UNECE

# Overview of production, sharing and use of UNECE environmental indicators in Eastern Europe and the Caucasus, summarizing three assessments carried out in 2018

Report by the United Nations Economic Commission for Europe

in the context of the EU-funded project *Support production and regular update of the regional set of indicators and strengthening environmental statistics and accounting in the six Eastern Partnership countries under the ENI SEIS II East project*

Funded by:

European Environment Agency

## Summary

This document summarizes three assessments carried out in 2018, bringing together information from a desk study on the status of production, sharing and use of the United Nations Economic Commission for Europe (UNECE) environmental indicators in Eastern Europe and the Caucasus and a regional review of the establishment of the Shared Environmental Information System (SEIS). Reference is made also to a series of country factsheets providing a more detailed analysis of the status of SEIS.

The three input documents reveal many common or complimentary findings and conclusions and propose a series of recommendations, presented in this overview document.

**Note on sources**

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers and boundaries. The views expressed in this report may not represent the views of the United Nations or its Member States.

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

The authors of the various studies have primarily used information available online, in particular on the websites of national environmental and statistical authorities, as well as other materials provided by UNECE. In order to verify some of the observations and findings, communication was established with national focal points, many of whom have provided valuable feedback.

**Acknowledgements**

The United Nations Economic Commission for Europe (UNECE) secretariat would like to express its gratitude to the **European Environment Agency** (EEA) for providing financial support through the ENI SEIS II East project funded by the European Union (EU) through the European Neighbourhood Instrument (ENI), covering the Eastern Partnership region (or "EaP region", or Eastern Europe and the Caucasus). The UNECE secretariat would also like to express its gratitude to the **Russian Federation** for providing financial support to the process, including the production of country factsheets.

In addition, the UNECE secretariat expresses its thanks to the consultants who supported its work: Nickolai Denisov, Alexander Shekhovtsov, Lesya Nikolayeva and Ksenia Nechunaeva.

*April 2019*

## Background

In 2017–2019, UNECE provided support to the implementation of a European Union-funded project *Support production and regular update of the regional set of indicators and strengthening environmental statistics and accounting in the six Eastern Partnership countries under the ENI SEIS II East project*, in the framework of an agreement between UNECE and the European Environment Agency (EEA). A desk study under the project resulted in a report on *The current status of production, sharing and use of UNECE environmental indicators in the EU Eastern Partnership countries*.[1] The study was intended to have an impact on the production, management and use of environmental indicators and information by providing inspiration and an analytical basis for capacity building in the wider pan-European region. It was thus to contribute to the achievement of the objectives of the overarching ENI SEIS II East project ("Implementation of the Shared Environmental Information System principles and practices in the Eastern Partnership countries"):[2]

- To help strengthen capacities of national environmental authorities and statistical agencies of the Eastern Partnership countries to collect and produce the required data sets, with quality assurance and quality control standards comparable with those of the EU and EEA, as input to the production and use of the UNECE set of environmental indicators in accordance with the principles and practices of the Shared Environmental Information System (SEIS);
- Support the regular updating and production of high-quality comparable environmental indicators within the framework of SEIS and the UNECE set of environmental indicators, so that the countries are better able to respond to international reporting obligations including progress towards monitoring the Sustainable Development Goals (SDGs) and SEIS regular reporting;
- Improve capacities of the countries to prepare regular state-of-the-environment and thematic assessments using comparable indicators and methodologies in line with EU/EEA and UNECE best practice, and to further development the System of Environmental-Economic Accounting.

In addition, in 2018, a *Mid-term review report on the establishment of SEIS* (ECE/CEP/2019/7) was produced by the Working Group on Environmental Monitoring and Assessment, with the support of UNECE in cooperation with EEA and the United Nations Environment Programme (UNEP).[3] The review was based on an assessment framework developed by the Working Group (ECE/CEP/AC.10/2018/5), in close cooperation with UNECE, UNEP and EEA.

The mid-term review report built on countries' responses to the self-assessment questionnaire contained in the assessment framework, covering seven categories that are associated with data production and use of the ECE environmental indicators: relevance; accuracy; timeliness and punctuality; accessibility; clarity; comparability; and institutional and organizational arrangements. The review report addresses all three pillars of SEIS — common content, infrastructure and cooperation — and all seven SEIS principles (ECE/CEP/AC.10/2018/5, para. 36). Self-assessments were submitted by 34 of the 53 ECE member States in Europe and Central Asia. All member States with economies in transition submitted self-assessments.

