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Way forward for the production and sharing of the indicators

Proposal for tailor-made recommendations to countries of South-Eastern and Eastern Europe, Caucasus and Central Asia for the production and sharing of Environmental Indicators

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I. Introduction

1. To support the review of the production and sharing of the eight ECE-core environmental indicators at the 8th session of Joint Task Force on Environmental Indicators, an analysis of national submissions by countries of South-Eastern and Eastern Europe, Caucasus and Central Asia (target countries) was prepared (ECE/CEP-CES/GE.1/2014/3).
2. In this analysis, the national submissions, being either links to the webpages of relevant agencies where indicators are published or excel tables filled with necessary data, were assessed. The analysis was made against what is considered an optimal level of production and online sharing in accordance with the revised Guidelines for the Application of Environmental Indicators in Eastern Europe, Caucasus and Central Asia (Indicator Guidelines).
3. The analysis shows gaps and areas in which further improvements are necessary vis-à-vis the considered optimal levels of the production and sharing of the indicators, which in turn can be translated into tailor-made recommendations for the target countries and help them to further improve their performance in these areas.
4. This document formulates the tailor-made recommendations for the target countries. For each of the 14 recommendations it specifies to which of the target countries they apply. In addition, these recommendations can be applicable by countries that missed to provide their submission (Tajikistan, Turkmenistan and Uzbekistan) and whose performance could not be reviewed, to provide them with tailor-made recommendations.
5. This document also may be useful to countries that do not share information on all produced indicators on websites (Georgia, as well as partly Armenia and Azerbaijan), so that tailor-made recommendations on sharing of environmental indicators cannot be formulated to a satisfying degree for those countries.
6. The document aims to support the discussion at the 8th session of the Joined Task Force to agree on the way forward and especially for the period between 8th and 9th sessions.

II. Recommendations on indicator production

A. Structure

Recommendation 1: All required core parameters (sub-indicators and underpinning datasets) for the eight core indicators should be produced

Applies to: *All target countries, as specified in table 1 below.*

Table 1

Overview on indicators that do not fully meet the requirements of structure specified in the Guidelines or were not submitted by target countries

Country	Core indicator							
	A1	A2	A3	B3	C10	C11	D1	I1
Armenia						x		
Azerbaijan	x					x		x

Country	Core indicator							
	A1	A2	A3	B3	C10	C11	D1	I1
Belarus	x			x		x	x	x
Bosnia and Herzegovina	x	x			x	x		
Georgia						x		x
Kazakhstan						x	x	
Kyrgyzstan						x	x	
Montenegro	x					x		
Republic of Moldova	x			x	x	x	x	x
Russian Federation		x	x			x	x	x
Serbia				x				
TfYR of Macedonia	x							
Ukraine	x	x	x	x	x	x	x	x

7. The performance varies between the target countries with regard to producing all the required sub-indicators underpinned by the necessary datasets. The Joint Task Force agreed on 14 sub-indicators underpinned by 11 datasets that should be used for the production of the eight core indicators, which were analyzed under the required structure of core indicators.

8. While many of the countries provided most core indicators in accordance with the required structure, others could not provide or calculate some of the required sub-indicators or datasets for a number of indicators (see table 1).

9. All countries should therefore continue to ensure that the required sub-indicators and underpinning datasets are produced, to facilitate the production of compatible indicators in a number of thematic areas throughout the ECE region. The attention is drawn in particular to the indicator “Nutrients in freshwater” (C11), for which the majority of countries could not provide the required structure. The problems with this indicator might not always be due to a lack of data, but could also be the result of a misinterpretation of the exercise (instead of data on concentrations of nutrients in lakes or reservoirs, data on concentrations in rivers or groundwater were presented).

Recommendation 2: Parameters (sub-indicators and underpinning datasets) not included in the core set but constituting integral part of the eight indicators should be increasingly produced

Applies to: *Countries that do not seem to face major difficulties with production of the indicators in line with the core structure, i.e. Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Russian Federation, Serbia, and TfYR of Macedonia.*

10. It is recommended to the countries that produce most of the core indicators to extend their production beyond the core agreed structure and increasingly introduce the sub-indicators and underpinning datasets constituting the integral part of the eight indicators as contained in the Indicator Guidelines (www.unecce.org/env/indicators.html).

