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

Report of the Executive Director

I. Introduction

1. 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 (SDGs) seeing a backwards slide,1 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 in the Stockholm 1972 Conference on the Human Environment, “Are not poverty and need the greatest polluters?”

2. This paper, therefore, sees the urgency of addressing the three planetary environmental crises through this social lens. From Stockholm in 1972, to Rio in 1992, to Rio+20 in 2012 to the SDGs 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” which 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 mid-point for the achievement of the SDGs, and whilst still feeling the ripple effects of the COVID-19

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pandemic, more than half of the world is being left behind. Progress on more than 50 per cent of the SDG 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.  

3. However, the reality is that planet earth is under ever more intense pressure from climate change, from the loss of nature and biodiversity and from pollution and waste. The warming climate could broach the crucial 1.5-degree threshold as soon as 2027. The world’s biodiversity is being destroyed at the fastest rate in human history. And air, water and land pollution are rising to alarming levels, with pollution causing nine million premature deaths every year, while nature loss and land degradation are causing harvests to fail and communities to suffer.

4. 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 wellbeing depends on nature and its services. Some quantified estimates suggest that over 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. But every year humans use more resources than the planet can provide sustainably. A sustainable planet requires finding a balance with nature and humanity, recognising that clean and healthy ecosystems are the foundation for collective well-being. The good news is that nature, if given half a chance, can bounce back. But it needs help to do so.

5. 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 polarisation across the world, finding common cause 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.

6. 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 market, supply chain, consumer incentives and norms, to effectively deliver sustainable digital solutions for a more resilient and nature-positive future.

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2Ibid.


I. Environmental multilateralism works...

7. Despite ongoing disruptions from the pandemic and rising socio-political tensions, the last two years have delivered much-needed wins for environmental cooperation, spanning across several interconnected agendas, from water to digitalization, from food systems to human rights. And all of these had one common thread: they delivered transformative actions towards achieving the SDGs. 2022 began with a commemoration of fifty years of environmental successes and a catalytic reflection on the future in the form of two mutually supporting moments: UNEP@50 and Stockholm+50. These events reinforced UNEP’s mandate and positioning as the leading global authority for the environment and delivered a global call for renewal and trust to achieve a healthy planet and prosperity of all. In May 2022, the fifteenth meeting of the Conference of the Parties to the UN Convention to Combat Desertification (UNCCD) 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. In the months that followed, the UN General Assembly’s recognition of the universal human right to a clean, healthy and sustainable environment was a landmark moment. It gave strong ammunition to constitutional and legal changes that could positively impact the environment and human well-being, including by supporting environmental rights-based claims in legal systems. In 2023, the UN Water Conference — the first 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, while the Food Systems Stocktaking moment delivered concrete and accelerated efforts to transform food systems with unprecedented clarity, ambition and innovation.

8. 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 considerable distance to travel to make this funding a reality, the decision is heralded as a first step towards climate justice for the nations that have contributed the least to climate change but are the most affected. COP 27 also gavelled a package of decisions that reaffirmed a commitment to limit warming to 1.5 degrees centigrade above pre-industrial levels and provided a way forward for the Global Goal on Adaptation. And while investment in renewable energy is at an all-time high, and although prices for energy produced by non-carbon energy are lower than ever before, the hard reality is that existing commitments are not making the required changes fast enough.

9. On the nature front, there was a breakthrough for biodiversity. The historic Kunming-Montreal Global Biodiversity Framework (KM-GBF), which was sealed in December 2022, set out measures to...
protect biodiversity, ensure sustainable use, and promote fair and equitable benefit sharing.\textsuperscript{18} It also agreed on the establishment of a new biodiversity fund with significantly scaled up financing. Further, the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement, or the High Seas Treaty, agreed by 193 countries in March 2023, will help deliver the KM-GBF by creating a framework for marine protected areas on the high seas. It is worthwhile 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 UNEP’s auspices since 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 on which to draw for lessons and experience for the new Oceans Treaty. However, while important progress has been made to address the biodiversity crisis, there is now a need to design and nurture an inclusive, concerted effort to implement both the KM-GBF and BBNJ and achieve the desired targets.

