The total volume of freshwater abstraction (surface and groundwater) and the volume by economic activity should be measured in million cubic metres per year. The WEI should be expressed as a percentage.

All countries fully meet those requirements in terms of the volume of freshwater abstraction.

In terms of the value for the WEI, Belarus, Kazakhstan, the Russian Federation and the former Yugoslav Republic of Macedonia fully meet the requirements, while Georgia expresses the volume of WEI in absolute values rather than as a percentage.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia, Kazakhstan, Republic of Moldova and the former Yugoslav Republic of Macedonia.

Table 9: Production of indicator C2 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Fresh surface water abstracted	Fresh groundwater abstracted	Total freshwater abstraction	Water Exploitation Index (WEI)
Albania	Structure	×	×	×	×
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			
Armenia	Structure	✓	✓	✓	×
	Format	✓	✓	✓	-
	Time series	1990, 1993-2013	1990, 1993-2013	1990, 1993-2013 (by ISIC) 2011-2013	-
	Link	www.armstatbank.am/			
Azerbaijan	Structure	✓	✓	✓	×
	Format	✓	✓	✓	-
	Time series	2000-2013	2000-2013	2000-2013	-
	Link	www.stat.gov.az/source/environment			
Belarus	Structure	✓	✓	✓ (not by ISIC)	✓
	Format	✓	✓	✓	✓
	Time series	2005-2013	2005-2013	2005-2013	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmestnaya-sistema-ekologicheskoi-informatsii2			
Bosnia and Herzegovina	Structure	✓	✓	✓	×
	Format	✓	✓	✓	-
	Time series	2004-2013	2004-2013	2004-2013	-
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba			
Georgia	Structure	✓	✓	✓	✓
	Format	✓	✓	✓	✓ (without %)
	Time series	2001-2013	2001-2013	2001-2013	2001-2012
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864			
Kazakhstan	Structure	✓	✓	✓	✓
	Format	✓	✓	✓	✓-

Country		Fresh surface water abstracted	Fresh groundwater abstracted	Total freshwater abstraction	Water Exploitation Index (WEI)
	Time series	1995, 2000-2014	1995, 2000-2014	1995, 2000-2014	1995, 2000-2014
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3Dt7jggjf80_84			
Kyrgyzstan	Structure	×	×	×	×
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			
Montenegro	Structure	✓	✓	✓ (not by ISIC)	×
	Format	✓	✓	✓	-
	Time series	1999, 2002, 2005, 2008, 2011	1999, 2002, 2005, 2008, 2011	1999, 2002, 2005, 2008, 2011	-
	Link	http://www.monstat.org/userfiles/file/publikacije/godisnjak%202014/klima%20i%20zivotna%20sredina.pdf			
Republic of Moldova	Structure	✓	✓	✓	×
	Format	✓	✓	✓	-
	Time series	2001-2013	2001-2013	2001-2013	-
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=GEO0201_en&ti=The+main+indicators+of+water+use%2C+2001-2013&path=../Database/EN/01%20GEO/GEO02/&lang=3			
Russian Federation	Structure	✓	✓	✓	✓
	Format	✓	✓	✓	✓ (only text)
	Time series	2010-2013	2010-2013	2010-2013	2013
	Link	http://www.mnr.gov.ru/regulatory/detail.php?ID=138762			
Serbia	Structure	✓	✓	✓ (not by ISIC)	×
	Format	✓	✓	✓	-
	Time series	2011-2013	2011-2013	2011-2013	-
	Link	http://webzrs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptKey=indId%3d25010100IND01%2681%3d10%2c11%2c12%26102%3dRS%262%3d201100%2c201200%2c201300%26sAreaId%3d25010100%26dType%3dName%26lType%3dEnglish			
The former Yugoslav Republic of Macedonia	Structure	✓	✓	✓	✓
	Format	✓	✓	✓	✓
	Time series	1990, 1995, 1999-2013	1990, 1995, 1999-2013	1990, 1995, 1999-2013	1990, 1995, 1999-2013
	Link	http://www.moep.gov.mk/?page_id=746&lang=en			
Ukraine	Structure	×	×	×	×
	Format	-	-	-	-
	Time series	-	-	-	-
	Link	-			

G. Total water use (C3)

This core indicator is important for defining the pressure on the environment in terms of water abstraction from different sources (including freshwater abstracted, desalinated water, reused water and with regard to water losses).

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Total freshwater available
- (b) Losses of water during transport

- (c) Total freshwater use (by households, agriculture forestry and fishing, manufacturing, electric industry, other economic activities)

For the production of the sub-indicators 7.1 total freshwater use should be expressed by GDP. Countries' achievements in this regard are summarized in Table 10. The following countries fully meet the requirements: Azerbaijan, Bosnia and Herzegovina, Georgia and Kazakhstan.

The following countries partially meet the requirements:

Belarus, Republic of Moldova and the former Yugoslav Republic of Macedonia share data on all three data flows, but do not show freshwater use per GDP.

Belarus, Montenegro, Republic of Moldova and the former Yugoslav Republic of Macedonia do not publish freshwater use per GDP. At the same time, Montenegro does not show data on losses of water during transport and freshwater use by economic activities. Armenia does not share data on the total amount of available freshwater, and Serbia does not publish data on total freshwater use as well as on freshwater use by economic activities. Kyrgyzstan and the Russian Federation show data only on the volume of losses of water during transport.

Armenia and Ukraine did not provide data on this indicator.

2. Format

The total volume of water use and the volume by economic activity should be expressed in million cubic metres per year; total water use per unit of GDP should be expressed as cubic meters per in international dollars (PPP).

With regard to the volume of freshwater use and water losses all countries that share such information fully meet those requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Montenegro (only the data flow "total freshwater use"), Republic of Moldova and the former Yugoslav Republic of Macedonia.