The mid-term review report was limited to seven data flows, covering three of the UNECE environmental indicators: A2 on ambient air quality in urban areas, C10 on biochemical oxygen demand (BOD) and concentration of ammonium in rivers and D1 on protected areas.

Further, UNECE oversaw the production of a series of country factsheets presenting in detail the status of SEIS implementation in countries in Eastern Europe, the Caucasus and Central Asia. This

[1] To be made available at www.unece.org/environmental-policy/environmental-monitoring-and-assessment/areas-of-work/shared-environmental-information-system.html.

[2] See https://eni-seis.eionet.europa.eu/east.

[3] Available at www.unece.org/index.php?id=50063.

work was carried out in the framework of a project financed by the Russian Federation.[4] Reference is made to the factsheets for Armenia, Azerbaijan, Belarus, Georgia and the Republic of Moldova.

This document brings together the conclusions and recommendations from these three sources to provide an overview of production, sharing and use of UNECE environmental indicators in Eastern Europe and the Caucasus.

## Main findings and conclusions

The self-assessments of progress in establishing SEIS confirm that many countries in Europe and Central Asia have continued to harmonize relevant data flows and improve the quality of the selected environmental indicators and underpinning data flows since 2016. This demonstrates a positive trend since the Environment for Europe Ministerial Conference held in Batumi, Georgia, that year.

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

Nearly all countries highlighted limitations in comparing data flows across regions or between countries. Further efforts are therefore needed to harmonize data flows across the region, including in view of reporting obligations and for use in thematic assessments at different geographical levels, such as for transboundary ecosystems or river basins.

Further conclusions are provided below against each of the three pillars of SEIS (content, infrastructure and cooperation) and on further steps.

**Common content**

Countries across the region report that most of the seven data flows assessed for the mid-term review are being produced at the national level. In most cases, primary data from public authorities are accessible. Almost all countries report that procedures and guidelines for data quality management exist and that metadata is available for the seven data flows, thus ensuring greater clarity and quality of the information provided (see Box 1).

However, with plenty of good practices available within the countries of Eastern Europe and the Caucasus, there are still ways to improve the communication of indicators in the subregion[5] in terms of their content, the completeness of metainformation, the visual representation of trends and patterns and, especially, the assessment of indicators in the context of environmental policy.

Across Europe and Central Asia, the data flows are most often used to produce different types of content, such as reports and visual representations. This is a positive development, aside from the relatively low use of indicators in state-of-the-environment reporting (see Box 2).

In Eastern Europe and the Caucasus, the situation is generally better: environmental indicators are widely used for national state-of-the-environment assessment and reporting, in country reports under multilateral environmental agreements (MEAs) and for international assessments. All these channels help make the related information used, useful and policy-relevant, and further contribute to the improved accessibility and quality of indicators. As with policy frameworks, such use in turn

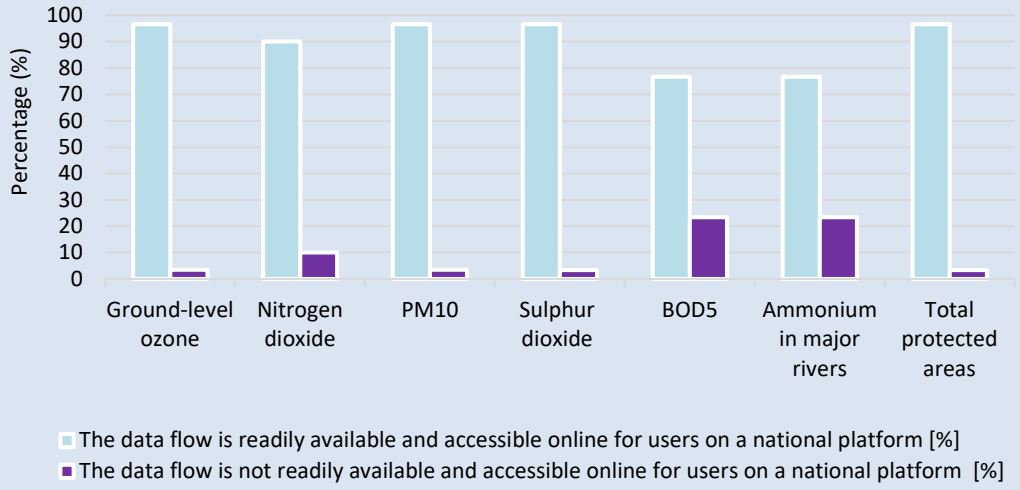
[4] Available at www.unece.org/environmental-policy/environmental-monitoring-and-assessment/areas-of-work/shared-environmental-information-system.html, under "Country factsheets".

