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Advancing sustainable solutions for a resilient planet in Asia Pacific

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1. Introduction

- 1.1 At the Summit of the Future, on 22 September 2024, world leaders adopted the Pact for the Future, in which they expressed their belief in a path to a brighter future for all of humanity. They pledged to take action to strengthen multilateralism with renewed commitments to the 2030 Agenda for Sustainable Development. Given that Asia and the Pacific account for nearly half of the global gross domestic product (GDP) and 60 per cent of the world's population, the region plays a central role in shaping future outcomes and driving global development. Actions taken by Member States and other stakeholders and cooperation within the region, have the potential to address the triple planetary crisis of climate change, biodiversity loss and land degradation, and pollution as well as investment challenges for sustainable development.
- 1.2 Transitioning to green and blue economies is essential to combat climate change, preserve biodiversity and promote the sustainable use of resources, all of which support the achievement of the Sustainable Development Goals. The transition is underway in the Asia-Pacific region, presenting strong potential for job creation in sectors such as renewable energy, waste management, and marine conservation. Multi-stakeholder partnerships with concerned stakeholders including Member States, private sector, academia and civil society organizations are particularly effective in efforts to strengthen policy outcomes as well as leverage financial resources, technology tools, and capacity building. New technologies are advancing exponentially and have the potential to accelerate green and blue transitions, enhancing productivity and driving efficiency in key sectors such as renewable energy, marine conservation, and circular economy practices.
- 1.3. The background document is prepared to facilitate discussion on the key challenges and opportunities, in areas including climate change, biodiversity loss and land degradation, chemicals and pollution, science-policy, environmental governance, finance and economic transformation, and digital transformation, towards advancing sustainable solutions in Asia and the Pacific.

2. Climate Action

- 2.1. The region is home to 6 of the top 10 global greenhouse gas emitters, contributing to over half of the world's total greenhouse gas emissions, and is highly vulnerable to climate stimuli including extreme weather events with the intensity of these impacts varying across different sectors and regions. Therefore, it is imperative for the region to decarbonize its economy and build resilience against the adverse impacts of climate change.
- 2.2. Share of greenhouse gas emissions signifies the urgent need to decarbonize the key economic sectors. The region accounts for 55% of global Greenhouse gas emissions, driven by industrialization, urbanization, and deforestation. Energy-related CO₂ emissions increased by 151% between 2000 and 2023.

- 2.3. Efforts to decarbonize and energy transition in Asia and the Pacific Region vary widely across countries and sectors and mostly driven by differing economic circumstances, resource availability, and policy frameworks
- 2.4. Current Nationally Determined Contributions (NDC) commitments are highly inadequate, and the reduction of GHG emissions will be approximately 2 GtCO₂eq by 2030 with the full implementation of NDC commitments. The top priority sectors identified in the NDCs are energy, industry, transport, waste, forestry, agriculture, and marine ecosystems. Creating and enhancing enabling conditions and readiness for decarbonizing key GHG-emitting sectors, as well as enhancing access to the means of implementation (technology, finance, and expertise), are identified as priority needs.
- 2.5. Champion a just transition towards a clean energy future by advocating for the widespread accessibility and adoption of renewable energy and energy efficiency technologies, and the advancement of the environmental rule of law. Stronger international cooperation and support, including through enhanced climate finance, will be essential to deliver on the Paris Agreement.
- 2.6. Mega deltas, low-lying coasts (including small island states), and floodplains are particularly vulnerable. The overall priorities are to enhance adaptive capacity and build resilience in vulnerable systems, such as social systems (including resilient livelihoods), the economy, and natural resources (including ecosystem services). National Adaptation Plans (NAPs) have identified agriculture and food security, health and well-being, water resources, ecosystems and their services, infrastructure, energy systems, coastal and low-lying zones, and early warning and disaster risk reduction as the top priority sectors.
- 2.7. Within the next year or two, all countries will submit their NAP and will be able to access financial resources to implement priority projects. These will enable countries to enhance the resilience of key systems. Countries must have a robust adaptation monitoring and learning system to report their progress against the Global Goal on Adaptation as well as establish institutional arrangements to access loss and damage funds. It is critical for all countries in the region to have an effective Early Warning System to support informed decision making at all levels.