11. It is reminded that for the analysis of the production of the core indicators, only some of the sub-indicators and datasets were chosen to the core set, while other datasets within the indicators were excluded. For example, for the indicator “Emissions of pollutants into the atmospheric air” (A1) only emissions of sulphur dioxide (SO₂) and nitrogen oxides (NO_x) are core datasets, while data on further parameters such as e.g. ammonia (NH₃) and carbon monoxide (CO), were not required. Therefore, countries that do not seem to face any major difficulties with production of the indicators in line with the core structure should aim to extend their production to all sub-indicators and datasets required under the eight indicators.

Recommendation 3: The structure of indicators should be adjusted following the latest revision of the Indicator Guidelines

Applies to: *All target countries.*

12. In view of the revision of the Indicator Guidelines related to the eight core indicators, all target countries should adjust their presentation of indicators and the underpinning datasets in accordance with the newly revised Indicator Guidelines available as from May 2014. These include, in particular, the requirements for indicators “BOD₅ and concentration of ammonium in rivers” (C10) and “Nutrients in freshwater” (C11) to provide maximum, minimum, mean, and standard deviation for samples from monitoring sites, as well as the sampling period and the number of samples taken.

B. Format

Recommendation 4: The current standards for the format of data specified in the Guidelines should be applied for all core indicators

Applies to: *Belarus, Montenegro, Republic of Moldova, Russian Federation, and Ukraine.*

13. The indicators and the underpinning datasets are predominately submitted in the format – unit of measurement – required by the Indicator Guidelines. For a few countries the analysis finds inconsistencies in these units. These countries need to eliminate these inconsistencies and introduce the recommend format, which is crucial in the context of enabling data and indicator comparability between countries.

C. Time series

Recommendation 5: Indicators as per the required structure should be produced for the last two years (2011-2012)

Applies to: *Armenia, Bosnia and Herzegovina, Kyrgyzstan, Montenegro, Republic of Moldova, Serbia, and TjYR of Macedonia.*

14. Many of the target countries presenting data provided them for a long time series, allowing to assess changes in performance over time.

15. Moreover, the analysis shows that while many countries were able to submit current datasets for 2011/2012 on a number of indicators, there are also a considerable number of cases in which no data for the years 2011 and particularly 2012 were provided. While the reasons for the lack of 2011/2012 data is unclear and should be explained, countries should take the effort to ensure the production of indicators for those years.

Recommendation 6: Data should be produced for all eight indicators for 2013

Applies to: *All target countries.*

16. All countries producing the indicators, if this is done based on the formally adopted procedures, should be able to make data for 2013 available not later than in the third quarter of 2014. While it is expected that all target countries produce the indicators based on the formally adopted procedures, they should be able to extend their time series with the data for 2013 latest in the third quarter of 2014.

III. Recommendations on online sharing

A. Online availability

Recommendation 7: All produced indicators should be published online on websites of national agencies

Applies to: *All target countries.*

17. The analysis found that a number of countries do not share all indicators they produce on national websites yet. Especially indicators A3 (Consumption of ozone-depleting substances) and B3 (Greenhouse gas emissions), for which data are published on websites of the relevant international conventions, in many cases, seem not to be published on national websites.

18. In an optimal case, for all target countries each of the eight core indicators should be available on the website of an agency, which is given the responsibility to produce the indicator and to manage the data or, in case the data is managed by a different agency, to provide data sources. Such approach corresponds to the first principle of the Shared Environmental Information System (SEIS) stating that data should be managed as close as possible to its source.

19. When countries have reporting obligations due to international treaties, the reported data will be published by the respective secretariats of conventions, which allows the sub-regional or global presentation of data in a coherent manner. However, data should also be published on the websites of the national agencies that produce them, for the reason of providing access to data and information to own citizens in the national language.

20. Furthermore it is recommended not only to publish data on project websites (e.g. for transboundary water bodies) as those websites of fixed-term projects might not be sustainable.

Recommendation 8: Indicators should be easily accessible from the main/home page of national agencies

Applies to: *Armenia, Bosnia and Herzegovina, Montenegro, Russian Federation, and TFR of Macedonia.*

21. The majority of webpages presenting indicators are easily accessible from the respective national agency's main/home webpages. For some countries, however, the indicators are hard to find, which might be the result of work-in-progress at the websites. To the countries which do not grant easy accessibility to their indicators yet, it is recommended to make the webpage with an indicator or set of indicators easily accessible from the main/home agency's webpage, through a menu bar or a dedicated icon. This is essential to allow easy access to environmental information, which is to be ensured by all

the target countries, being Parties to the ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention).