[5] In this document, "subregion" refers to Eastern Europe and the Caucasus, or the "Eastern Partnership region" in EU terminology. It equates to Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova and Ukraine.

also helps define and stimulate demand for environmental indicators and guide further work for developing their common definitions and methodologies.

**Box 1**. Data accessibility.

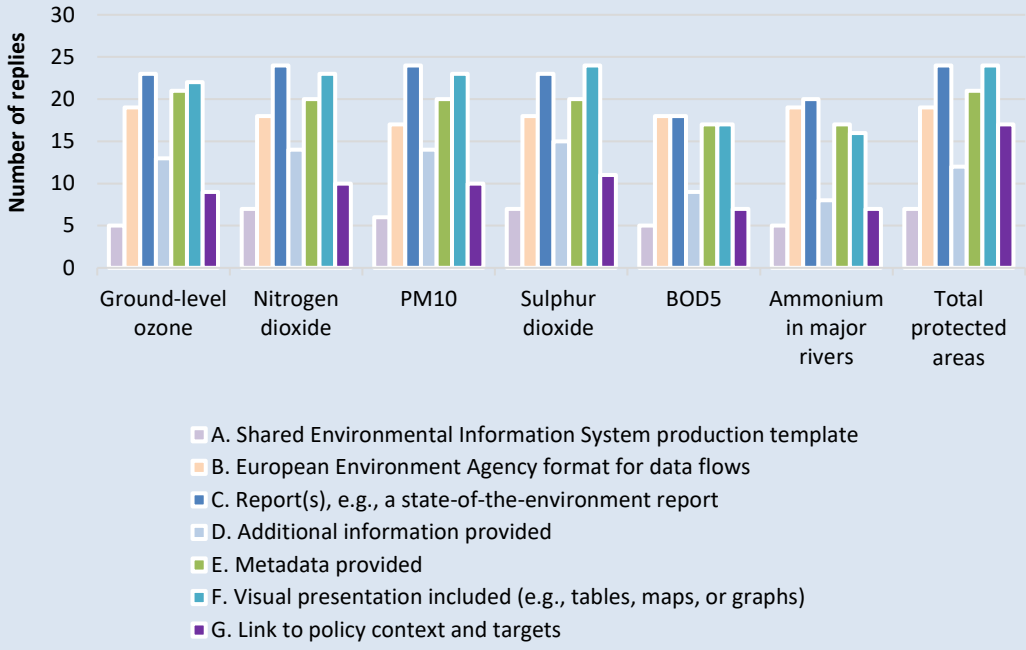
For the mid-term review, countries were invited to specify, for each data set, whether it was readily available and accessible online for users on a national platform. The results shown here indicate that the data flows were readily available and accessible online in 90 per cent of cases, though that proportion dropped to 77 per cent for water-related data flows.




*Source*: Mid-term review report on the establishment of SEIS (ECE/CEP/2019/7).

**Box 2**. Formats in which environmental information is being presented.

For the mid-term review, countries were also asked in which formats information derived from the data flows were presented. As can be seen here, the most popular formats were reports, such as state-of-the-environment reports (SOERs), and visual presentations. Note however the limited links made between the respective data flows and relevant policy contexts and/or targets.




*Source*: Mid-term review report on the establishment of SEIS (ECE/CEP/2019/7).

Though Armenia, Azerbaijan and Belarus have yet to produce indicator-based reports, Georgia has gained experience through preparing an indicator-based chapter on air in its state-of-the-environment report (SoER) and the Republic of Moldova has produced its first indicator-based report. Nonetheless, in the subregion, SoERs, statistical yearbooks (environment) and thematic reports provide sufficient environmental information and data. These reports still need to be complemented with analyses and assessments, include relevant material and case studies and be well illustrated. In Azerbaijan, Belarus and the Republic of Moldova, concrete recommendations are needed, while in Azerbaijan the reports should cover sectoral issues and in Belarus up-to-date information is needed. In Ukraine, the emphasis should be on data that support the report narrative rather than simple availability of data.

