Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution

Report of the Executive Director
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I. Introduction
At a time of increasing inequality, with a cost-of-living crisis bearing down on the poorest and most vulnerable, with conflict and insecurity, and with the Sustainable Development Goals seeing a backwards slide, tackling the environmental crises of climate change, nature and biodiversity loss, including desertification and pollution and waste, might appear, of course, to be a lesser priority than the immediacy of hunger, discrimination, disease and conflict. But as Prime Minister Indira Gandhi said in her speech at the United Nations Conference on the Human Environment in Stockholm in 1972, “Are not poverty and need the greatest polluters?”

The urgency of addressing the three planetary environmental crises through this social lens report. From Stockholm in 1972 to Rio in 1992, and from Rio+20 in 2012 to the Sustainable Development Goals in 2015: A sustainable and just environment is necessary for a thriving and sustainable society and economy. Tackling the environmental dimension of sustainable development is not only critical for the sake of the “earth systems” that regulate climate, weather patterns and the water cycle, and more, it is also the foundation for development, poverty eradication, justice, peace and stability. But at the midpoint for the achievement of the Sustainable Development Goals, and while still feeling the ripple effects of the coronavirus disease (COVID-19) pandemic, more than half of the world is being left behind. Progress on more than 50 per cent of Sustainable Development Goal targets is weak or insufficient. It has stalled or gone into reverse across 30 per cent of the targets: more people are living in extreme poverty than four years ago, hunger has risen to levels not seen since 2005, and, on current trends, gender equality is still nearly 300 years away.

However, the reality is that planet Earth is under ever more intense pressure from climate change, nature and biodiversity loss, and pollution and waste. The warming climate could breach the crucial 1.5°C threshold as soon as 2027, and the world’s biodiversity is being destroyed at the fastest rate in human history. Air, water and land pollution are rising to alarming levels, with pollution causing 9 million premature deaths every year, while nature loss and land degradation are leading harvests to fail and communities to suffer.

2 Ibid.
At the root of this environmental reality is a hard but undeniable truth: humanity's relationship with the natural world is broken. But humanity cannot afford this reality. Our collective economic and social well-being depends on nature and its services. Some quantified estimates suggest that more than half the world's GDP is derived from nature. Without a radical shift to include the full value of nature in economic decision-making, to move towards more sustainable consumption and production patterns, and to achieve a just transition towards a circular economy that delivers for all, the future is at risk. Ecosystems – from forests, grasslands and peatlands to oceans, rivers, savannahs and mountains – provide a vast range of services vital to the survival of humanity. Yet every year humans use more resources than the planet can sustainably provide. A sustainable planet requires finding a balance between nature and humanity, recognizing that clean and healthy ecosystems are the foundation of collective well-being. The good news is that nature, if given half a chance, can bounce back. But it needs help to do so.

Effective, inclusive, and sustainable multilateral action is a powerful tool to regain the balance lost, but it must be used to deliver transformative solutions that address the interconnected nature of the multiple crises we face. At a time of growing polarization across the world, finding common purpose can seem like an elusive goal. Yet recent achievements show that multilateralism is not only possible, but the only way forward. Strong science, political resolve and societal engagement are the key ingredients for crafting inclusive and transformative solutions that can put planetary health at the heart of economic decision-making, address and reverse social inequalities, and bring shared prosperity and equity.

Digital technology and innovation remain indispensable allies of the desired change, provided they go hand in hand with environmental sustainability. This requires intentional digital governance and a systems transformation, enabled by public-private partnerships and capacity and behavioural shifts, that can position digital infrastructures, as well as markets, supply chains, consumer incentives and norms, to effectively deliver sustainable digital solutions for a more resilient and nature-positive future.


II. Environmental multilateralism
Despite ongoing disruptions from the pandemic and rising sociopolitical tensions, the past two years have delivered much-needed wins for environmental cooperation, spanning several interconnected agendas, from water to digitalization and from food systems to human rights. All of these had one common thread: they delivered transformative actions towards achieving the Sustainable Development Goals. At the start of 2022, 50 years of environmental successes were celebrated, and a catalytic reflection on the future took place in the form of two mutually supporting events: UNEP@50 and Stockholm+50. These events reinforced the mandate and positioning of the United Nations Environment Programme (UNEP) as the leading global authority on the environment and delivered a global call for renewal and trust to achieve a healthy planet and prosperity for all.9 In May 2022, the Conference of the Parties to the United Nations Convention to Combat Desertification, at its fifteenth meeting, adopted important decisions to improve drought resilience, reduce land degradation, and invest in land restoration efforts, with a strong focus on future-proofing land use, accelerating preparedness, and improving partnerships for integrated landscape investments.10 A landmark moment came in the months that followed, as the General Assembly recognized the universal human right to a clean, healthy and sustainable environment.11 This gives strong ammunition for enacting constitutional and legal changes that can positively impact the environment and human well-being, including by supporting environmental rights-based claims in legal systems. The United Nations Conference on the Midterm Comprehensive Review of the Implementation of the Objectives of the International Decade for Action, “Water for Sustainable Development”, 2018–2028 – the first such conference in a generation – launched commitments and initiatives at all scales to address water and sanitation challenges and meet global climate and biodiversity targets under a new Water Action Agenda,12 while the 2023 United Nations Food Systems Stocktaking Moment delivered concrete and accelerated efforts to transform food systems with unprecedented clarity, ambition and innovation.13

