UNECE

UN environment programme

Europe's Environment

The Seventh Pan-European Environmental Assessment: Summary for policymakers

Progress in establishing a Shared Environmental Information System: Key messages and recommendations

UNITED NATIONS

INTRODUCTION

We are faced with a triple planetary crisis of climate change, biodiversity loss and pollution and waste. A step change in our economies and behaviours is needed if we are to get on track for achieving the Sustainable Development Goals.

The seventh pan-European environmental assessment, an indicator-based assessment, supported by the Shared Environmental Information System, gives an insight into the progress achieved in environmental protection, but also highlights the numerous challenges that need to be tackled by the whole of society. The successes are far fewer than the setbacks and failures to make progress. The assessment therefore provides much food for thought for Ministers attending the Ninth Environment for Europe Ministerial Conference (Nicosia, 5–7 October 2022). The assessment shows that success is possible with the right instruments and the political will.

This brochure provides a summary of key issues and recommendations from the body of the assessment report. It also provides a summary of key findings and recommendations from the Shared Environmental Information System, which countries in the pan-European region established over the past decade in support of environmental assessment and reporting.

The overall goal of the Shared Environmental Information System is to improve the quality and facilitate the availability, accessibility and harmonization of environmental data. It aims to create an improved, decentralized information system, with the help of modern technology and for the simplification and streamlining of existing environmental information-gathering systems.

The reader is encouraged to turn to the full pan-European environmental assessment report – *Europe's Environment: The Seventh Pan-European Environmental Assessment* – and the final report on the establishment of the Shared Environmental Information System (ECE/NICOSIA.CONF/2022/8) to learn more.

Ministers, policymakers and ordinary citizens are invited to make use of the summary provided in this brochure and to act upon its recommendations speedily and holistically.

Note

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Europe's Environment: The Seventh Pan-European Environmental Assessment SUMMARY FOR POLICYMAKERS

A. Introduction

The secretariat of the United Nations Economic Commission for Europe (ECE) and the United Nations Environment Programme (UNEP) have prepared a limited indicator-based and thematic pan-European environmental assessment upon the request of the ECE Committee on Environmental Policy, as input to the Ninth Environment for Europe Ministerial Conference (Nicosia, 5–7 October 2022).[1]

The seventh pan-European environmental assessment reports that progress has been achieved in environmental protection in certain areas, but significant shortcomings remain and pose a threat to the health of both people and the environment in the pan-European region. The summary for policymakers highlights a series of key issues and recommendations from the body of the assessment report. The assessment covers the period until the end of 2021. The trends shown by arrows in tables 1–19 indicate the improvement (green, upwards arrow) or worsening (red, downwards arrow) of the situation, not an increase or decrease in an indicator value. The reader is encouraged to turn to the thematic assessments to learn more.

B. Key messages and recommendations

1. Atmospheric air and the ozone layer

Countries in the pan-European region are expanding policies to tackle air pollution. Some progress has been made, but increased effort is needed (see table 1). The health impact of long-time exposure to fine particulate matter (PM) with a diameter less than 2.5 µm ($PM_{2.5}$) in 41 European countries was reduced by 13 per cent in the period 2009–2018 and that of nitrogen oxides (NO_x) by 54 per cent. However, the number of premature deaths due to ground-level ozone exposure increased in that period by an estimated 24 per cent, possibly caused by higher mean temperatures. The phasing out of hydrochlorofluorocarbons present as coolant in refrigerators and air-conditioning systems remains incomplete, especially in countries with economies in transition.

Recommendations

Governments in the pan-European region should develop additional technical and organizational measures to achieve target 3.9 of the Sustainable Development Goals, especially for $PM_{2.5}$ and ground-level ozone. Key responses are the sharpening and application of best available techniques to prevent emissions of PM, NO_x and hydrocarbons by industry and emissions reduction from traffic (by implementing Euro-6 and Euro-7 measures). All countries should update ambient air quality standards to align them with World Health Organization (WHO) guidelines. Governments should contribute to the adequate replenishment of the Multilateral Fund for the Implementation of the Montreal Protocol in order to accelerate the phasing out of hydrochlorofluorocarbons globally.

1 Throughout the assessment, where feasible and relevant, the following subregions are referred to: (i) European Union, comprising 27 member States; (ii) Western Europe, comprising Andorra, Iceland, Israel, Liechtenstein, Monaco, Norway, San Marino, Switzerland and the United Kingdom of Great Britain and Northern Ireland; (iii) Central Asia, comprising Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan; (iv) Eastern Europe, comprising Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova, the Russian Federation and Ukraine; and (v) South-Eastern Europe, comprising Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, Serbia and Türkiye. The assessment does not include Canada and the United States of America.