3. Nature Action

- 3.1. The Asia and the Pacific regions host some of the world's richest ecosystems, with 17 of the 36 global biodiversity hotspots and 7 of the 17 megadiverse countries¹. These ecosystems support livelihoods through essential services like food, clean water and air, resilience, health, and development. Yet, biodiversity here is under severe threat from population growth, urbanization, and unsustainable land use. The region has the world's highest number of threatened species, with marine and coastal ecosystems increasingly affected by overexploitation, invasive species, and habitat loss². The World Economic

¹ IPBES (2018) Regional Assessment Report on Biodiversity and Ecosystem Services for Asia and the Pacific <https://ipbes.net/assessment-reports/asia-pacific>

² ESCAP (2023) *Protecting Our Planet through Regional Cooperation and Solidarity in Asia and the Pacific*, [content](#)

Forum estimates that 63 per cent of Asia-Pacific's GDP—around \$19.5 trillion—is at risk from nature's loss, underscoring the region's central role in the global biodiversity crisis.

- 3.2. In response, it is vital to strengthen nature-based solutions, restore ecosystems, manage water sustainably, and minimize deforestation. Accelerated implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) is essential, applying a whole-of-government and whole-of-society approach. Aligning National Biodiversity Strategies and Action Plans (NBSAPs) with NDCs, National Adaptation Plans (NAPs), and sectoral policies (e.g. health, food, tourism) is critical. Scaling up biodiversity finance, including private sector engagement through blended finance and public-private investment models, will be key. Accelerated action against desertification, land degradation and drought are essential, building on the growing momentum toward UNCCD COP17 in Mongolia in 2026.
- 3.3. Sustainable food systems are central to achieving the 2030 Agenda. Since the 2021 UN Food Systems Summit (UNFSS), Asia-Pacific countries have promoted sustainable consumption, nature-positive production, and climate-resilient practices. The 2nd UNFSS+4 in July 2025 will assess progress and offer an opportunity to reinforce efforts, particularly regarding environmental dimensions, through integrated, multisectoral approaches to food systems.
- 3.4. Water resources are under mounting pressure from land degradation, deforestation, pollution, and climate change. Water security—both quality and quantity—is vital for livelihoods and development. Addressing the interlinkages between ecosystems, water extremes, food security, and nature loss through a holistic approach is essential to ensure resilience and sustainable management of water resources in the region.

4. Pollution Action

- 4.1. Strengthen international cooperation to address transboundary pollution and prioritize the development of advanced monitoring systems to effectively track and manage these issues across border.
- 4.2. The triple planetary crisis -biodiversity loss, pollution, and climate change—has amplified impacts in cities. By 2050, nearly 68 per cent of the global population will live in urban areas, facing heightened exposure to air pollution, one of the largest environmental health risks. In South Asia, levels of fine particulate matter (PM2.5) and ground-level ozone remain high, severely affecting public health. Air pollution is also linked to climate change and food insecurity. Tackling both requires urgent action on non-CO2 pollutants to achieve climate goals and improve air quality.
- 4.3. The global plastic pollution crisis continues to escalate. Two-thirds of the 430 million tonnes of plastic produced annually are short-lived, quickly becoming waste. A large portion ends up polluting rivers and oceans. Addressing this requires a full life cycle approached redesigning products for circularity, reducing reliance on single-use plastics,

enhancing reuse and recycling systems, and supporting a just transition for informal waste workers.