10. **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 UN Environment Assembly (UNEA) and its subsequent plan for implementation welcomed at the fourth UNEA,\textsuperscript{19} \textsuperscript{20} 2022 kickstarted the negotiations for the first-ever international legally binding instrument to end plastic pollution, as a result of the fifth UNEA.\textsuperscript{21} The science-policy interface was galvanized by the mandate to create a science-policy panel on chemicals, waste and pollution prevention, also agreed at UNEA 5,\textsuperscript{22} with a subsequent open-ended working group convening to prepare proposals for the panel.\textsuperscript{23} In parallel, the Basel, Rotterdam and Stockholm COPs held in May 2023 delivered, after 15 years of negotiations, the adoption of the compliance mechanism under the Stockholm Convention. This means that all three conventions and the Minamata Convention now have compliance mechanisms in place. Meanwhile, the Stockholm Convention on Persistent Organic Pollutants listed two plastic additives for eventual phase-out, an important contribution to the momentum to tackle plastic pollution. Furthermore, discussions continued for the development of a revised Strategic Approach to International Chemicals Management (SAICM) beyond 2020 – a vital global framework for the sound management of chemicals and waste.\textsuperscript{24}

II. **... but it requires solutions-oriented shifts to get us to where we need to be.**

11. **Multilateral efforts to address the environmental crises of climate change, nature and biodiversity loss and pollution and waste are deeply interconnected but also deeply fragmented.**


\textsuperscript{22} UNEA resolution 5/8, *Science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution,* UNEP/EA.5/Res.8 (2 March 2022), available from \url{https://wedocs.unep.org/bitstream/handle/20.500.11822/39944/SCIENCE-POLICY%20PANEL%20REPORT%20FURTHER%20TO%20THE%20SOUND%20MANAGEMENT%20OF%20CHEMICALS%20AND%20WASTE%20-%20OVERVIEW%20-%20ENGLISH.pdf?sequence=1&isAllowed=y}

\textsuperscript{23} “Ad hoc open-ended working group on a science-policy panel on chemicals, waste and pollution prevention”, (UNEP, nd), accessed 8 September 2023, \url{https://www.unep.org/oewg-ssp-chemicals-waste-pollution}

\textsuperscript{24} Fourth meeting of the intersessional process considering the Strategic Approach and sound management of chemicals and waste beyond 2020” (SAICM, nd), accessed 8 September 2023, \url{https://www.saicm.org/Beyond2020/IntersessionalProcess/FourthIntersessionalmeeting/tabid/8226/language/en-US/Default.aspx}
While there is a broad understanding and acceptance that progress in one domain frequently supports and underpins efforts in others, the challenge continues to be the fragmentation of the environmental agenda. This dichotomy is seen at local, national, regional and global levels. And actions by one community will have intrinsic linkages with and impacts on other communities. Mitigating climate change and reducing pollution addresses two of the most serious threats to biodiversity. Conserving natural habitats is a powerful way to sequester carbon and filter pollution. Reducing pollution protects biodiversity and supports resilience to future climate change. Conversely, the absence of action in one area will have implications in another with impacts traveling across boundaries both in terms of time, but also in terms of space.

12. **Commitments are many, but implementation is sketchy and financing inadequate.** For years the results of negotiation have not been met by the requisite finance nor the requisite action on the ground. This must change. The three Rio Conventions were adopted in 1992, but implementation has been insufficient to the point that climate change and ecosystem degradation now present existential threats, particularly for vulnerable communities. It is critical to ensure that the focus on finance as well as implementation intensifies to deliver the necessary solutions.

13. **The SDGs were framed to encourage integrated resource management and nexus thinking for environmental, economic and social solutions.** Today’s institutional efforts are not necessarily following, and much remains to be done to break down siloes 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, whilst environmental measures are often formulated or implemented without consideration for their impact on the root causes of poverty, economic security or conflict. And financing, capacity building and technology are not nearly on track with the ambition level agreed during international negotiations, although progress has been made over time.