Recommendation 9: Indicators should be available on individual webpages or be structured by thematic area

Applies to: *Belarus, Bosnia and Herzegovina, Kyrgyzstan, Montenegro, and Russian Federation.*

22. The majority of the target countries publishes their indicators on individual webpages (one indicator per page) or structured by thematic area (e.g. water or air pollution), which are easy navigable and interlinked. This is considered as a good practice and should be preferred for the reason of length and clarity of the content of a single webpage.

Recommendation 10: Indicators should be available in an interactive file format that permits easy navigation between indicators and indicator content

Applies to: *All target countries.*

23. The vast majority of the online indicators are presented in PDF format, while at the same time some countries try to introduce other more interactive formats. It is recommended to work towards publishing indicators in an interactive file format that permits easy navigation between indicators and indicator content. Downloadable excel or archive formats might be inconvenient for users and might make it difficult to embed data in background information (see chapter 3.2 on content).

B. Content

Recommendation 11: Information on indicator structure and format, methodology, data validation as well as a brief interpretation, policy targets and trends should be provided on webpages presenting indicators

Applies to: *All target countries.*

24. In the analysis of the content of webpages on which indicators are presented it was found that some countries present basic background information on methodology as well as – in some cases – information on policy targets and a brief analysis of the data with their indicator, while others present data without providing any context to it. Particularly, information on procedures of data validation seems not to be covered in the complementary information provided by the countries.

25. The webpage with an indicator/set of indicators should be presented in a clear and brief but informative way, so that it can be understood by any potential user of the website, being public authorities or citizens. The webpage should therefore contain an explanation on what the indicator measures with information on data structure and format, as well as on methodology, data validation and a brief interpretation of the data, policy targets and trends. This may further include the use of visual elements of presentation such as maps, graphs, etc. However, the use of these features should be complementary to the presentation of numerical data, so that they are available for potential users for their own analysis (SEIS principle 5) and can be easily copied.

26. It is strongly advised to include a brief summary of all points raised above into the webpages and to support such information with links to further webpages with in-depth information (see recommendation 12).

Recommendation 12: Webpages containing the indicators should provide links to further reading

Applies to: *Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Serbia, TjYR of Macedonia, and Ukraine.*

27. To allow further access to more detailed background information supporting the information integrated in the webpages presenting the indicators, links with references to data sources and methodology, data validation, policy targets, international agreements and metadata should be included.

Recommendation 13: Webpages should clearly specify the time of the last update of the content

Applies to: *All target countries.*

28. It was found, that none of the relevant webpages on which indicators are shared stated when content was last updated.

29. A great advantage of the use of the internet for distributing environmental data is the timely manner in which up-to-date information can be shared. A note on the respective webpage stating the date when content was changed, indicates if the data is up-to-date. An example for a website that shows when content was changed is the database of UNEP Ozone Secretariat (http://ozone.unep.org/new_site/en/ozone_data_tools_access.php). If any data via the “Data Access Centre” is retrieved from the page, a simple note indicates when the database was last updated.

C. Languages

Recommendation 14: Indicator webpages and the main/home webpages of relevant agencies should be shared in the national language and at least a second language (English/Russian)

Applies to: *Belarus, Bosnia and Herzegovina, Kazakhstan, Kyrgyzstan, Montenegro, Russian Federation, Serbia, and TjYR of Macedonia.*

30. The analytical paper found that almost all countries present their indicators on webpages in the national language and a second language (Russian or English). However, it is pointed out, that the main/home webpages of some of the relevant agencies through which the indicators are accessed are not available in a second language, or the option to switch the language to e.g. English is not yet working.

31. Environmental information should be readily accessible to users at all levels, from local to the pan-European, to access the information and data related to the state of the environment in a timely fashion (see SEIS principle 4). To facilitate this, it should be ensured that indicators shared online are available in local languages to be useable by the local public and policy makers and in, at least, a second internationally used language so that it can be used by the international community and public of neighboring countries. This also applies to main/home webpages of the relevant agencies from which the information to indicators can be accessed. A possible interim solution for this can be the integration of an automatic translation engine for the website, as done so by the Serbian Agency for

Environmental Protection (www.sepa.gov.rs). However, it has to be considered that the quality of translations through an automatic engine might not always be satisfactory.

IV. The way forward

32. The above proposed recommendations based on an analysis of the production and sharing of environmental indicators are submitted for discussion by the members of the Joint Task Force on the basis of which the final list of recommendations, their validity for each of the target countries as well as implementation deadlines will be agreed.