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10 Available at https://www.unccd.int/convention/cop-decisions.
11 General Assembly resolution 76/300 of 28 July 2022 on the human right to a clean, healthy and sustainable environment.
Multilateral wins against the three planetary environmental crises also delivered significant gains. Climate action was boosted by a breakthrough agreement on the provision of "loss and damage" funding for countries hit hard by climate change. While there is still a considerable distance to travel to make this funding a reality, the decision has been heralded as a first step towards climate justice for the nations that have contributed the least to climate change but are the most affected. The twenty-seventh Conference of the Parties to the United Nations Framework Convention on Climate Change also saw the approval of a package of decisions that reaffirmed the commitment to limit warming to 1.5°C above pre-industrial levels and provided a way forward for the Global Goal on Adaptation. Yet, while investment in renewable energy is at an all-time high and the prices of energy produced from non-carbon sources are lower than ever before, the harsh reality is that under existing commitments the required changes are not being made fast enough.

On the nature front, there was a breakthrough for biodiversity. The historic Kunming-Montreal Global Biodiversity Framework, sealed in December 2022, set out measures to protect biodiversity, ensure its sustainable use, and promote fair and equitable benefit-sharing. It also enshrined the establishment of a new biodiversity fund with significantly scaled-up financing. Further, the Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (also known as the High Seas Treaty), agreed by 193 countries in March 2023, will help achieve the goals of the Kunming-Montreal Global Biodiversity Framework by creating a framework for marine protected areas on the high seas. It is worth recalling that marine biodiversity within national jurisdictions has been managed under the suite of UNEP-enabled and (in many cases) UNEP-hosted regional seas conventions. These conventions, established under the auspices of UNEP starting in the 1970s, continue to demonstrate that international cooperation on shared marine resources is both feasible and a win-win undertaking for all involved. The regional seas conventions are therefore an important foundation from which to draw lessons and experience for the new oceans treaty. However, while significant progress has been made in addressing the biodiversity crisis, there is now a need to design and nurture an inclusive, concerted effort to implement both the Kunming-Montreal Global Biodiversity Framework and the High Seas Treaty and achieve the desired targets.

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Pollution was placed at the centre of a multilateral and solutions-oriented global movement. Following the global commitment to move towards a pollution-free planet reached at the third session of the United Nations Environment Assembly18 and the subsequent implementation plan welcomed at the fourth session,19 in 2022, as a result of the fifth session of the Assembly, negotiations began on the first-ever international legally binding instrument to end plastic pollution.20 The science-policy interface was galvanized by the mandate, also resulting from the fifth session, to establish a science-policy panel on chemicals, waste and pollution prevention,21 with an open-ended working group subsequently convening to prepare proposals for the panel.22 In parallel, after 15 years of negotiations, the conferences of the parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, and the Stockholm Convention on Persistent Organic Pollutants held in May 2023 led to the adoption of a compliance mechanism under the Stockholm Convention. This means that all three conventions, like the Minamata Convention on Mercury, now have compliance mechanisms in place. Meanwhile, the Stockholm Convention listed two plastic additives for eventual phase-out, an important contribution to the momentum for tackling plastic pollution. Furthermore, discussions continued on the development of a successor to the Strategic Approach to International Chemicals Management beyond 2020 – a vital global framework for the sound management of chemicals and waste.23

19 Resolution 4/21, “Implementation plan ‘Towards a pollution-free planet’ “.
20 Resolution 5/14, “End plastic pollution: towards an international legally binding instrument”.
21 Resolution 5/8 on a science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution.
III. Solutions-oriented shifts
Multilateral efforts to address the environmental crises of climate change, nature and biodiversity loss, and pollution and waste are deeply interconnected but also highly fragmented. While there is broad understanding and acceptance that progress in one domain frequently supports and underpins efforts in others, the fragmentation of the environmental agenda remains a major challenge. This dichotomy is seen at the local, national, regional and global levels, where actions by one community have intrinsic linkages with and impacts on other communities. For example, mitigating climate change and reducing pollution address two of the most serious threats to biodiversity; conserving natural habitats is a powerful way to sequester carbon and filter pollution; and reducing pollution protects biodiversity and supports resilience to future climate change. Conversely, an absence of action in one area has implications in others, with impacts across time and space.

Commitments are many, but implementation is sketchy and financing inadequate. For years, the results of negotiation have not been matched by the requisite finance or action on the ground. This must change. The three Rio conventions were adopted in 1992, yet implementation has been insufficient to the point that climate change and ecosystem degradation now present existential threats, particularly for vulnerable communities. To deliver the necessary solutions, the focus on finance as well as implementation must intensify.

The Sustainable Development Goals were framed to encourage integrated resource management and nexus thinking for environmental, economic and social solutions. Today’s institutional endeavours are not necessarily following through on that promise, and much remains to be done to break down silos and foster collaborative action. For example, efforts and resources to achieve poverty reduction and tackle complex humanitarian issues do not always account for environmental damage, while environmental measures are often formulated or implemented without consideration for their impact on the root causes of poverty, economic security and conflict. Meanwhile, financing, capacity-building and technology are not nearly on track with the level of ambition agreed on during international negotiations, although progress has been made over time.