In the subregion, the produced reports are not always available on the website of the responsible ministry, or are difficult to find; in the case of Georgia, the website was under reconstruction, limiting user access to the information. In Azerbaijan and Georgia, some reports and information are available only in the national language, limiting access by international users.

In all countries in the subregion, reporting under the MEAs remains one of the main tasks. Some reports to MEAs are available on the respective convention websites. In Azerbaijan and Georgia, the quality of the reports should be improved, while in Belarus and the Republic of Moldova, awareness of assessments is not sufficiently high. The use of environmental indicators for different purposes, including reporting under the MEAs should be promoted and strengthened across the subregion.

**Infrastructure**

Nearly all of the seven data flows assessed for the mid-term review are readily available and accessible online for users on national platforms across the whole region. This suggests a positive development regarding the accessibility and availability of the data flows, in part, due to efforts to establish SEIS.

Most countries also reported that the seven data flows were readily available and accessible on integrated platforms. Some limitations have, however, been reported, notably for five-day biochemical oxygen demand (BOD5) and ammonium in major rivers and total protected areas. Inconsistencies have, moreover, been found in the self-assessments regarding the links provided for the respective data flows, as many are not operational or do not indicate a relevant source or platform.

Many countries in the region have also established internal procedures, such as regular data validation and revision for all the seven data flows. The prevalence of internal procedures for how to use and manage the data flows implies that the trustworthiness of the data infrastructure has increased.

The accessibility of environmental indicators in Eastern Europe and the Caucasus is growing, and they are increasingly being published in compliance with UNECE requirements on the websites of national environmental authorities, statistical agencies and open data portals. Ukraine, for example, publishes environmental indicators on the websites of its statistical agency and environment ministry. Common environmental indicator platforms are already established in Armenia, Azerbaijan and Belarus, while the Republic of Moldova integrates its environmental indicators in the national Open Data Portal. About 80% of the 23 key indicators from the UNECE set are now fully accessible online; the rest still require further work. Of the additional indicators from the UNECE set, which were not included in the 2015 review by UNECE, 17 are currently fully or partially accessible in these countries.

All countries in the subregion are making progress in making UNECE environmental indicators publicly available and accessible, though rates of progress differ. In Georgia, however, due to administrative reforms, many indicators were not available online. Azerbaijan lacks reference to

methodological standards used for producing the data sets for the indicators. Between 23 (Georgia) and 42 (Armenia and Azerbaijan) out of 49 UNECE environmental indicators (including 7 placeholders) were available in 2018.

Armenia, Azerbaijan, Belarus and the Republic of Moldova have each established a common national platform to facilitate accessibility to environmental information. Both Belarus and the Republic of Moldova are using environmental indicators as forecasts for environmental policy targets.

Armenia, Azerbaijan, Belarus and the Republic of Moldova could achieve the 2021 targets of having available the UNECE indicators and SEIS being established.

**Cooperation**

Across Europe and Central Asia, countries report having in place national legislation, plans, programmes or strategies related to the production of the indicators and legal or institutional arrangements for regular production and sharing of data between various institutions at the national level. Effective institutional and administrative capacities at the local, regional and national levels are crucial for the establishment of SEIS. There remains a need to improve institutional cooperation between fragmented data producers and users.

Armenia, Azerbaijan, Belarus and the Republic of Moldova have arrangements in place for interagency cooperation on information exchange. All the countries in Eastern Europe and the Caucasus participate actively in the UNECE indicator-related processes and the SEIS projects supported by EU and EEA, though the formal procedures under the ENI-SEIS East II project – in terms of signature of a letter of intent on political commitments to environmental information, or of having a national SEIS implementation team or national assistant in place – were at different stages.

**Gaps and next steps**

The gaps identified by the self-assessments used for the mid-term review of SEIS establishment indicate that some countries still need assistance to fully implement the pillars and principles of SEIS and for the full production and sharing of all data flows associated with the UNECE environmental indicators by 2021.

The responses to the questionnaire for the mid-term review not only indicate a continued demand for improved data sharing and use of available data for multiple purposes but also the need to streamline reporting and to harmonize it with the reporting under other indicator-based initiatives, such as the Organization for Economic Cooperation and Development (OECD) green growth indicators. Some UNECE environmental indicators have linkages to the OECD indicators. The establishment of SEIS and the production of relevant data flows that underpin the UNECE environmental indicators need to be harmonized and aligned with other monitoring and assessment processes at the regional and global levels, including in the context of the 2030 Agenda for Sustainable Development.