Table 10: *Production of indicator C3 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia*

Country		Total freshwater available	Losses of water during transport	Total freshwater use (by economic activities)
Albania	Structure	x	x	x
	Format	-	-	-
	Time series	-	-	-
	Link	-	-	-

Country		Total freshwater available	Losses of water during transport	Total freshwater use (by economic activities)
Armenia	Structure	×	✓	✓
	Format	-	✓	✓
	Time series	-	2011-2013	2011-2013
	Link	www.armstatbank.am/		
Azerbaijan	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2000-2013	2000-2013	2000-2013
	Link	www.stat.gov.az/source/environment		
Belarus	Structure	✓	✓	✓ (not per GDP)
	Format	✓	✓	✓
	Time series	2005-2013	2005-2013	2010-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmeznaya-sistema-ekologicheskoi-informatsii2		
Bosnia and Herzegovina	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2000-2013	2000-2013	2005-2013
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba		
Georgia	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	2001-2013	2001-2013	2001-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864		
Kazakhstan	Structure	✓	✓	✓
	Format	✓	✓	✓
	Time series	1995, 2000-2014	1995, 2000-2013	1995, 2000-2014
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3D7jggf80_84		
Kyrgyzstan	Structure	×	✓	×
	Format	-	✓ (only text)	-
	Time series	-	2006-2010	-
	Link	http://nd.nature.gov.kg/		
Montenegro	Structure	✓	×	✓ (only total; not per GDP)
	Format	✓	-	✓
	Time series	2005, 2008, 2011	-	2009-2013
	Link	http://www.monstat.org/eng/page.php?id=1008&pageid=64		
Republic of Moldova	Structure	✓	✓	✓ (not per GDP)
	Format	✓	✓	✓
	Time series	2001-2013	2001-2013	2001-2013
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=GEO0201_en&ti=The+main+indicators+of+water+use%2C+2001-2013&path=../Database/EN/01%20GEO/GEO02/&lang=3		
Russian Federation	Structure	×	✓	×
	Format	-	✓	-
	Time series	-	2010-2013	-
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf		
Serbia	Structure	✓	✓	×
	Format	✓	✓	-
	Time series	2011-2013	2011-2013	-
	Link	http://webrzs.stat.gov.rs/WebSite/Public/ReportResultView.aspx?rptKey=indId%3d25010300IND01%26177%3d10%2c11%26102%3dRS%262%3d201100%2c201200%2c201300%26sAreaId%3d25010300%26dType%3dName%26lType%3dEnglish		
The former Yugoslav Republic of Macedonia	Structure	✓	✓	✓ (not per GDP)
	Format	✓	✓	✓
	Time series	1990, 1995, 1999-2013	1990, 1995, 1999-2013	1990, 1995, 1999-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en		
Ukraine	Structure	×	×	×
	Format	-	-	-
	Time series	-	-	-
	Link			

H. BOD₅ and concentration of ammonium in rivers (C10)

This core indicator provides a measure of the state of rivers in terms of biochemical oxygen demand (BOD) and ammonium (NH₄).

1. Structure

To reach the optimal level of production of indicator C10, river water samples from at least one river with a minimum of three sampling points (upstream and downstream) need to be taken and analysed for the concentrations of BOD and ammonium.

Countries' achievements in this regard are summarized in Table 11. The following countries fully meet the requirements: Armenia, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia and the former Yugoslav Republic of Macedonia.

The following countries partially meet the requirements: Azerbaijan, Belarus, Georgia publish only the average concentration of BOD₅ and NH₄ in the rivers, without showing concentration of these samples with a minimum of three sampling points. Bosnia and Herzegovina defines the concentration of BOD₅ and NH₄ only in one sampling point. Montenegro shows the average concentration of BOD₅ and NH₄ in the rivers summarized only in diagrams without being supported by any concrete numeric values. Albania shows only the volatility of BOD₅ and NH₄.

Ukraine did not provide data on this indicator.

2. Format

The annual average BOD after five days of incubation (BOD₅) should be expressed in mg of O₂/litre. The average annual ammonium concentration should be measured in mg/litre.

All countries which share data fully meet those requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova and the former Yugoslav Republic of Macedonia.

Table 11: *Production of indicator C10 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia*

Country		BOD ₅ concentration in rivers	Ammonium concentration in rivers
Albania	Structure	✓ (8 rivers, only volatility)	✓ (7 rivers, only volatility)