14. **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 from 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 to revamp the scale and pace of multilateral action.

15. **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 under 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 queries we must face include, whether it is possible to elevate environmental justice through legal recognition and implementation of rights of nature and future generations? These questions are examples of what is under discussion in a variety of fora and with various degrees of understanding, progress or agreement. It is clear that they bear enormous implications on current and future trends of environmental, social and economic development, and as such must be kept under a close watching brief, including by UNEP.

16. **In his 2021 report *Our Common Agenda*, the Secretary General issued an ambitious call to improve international cooperation through more effective, inclusive, and networked...**

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27 The Kunming Montreal Global Biodiversity Framework adopted in December 2022 by the 15th Conference of the Parties to the Convention on Biological Diversity explicitly recognized the importance of rights of nature. It notes “rights of nature and rights of Mother Earth” as being an integral part of the framework’s successful implementation, for those countries that recognize them.
multilateralism.28 A central objective of effective multilateralism, also underlined at Stockholm+50, is strengthening governance arrangements that can protect human life on a living planet and secure the achievement of the SDGs, particularly in this Decade of Action.29

17. The urgency of the climate crisis, the nature and biodiversity loss crisis and the pollution and waste crisis and the associated poly-crises including poverty and inequality — are threatening the achievement of the SDGs. This requires bold multilateral action and systemic shifts in the way that it is pursued, guided by the following principles to inspire this change:

a. Solutions focused: Implementing practical measures that improve the wellbeing of people and planet at scale.

b. Inclusive: Including the voices of those often marginalised 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 requires more than adding seats at a table, it requires a transformation 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 the institutional and technical siloes to foster a consolidated response that spans across interconnected domains and actors from the regional, national and local governance sphere.

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, including the human right to a clean, healthy and sustainable environment, guide all actions.

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.

III. UNEA 6 can initiate bolder multilateral action.

18. Approved in 2012 during the United Nations Conference on Sustainable Development (Rio+20), UNEA was created to strengthen the international response to environmental challenges. The result of forty years of work since the Stockholm Conference, UNEA provides an unparalleled platform for countries to come together to tackle pressing environmental issues.

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

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20. Since UNEA 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, the illegal wildlife trade and protecting the environment in areas affected by armed conflict and disasters, amongst many others.

21. As the world grapples with a fragmented multilateralism, UNEA must bear the flag of an effective, inclusive and multilateral forum where solutions are sought, and agreement is reached. A UNEA that watches over the world, scales up action and responds to its most critical challenges. A UNEA that uplifts emerging environmental issues whilst scanning the horizon for future ones. A UNEA that consolidates agendas, decisions and stakeholders to fill the gaps of international environmental governance – a bolstered UNEA that can play its part in revamping multilateralism, while providing greater capabilities to the entire UN system and Member States to achieve the SDGs.

22. With this history in mind, and the responsibility that UNEA has, the UNEP Secretariat on its part has identified six areas where the Assembly may wish to compel more effective, inclusive and sustainable multilateral action: A) implementation of 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 around nutrients, especially phosphorus, E) reviewing climate-altering technologies and measures, and F) aligning the financial system for sustainability.

A. Implementation of the Kunming-Montreal Global Biodiversity Framework

23. The KM-GBF sets out an ambitious, targeted plan to halt and reverse global biodiversity loss. Its agreement was a milestone in multilateral environmental governance that UNEP was delighted to support.

24. But the hard work comes now, and UNEP has a key role to play. The KM-GBF provides a framework for action but, ultimately, its success or failure lies in how fully and effectively it is implemented. UNEP holds an important responsibility being one of the leading implementing agencies for the Convention and, in cooperation with the Secretariat of the Convention on Biological Diversity (CBD), it stands ready to help Member States and all other relevant stakeholders achieve its 23 action-oriented global targets. UNEA can accelerate and scale up UNEP’s role to ensure full support of the implementation of the KM-GBF, including through the mobilization of finance, support in updating national strategies and plans and complying with its monitoring and reporting mechanism.