UNECE environmental indicators are well suited to contribute to monitoring and reporting under such international and national policy frameworks, and countries can be encouraged to accelerate the production of the respective indicators from the entire UNECE set. However, some policy-relevant UNECE environmental indicators are not fully developed methodologically in the context of the UNECE Joint Task Force on Environmental Statistics and Indicators, or are even outside the UNECE set. Such indicators need further elaboration and methodological support for their development and eventual use in policy monitoring.

All countries in Eastern Europe and the Caucasus are actively developing frameworks for monitoring and reporting the attainment of SDGs. Many are also looking at green growth opportunities and the OECD indicator framework to measure progress. National environmental policies too increasingly use quantified targets and indicators.

Georgia submitted a voluntary national review on the state of SDG implementation in 2016, followed by Azerbaijan in 2017. Armenia, Belarus and the Republic of Moldova have SDG indicators, with lists published on the websites of statistical offices in Armenia and Belarus. Ukraine published a national report in 2017 presenting preliminary results of monitoring SDGs. All countries in the subregion could use the UNECE environment indicators to monitor progress under SDGs.

Some UNECE environmental indicators have linkages to the OECD Green Growth indicators. Armenia, Azerbaijan, the Republic of Moldova and Ukraine have started the development of national green growth indicators. The Republic of Moldova has produced a national report based on the OECD set of Green Growth Indicators.

The countries in Eastern Europe and the Caucasus are well represented in the latest edition of the Global Environment Outlook (GEO-6). At the same time, the use of countries' indicators in this assessment shows that the region and the international community can benefit from increased support and capacity-building to further improve regional and cross-regional comparability and integration of environmental data from the subregion for the sake of global and international audiences.

The table below summarizes some of the specific gaps and experience in the countries in Eastern Europe and the Caucasus that were identified, with the possibility for the positive experiences to be shared directly between the six countries.

**Gaps to close and experience to share among the countries in Eastern Europe and the Caucasus**

| | ARM | AZE | BLR | GEO* | MDA | UKR |
|---|---|---|---|---|---|---|
| **UNECE environmental indicators online** | | | | | | |
| Online publication platforms | ● | ● | ● | ○ | ◉ | |
| Data content and definitions | ● | | ● | ◉ | | ○ |
| Metainformation | ◉ | ○ | ◉ | ○ | ◉ | ○ |
| Visualisation | ● | ○ | ● | ○ | ● | ○ |
| Assessment in the policy context | ○ | ○ | ● | ○ | ● | ○ |
| Accessibility and content of additional indicators | ● | | ● | | | ● |
| **UNECE and other indicators for policy and assessment** | | | | | | |
| Use for SDG monitoring and reporting | | | ● | ○ | ○ | ◉ |
| Use for assessing green growth | | | ● | ○ | | ○ |
| Use in national environmental policy frameworks | – | – | ● | – | ● | ◉ |
| Use for reporting to MEAs | ● | | ● | ● | | ● |
| Use in national state-of-the-environment reports | ○ | ○ | ◉ | ◉ | ◉ | ◉ |
| Integration for regional / international assessment | ◉ | | | | | |

● cutting-edge experience to share; ○ gaps to close; ◉ both cutting-edge experience and gaps; – not assessed

* At the time of the study, Georgia's indicators were partially off-line due to ongoing administrative reform.

## Recommendations

The three sources – the desk study on the status of production, sharing and use of the UNECE environmental indicators in Eastern Europe and the Caucasus, the regional review of the establishment of SEIS and the series of country factsheets on the status of SEIS – provide a large number of recommendations. These are summarized below:

**Indicator development**: The Joint Task Force should continue its systematic review and revision of the UNECE set of environmental indicators, with attention to those meeting monitoring and reporting needs of SDGs, green growth and other existing or emerging policy frameworks. The Joint Task Force might also identify other commonly-used environmental indicators, even if these are positioned outside of the UNECE core set, that could benefit from international methodological support through UNECE and other mechanisms. Countries should continue working together on the integration and harmonization of environmental data flows, in line with the SEIS principles and taking into account the System of Environmental-Economic Accounting.

Countries in Eastern Europe and the Caucasus should continue methodological work at the national level to ensure that all UNECE environmental indicators are produced, available and accessible by 2021. They should also increase the use of indicators for different purposes, including by assessing and promoting the use of UNECE environmental indicators to monitor the achievement of SDGs and green economy. Belarus, the Republic of Moldova and Ukraine should consider using the IUCN categories to present data on protected areas. More generally, the countries should aim for systematic regional-scale integration of thematic indicators, so as to match the regionally-integrated information already available for the EU or EEA area and thus to strengthen the basis for regional and global assessments.