Country		<i>BOD₅ concentration in rivers</i>	<i>Ammonium concentration in rivers</i>
	Format	✓	✓
	Time series	2013	2013
	Link	http://www.akm.gov.al/cil%C3%ABsia-e-mjedisit.html	
Armenia	Structure	✓ (8 rivers)	✓ (8 rivers)
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://www.armstatbank.am/	
Azerbaijan	Structure	✓ (2 rivers; only average concentration)	✓ (2 rivers only; average concentration)
	Format	✓	✓
	Time series	2000-2013	2000-2013
	Link	www.stat.gov.az/source/environment	
Belarus	Structure	✓ (10 rivers; only average concentration)	✓ (10 rivers; only average concentration)
	Format	✓	✓
	Time series	2005-2013	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2	
Bosnia and Herzegovina	Structure	✓ (1 station)	✓ (1 station)
	Format	✓	✓
	Time series	2006-2012	2006-2012
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba	
Georgia	Structure	✓ (1 river)	✓ (1 river)
	Format	✓	✓
	Time series	1990, 1995, 2001-2012	1990, 1995, 2001-2012
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864	
Kazakhstan	Structure	✓ (1 river)	✓ (1 river)
	Format	✓	✓
	Time series	1990, 2000-2013	1990, 2000-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=166701345604401#%40%3F_afzLoop%3D166701345604401%26_adf.ctrl-state%3D7jggj80_84	
Kyrgyzstan	Structure	✓ (1 river)	✓ (1 river)
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://nd.nature.gov.kg/	
Montenegro	Structure	✓ (12 rivers)	✓ (12 rivers)
	Format	✓ (only graph)	✓ (only graph)
	Time series	2009-2012	2009-2012
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf	
Republic of Moldova	Structure	✓ (1 river)	✓ (1 river)
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2003, 2005-1013
	Link	http://date.gov.md/ru/node/13230	
Russian Federation	Structure	✓ (6 rivers)	✓ (6 rivers)
	Format	✓	✓
	Time series	2013	2013
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf	
Serbia	Structure	✓ (4 rivers)	✓ (4 rivers)
	Format	✓	✓
	Time series	2003 - 2012	2003 - 2012
	Link	http://indicator.sepa.gov.rs/pretraga/indikator/allfind/14e3c0ae18d44660982472556c1d3dc8	
The former Yugoslav Republic of Macedonia	Structure	✓ (3 rivers)	✓ (3 rivers)
	Format	✓	✓
	Time series	2000-2013	2000-2013
	Link	http://www.moep.gov.mk/?page_id=746&lang=en	

Country		<i>BOD₅ concentration in rivers</i>	<i>Ammonium concentration in rivers</i>
Ukraine	<i>Structure</i>	-	-
	<i>Format</i>	-	-
	<i>Time series</i>	-	-
	<i>Link</i>	-	-

I. Nutrients in freshwater (C11)

This indicator helps to assess the condition of water bodies by measuring nutrient concentrations in rivers, lakes, reservoirs, as well as in groundwater.

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Nitrates concentration in lakes, reservoirs
- (b) Total phosphorus concentration in lakes, reservoirs
- (c) Phosphates concentration in rivers
- (d) Nitrates concentration in rivers
- (e) Nitrates concentration in groundwater

Countries' achievements in this regard are summarized in Table 12. Armenia, Kazakhstan and the Republic of Moldova fully meet the requirements.

The following countries partially meet the requirements: Montenegro shows the measuring of all five data flows, however information was summarized in diagrams without being supported by any concrete numeric values. Serbia also shows the measuring of all five data flows without measuring the average concentrations, but only shows the limits of concentration. Albania and Azerbaijan define the total phosphorus concentration instead of phosphates concentration in the rivers. Belarus does not show data on nitrates concentration in rivers and in groundwater. Bosnia and Herzegovina shares the results of measuring nitrates in surface water summarized only in diagrams without being supported by the concrete numeric values. Instead of measuring total phosphorus concentration in lakes, the country shows phosphates concentration in them. Georgia and the former Yugoslav Republic of Macedonia do not publish data on nitrates in groundwater. The Russian Federation does not share the total phosphorus concentration in lakes and nitrates concentration in groundwater. Kyrgyzstan publishes data only on nitrates in lakes.

Ukraine did not provide data on this indicator.

2. Format

The concentrations of nitrates in fresh water samples (lakes, rivers, groundwater) should be measured in mg of NO₃/litre. Concentrations of total phosphorus in samples taken in lakes and concentrations of phosphates in samples taken in rivers should be measured in mg of P/litre.

All countries, that publish data on one of the data flows of this indicator, fully meet these requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia (except data flow “Nitrates concentration in groundwater”), Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova and the former Yugoslav Republic of Macedonia.

Table 12: Production of indicator C11 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Nitrates in lakes	Total phosphorus in lakes	Phosphates in rivers	Nitrates in rivers	Nitrates in groundwater
Albania	Structure	✓ (1 lake, only volatility)	✓ (1 lake, only volatility)	✗	✓ (8 rivers, only volatility)	✓
	Format	✓	✓	-	✓	✓
	Time series	2013	2013	-	2013	2009-2013
	Link	http://www.akm.gov.al/ci1%C3%ABsia-e-mjedisit.html				
Armenia	Structure	✓ (1 lake)	✓ (1 lake)	✓ (8 rivers)	✓ (8 rivers)	✓
	Format	✓	✓	✓	✓	✓
	Time series	2000, 2002, 2004-2013	2000, 2002, 2004-2013	2005, 2007-2013	1990, 1995, 2000-2013	2009-2012
	Link	http://www.armstatbank.am/				
Azerbaijan	Structure	✓ (6 lakes)	✓ (6 lakes)	✗	✓ (2 rivers)	✗
	Format	✓	✓	-	✓	-
	Time series	2005-2013	2005-2013	-	2005-2013	-
	Link	www.stat.gov.az/source/environment				
Belarus	Structure	✗	✓ (18 lakes)	✓ (10 rivers)	✓ (10 rivers)	✗
	Format	-	✓	✓	✓	-
	Time series	-	2005-2013	2005-2013	2005-2013	-
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2				
Bosnia and Herzegovina	Structure	✓ (1 lake; only graph)	✗	✓ (7 rivers; only graph)	✓ (7 rivers; only graph)	✓
	Format	✓	-	✓	✓	✓
	Time series	2002-2009	-	2000-2012	2000-2012	2005-2009, 2011
	Link	http://www.bhas.ba/tematskibilteni/OPS_2013_001_01_bh.pdf				http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba

Country		Nitrates in lakes	Total phosphorus in lakes	Phosphates in rivers	Nitrates in rivers	Nitrates in groundwater
Georgia	Structure	✓ (1 lake)	✓ (1 lake)	✓ (3 rivers)	✓ (3 rivers)	✗
	Format	✓	✓	✓	✓	-
	Time series	2005-2012	2005-2012	2000-2012	2000-2012	-
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864				
Kazakhstan	Structure	✓ (1 lake, 1 reservoir)	✓ (1 lake)	✓ (1 river)	✓ (1 river)	✓
	Format	✓	✓	✓	✓	✓
	Time series	1900, 2000, 2002-2004, 2006-2013	1900, 2000, 2002-2004, 2006-2013	1990, 2009-2014	1990, 2000-2014	1990, 2003-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afLoop=166701345604401#%40%3F_afLoop%3D166701345604401%26_adf.ctrl-state%3Dt7jpgif80_84				
Kyrgyzstan	Structure	✗	✗	✗	✓ (1 river)	✗
	Format	-	-	-	✓	-
	Time series	-	-	-	1990, 1995, 2000-2013	-
	Link	http://nd.nature.gov.kg/				
Montenegro	Structure	✓ (1 lake; only graph)	✓ (1 lake; only graph)	✓ (5 rivers; only graph)	✓ (5 rivers; only graph)	✓ (only graph)
	Format	✓	✓	✓	✓	✓
	Time series	2008-2013	2008-2013	2008-2013	2008-2013	2008-2013
	Link	http://www.epa.org.me/images/izvjestaji/Informacija-o-stanju-ziv.sredine-za-2013.pdf				
Republic of Moldova	Structure	✓ (1 reservoir)	✓ (1 reservoir)	✓ (1 river)	✓ (1 river)	✓
	Format	✓	✓	✓	✓	✓
	Time series	1990, 1995, 2000-2003, 2005-2013	1990, 1995, 2000-2003, 2005-2013	1990, 1995, 2000-2003, 2005-2013	1990, 1995, 2000-2003, 2005-2013	2000, 2002-2005, 2007, 2009-2014
	Link	http://date.gov.md/ro/dataset/resource/13232		http://date.gov.md/ru/node/13231		http://date.gov.md/can/ru/dataset/11684-date-privind-nutrientii-in-ape-dulci
Russian Federation	Structure	✓ (1 reservoir)	✗	✓ (6 rivers)	✓ (6 rivers)	✗
	Format	✓	-	✓	✓	-
	Time series	2013	-	2013	2013	-
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf2864				
Serbia	Structure	✓ (no averages, but frequency of certain limits of concentrations)	✓ (no averages, but frequency of certain limits of concentrations)	✓ (4 rivers)	✓ (4 rivers)	✓ (no averages, but frequency of certain limits of concentrations)
	Format	✓	✓	✓	✓	✓
	Time series	2005 - 2012	2005 - 2012	2003 - 2012-	2003 - 2012-	2005 - 2012
	Link	http://indicator.sepa.gov.rs/pretraga/indikatori/allfind/5f40a88aab454a8384067889a2916fbc				
The former Yugoslav Republic of Macedonia	Structure	✓ (2 lakes)	✓ (2 lakes)	✓ (3 rivers)	✓ (3 rivers)	✗
	Format	✓	✓	✓	✓	-
	Time series	2000-2013	2000-2013	2000-2013	2000-2013	-
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en				
Ukraine	Structure	✗	✗	✗	✗	✗
	Format	-	-	-	-	-
	Time series	-	-	-	-	-
	Link					

J. Protected areas (D1)

This core indicator is a response indicator, which shows the areas of land, water surfaces and adjacent air layer protected in compliance with the national legislation.

1. Structure

In order to reach the optimal level of production for indicator D1, data on the total protected areas in km² and as a percentage of the total country area are necessary. Additionally, the indicator can be further broken down by the categories of natural areas as classified by the International Union for Conservation of Nature (IUCN) and for the national categories of protected areas to demonstrate their respective extent and share in the total area of a country.

Countries' achievements in this regard are summarized in Table 13. The following countries fully meet the requirements: Bosnia and Herzegovina shows the indicator on protected areas for the national categories as well as for the IUCN categories. Armenia, Azerbaijan, Georgia and the former Yugoslav Republic of Macedonia publish the indicator on protected areas for IUCN categories.

Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova and the Russian Federation share the indicator on protected areas in national categories. The following countries partially meet the requirements: Montenegro shows only national parks in the indicator on protected areas.

Albania and Ukraine did not provide data on this indicator.

2. Format

The indicator is calculated as the total area of a country's protected areas in hectares (ha) or km². Total country areas should be provided in ha or km² and protected areas relative to the country's total area should be expressed as a percentage.

The following countries fully meet those requirements: Armenia, Azerbaijan, Belarus, Georgia, Bosnia and Herzegovina, Kazakhstan, Montenegro, Russian Federation, Serbia and the former Yugoslav Republic of Macedonia.

The following countries partially meet the requirements: Kyrgyzstan shows only the percentage of the protected areas in the total country's area and not absolute numbers.

Serbia shares protected areas for the IUCN categories, however data is summarized only in diagrams without being supported by concrete numeric values. The Republic of Moldova publishes data only on the total area of protected areas without the percentage of the protected areas in the total country's area.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia and the former Yugoslav Republic of Macedonia.