- 4.4. Antimicrobial resistance (AMR) is a growing global threat to health, economies, and ecosystems. In 2019, bacterial AMR caused an estimated 1.27 million deaths globally. By 2050, AMR could push up to 28 million people into poverty. Environmental contributors include antibiotic residues, heavy metals, and pharmaceutical waste, which foster resistant bacteria in water and soil. Effective environmental monitoring and management are essential to addressing AMR.
- 4.5. Nutrient pollution remains a significant environmental challenge. Scientific consensus underscores its impact, and global targets—such as SDGs 6.2, 6.3, and 14.1, and the GBF goal to halve nutrient loss by 2030—stress its urgency. Key actors include the Regional Seas Conventions, the UNFCCC, and the Global Programme of Action.
- 4.6. A holistic, circular, multi-sectoral, and source-to-sea approach is essential. Strengthening national monitoring systems and science-policy interfaces, as emphasized in past UNEA resolutions, will be key to effectively managing nutrient pollution.

5. Science-Policy

- 5.1. Lack of progress towards environmental sustainability - climate change and natural disasters in particular - is a key obstacle to progress towards the 2030 targets in Asia and the Pacific region³. As the Asia and the Pacific SDG Progress Report 2025 highlights, compounding this challenge is the persistent data gaps, which limit the ability of policymakers to design and implement effective interventions. To help address these challenges, the region is increasingly turning to innovative monitoring technologies. Advances in satellite imaging, remote sensing, geographic information systems (GIS), internet of things (IoT)-enabled sensors, drones, artificial intelligence (AI), and citizen science are offering new ways to strengthen early warning systems and generate high-quality environmental data and statistics, enabling more responsive and informed policymaking at all levels.
- 5.2. A growing body of credible scientific assessments is available to support evidence-based environmental policymaking and stakeholder actions. Landmark reports such as the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports⁴, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Nexus Assessment⁵ and Transformative Change Assessment⁶, and the International Resources Panel (IRP)'s Global Resources Outlook⁷ provide robust, science-based recommendations for sustainable solutions. Building on this foundation, the

³ UNESCAP, Asia and the Pacific SDG Progress Report 2025, <https://www.unescap.org/kp/2025/asia-and-pacific-sdg-progress-report-2025>

⁴ <https://www.ipcc.ch/assessment-report/ar6/>

⁵ <https://www.ipbes.net/nexus-assessment>

⁶ <https://www.ipbes.net/transformative-change-assessment>

⁷ <https://www.unep.org/resources/Global-Resource-Outlook-2024>

upcoming 7th Global Environment Outlook (GEO-7)⁸, with a solutions-oriented focus, aims to move beyond diagnostics to identify practical actions to meet our climate, nature and pollution reduction targets.

- 5.3. A strengthened science-policy interface is critical to empowering governments and stakeholders to make evidence-based decisions. In recognition of this need, the UNEA Resolution 5/8 called for the establishment of a new science-policy panel on the sound management of chemicals and waste, and pollution prevention. This panel aims to provide independent, policy-relevant scientific advice, complementing the work of the IPCC and IPBES. Together, these three global panels will form a comprehensive science-policy foundation to tackle the triple planetary crisis—climate change, biodiversity loss, and pollution—ensuring that all dimensions of environmental sustainability are underpinned by authoritative science.

6. Environmental Governance

- 6.1. To ensure that laws and institutions effectively advance sustainable development and can meet international environmental commitments under Multilateral Environmental Agreements (MEAs) and other intergovernmental processes, targeted measures are needed to scale up national level policy alignment and collaboration across MEAs to advance effective and inclusive implementation. There are significant gaps identified in Asia Pacific in the capacity, financing and delegated responsibilities of institutions to support synergistic implementation of MEAs and advance environmental rule of law.⁹ There are opportunities through the Montevideo Environmental Law Programme (UNEA resolution 4/20), to deliver technical legal assistance and build capacity of national authorities, with a particular focus on judges and legal stakeholders as they are called to play a pivotal role in realizing environmental justice. Another key opportunity is to support legal empowerment and access to justice through environmental legal clinics and legal aid. UNEP is supporting the creation of a regional alliance of environmental law clinics.
- 6.2. Recognition and protection of environmental rights, including both substantive and procedural rights, is foundational for sustainable development and environmental rule of law. While the right to a healthy environment is now legally recognized by more than 80 percent of United Nations Member States – 164 out of 193 States¹⁰, environmental rights are not universally protected and promoted in the Asia Pacific region with 18 Member States legally recognizing the right to a healthy environment either in their national constitution or legislation. Key challenges include the need to strengthen legal and policy frameworks, protect environmental defenders, and advance the right to a healthy environment by promoting, and protecting environmental rights and building the capacities of relevant stakeholders. There are opportunities for greater regional recognition and action through regional mechanisms and national commitments. In 2025