The good news is that environmental multilateralism has unprecedented tools at its disposal. Real-time knowledge about the health of the planet; better capacity to predict and anticipate future risks; activism by young people across the world against social injustices; and the environmental awakening of the finance and business worlds are all prime examples of powerful tools for revamping the scale and pace of multilateral action.
As emerging issues and integrative solutions are highlighted, multilateral attention must follow. Data-driven foresight can help anticipate and answer critical questions: Is the international community moving fast enough to prevent, prepare for and respond to the next pandemic, given the pending threat of antimicrobial resistance? Can the responsible management of artificial intelligence enable the rapid deployment of innovative solutions for collective well-being? Other questions we must tackle include whether it is possible to elevate environmental justice through legal recognition and implementation of the rights of nature and of future generations. These questions are examples of what is under discussion in a variety of forums and with various degrees of understanding, progress and agreement. It is clear that they have enormous implications for current and future trends in environmental, social and economic development, and must therefore be closely watched, including by UNEP.

In his 2021 report Our Common Agenda, the Secretary-General issued an ambitious call to improve international cooperation through more effective, inclusive and networked multilateralism. A central objective of effective multilateralism, also underlined at the Stockholm+50 gathering, is the strengthening of governance arrangements that can protect human life on a living planet and secure the achievement of the Sustainable Development Goals, particularly in this Decade of Action.

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24 See General Assembly resolution 76/257 of 29 March 2022 on elevating pandemic prevention, preparedness and response to the highest level of political leadership.


26 The Kunming-Montreal Global Biodiversity Framework adopted in December 2022 by the Conference of the Parties to the Convention on Biological Diversity at its fifteenth session explicitly recognized the importance of rights of nature. It notes that, for countries that recognize them, “rights of nature and rights of Mother Earth” are an integral part of the Framework’s successful implementation.


28 See General Assembly resolution 75/280 of 24 May 2021 on the international meeting entitled “Stockholm+50: a healthy planet for the prosperity of all – our responsibility, our opportunity”
The urgency of the climate crisis, the nature and biodiversity loss crisis, the pollution and waste crisis and the associated polycrises, including poverty and inequality, are threatening the achievement of the Sustainable Development Goals. Bold multilateral action is required, along with systemic shifts in how it is pursued. This action should be:

a Solutions-focused: Implementing practical measures that improve the well-being of people and planet at scale;

b Inclusive: Incorporating the voices of those often marginalized in political decision-making, particularly women and girls, racial and ethnic minorities, persons with disabilities, older people, LGBTQI+ people, Indigenous Peoples and those at risk of being left furthest behind. This must go beyond merely adding seats at a table – a transformation is required towards more networked and better-connected decision-making that breaks boundaries and legitimizes meaningful representation;

c Transparent: Ensuring universal access to public data and knowledge, and building common assessments of global risks that enable informed and anticipatory choices;

d Integrated: Bridging institutional and technical silos to foster a consolidated response that spans interconnected domains and actors from the regional, national and local governance spheres;

e Just: Ensuring that the benefits of a sustainable transition are widely shared, while recognizing that those who have benefitted from decades of planetary exploitation have a special responsibility to act;

f Rights-based: Ensuring that inalienable rights guide all actions, including the human right to a clean, healthy and sustainable environment;

g Forward-looking: Mindful of future generations who do not yet have a voice, while involving current generations and youth in decision-making with greater agency and authority.
IV. Bolder multilateral action
The United Nations Environment Assembly, whose establishment was approved in 2012 during the United Nations Conference on Sustainable Development (Rio+20), was created to strengthen the international response to environmental challenges. The result of 40 years of work following the United Nations Conference on the Human Environment (also known as the Stockholm Conference) of 1972, the Assembly provides an unparalleled platform for countries to come together to tackle pressing environmental issues.

As the highest-level global decision-making body on environmental issues, the Environment Assembly is a forum with unique authority to reach global agreement on the most pressing and emerging environmental issues. Armed with the right focus and political resolve, the Assembly has put science on the global multilateral table and shaped historic results for people and planet. It has provided a biennial boost to action on a range of issues, particularly those that are not the focus of specific conventions.

Since the Environment Assembly first met in 2014, its five sessions have generated considerable political momentum and yielded results on a variety of critically important issues. These include air pollution, financing for development, plastics, marine litter, environmental education, water management, sustainable consumption and production, climate change, illegal trade in wildlife, and protecting the environment in areas affected by armed conflict and disasters, among many others.