Table 1 Status and trends for selected indicators for air quality and the ozone layer

Indicator	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
Ambient $PM_{2.5}$ ($\mu g/m^3$ in 2016)	☹ (13)	☹ (11)	☹ (25)	☹ (12)	☹ (35)	☹ (16)
Emissions of SO_x, NO_x and $PM_{2.5}$ (2015–2019)	↗↗↗	↗↗↗	→↘→	↗↗↘	↘↗↘	↗↗→
Consumption of HCFCs, ODP g per capita (2010–2019)	☺	☺	😐 ↗	😐 ↗	😐 ↗	😐 ↗

Sources: For ambient $PM_{2.5}$ ($\mu g/m^3$ in 2016), WHO, Global Health Observatory, "SDG Indicator 11.6.2 Concentration of fine particulate matter (PM2.5)". Available at www.who.int/data/gho/data/indicators/indicator-details/GHO/concentrations-of-fine-particulate-matter-(pm2-5) (accessed on 7 May 2021); for emissions of SO_x, NO_x and $PM_{2.5}$ (2015–2019), Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), Centre on Emission Inventories and Projections (CEIP), "Officially reported emissions data", available at https://www.ceip.at/data-viewer-1 (accessed on 10 February 2022).

Notes: Trend is ↗ improving (emissions falling), → stable or ↘ worsening; status of $PM_{2.5}$ concentration is ☹ (exceeds the 2005 WHO air quality guideline of 10 $\mu g/m^3$ and the subsequent (2021) stricter limit of 5 $\mu g/m^3$); status of consumption of hydrochlorofluorocarbons is ☺ (phased out) or 😐 (below but close to target). European Union net consumption of hydrochlorofluorocarbons has been below zero since 2010; Western Europe except Israel has had zero consumption since 2015; Azerbaijan and Belarus achieved zero consumption in 2019 and Kyrgyzstan did so in 2020. Regarding ambient $PM_{2.5}$ ($\mu g/m^3$ in 2016), regional values are population weighted. No data for Liechtenstein. Corresponds to Sustainable Development Goal indicator 11.6.2.

Abbreviations: HCFCs, hydrochlorofluorocarbons; ODP, ozone-depleting potential.

2. Greenhouse gas emissions

All countries in the pan-European region have committed to reducing greenhouse gas (GHG) emissions, but net emissions in the region are still rising. Efforts and achievements are unevenly distributed throughout the region. Reductions, which are mostly achieved in the western part of Europe (2014–2019), are offset by the increase in emissions in the rest of the region (see table 2). National commitments under the Paris Agreement were renewed by 35 countries in the region with more ambitious targets. However, some countries still do not have firm, quantifiable commitments or mechanisms to follow the progress towards them, resulting in significant data gaps.

Recommendations

Governments in the pan-European region should enhance their commitments in nationally determined contributions under the Paris Agreement, commit to economy-wide absolute emission reduction targets and regularly report on their progress towards implementation and achievement of their targets. They should also establish the conditions for medium- and long-term sustainable mobilization of funds for climate action, by both accelerating the use of available regional and global funds and mechanisms and creating national financial instruments.

Table 2 Status and trends for selected indicator on greenhouse gas emissions

Indicator	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
GHG emissions (2014–2019) (percentage change)	↗ (-4.3)	↗ (-10.8)	–	↘ (+2)	↘ (+10.2)	↗ (-1.2)

Source: United Nations, Department of Economic and Social Affairs, Statistics, "Global SDG Indicators Data Platform", SDG Indicators Database. Available at https://unstats.un.org/sdgs/unsdg (accessed on 2 February 2022).

Note: Trend is ↗ improving (emissions falling) or ↘ worsening. Insufficient data for Central Asia, where emissions are rising.

3. Decarbonization

Decarbonization is becoming a strong narrative across the pan-European region, but action is lagging behind. The use of renewables was increased in 29 countries in the pan-European region in the period 2013–2017, but the region still largely relies on fossil fuels – some 78 per cent on average of the total final energy consumption comes from fossil fuels (see table 3). The penetration of renewables in the energy mix is rising more slowly than the increase in the total final energy consumption in the region.

Recommendations

Governments in the pan-European region should eliminate or reform harmful subsidies and incentives and develop effective positive incentives to deepen decarbonization, by shifting promotion of investments towards renewable energy.

Table 3 Status and trends for selected indicator on renewable energy share

Indicator	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
Renewable energy share in total energy consumption (2014–2018) (latest rate, percentage)	→ (18)	↗ (18)	↗ (4)	→ (4)	→ (14)	→ (13)

Source: 2019 Energy Balances (United Nations publication, Sales No. E.22.XVII.5).

Note: Trend is ↗ improving or → stable.