Table 13: Production of indicator D1 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Total protected areas by IUCN categories
Albania	Structure	×
	Format	-
	Time series	-
	Link	-
Armenia	Structure	✓ (categories IUCN)
	Format	✓
	Time series	1990, 1995/ 2000-2013
	Link	http://www.armstatbank.am
Azerbaijan	Structure	✓ (categories IUCN and national categories)
	Format	✓
	Time series	1990, 1995, 2000-2014
	Link	http://www.stat.gov.az/source/environment/indexen.php
Belarus	Structure	✓ (national categories)
	Format	✓
	Time series	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2
Bosnia and Herzegovina	Structure	✓ (IUCN and national categories)
	Format	✓
	Time series	1990, 1995, 2000-2013
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba
Georgia	Structure	✓ (categories IUCN)
	Format	✓
	Time series	1995, 2000-2012
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864
Kazakhstan	Structure	✓ (national categories)
	Format	✓
	Time series	1990, 1995, 2000-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=24139965516750#%40%3F_afzLoop%3D24139965516750%26_adf.ctrl-state%3D13pftjvxx_79
Kyrgyzstan	Structure	✓ (national categories)
	Format	✓ (only % of protected areas)
	Time series	2000-2013
	Link	http://nd.nature.gov.kg/
Montenegro	Structure	✓ (national parks)
	Format	✓
	Time series	2001, 2008-2012
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf
Republic of Moldova	Structure	✓ (national categories)
	Format	✓ (Only number and area of protected areas without %)
	Time series	2013
	Link	http://www.statistica.md/public/files/publicatii_electronice/Mediu/Resurse_naturale_2014.pdf
Russian Federation	Structure	✓ (national categories)
	Format	✓
	Time series	2010-2013
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf
Serbia	Structure	✓ (categories IUCN)
	Format	✓ (only text and diagram)
	Time series	1990 – 2013 (only total area, not IUCN categories)
	Link	http://indicator.sepa.gov.rs/pretraga/indikatori/allfindr/8718002a31534af1999fa1f777f1ac38
The former	Structure	✓ (categories IUCN)

Country		Total protected areas by IUCN categories
Yugoslav Republic of Macedonia	Format	✓
	Time series	1990, 1995, 2000-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en
Ukraine	Structure	✗
	Format	-
	Time series	-
	Link	-

K. Threatened and protected species (D4)

This core indicator provides a measure of the state of biodiversity in terms of the number of threatened species and the effectiveness of national responses, i.e. actions taken to conserve national and global biodiversity.

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Number of species protected (mammals, birds, fishes, reptiles, amphibians, invertebrates, vascular plants, mosses, lichens, fungi, algae)
- (b) Number of species threatened (mammals, birds, fishes, reptiles, amphibians, invertebrates, vascular plants, mosses, lichens, fungi, algae)

Countries' achievements in this regard are summarized in Table 14. Georgia, Kazakhstan, the Republic of Moldova and the former Yugoslav Republic of Macedonia fully meet the requirements.

The following countries partially meet the requirements: Belarus and Serbia consider the same species as protected as well as threatened. Bosnia and Herzegovina and Kyrgyzstan shares information only on the number of species threatened. Montenegro and the Russian Federation show data only on the number of species protected.

Albania, Armenia, Azerbaijan and Ukraine did not provide data on this indicator.

2. Format

The protected and threatened species should be expressed as numbers of species. The share of protected and threatened species in the total number of species should be expressed as a percentage.

The following countries fully meet those requirements: Georgia, Kazakhstan, Republic of Moldova, Russian Federation and Serbia.

The following countries partially meet the requirements: Belarus, Bosnia and Herzegovina, Kyrgyzstan and the former Yugoslav Republic of Macedonia do not show the percentage of number of species protected and threatened in the total number of species. The former Yugoslav Republic of Macedonia shows information on number of species protected and threatened summarized only in the text and in the diagrams.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Belarus, Georgia, Republic of Moldova and the former Yugoslav Republic of Macedonia.

Table 14: Production of indicator D4 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Number of species protected	Number of species threatened
Albania	Structure	×	×
	Format	-	-
	Time series	-	-
	Link	-	-
Armenia	Structure	×	×
	Format	-	-
	Time series	-	-
	Link	-	-
Azerbaijan	Structure	×	×
	Format	-	-
	Time series	-	-
	Link	-	-
Belarus	Structure	✓ (together the number of species protected and threatened)	✓ (together the number of species protected and threatened)
	Format	✓ (only numbers of species without %)	✓ (only numbers of species without %)
	Time series	2005-2013	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2	
Bosnia and Herzegovina	Structure	×	✓
	Format	-	✓ (only number of species)
	Time series	-	2013
	Link	http://www.bhas.ba/tematskibilteni/OPS_2013_001_01_bh.pdf	
Georgia	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864	
Kazakhstan	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2010	1990, 1995, 2000-2010
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afLoop=24139965516750#%40%3F_afLoop%3D24139965516750%26_adf.ctrl-state%3D13pftjvxx_79	
Kyrgyzstan	Structure	×	✓
	Format	-	✓ (only text and diagram)
	Time series	-	Not specified

Country		Number of species protected	Number of species threatened
	Link	http://nd.nature.gov.kg/	
Montenegro	Structure	✓	✗
	Format	✓ (only numbers of species without %)	-
	Time series	✗	-
	Link	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf	
Republic of Moldova	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://date.gov.md/ckan/ru/dataset/13331-speciile-aflata-pe-cale-de-disparitie-si-specii-protejate	
Russian Federation	Structure	✗	✓
	Format	-	✓
	Time series		2012, 2013
	Link	http://www.mnr.gov.ru/upload/iblock/6c7/gosdokladeco.pdf	
Serbia	Structure	✓ (together the number of species protected and threatened)	✓ (together the number of species protected and threatened)
	Format	✓	✓
	Time series	Not specified	Not specified
	Link	http://indicator.sepa.gov.rs/pretraga/indikatori/allfindp/ad15264786434a25952d78df7fd20f15	
The former Yugoslav Republic of Macedonia	Structure	✓ (only text and diagram)	✓ (only text and diagram)
	Format	(only numbers of species without %)	(only numbers of species without %)
	Time series	2003-2013	2003-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en	
Ukraine	Structure	-	-
	Format	-	-
	Time series	-	-
	Link	-	

L. Fertilizer consumption (F2)

The indicator makes it possible to assess the pressure on the environment arising through the use of fertilizers: the accumulation of nutrients in the soil, the resulting pollution of surface and groundwater and the movement of nutrients through trophic chains and other parts of the environment.