As the world grapples with fragmented multilateralism, the Environment Assembly must be a standard-bearer as an effective, inclusive and multilateral forum where solutions are sought and agreement is reached: an Assembly that watches over the world, scales up action and responds to its most critical challenges, an Assembly that highlights emerging environmental issues while scanning the horizon for future problems, an Assembly that consolidates agendas, decisions and stakeholders to fill the gaps in international environmental governance, a bolstered Assembly that can play its part in revamping multilateralism while providing greater capabilities to the entire United Nations system and Member States to achieve the Sustainable Development Goals.
With this history and with the responsibility of the Environment Assembly in mind, the UNEP secretariat has identified six areas where the Assembly may wish to compel more effective, inclusive and sustainable multilateral action: (a) implementing the Kunming-Montreal Global Biodiversity Framework; (b) advancing integrated approaches for a water-secure world; (c) ensuring responsible mining and sustainable minerals and metals use; (d) advancing cooperation concerning nutrients, especially phosphorus; (e) reviewing climate-altering technologies and measures; and (f) aligning the financial system for sustainability.

A. Implementing the Kunming-Montreal Global Biodiversity Framework

The Kunming-Montreal Global Biodiversity Framework sets out an ambitious, targeted plan for halting and reversing global biodiversity loss. Its adoption was a milestone in multilateral environmental governance that UNEP was delighted to support.

But the hard work comes now, and UNEP has a key role to play. While the Kunming-Montreal Global Biodiversity Framework provides a framework for action, ultimately its success or failure will lie in how fully and effectively it is implemented. UNEP holds important responsibility, being one of the leading implementing agencies of the Convention on Biological Diversity, and, in cooperation with the secretariat of the Convention, it stands ready to help Member States and all other relevant stakeholders achieve the 23 action-oriented global targets. The Environment Assembly can accelerate and scale up the role of UNEP to ensure full support for the implementation of the Framework, including the mobilization of finance and support with updating national strategies and plans and complying with its monitoring and reporting mechanism.
Indigenous Peoples are pivotal agents of change, playing a significant role in safeguarding biodiversity, securing food supplies, and mitigating the effects of climate change. Globally, Indigenous Peoples are custodians of 80 per cent of the planet’s biodiversity, with 5,000 unique traditional cultures and ancestral lands covering 32 per cent of all global land and inland waters across 90 countries. Therefore, it is only fitting for the Kunming-Montreal Global Biodiversity Framework to incorporate the rights of Indigenous Peoples across its targets.

As was agreed at the fifth session of the Environment Assembly, nature-based solutions must include social safeguards for Indigenous Peoples, but broader recognition and implementation of indigenous rights and knowledge is needed across the spectrum of sustainable development and environmental governance. For instance, some interventions grounded in nature-based solutions could result in displacement, livelihood restrictions; “green grabbing” of traditional territories, lands and resources; and subsequent cultural and social impacts, including culturally and contextually inappropriate ecosystem restoration initiatives. Furthermore, as environmental defenders, Indigenous Peoples continue to face severe risks, with more than 1,700 environmental activists murdered in the past decade.

Formal engagement of Indigenous Peoples in national environmental planning, target setting and monitoring, in particular, remains crucial to secure more effective and equitable decision-making and to advance human rights. Further, Indigenous Peoples must be granted increasing opportunities to access finance for a just transition and circular economy. Without these conditions, they will continue to suffer human rights violations, widespread discrimination and exclusion from decision-making, and the ambition of the Kunming-Montreal Global Biodiversity Framework will not be achieved.

Member States may wish to direct UNEP to enhance engagement with the Convention on Biological Diversity and its constituencies in order to review and identify the most effective pathways, including financing opportunities, offered by the Kunming-Montreal Global Biodiversity Framework to improve Indigenous Peoples’ collective rights and actions. This could include exploring how the entire United Nations system and multilateral environmental agreements can better support Member States in their efforts to bring greater focus and broader recognition to these rights and actions in the context of the Framework.

B. Advancing integrated approaches for a water-secure world

Water is vital for achieving various internationally agreed goals and targets, including those of the 2030 Agenda for Sustainable Development, the Kunming-Montreal Global Biodiversity Framework and the Paris Agreement. The United Nations 2023 Water Conference reasserted the crucial role of water in meeting these commitments and its central role in achieving food security, human health, energy production, industrial and economic development, and healthy terrestrial and marine ecosystems.32

Unsustainable human activities, poor management, pollution, ecosystem degradation and climate change are affecting the availability, distribution, quality and quantity of water and snowmelt, and the realization of the human rights to water and sanitation and a clean and healthy environment.33 Water bodies such as lakes, rivers, groundwater aquifers, glaciers and wetlands provide water for drinking, industry, ecosystems and food. They also act as natural defences against pollution, biodiversity loss and climate change. However, their ability to continue providing these benefits is being undermined. For example, we are losing wetlands, including peatlands, at an alarming rate – the most rapid decline of all ecosystems.34 At the same time, understanding of wetlands’ outsized role in climate mitigation and carbon sequestration is growing.35


Climate change, disaster risk and freshwater ecosystems are inextricably linked. Global warming is increasing the frequency and severity of floods, droughts and risks to humans, infrastructure and nature. One estimate links at least seven (and perhaps as many as nine) out of ten disasters triggered by natural hazards over the last decade to water. At the same time, water is fundamental to climate resilience. Sustainable water management is key to weathering water extremes, and interconnected rivers and wetlands from source to sea can absorb excess water, retain it in dry periods, act as water filters, and recharge groundwater aquifers.