25. 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 eighty percent of the planet’s biodiversity,\(^\text{30}\) with 5000 unique traditional cultures and ancestral lands covering 32% of all global land and inland waters across 90 countries. Therefore, it is only fitting for the KM-GBF to incorporate the rights of Indigenous Peoples across its targets.\(^\text{31}\)

26. As agreed at the last UNEA, nature-based solutions (NbS) 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

\(^{30}\) Etchart, L., “The role of Indigenous Peoples in combating climate change”, *Humanities and Social Sciences Communications* 3 (17085) (August 2017), accessed 8 September 2023, [https://www.nature.com/articles/palcomms201785](https://www.nature.com/articles/palcomms201785).

\(^{31}\) “2030 Targets (with Guidance Notes)”, CBD, accessed 8 September 2023, [https://www.cbd.int/gbf/targets/](https://www.cbd.int/gbf/targets/)
governance. Some NbS interventions, for instance, 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.

27. **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 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 from human rights violations, widespread discrimination and exclusion from decision-making and the ambition of the KM-GBF will not be achieved.

28. **Member States may wish to direct UNEP to enhance engagement with CBD and its constituencies to review and identify the most effective pathways, including financing opportunities, offered by the KM-GBF to uplift Indigenous Peoples’ collective rights and actions.** This could include exploring how the entire UN system and the 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 KM-GBF.

B. Advancing integrated approaches for a water-secure world

29. **Water is critical for achieving internationally agreed goals and targets, including those contained in the 2030 Agenda for Sustainable Development, the KM-GBF, and the Paris Agreement.** The UN 2023 Water Conference reasserted the crucial role of water to meet these commitments, and its central role in achieving food security, human health, energy production, industrial and economic development, and healthy terrestrial and marine ecosystems.

30. **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.** 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. Despite all these benefits, their ability to continue to do so is being undermined. For example, we are losing wetlands, including peatlands, at an alarming rate, the most rapid decline of all ecosystems. At the same time, the understanding of wetlands’ outsize role in climate mitigation and carbon sequestration is increasing.

31. **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

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nature;\textsuperscript{37} with an estimate that at least seven -- and up to nine -- out of ten disasters during the last decade water related.\textsuperscript{38} At the same time, water is key 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 water in dry periods, act as water filters, and recharge groundwater aquifers.

32. These impacts are coming on the heels of a daunting global water crisis driven by increasing global demand and decreasing supply. Approximately 2 billion people do not have access to safe drinking water and 3.6 billion people lack access to 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.\textsuperscript{39} Such challenges can aggravate displacement and conflict.

33. 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,\textsuperscript{40} with low-lying coastal zones, home to 680 million people, particularly at risk. Loss and damage in most sensitive ecosystems and vulnerable communities is often inevitable,\textsuperscript{41} with limits to adaptation and risk management already reached in high-risk sectors, regions, terrestrial and freshwater species and ecosystems.

34. Since 2010, Parties to the UNFCCC have been formulating strategies and adaptation programmes to identify and address their medium- to long-term adaptation needs. Over 90% of both National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) 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 induced by water-related climate events in vulnerable countries is being discussed under the transitional committee for financing for loss and damage.

35. Several former UNEA 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, and 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 accelerate biodiversity, climate, pollution and sustainable development goals and commitments.

36. The UN 2023 Water Conference and recent UN General Assembly action provide additional guidance and impetus. This includes establishment of a UN Special Envoy on Water; convening of an intergovernmental review of water in 2026; a review of the International Decade for Action in 2028, and the UN General Assembly Resolution to develop a UN system-wide strategy for water.\textsuperscript{42}

37. Member States may wish to request that UNEP expands its support on water-related resource management. This would include accelerating support to Member States to access data, information, capacity and financing to connect, track and implement the environmental targets of SDG 6 relating to


\textsuperscript{40} IPCC, Special Report on Ocean and Cryosphere in a Changing Climate (IPCC, 2019), available from https://www.ipcc.ch/srocc/

\textsuperscript{41} IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability.

freshwater ecosystem health, water quality and water resources management, and the water-related targets of the Global Biodiversity Framework. Member States may also wish to consider their reporting on these linkages and progress made to UNEA7 and enable greater input to the next UN Water Conference in 2026 to Accelerate the Implementation of SDG 6.