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Agricultural area
- (b) Total consumption of mineral fertilizers
- (c) Area treated with mineral fertilizers
- (d) Total consumption of organic fertilizers
- (e) Area treated with organic fertilizers

Countries' achievements in this regard are summarized in Table 15. The following countries fully meet the requirements: Armenia, Azerbaijan, Georgia, Kazakhstan, Republic of

Moldova (agricultural area of 50 ha and more treated with fertilizer) Russian Federation and Ukraine.

The following countries partially meet the requirements: Belarus and the former Yugoslav Republic of Macedonia do not show the total consumption of organic fertilizers.

Serbia does not publish information on the total consumption of mineral and organic fertilizers. Kyrgyzstan shows data only on agricultural area and total consumption of organic fertilizers in the country. Albania publishes only data on agricultural land and the total quantity of mineral and organic fertilizers. Montenegro shares data only on agricultural area and total consumption of mineral fertilizers on arable land rather than on agricultural areas.

Bosnia and Herzegovina did not provide data on this indicator.

2. Format

The total consumption of fertilizers should be expressed as thousands of tons. The consumption of fertilizers per unit of agricultural area should be expressed as kilogram per hectare or square kilometre. And the share of areas treated with fertilizers in the total agricultural area should be expressed as a percentage.

The following countries fully meet those requirements: Armenia, Azerbaijan, Georgia, Kazakhstan, Russian Federation and Ukraine (on all data flows presented) as well as Kyrgyzstan and Montenegro (on the indicators that were shared by these countries).

The following countries partially meet the requirements: Belarus, Republic of Moldova and the former Yugoslav Republic of Macedonia do not publish the percentage of areas treated with fertilizers in the total agricultural areas.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Republic of Moldova, Russian Federation and Ukraine.

Table 15: *Production of indicator F2 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia*

Country		Agricultural area	Total consumption of mineral fertilizers	Area treated with mineral fertilizers	Total consumption of organic fertilizers	Area treated with organic fertilizers
Albania	Structure	✓	✓	✗	✓	✗
	Format	✓	✓	-	✓	-
	Time series	2000, 2005, 2010-2012	2008-2012	-	2008-2012	-
	Link	http://www.akm.gov.al/cil%C3%ABsia-e-mjedisit.html				

Country		Agricultural area	Total consumption of mineral fertilizers	Area treated with mineral fertilizers	Total consumption of organic fertilizers	Area treated with organic fertilizers
Armenia	Structure	✓	✓	✓	✓	✓
	Format	✓	✓	✓	✓	✓
	Time series	2006-2013	2006-2013	2006-2013	2006-2013	2006-2013
	Link	http://www.armstatbank.am/				
Azerbaijan	Structure	✓	✓	✓	✓	✓
	Format	✓	✓	✓	✓	✓
	Time series	2007-2013	2007, 2009-2013	2009-2013	2007, 2009-2013	2009-2013
	Link	http://www.stat.gov.az/source/environment/indexen.php				
Belarus	Structure	✓	✓	✓	✗	✓
	Format	✓	✓	✓	-	✓
	Time series	2005-2013	2005-2013	2005-2013	-	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmešnaya-sistema-ekologičeskoi-informatsii2				
Bosnia and Herzegovina	Structure	✗	✗	✗	✗	✗
	Format	-	-	-	-	-
	Time series	-	-	-	-	-
	Link					
Georgia	Structure	✓	✓	✓	✓	✓
	Format	✓	✓	✓	✓	✓
	Time series	1990, 1995, 2000-2013	2006-2013	2006-2013	2006-2013	2006-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864				
Kazakhstan	Structure	✓	✓	✓	✓	✓
	Format	✓	✓	✓	✓	✓
	Time series	2000-2013	2000-2013	2000-2013	2000-2013	2000-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=24139965516750#%40%3F_afzLoop%3D24139965516750%26_adf.ctrl-state%3D13pfrtjvxx_79				
Kyrgyzstan	Structure	✓	✗	✗	✓	✗
	Format	✓	-	-	✓	-
	Time series	2006-2011	-	-	2006-2011	-
	Link	http://nd.nature.gov.kg/				
Montenegro	Structure	✓	✓ (for arable land)	✗	✗	✗
	Format	✓	✓	-	-	-
	Time series	2003-2012	2005-2011	-	-	-
	Link	http://www.monstat.org/eng/page.php?id=276&pageid=62	http://epa.org.me/images/dokumenti/Izvjestaj-final-engl.pdf			
Republic of Moldova	Structure	✓	✓ (with area agricultural lands 50 ha and over)	✓ (with area agricultural lands 50 ha and over)	✓ (with area agricultural lands 50 ha and over)	✓ (with area agricultural lands 50 ha and over)
	Format	✓	✓	✓ (without %)	✓	✓ (without %)
	Time series	2007-2014	2006-2013	2006-2013	2006-2013	2006-2013
	Link	http://www.statistica.md/pageview.php?l=ru&idc=315&id=2279				
Russian Federation	Structure	✓	✓	✓	✓	✓
	Format	✓	✓	✓	✓	✓
	Time series	1990-2014	1990-2014	1990-2014	1990-2014	1990-2014
	Link	http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/economy/#				
Serbia	Structure	✓	✗	✓	✗	✓
	Format	✓	-	✓	-	✓
	Time series	2012	-	2012	-	2012
	Link	http://pod2.stat.gov.rs/ObjavljenePublikacije/Popis2012/PP-knjiga1.pdf				
The former Yugoslav Republic of Macedonia	Structure	✓	✓	✓	✗	✓
	Format	✓	✓	✓ (without %)	-	✓
	Time series	2000-2012	2000-2012	2000-2012	-	2005-201
	Link	http://www.moep.gov.mk/?page_id=746&lang=en				
	Structure	✓	✓	✓	✓	✓

Ukraine	<i>Format</i>	✓	✓	✓	✓	✓
	<i>Time series</i>	1990, 1996, 2000-2014	1990, 1996, 2000-2014	1990, 1996, 2000-2014	1990, 1996, 2000-2014	1990, 1996, 2000-2014
	<i>Link</i>	http://ukrstat.gov.ua/operativ/operativ2015/sg/ekolog/rus/mo_dobr_r.zip				

M. Passenger transport demand (H1)

Passenger transport demand is a driving force indicator. It can be of major importance in regulating passenger transport demand and fostering specific modes of transport. Breaking down passenger transport demand by mode helps to assess the effectiveness of response measures.