These impacts come on the heels of a daunting global water crisis driven by increasing global demand and decreasing supply. Approximately 2 billion people lack access to safe drinking water and 3.6 billion are without safe sanitation services. Today, 2.4 billion people live in water-stressed countries, 420 million people still practice open defecation, and millions of women and girls spend hours every day fetching water. Such challenges can aggravate displacement and conflict.

Climate change is also altering the balance needed for healthy oceans. Communities living in close connection with these ecosystems are particularly vulnerable to hazards connected to ocean change, with low-lying coastal zones, home to 680 million people, particularly at risk. Loss and damage in the most sensitive ecosystems and vulnerable communities is often inevitable, with limits to adaptation and risk management already reached in high-risk sectors, regions, terrestrial and freshwater species and ecosystems.

Since 2010, parties to the United Nations Framework Convention on Climate Change have been formulating strategies and adaptation programmes to identify and address their medium- to long-term adaptation needs. More than 90 per cent of both national adaptation plans and nationally determined contributions have a prominent component referring to water, signalling an increasing acknowledgement and understanding of the critical role of water in both mitigation and adaptation efforts. Addressing loss and damage from water-related climate events in vulnerable countries is being discussed by the transitional committee for financing for loss and damage.

40 Intergovernmental Panel on Climate Change, Climate Change 2022: Impacts, Adaptation and Vulnerability.
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Several earlier Environment Assembly resolutions are related to ecosystem-based adaptation, nature-based solutions and water ecosystems, yet there is a clear gap when it comes to integrated approaches. Recognizing the interconnectivity of water ecosystems as nature-based solutions to combat the three planetary environmental crises, along with the pressing need to link national processes relating to water resources management, biodiversity and climate action plans, is essential to avoid duplication of efforts and to accelerate biodiversity, climate, pollution and sustainable development goals and commitments.

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The United Nations 2023 Water Conference and recent actions by the General Assembly provide additional guidance and impetus. They include establishing the position of Special Envoy of the Secretary-General on Disaster Risk Reduction and Water; convening an intergovernmental review of water in 2026; scheduling a review of the International Decade for Action for 2028; and a resolution to develop a United Nations system-wide strategy for water.41

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Member States may wish to request that UNEP expand its support for water-related resource management. This would include accelerating support to enable Member States to access data, information, capacity and financing to connect, track and implement the environmental targets of Sustainable Development Goal 6 relating to freshwater ecosystem health, water quality and water resources management and the water-related targets of the Kunming-Montreal Global Biodiversity Framework. Member States may also wish to consider reporting on these linkages and the progress made to the Environment Assembly at its seventh session and to enable greater input to the next United Nations Water Conference, to be held in 2026, to accelerate the implementation of Goal 6.

Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution

Member States may wish to ask UNEP to scale up protection, restoration and conservation work related to water ecosystems for their biodiversity, climate and pollution control benefits. Such efforts could include increased support for countries to protect and restore specific ecosystems and areas in the context of the Kunming-Montreal Global Biodiversity Framework, such as the Freshwater Challenge launched at the United Nations 2023 Water Conference under the auspices of the United Nations Decade on Ecosystem Restoration. UNEP can also accelerate support to implement the water-related elements of national adaptation plans and nationally determined contributions by spurring the implementation of integrated water resources management in countries worldwide, as well as speeding up access to climate finance. UNEP can help strengthen climate information and early warning systems in response to the Secretary-General’s appeal for “Early Warnings for All”. Support could also include expanding Member States’ technical capacity to implement, monitor and track the progress of relevant conservation and restoration innovations and technologies, such as blue carbon offsetting, as well as mapping and identification of priority and threatened ecosystems such as wetlands, including peatlands.


C. Ensuring responsible mining and sustainable minerals and metals use for the sustainability transitions needed

Nearly 80 per cent of the world’s primary energy consumption comes from the fossil fuels that are propelling dangerous climate change.\(^{44}\) Shifting the world’s energy supply to renewable energy (often known as the “clean energy transition”) is critical to reducing global emissions. However, clean energy technologies such as electric vehicles, wind turbines and solar panels require relatively large amounts of specific minerals and metals, such as lithium, nickel, manganese and copper. Consequently, the clean energy transition may lead to the opening of new mines in environmentally and socially sensitive areas, posing risks to biodiversity and potentially causing pollution and more conflict.

A systems change towards resource efficiency and circularity is critical for ensuring that responsible mining of minerals and metals contributes to the needed planetary transition towards sustainability. More effective multilateralism in the resource efficiency space must prompt rethinking of the way resources are used. Using fewer resources, as well as recovering and reusing materials that would otherwise have been lost after use, must become the norm. This requires new approaches to transform prevailing economic models – for example, from economies based primarily on goods provisioning to those based on servicing provisioning options with lower material footprints.

Long-term strategies for sourcing minerals and metals are required to avert conflict, loss of biodiversity and ecosystem services and pollution. Securing responsible mining of critical energy transition minerals, especially in least developed countries and land-locked developing countries, where most of these minerals are located, must be part of the solution. This is key to foster benefit-sharing, resilience, trust and economic diversification, and to create sustainable green jobs. At the same time, the extractives sector must put in place the necessary economic and social safeguards for managing environmental and health risks, addressing gender and social justice implications and protecting the human right to a clean, healthy and sustainable environment.