**National level cooperation**: The implementation of SEIS depends upon good cooperation and interaction between national environmental information producers. Environmental authorities are encouraged to work closely with their corresponding national statistical agencies to integrate and share information. Joint consultations, training and other capacity-development activities, possibly with international support, should involve both indicator producers and the editorial teams of statistical, environmental and other relevant publications, so as to help them better understand and balance the supply and demand sides of environmental indicator production and use.

**Data production and national indicators**: The mid-term review of the establishment of SEIS concluded that countries across the subregion still need to improve regular data production and the sharing of environmental information online, in line with the SEIS principles and following the recommendations of the Working Group and the Joint Task Force. They need to address gaps in the establishment of SEIS covering relevant pillars, thematic categories and data flows. Countries might use the SEIS assessment framework for self-assessment on a continuous basis as a quality control and quality assurance tool for all UNECE environmental indicators.

Countries also need to better align data collection processes with national policy contexts and targets and improve the use of available data flows and related indicators in the production of environmental assessments and reports. International cross-country support and capacity-building should focus on common gaps, such as indicator definitions, the completeness and quality of metainformation, accessibility and indicator quality.

**National assessments**: Generally, countries across Eastern Europe and the Caucasus need to improve the use of environmental assessments and reports to measure progress against policy targets and objectives and improve policymaking. Capacity-development, both international and national, should focus on supporting the production of modern indicator-based, policy-relevant assessments based on analytical rather than descriptive use of indicators. Country experts should be trained in communication techniques to develop policy- and user-relevant assessment narratives,

with more visual explanations. The longer-term aim should be to build sustainable national pipelines for such information products.

Countries should prepare or, in the case of Georgia and the Republic of Moldova, continue to prepare indicator-based reports. The three countries in the Caucasus should strengthen communication and the role of the environmental assessments, especially SoERs, in policy development and decision-making. Azerbaijan, Belarus and the Republic of Moldova need to improve the recommendatory sections of their state-of-the-environment or thematic reports and Azerbaijan should, in addition, strengthen the sectoral parts. Belarus needs to finalize, adopt and circulate its 2015 SoER for it to be actually used in policy development and decision-making; it should also consider increasing the frequency of the report's release.

**National platforms**: International cross-country support and capacity-building should foster integrated multi-language national platforms, which countries should use to make available all produced reports, well presented to a broader public. Specifically, Armenia and Azerbaijan should each maintain a single national platform for environmental information, while Georgia should ensure that information and data are available in both national and English languages and that a single national platform is managed by the national statistical authority.

**Language**: The country factsheets suggest that Armenia, Belarus and the Republic of Moldova need to make sure all produced reports are available in national languages, while the Republic of Moldova might consider adding reports in English. Azerbaijan needs to ensure the availability of information and data in the national and English languages. Ukraine needs to make information available on the website of its environment ministry in English, as well as Ukrainian. Georgia needs to strengthen the capacity of ministries to ensure that all environmental information and data are available to website users.

**Multilateral environmental agreements**: At the international level, there is a need to strengthen interaction and, where appropriate, joint work on specific indicators of common interest with global and regional MEAs. Countries in the subregion then need to increase their use of those indicators when preparing reports under MEAs. At the national level, Azerbaijan, Georgia and the Republic of Moldova should improve the quality of reports under MEAs, including by adding visual parts. Azerbaijan and Georgia need to involve more experts, while the Republic of Moldova needs to improve the analytical part.

**International cooperation**: Partnerships should be maintained and strengthened between indicator-oriented processes, including United Nations Development Account funded capacity-building projects, OECD development of green growth indicators, UNEP capacity-building for assessment and reporting, UNECE indicator development work outside of the purely environmental domain (e.g., energy, transport, other sectoral indicators and general statistics) and EU-funded activities. In addition, UNECE, UNEP and EEA should continue their long-standing and effective cooperation in support of the establishment of SEIS in Europe and Central Asia and in the review of its progress. Finally, capacity-development activities should promote the role of pioneer countries within the subregion, having cutting-edge experience in specific domains, to provide leadership through peer-to-peer exchanges of experience, targeted East-East twinning and other appropriate ways to share experience.