1. Structure

To reach the optimal level of the production of this indicator, the following data flows should be produced:

- (a) Total passenger transport demand
- (b) Passenger transport demand broken down by different modes of transport (road, railway, inland waterways, maritime, domestic aviation, underground)

Countries' achievements in this regard are summarized in Table 16. The following countries fully meet the requirements: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Montenegro, Republic of Moldova, Russian Federation, the former Yugoslav Republic of Macedonia and Ukraine.

Bosnia and Herzegovina and Kyrgyzstan, that do not share data on passenger transport demand by mode, partially meet the requirements.

Albania and Serbia did not provide data on this indicator.

2. Format

The total passenger transport demand should be expressed as thousands of passenger-kilometres (pkm). The share of each mode in total transport demand should be expressed as a percentage.

All countries, which publish data on the indicator, fully meet those requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Georgia,

Kazakhstan, Republic of Moldova, the former Yugoslav Republic of Macedonia and the Russian Federation.

Table 16: Production of indicator H1 in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia

Country		Total passenger transport demand	Passenger transport demand broken down by different modes of transport
Albania	Structure	x	x
	Format	-	-
	Time series	-	-
	Link	-	-
Armenia	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://www.armstatbank.am/	
Azerbaijan	Structure	✓	✓
	Format	✓	✓
	Time series	2000-2013	2000-2013
	Link	http://www.stat.gov.az/source/environment/indexen.php	
Belarus	Structure	✓	✓
	Format	✓	✓
	Time series	2005-2013	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovместnaya-sistema-ekologicheskoi-informatsii2	
Bosnia and Herzegovina	Structure	✓	x
	Format	✓	-
	Time series	2009-2013	-
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba	
Georgia	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://moe.gov.ge/index.php?lang_id=ENG&sec_id=242&info_id=2864	
Kazakhstan	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=24139965516750#%40%3F_afzLoop%3D24139965516750%26_adf.ctrl-state%3D13pfrtjvxx_79	
Kyrgyzstan	Structure	✓	x
	Format	(Only text)	-
	Time series	2006-2010	-
	Link	http://nd.nature.gov.kg/	
Montenegro	Structure	✓	✓
	Format	✓	✓
	Time series	2000-2012	2000-2012
	Link	http://epa.org.me/images/dokumenti/Izvestaj-final-engl.pdf	
Republic of Moldova	Structure	✓	✓
	Format	✓	✓
	Time series	1995-2013	1995-2013
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=TRA0300_en&ti=Monthly+transport+goods+and+passengers%2C+means+of+transport%2C+2006-2015&path=../Database/EN/19%20TRA/TRA03/&lang=3	
Russian Federation	Structure	✓	✓
	Format	✓	✓
	Time series	2000-2013	2000-2013
	Link	www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/transport/#	
Serbia	Structure	x	x
	Format	-	-
	Time series	-	-
	Link	-	-
The former	Structure	✓	✓

Country		Total passenger transport demand	Passenger transport demand broken down by different modes of transport
Yugoslav Republic of Macedonia	Format	✓	✓
	Time series	1990, 1995, 2000-2013	1990, 1995, 2000-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en	
Ukraine	Structure	✓	✓
	Format	✓	✓
	Time series	1990, 1995, 2000-2014	1990, 1995, 2000-2014
	Link	http://ukrstat.gov.ua/operativ/operativ2015/sg/ekolog/rus/pt_r.zip	

N. Waste generation (I1)

The main purpose of this core indicator is to provide a measure of the pressure on the environment through the amount of generated waste. The waste intensity represents a driving force indicator and shows response to anthropogenic activities. Waste generated per unit of GDP will show whether there has been any decoupling of waste generation from economic growth of the country.

1. Structure

In order to reach the optimal production of indicator I1, the calculation should include the amount of waste generated per capita. This can be expressed as waste collected by municipalities and/or as total waste generated by source.

This analysis considers only one parameter of the indicator I1, in accordance with the requirements of the project on establishing a joint system of environmental indicators, in order to set up a regular process of reporting on those indicators.

For the calculation of sub-indicator 14.1 the annual generation of municipal waste are to be provided per capita.

Countries' achievements in this regard are summarized in Table 17. The following countries fully meet the requirements: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Ukraine.

The following countries partially meet the requirements: Kyrgyzstan shares data on total waste generated by households and does not show waste generation per capita.

The Republic of Moldova and Russian Federation publish data on the amount of solid waste, disposed from urban areas to landfill instead of showing waste collected by municipalities.

Georgia did not provide data on this indicator.

2. Format

The parameter is to be provided in thousands of metric tons of generated wastes. Population is measured in millions of people.

The following countries fully meet those requirements: Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Ukraine.

Republic of Moldova and Russian Federation, showing the amount of wastes disposed in millions of cubic meters instead of thousands (millions) tons, do not meet the requirements.