38. **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 scaling up support for countries to protect and restore specific ecosystems and areas in the context of the KM-GBF, as is the case with the Freshwater Challenge launched at the UN 2023 Water Conference under the auspices of the UN Decade on Ecosystem Restoration. UNEP can also accelerate support to implement the water-related elements of NAPs and NDCs through accelerating the implementation of integrated water resources management (IWRM) in countries worldwide, as well as accelerating access to climate finance. UNEP can help strengthening 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, measure results and track progress of relevant conservation and restoration innovations and technologies, such as blue carbon offsetting, and 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.**

39. **Nearly eighty percent of the world’s primary energy consumption comes from the fossil fuels that are propelling dangerous climate change.** 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, thus posing risks to biodiversity and pollution, and potentially giving rise to more conflict.

40. **A systems change towards resource efficiency and circularity is critical such that responsible mining of minerals and metals contribute to the needed planetary transitions towards sustainability.** More effective multilateralism in the resource efficiency space must prompt a rethink 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 that are primarily based on goods provisioning, to servicing provisioning options that have lower material footprints.

41. **Long-term strategies on sourcing minerals and metals are required to avert conflict, loss of biodiversity and ecosystem services, and pollution.** And securing responsible mining of critical energy transition minerals, especially in least developed countries (LDCs) and land-locked developing countries (LLDCs) where most of these minerals are located, must be part of the solution. This is key to foster benefit sharing, build resilience, trust and economic diversification, and create sustainable green jobs. At the same time, the extractives sector must put in place the necessary

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46 This paper addresses the issue of “critical minerals” within the lens and scope of the Secretary General’s Working Group mentioned in the text, in which UNEP is involved.
economic and social safeguards to manage environmental and health risks, address gender and social justice implications and protect the human right to a clean, healthy and sustainable environment.

42. **UNEP has advocated for a well-managed and responsible extraction of critical energy transition minerals that supports reaching net-zero by 2050, while not imperilling other environmental goals.** The UNEP International Resource Panel (IRP) report on mineral resource governance issued in 2020 explored practical actions to improve the international mining governance architecture.\(^{47}\)

43. **On the multilateral front, to coordinate and increase impact across the UN system on this issue, in 2020 the Secretary General launched the Working Group ‘Transforming the Extractive Industries for Sustainable Development’, co-chaired by UNEP, UNDP, and the UN Regional Economic Commissions.**\(^{48}\) UNEA has also already taken some preliminary action on mineral and metal resources through two past resolutions: UNEA 4/19 on Mineral Resource Governance, which requested UNEP to collect information on existing practices, knowledge gaps and approaches for sustainable management of metal and mineral resources;\(^{49}\) and UNEA 5/12 on Environmental Aspects of Minerals and Metals Management, which requested UNEP to organize regional intergovernmental meetings and a global event to develop non-prescriptive proposals to enhance environmental sustainability of minerals and metals.\(^{50}\)

44. **Member states may wish to build upon these previous resolutions and request UNEP to provide guidance to strengthen and harmonize policy frameworks for responsible mining.** Such a harmonization would bring together the many existing standards and certifications that respond to different metrics to advance responsible mining and circularity along the full life cycle of minerals and metals. And, beyond extraction, to identify how reuse, recovery, and recycling as well as service provisioning can reduce material footprints and increase economic opportunities.

45. **Member states may also consider requesting UNEP, working with UN partners and other stakeholders, to accelerate progress on the Secretary General’s Working Group.** Such work could include technical guidance and capacity support to developing countries with critical energy transition minerals.