UNEP has advocated for well-managed and responsible extraction of critical energy transition minerals that supports reaching net zero by 2050 without endangering other environmental goals. The UNEP-published International Resource Panel report on mineral resource governance issued in 2020 explored practical actions to improve the international mining governance architecture.

On the multilateral front, in order to coordinate and increase impact across the United Nations system on this issue, in 2020 the Secretary-General launched the Working Group on Transforming the Extractive Industries for Sustainable Development, co-chaired by UNEP, the United Nations Development Programme and the United Nations regional economic commissions. The Environment Assembly has also already taken preliminary action on mineral and metal resources through two resolutions: resolution 4/19 on mineral resource governance, in which the Executive Director of UNEP was requested, among other things, to collect information on sustainable practices, identify knowledge gaps, and survey existing assessments of different governance initiatives and approaches for sustainable management of metal and mineral resources, and resolution 5/12 on environmental aspects of minerals and metals management, in which the Executive Director was requested to organize regional intergovernmental meetings and a global event to develop nonprescriptive proposals to enhance the environmental sustainability of minerals and metals.

Member States may wish to build on these previous resolutions and request that UNEP provide guidance to strengthen and harmonize policy frameworks for responsible mining. Such harmonization would bring together the many existing standards and certifications that respond to different metrics to advance responsible mining and circularity throughout the life cycle of minerals and metals. Beyond extraction, it is crucial to identify how reuse, recovery and recycling, as well as service provisioning, can reduce material footprints and increase economic opportunities.

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45 The present report addresses the issue of “critical minerals” through the lens and scope of the Secretary-General’s Working Group on Transforming the Extractive Industries for Sustainable Development, which is mentioned in the text and in which UNEP is involved.


Member States may also consider requesting that UNEP, working with United Nations partners and other stakeholders, accelerate progress on the Secretary-General’s Working Group on Transforming the Extractive Industries for Sustainable Development. Its work could include technical guidance and capacity support to developing countries with critical energy transition minerals.

D. Advancing cooperation around nutrients, especially phosphorus

Nutrients are critical for food production, but their use must be managed sustainably. Nutrients such as nitrogen and phosphorus are critical to global food security, but their overuse is a major source of water pollution and eutrophication. Sustainable nitrogen management was the focus of resolutions 4/14 and 5/2, adopted at the fourth and fifth sessions of the Environment Assembly. As a result, UNEP has established a working group on nitrogen management, created an index for coastal eutrophication and developed an international nitrogen assessment.

However, phosphorus has been something of a blind spot in international cooperation around nutrients. An adequate supply of phosphorus, which has no substitute, is essential for the yields of food plants. Phosphorus management challenges and opportunities vary widely among countries. Yet millions of metric tons of fertilizer are washed from the land into lakes and seas every year, triggering toxic algal blooms and damaging fish stocks, livelihoods and tourism. The implementation of target 7 of the Kunming-Montreal Global Biodiversity Framework calls for the loss of excess nutrients to the environment to be reduced by at least half, including through more efficient nutrient cycling and use.
The Environment Assembly could add value through a commitment to action on target 7 of the Kunming-Montreal Global Biodiversity Framework and to improving the resilience of ecosystems, protecting biodiversity where losses are highest, and benefiting from the momentum around nitrogen/nutrients:

a. Member States may wish to direct UNEP to provide options for optimizing efficient nutrient management practices, with a focus on phosphorus, and to explore innovative approaches to sustainable use and nutrient recovery to enhance the long-term supply of this critical nutrient.

b. Member States may wish to commit themselves to reducing the global loss of phosphorus, increasing nutrient recycling, and promoting sustainable management practices in order to avoid losses and ensure long-term availability.

E. Climate-altering technologies and measures

Greenhouse gas concentrations in the Earth’s atmosphere are at the highest levels in human history. In addition to urgently needed deep cuts in emissions of these gases, projections of the long-term CO₂-emissions trajectory indicate that climate stabilization will require carbon dioxide removal in order to meet a 1.5°C target. Nature already provides options for removing carbon from the atmosphere, such as land restoration and the conservation of natural ecosystems, particularly tropical forests and wetlands.

As the Intergovernmental Panel on Climate Change recognizes, several carbon dioxide removal technologies exist or are emerging, while others are being specifically designed to alter the climate in order to cool the planet. Some climate-altering technologies under discussion to potentially cool the Earth (but that do not address the reduction of greenhouse gas emissions) are designed to reduce incoming solar radiation. The most discussed, and possibly the most mature, of these technologies is stratospheric aerosol injection. These methods could, however, have serious unintended consequences at the local and regional levels.
A considerable amount of research is being conducted on climate-altering technologies and measures in several countries, and some technologies are already in development, although not at scale. The advancement of these technologies is having a polarizing effect on the empirical evidence and science needed to make informed decisions in this space. How climate-altering technologies and measures may factor into net-zero commitments, and the cost of carbon and transfers of such measures under the Paris Agreement, are yet to be determined, with many experts concerned about potential overreliance on removal technologies. Additional scientific and technological information is required in order to make informed decisions.