4. Fresh water quantity and quality

Water quantity has an asymmetric space and time distribution in the pan-European region and climate change is delivering additional challenges with impacts on human health through various water-related phenomena such as floods, droughts, waterborne diseases and biodiversity changes in aquatic ecosystems. Anthropogenic pressures, including through hydromorphological alterations and barriers, amplify water asymmetry by constraining fresh water quality (see tables 4 and 5) and aquatic biodiversity, as well as directly impacting resources through withdrawal. River basins, lakes and aquifers are subject to multiple stressors. Diffuse pollution and urban and industrial wastewater discharges remain significant in many locations and persistent organic contaminants are of greater public health concern. Science is advancing to provide solutions and foster new processes and technologies to face these negative impacts.

Recommendations

Whenever fresh waters and aquatic ecosystems are at risk, the best available technology should be applied to ameliorate the situation. Some examples of high readiness solutions include water conservation measures and conventional mitigation approaches, plus measures for resource protection and more efficient water use, such as digitization and precision agriculture, nature-based solutions (NbS) for water retention basins or in riparian zone restoration, and the use of new methods for environmental flow regimes. The potential of non-conventional water sources should be explored. Table 4 indicates the extent of good ambient water quality in bodies across the region.

Table 4 Status and trends for selected indicator on ambient water quality

	Bodies of water with good ambient water quality, for countries with data available (national value ranges by subregion) Percentage					
Year	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
2017	34–100	80–100	-	96	6–94	6–100
2020	41–99	61–100	64	89–96	31–88	31–100

Source: United Nations, "Global SDG Indicators Data Platform" (accessed on 8 February 2022).

Note: Based on the available information, with no data produced for several countries in 2017 and 2020 and different countries having data in each year. Insufficient data for Central Asia in 2017.

Table 5 Status and trends for selected indicators for safely managed drinking water or sanitation services

	Proportion of population using safely managed drinking water or sanitation services Percentage					
Indicator	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
Drinking water, 2016–2020 (latest rate, percentage)	↗ (97.8)	→ (99.3)	↗ (69.6)	↗ (79.9)	↘ (78)	↗ (90.4)
Sanitation, 2016–2020 (latest rate, percentage)	↗ (90.5)	↗ (95.9)		↗ (61.5)	↗ (70)	↗ (81.4)

Source: United Nations, "Global SDG Indicators Data Platform" (accessed on 10 February 2022).

Note: Trend is ↗ improving, → stable or ↘ worsening. No data for some countries. Insufficient sanitation data for Central Asia.

5. Fresh water – financing

Financing of water-related projects under the international climate agenda has been limited and setting up bankable projects is difficult. Financing models are highly susceptible to technical and governance insufficiencies and have been restrained by local and regional crises during the past decade.

Recommendations

Economic sustainability in water resources management should be pursued and innovative financing mechanisms are still required. Natural and human-made infrastructure development may use several financing tools (e.g. fair water pricing, ecological payments, cost recovery and incentives) but a clear legal framework is vital for success.

6. Integrated water resources management and transboundary water cooperation

Increasing challenges to water resources management indicate that fragmented governance practices are unlikely to succeed in the long term. Granular information is important for better knowledge and involving public and private actors is becoming fundamental to successful water policy and good decision-making. Transboundary management of shared rivers, lakes and aquifers remains a challenge (see table 6). The problem is acute when upstream water abstraction or retention is significant and downstream countries lack alternative water sources. Despite some good examples, cooperation and participatory processes for water protection, allocation and other practical achievements are not implemented as deeply as they could be in the pan-European region.

Recommendations

Integrated water resources management should be pursued, involving a balance between human water needs and water's availability for nature. Water policy should enhance its interdisciplinarity and transdisciplinary character to maximize societal impact. Therefore, the water–food–energy–ecosystems nexus should strengthen an anticipatory policy approach to combining short-term projects with a long-term vision for the pan-European region. Water resources management is more efficient at the basin level and good governance is required to bring success to technology and financing. This integrated approach is even more critical in international rivers, lakes or aquifers where floods or droughts are likely to occur. Co-management should be pursued towards environmental protection and benefit-sharing within an efficient and resilient transboundary cooperation framework in the subregions, as envisaged by the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention).

Table 6 Status and trends for selected indicator on transboundary basin area with an operational arrangement

	Transboundary basin area with an operational arrangement, 2020 Percentage					
	European Union	Western Europe	Central Asia	Eastern Europe	South-Eastern Europe	Pan-European region
For rivers and lakes	89	84	91	55	80	83
For aquifers	90	59	..	73	51	43

Source: United Nations, "Global SDG Indicators Data Platform" (accessed on 1 February 2022).

Note: Based on the available information, with no data produced for several countries. No reported arrangements for aquifers in Central Asia.

7. Biodiversity and ecosystems