### D. Advancing cooperation around nutrients, especially phosphorus

46. **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 in UNEA 4 and UNEA 5.\(^{51}\) As a result, UNEP has created a working group on nitrogen management, created an index for coastal eutrophication, and developed an international nitrogen assessment.


47. **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 tonnes 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 the KM-GBF Target 7 calls for reducing excess nutrients lost to the environment by at least half, including through more efficient nutrient cycling and use.

48. **UNEA could add value by committing to action on KM-GBF Target 7, and improve the resilience of ecosystems, protect biodiversity where losses are highest and benefit from the momentum around nitrogen/nutrients:**

   a. Member states may wish to direct UNEP to provide options to optimize efficient nutrient management practices, with a focus on phosphorus, and 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 to a reduction of the global loss of phosphorus and increase nutrient recycling; promote sustainable management practices to avoid losses and ensure long-term availability.

E. Climate-altering technologies and measures (CATM)

49. **Greenhouse gas concentrations in the earth’s atmosphere are at their highest concentrations in human history.** In addition to urgent and deep cuts in emissions of these gases, projections of the long-term CO$_2$ emissions trajectory indicate that climate stabilization will require carbon dioxide removal (CDR) to meet a 1.5°C target. Nature already provides options to remove carbon from the atmosphere, such as land restoration and the conservation of natural ecosystems, particularly those such as tropical forests and wetlands.

50. **As also recognized by the IPCC, several technologies exist, while others are emerging, with the purpose of carbon dioxide removal, while others are specifically designed to alter the climate altering towards cooling the planet.** Some climate altering technologies under discussion, to potentially cool the planet, but 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, however, could have serious unintended consequences at local and regional levels.

51. **A considerable amount of research is being undertaken on climate-altering technologies and measures in several countries; 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 CATM may factor into net zero commitments and the cost of carbon and transfers of CATM under the Paris Agreement is yet to be determined, with many experts concerned about a potential over-reliance on removal technologies. Additional scientific and technological information is required to make informed decisions.

52. **The Convention on Biological Diversity first addressed the issue of geo-engineering in 2008, focusing on the specific issue of ocean fertilization.** Following this, the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and its Protocol (under the

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International Maritime Organization) adopted regulations governing ocean fertilization experiments.\textsuperscript{53} In 2009, the CBD published a scientific synthesis report of the Impacts of Ocean Fertilization on Marine Biodiversity.\textsuperscript{54} In 2010, the 10\textsuperscript{th} CBD Conference of the Parties (CBD COP10) addressed Solar Radiation Modification (SRM) more broadly. Again, after significant negotiations, first in the Convention’s scientific body and subsequently by the CBD COP10, it was agreed that “in the absence of science based, global, transparent and effective control and regulatory mechanisms for geo-engineering, […] no climate-related geo-engineering activities that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities”.\textsuperscript{55} The COP 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 opined further. Accordingly, the London Protocol amendment defines marine geoengineering as a “deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change […]” but it also expresses concern about the potential impacts of ocean fertilization and other geoengineering activities on the marine environment.\textsuperscript{56} And finally, in 2019 the 31\textsuperscript{st} Meeting of the Parties of the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP31) requested that the 2022 report of its Scientific Assessment Panel should include: “An assessment of information and research related to solar radiation management and its potential effect on the stratospheric ozone layer.”\textsuperscript{57} \textsuperscript{58}

53. From the above, therefore, it is noteworthy that precedence demonstrates that Member States have recognized that the impacts of CATM, including solar radiation modification, need to be reviewed through a broad environmental lens, which includes marine, biodiversity, climate and stratospheric sciences when assessing its potential impacts. Whether it be biodiversity, water regimes, oceans, the ozone layer —and thus the stratosphere— human or climate impacts are likely. UNEP therefore concludes, based on existing science and the multilateral precedence of the various MEAs outlined above, that the issue of CATM including solar radiation modification requires considerations of multiple scientific disciplines, rather than an assessment from the perspective of a singular scientific discipline or field.