The Convention on Biological Diversity first addressed the issue of geoengineering in 2008, focusing on the specific issue of ocean fertilization. Following this, regulations governing ocean fertilization experiments were adopted under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and its Protocol (also known as the London Convention), which is administered by the International Maritime Organization. In 2009, the secretariat of the Convention on Biological Diversity published a scientific synthesis report on the impacts of ocean fertilization on marine biodiversity. In 2010, the tenth Conference of the Parties to the Convention on Biological Diversity addressed solar radiation modification more broadly. Again, after significant negotiations, first in the Convention's scientific body and subsequently at the tenth Conference of the Parties, it was agreed that, in the absence of science-based, global, transparent and effective control and regulatory mechanisms for geoengineering, no climate-related geoengineering activities that may affect biodiversity should take place until there was an adequate scientific basis on which to justify such activities. The Conference of the Parties mandated the preparation of two reports: one on the potential impacts of geoengineering on biodiversity and the other on the regulatory framework. In 2013, the Contracting Parties to the London Convention amended the London Protocol in order to regulate marine geoengineering, which the Protocol defines as a "deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change". The Protocol also expresses concern about the potential impacts of ocean fertilization and other geoengineering activities on the marine environment. Finally, in 2019 the Thirty-first Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer requested that the 2022 report of the Scientific Assessment Panel include an assessment of information and research related to solar radiation management and its potential effect on the stratospheric ozone layer.

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As the above overview indicates, Member States have recognized that in assessing the potential impacts of climate-altering technologies and measures, including solar radiation modification, a broad environmental lens must be applied, which includes marine, biodiversity, climate and stratospheric sciences. Impacts on humans and the climate are likely, whether on biodiversity, water regimes, oceans or the ozone layer (and thus the stratosphere). UNEP therefore concludes, on the basis both of existing science and of the precedents set by the various multilateral environmental agreements mentioned above, that assessments of climate-altering technologies and measures, including solar radiation modification, must draw on multiple scientific disciplines, rather than one scientific discipline or field alone.

Understanding of and familiarity with climate-altering technologies and measures vary widely among Member States. To facilitate broader dialogue, in 2022 UNEP convened a multidisciplinary expert panel to conduct a rapid review of the state of scientific research on solar radiation modification. UNEP published its findings on 27 February 2023 in One Atmosphere: An Independent Expert Briefing on Solar Radiation Modification Research and Deployment. The report was presented and discussed with Member States in Nairobi, Geneva and New York. The publication recommended a comprehensive review, a transparent and inclusive process, and a broad dialogue on the science as well as on governance.

When previously considering new environmental challenges, Member States have successfully established ad hoc expert groups to deepen study, broaden familiarity and find a path forward. As awareness of and familiarity with climate-altering technologies and measures are still emerging in most Member States, a pathway for climate-altering technologies and measures, including solar radiation modification, that includes the establishment of ad hoc expert groups would improve exchange, dialogue and mutual understanding of the state of the science – its risks as well as environmental impacts.

Member States may wish to deploy a Member-State-led ad hoc expert group and request UNEP to provide technical and secretariat support for its establishment. This could include ensuring that any supporting documentation would draw on a range of scientific disciplines to underpin and inform the expert dialogues. Without prejudice to a potential ad hoc expert group process and the desired pathway chosen by Member States, such a process could enable informed and inclusive deliberations that consider the environmental, health and social impacts and risks of such technologies, while weighing them against their potential to support a reduction at scale of atmospheric carbon and global warming.

F. Aligning the financial system for sustainability

How more than $400 trillion in global financial assets is allocated over the next decade will play a critical role in determining the alignment of the economy with the goals of the Paris Agreement, the Sustainable Development Goals and the Kunming-Montreal Global Biodiversity Framework. UNEP is helping to align private finance with the goals and targets of these international frameworks, including catalysing private finance for climate mitigation, adaptation, nature-based solutions, and tackling chemicals and plastics pollution.


UNEP convenes a network of more than 500 financial institutions with assets exceeding $100 trillion to accelerate financing for the transition to a sustainable global economy. UNEP develops and implements frameworks to mainstream sustainability considerations into financial practice, with 50 per cent of the global banking industry and 30 per cent of the insurance industry engaged. This includes scaling up environmental and social risk disclosures and strengthening the governance, policies and financial products needed to deliver positive impacts across the economy. These industry-wide programmes are complemented by targeted initiatives, including three net-zero alliances convened under the aegis of the United Nations, and financiers’ groups working on tackling plastic pollution, the transition towards a circular economy, and the implementation of the Kunming-Montreal Global Biodiversity Framework.

Several relevant previous Environment Assembly resolutions have addressed the financial sector. However, further knowledge, technical assistance and policy measures to address multiple environmental challenges through science-based sectoral transition pathways are needed, particularly in an era when digital technology is opening up new opportunities for transparency and broader social inclusion.

Member States may wish to strengthen national policy and regulatory measures in economic and financial systems to mainstream nature in private-sector decision-making and align public and private finance with national plans and strategies to implement the Kunming-Montreal Global Biodiversity Framework and 1.5°C pathways.