3. Time series

The following countries present the required data for this indicator for 2013 and for at least four additional years: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Kyrgyzstan, Republic of Moldova, Russian Federation and the former Yugoslav Republic of Macedonia.

Table 17: *Production of indicator II in countries of South-Eastern and Eastern Europe, Caucasus and Central Asia*

Country		Annual municipal waste generation
Albania	Structure	✓ (municipal waste)
	Format	✓
	Time series	2009-2013
	Link	http://www.akm.gov.al/cil%20C3%ABsia-e-mjedisit.html
Armenia	Structure	✓ (municipal waste)
	Format	✓
	Time series	2000-2013
	Link	http://www.armstatbank.am
Azerbaijan	Structure	✓ (wastes from households)
	Format	✓
	Time series	2010-2013
	Link	http://www.stat.gov.az/source/environment/indexen.php
Belarus	Structure	✓ (municipal solid waste)
	Format	✓
	Time series	2005-2013
	Link	http://belstat.gov.by/ofitsialnaya-statistika/otrasli-statistiki/okruzhayuschaya-sreda/sovmejnaya-sistema-ekologicheskoi-informatsii2
Bosnia and Herzegovina	Structure	✓
	Format	✓
	Time series	2009-2013
	Link	http://www.bhas.ba/index.php?option=com_content&view=article&id=226&Itemid=&lang=ba
Georgia	Structure	✗
	Format	-
	Time series	-
	Link	-
Kazakhstan	Structure	✓
	Format	✓
	Time series	2005-2012
	Link	http://stat.gov.kz/faces/homePage/ecolog?_afzLoop=24139965516750#%40%3F_afzLoop%3D24139965516750%26_adf.ctrl-state%3D13pftjvxx_79
Kyrgyzstan	Structure	✓ (only total wastes from households; not per capita)
	Format	✓
	Time series	2010-2013

Country		Annual municipal waste generation
Montenegro	Link	http://nd.nature.gov.kg/
	Structure	✓ (municipal waste)
	Format	✓
	Time series	2009-2012
	Link	http://www.monstat.org/eng/page.php?id=1011&pageid=64
Republic of Moldova	Structure	✓ (only solid waste removal)
	Format	✗
	Time series	2001-2013
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=GEO0403&tj=Deseuri+menajere+in+localitate+urbane%2C+2001-2013&path=../Database/RO/01%20GEO/GEO04/&lang=1
	Link	http://statbank.statistica.md/pxweb/Dialog/varval.asp?ma=GEO0403&tj=Deseuri+menajere+in+localitate+urbane%2C+2001-2013&path=../Database/RO/01%20GEO/GEO04/&lang=1
Russian Federation	Structure	✓ (only solid waste removal)
	Format	✗
	Time series	2007-2013
	Link	http://www.fedstat.ru/indicator/data.do?id=36702&referrerType=0&referrerId=1292870
	Link	http://www.fedstat.ru/indicator/data.do?id=36702&referrerType=0&referrerId=1292870
Serbia	Structure	✓ (municipal waste)
	Format	✓
	Time series	2006-2012
	Link	http://www.sepa.gov.rs/download/Izvestaj_2012.pdf
	Link	http://www.sepa.gov.rs/download/Izvestaj_2012.pdf
The former Yugoslav Republic of Macedonia	Structure	✓ (municipal waste)
	Format	✓
	Time series	2003-2013
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en
	Link	http://www.moepp.gov.mk/?page_id=746&lang=en
Ukraine	Structure	✓ (wastes from households)
	Format	✓
	Time series	2010-2013
	Link	http://ukrstat.gov.ua/operativ/operativ2015/sg/ekolog/rus/uv_r.zip
	Link	http://ukrstat.gov.ua/operativ/operativ2015/sg/ekolog/rus/uv_r.zip

IV. Conclusions and recommendations

This analysis reveals that the target countries are striving to share all indicators they produce while improving the content and user-friendliness of the websites where information on the indicators is shared. Almost all of the indicators produced by the 14 target countries that provided links for this analysis are available to the local public as well as to the international community. While many countries already publish background information on the applied methodology with their indicators, further efforts have to be invested into the publication of brief interpretations of the shared data flows and trends.

Moreover, the vast majority of the target countries produce indicators that are compliant with the international standards and formats that they agreed upon in the UNECE Joint Task Force on Environmental indicators. This assessment as of May 2015 finds progress in meeting the recommendations of the Joint Task Force in comparison with previous analyses in May 2014 and November 2014, which is highlighted in a case study of five target countries.

At the same time, in a number of cases it is noted that additional data flows have to be produced and shared and production methodology has to be further adjusted to fully implement all requirements of the Indicator Guidelines. This is in particular true with regard

to the ambitious goal of the target countries to produce and share a total of 13 data flows on different parameters under the air indicators.

The present paper, for the first time, reviews the production and sharing of six additional core indicators, *Renewable freshwater resources (C1)*, *Freshwater abstraction (C2)*, *Total water use (C3)*, *Threatened and protected species (D4)*, *Fertilizer consumption (F2)* and *Passenger transport demand (H1)*. The indicators were selected with the aim to have at least a total of 14 core indicators to be considered for regional assessment work in 2015 and 2016, including the preparation of the Sixth Global Environmental Outlook (GEO-6) publication of UNEP and the next Environment for Europe (EfE) Ministerial Conference in Batumi, Georgia in 2016. The analysis shows that the preparations in terms of producing and sharing this full set are well underway as five of the new core indicators are already produced and shared by the vast majority of the countries, while only the indicator C1 is not yet produced and shared by a number of countries.

It seems evident that given the progress of the countries in production and sharing highlighted in this report, including setting up of dedicated websites, there is optimism that the majority of target countries can ensure the establishment of national SEIS with a solid set of environmental indicators and data flows.