54. Understanding and familiarity with CATM varies widely amongst Member States, so in 2022, to enable broader dialogue, UNEP convened a multidisciplinary expert panel to undertake a rapid review of the state of scientific research on SRM. UNEP published its findings on 27 February 2023, in, ‘One Atmosphere: An Independent expert Briefing on Solar Radiation Modification Research and Development.’\textsuperscript{59} The report has been 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.

\textsuperscript{55} CBD COP-10 Decision X/33, Biodiversity and climate change, UNEP/CBD/COP/DEC/X/33 (29 October 2010), available from https://www.cbd.int/doc/decisions/cop-10/cop-10-dec-33-en.pdf
\textsuperscript{59} UNEP, One Atmosphere: An independent expert review on Solar Radiation Modification research and deployment (Nairobi: UNEP, 2023), https://wedocs.unep.org/handle/20.500.11822/41903
55. Member States have successfully deployed the establishment of Ad Hoc Expert Groups (AHEGs) in the past to further study, create broader familiarity and arrive at a forward pathway when considering a new environmental challenge. As the awareness and familiarity with CATM is still emerging in most Member States, an AHEG-type pathway for CATM, including solar radiation modification, would enable a broader exchange, dialogue and mutual understanding of the state of the science, its risks as well as environmental impacts.

56. Member States may wish to deploy a Member State-led AHEG and request UNEP to provide technical and secretarial support to 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 the potential AHEG 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 these against their potential to support a reduction at scale in atmospheric carbon and global warming.

F. Aligning the financial system for sustainability

57. How more than USD400 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 UN Paris Agreement, the SDGs and the KM-GBF. UNEP is helping to align private finance with these goals and targets of the international frameworks, including catalyzing private finance for climate mitigation, adaptation, nature-based solutions and tackling chemicals and plastics pollution.

58. UNEP convenes a network of more than 500 financial institutions with assets exceeding USD100 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% of the global banking and 30% 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 impact across the economy. These industry-wide programmes are complemented by targeted initiatives, including three UN-convened net-zero alliances, and financiers’ groups working on tackling plastic pollution, the transition towards a circular economy, and the implementation of the KM-GBF.

59. Several relevant past UNEA resolutions have addressed the financial sector. But 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 new opportunities for transparency and broader social inclusion.

60 UNEP, GEO for Business – Changing Finance to Catalyze Transformation: How financial institutions can accelerate the transition to an environmentally sustainable economy (Nairobi: UNEP, 2021).
63 Relevant resolutions from the fifth session of the UN Environment Assembly, for instance, include: UNEA resolution 5/5, “Nature-based solutions for supporting sustainable development” (UNEP/EA.5/Res.5); UNEA resolution 5/9, “Sustainable and resilient infrastructure” (UNEP/EA.5/Res.9); UNEA resolution 5/10, “The environmental dimension of a sustainable, resilient and inclusive post-COVID-19 recovery” (UNEP/EA.5/Res.10); UNEA resolution 5/11, “Enhancing circular economy as a contribution to achieving sustainable consumption and production” (UNEP/EA.5/Res.11); UNEA resolution 5/14, “End plastic pollution: towards an international legally binding instrument” (UNEP/EA.5/Res.14). All resolutions are available from https://www.unep.org/resolutions-treaties-and-decisions/UN-Environment-Assembly-5-2.
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 KM-GBF and 1.5°C pathways.

IV. Responding to the call: Elevating the environment within the multilateral system

As the Summit of the Future in 2024 approaches, it is clear that the United Nations system must transform through the "quintet of change" for a UN 2.0. Among other things, UNEP will continue to strive to be stronger, more agile and more responsive, capable of offering more system-wide solutions for the modern world, with stronger capacity for data and analysis, innovation and digital transformations, strategic foresight, behavioural science, and results.