59 Relevant resolutions adopted by the Environment Assembly at its fifth session, for instance, include resolution 5/5 on nature-based solutions for supporting sustainable development; resolution 5/9 on sustainable and resilient infrastructure; resolution 5/10 on the environmental dimension of a sustainable, resilient and inclusive postCOVID-19 recovery; resolution 5/11 on enhancing circular economy as a contribution to achieving sustainable consumption and production; and resolution 5/14 entitled “End plastic pollution towards an international legally binding instrument”.

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V. Responding to the call: Elevating the environment in the multilateral system
As the Summit of the Future to be held in 2024 approaches, it is clear that the United Nations system must transform itself into a United Nations 2.0 via the “quintet of change”. Among other things, UNEP will continue to strive to be stronger, more agile and responsive, capable of offering more system-wide solutions for the modern world, with greater capacity for data and analysis, innovation and digital transformations, strategic foresight, behavioural science and results.

UNEP requires sufficient resources to fulfil its full potential. Before the Stockholm Conference of 1972, a $100 million Environment Fund – equivalent to nearly $730 million in today’s money – was proposed to support effective international cooperation on global environmental challenges. Yet, more than 50 years on, the Fund falls short of even the original $100 million target. It is important to note that Member States’ contributions to UNEP are considered voluntary, unlike contributions to the multilateral environmental agreements that UNEP has the privilege of hosting. The voluntary nature of contributions to the Fund means they consistently fall short of the budgets agreed on by the Environment Assembly at its successive sessions. In 2020 UNEP surveyed Member States about its funding, seeking guidance on, among other things, how to increase funding for the Environment Fund. It also identified interest in exploring potential approaches to Member States that do not contribute to the Fund.

The environment – as the foundation for economic and social development – must be elevated within the global agenda. This requires UNEP to be strengthened, following through on the commitments made in paragraph 88 of the outcome document of Rio+20, entitled “The future we want”, and the UNEP@50 political declaration, with mandates and resources to match those expectations. It means realizing the desire to strengthen the UNEP headquarters in Nairobi by considering locating important new environmental entities there, thus enabling more integrated secretariat services across the multilateral environmental landscape. It means bolstering the role of UNEP as a consolidator of information into coherent, current and actionable assessments of planetary health that can inform solutions and action on the ground. It means ensuring that action on the environment is better integrated across the entire multilateral system, particularly with the financial, social and economic systems. Lastly, it means being able to advocate for and advance environmental rights, equity and inclusion across the multilateral system.
**Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution**

**UNEA-6**

**Effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution**

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Member States and the United Nations system recognize UNEP as the custodian of the environmental **pillar of sustainable development**. In the face of escalating climate, nature and pollution challenges, UNEP is playing an increasingly critical role in catalysing, facilitating and supporting the coherent implementation by Member States and other partners of the environmental dimension of the 2030 Agenda and the Sustainable Development Goals.

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This increasing recognition has led to an unprecedented rise in demand for UNEP support at the country **level**. Member States are increasing their demand for UNEP support, both directly and through United Nations country teams and United Nations resident coordinators. Common country assessments need more environmental data and analytics to better inform the United Nations Sustainable Development Cooperation Frameworks that guide the collective engagement of the United Nations system. UNEP is working to enhance engagement and support in regional consultative processes and opportunity- and issue-based coalitions through strategic presence. Yet significant scope remains to enhance engagement with resident coordinators and country teams and support the development and implementation of common country assessments and Sustainable Development Cooperation Frameworks.

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The limited country presence of UNEP results in equally limited visibility of the environmental dimension of the **Sustainable Development Goals** among the resident coordinator network and the country teams. Like other country team members, UNEP is asked to actively engage in all stages of the Sustainable Development Cooperation Framework process, including through United Nations results groups and joint workplans to support Governments’ efforts to achieve the Sustainable Development Goals and the 2030 Agenda. Increasing engagement by augmenting the UNEP staffing cadre as part of country teams would enable closer collaboration and engagement and improve responsiveness to countries’ needs. This enhanced collaboration would ensure that the environment has a seat at the table whenever country assessments and analyses are carried out, as well as during the programming of resources in the Sustainable Development Cooperation Frameworks.
Member States may wish to discuss opportunities to increase UNEP financial and human resources to meet the increasing demand for environmental support at the country level to address the Sustainable Development Goals. Opportunities could include discussions on UNEP core resources, such as the regular budget allocation and the Environment Fund, as well as other, more innovative measures such as multi-donor trust funds.

Member States may wish to also consider the results of the 2020 funding survey and discuss options for achieving universal contributions to the Environment Fund and full share in accordance with the Voluntary Indicative Scale of Contributions.
VI. Conclusion
By embracing effective and sustainable multilateral action, the Environment Assembly at its sixth session can develop a consolidated multilateral response to the interwoven economic, social and environmental crises facing the planet. But this multilateral action will only be effective and sustainable if it is also inclusive: the Assembly must bring together voices from across the spectrum of science, policy and business, as well as across regions, generations, languages, faiths and cultures. As the planet’s only universal-membership forum for the environment, the Assembly can provide a platform for courageous decisions and new ideas to come to the fore. Together, let us seize the many opportunities presented by the sixth session of the Environment Assembly and come away with a bold and decisive plan for collective environmental action.