But UNEP needs the requisite resources to fulfil its full potential. Before the Stockholm Conference in 1972, there was a proposal to create a US$100 million Environment Fund to support effective international cooperation on global environmental challenges. That sum would be nearly US$730 million in today’s money, but more than 50 years on, UNEP’s Environment Fund falls short of even the original US$100 million target. It is also important to note that Member State contributions to UNEP are considered voluntary, unlike contributions to the multilateral environmental agreements that UNEP has the privilege of hosting. As a result of the voluntary nature of Environment Fund contributions, they consistently fall short of the UNEA agreed budget. In this regard, in 2020, UNEP conducted a survey of Member states on UNEP’s funding, seeking guidance on how to increase EF funding and which identified interest in exploring potential approaches in response to Member States that do not contribute to the EF.

The environment – as the foundation for economic and social development - must be elevated within the global agenda. This requires strengthening UNEP, supporting existing commitments under paragraph 88 of “The future we want” and the UNEP@50 Political Declaration, with mandates and resources comparable to these expectations. This means giving meaning to the desire to strengthen UNEP’s Headquarters, by considering locating important new environmental entities at UNEP’s Headquarters in Nairobi, thus enabling a more integrated Secretariat service across the environmental multilateral landscape. This means bolstering UNEP’s role to consolidate information into coherent, current, and actionable assessments of planetary health that can inform solutions and action on the ground. This means ensuring the environment is better integrated across the entire multilateral system, in particular with the financial, social and economic systems. And this means being able to advocate for, and advance, environmental rights, equity, and inclusion across the multilateral system.

Member States and the UN 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 to catalyze, facilitate and support the coherent implementation of the environmental dimension of 2030 Agenda and the SDGs by member states and other partners.

This increasing recognition has led to an unprecedented increase in demand for UNEP support at the country level. Member states are increasing their demand for UNEP support, both directly and

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64 "UN 2.0 – Quintet of Change", (United Nations, 2023), accessed 8 September 2023 [https://un-two-zero.network/]
65 "The first Earth Day was a shot heard around the world", The Conversation, accessed 8 September 2023, [https://theconversation.com/the-first-earth-day-was-a-shot-heard-around-the-world-136210]
67 UNEA, Political declaration of the special session of the United Nations Environment Assembly to commemorate the fiftieth anniversary of the establishment of the United Nations Environment Programme.
through the UN Country Teams (UNCTs) and UN Resident Coordinators (UNRCs). Common Country Analyses (CCAs) need more environmental data and analytics to better inform the UN Sustainable Development Cooperation Frameworks (UNSDCFs) that guide the collective engagement of the UN System. UNEP is working to enhance engagement and support in regional consultative processes, and opportunity- or issue-based coalitions through strategic presence. Yet, there remains significant scope for enhancing engagement with UNRCs and UNCTs and in supporting the development and implementation of CCAs and UNSDCF.

66. **UNEP’s limited country presence results in equally limited visibility of the environmental dimension of the SDGs among the UNRCs network and the UNCTs.** Like other UNCT members, UNEP is asked to actively engage in all stages of the UNSDCF process, including through UN results groups and joint work plans to support governments in achieving the SDGs and the 2030 Agenda. Increased engagement by augmenting UNEP’s staffing cadre, as part of the UNCT, would allow for closer collaboration and engagement and more responsiveness to countries’ needs. This enhanced collaboration would ensure that the environment has a seat at the table whenever country assessments and analysis are carried out, as well as for the programming of resources in the UNSDCF.

67. **Member states may wish to discuss opportunities to increase UNEP’s financial and human resources to meet the increasing country demand to provide environmental support at country level to address the SDGs.** Opportunities could include discussions on UNEP’s 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.

68. **Member States may wish to also consider the results of the 2020 funding survey and discuss options for reaching universal contribution to the Environment Fund and full share in accordance with the Voluntary Indicative Scale of Contributions.**

**Conclusion**

69. **By embracing effective and sustainable multilateral action, UNEA-6 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: UNEA must bring together voices from across the spectrum of science, policy, and business, as well as across regions, generations, languages, faiths, and cultures. UNEA—which, after all, is the planet’s only universal membership forum for the environment—can provide a platform for courageous decisions and new ideas to come to the fore. Together, let us seize the many opportunities of the sixth session of the UN Environment Assembly and come away with a bold and decisive plan of collective environmental action.