⁸ <https://www.unep.org/geo/global-environment-outlook-7>

⁹ [Environmental Rule of Law: Tracking Progress and Charting Future Directions | UNEP - UN Environment Programme](#)

¹⁰ Countries recognize the right to a healthy environment by acceding to international treaties, through their national constitution or through legislation. <https://www.r2heinfo.com/legal-recognition/>

ASEAN Member States adopted the *ASEAN Declaration on the Right to a Safe, Clean, Healthy and Sustainable Environment*¹¹ and the 2050 Strategy for the Blue Pacific Continent notes the “importance of protecting human rights and environmental rights”¹². These regional commitments present key opportunities to harness whole of society approaches, including women, youth and civil society, and Indigenous Peoples, through regional and national action plans to uphold and advance environmental rule of law and environmental justice.

7. Finance and Economic Transformations

- 7.1. Finance is a key challenge to addressing the triple planetary crises. USD 7.5 trillion per year between now and 2030, and over USD 8.8 trillion per year from 2031 to 2050 (CPI Climate Finance report) to address climate change. Similarly, for addressing biodiversity loss and ecosystem financing gap estimated at US\$700 billion per year (Finance for Nature 2023, UNEP). Member states are encouraged to unlock Private finance (banking and insurance sectors) and new business opportunities by adopting norms (Taxonomies) and transparent reporting on financing, developing sustainable finance strategies and regulatory frameworks (Principles for Responsible Banking (PRB); Principles for Sustainable Insurance (PSI), and Principles for Responsible Investment (PRI).
- 7.2. An estimated USD 2.6 trillion in subsidies – or 2.5% of global GDP- is annually directed toward activities that harm the environment and sustain inequalities. Member states must use the power of public budget and fiscal policies by adopting sustainable budgeting approach to align national budgets, leverage private sector financing and investment for unlocking capital to achieve net-zero, nature-positive, pollution-free and circular economy outcomes with environmental, social, and economic objectives. Member States should make efforts to redirect subsidies to priorities that increase resilience and human well-being across a range of sectors, including energy, agriculture, mobility, and fisheries to name a few.
- 7.3. Since 2000 there has been an increasing focus on carbon pricing, reforms to fossil fuel subsidies, and incentives for green energy/industry. A survey of the largest National Development Banks shows that more than 80 percent have adopted green goals. Member states should leverage carbon pricing, including carbon markets and other environmental pricing approaches to achieve climate, nature, and pollution goals.
- 7.4. Extraction and processing of material resources account for over 55% of greenhouse gas emissions (GHG) and 40 % of particulate matter health related impacts. Biomass also accounts for over 90 percent of total biodiversity loss and water stress. Members States must advance circular economy principles by encouraging industries to adopt sustainable production and consumption models that emphasize resource efficiency, waste minimization, and the rethinking of product life cycles focusing on high impact sectors

¹¹ TBC at the end of May, once adopted include link

¹² <https://forumsec.org/sites/default/files/2023-11/PIFS-2050-Strategy-Blue-Pacific-Continent-WEB-5Aug2022-1.pdf> pg19

(e.g., Textiles, Plastic, Electronics, Tourism). Adopt policies (e.g. sustainable public procurement, digital product information, ecolabelling, etc.).

8. Digital Transformations

- 8.1. As recognized in the Global Digital Compact¹³, digital technologies, when effectively leveraged, offer immense opportunities for sustainable solutions. By developing and integrating digital solutions into national plans, Member States can accelerate progress toward the SDGs. While emerging digital tools powered by diverse data sources are becoming increasingly available, significant barriers such as ecosystem fragmentation, lack of interoperability, and access limitations remain in utilizing environmental data for decision-making.
- 8.2. In response to the UNEA resolution 4/23, UNEP is currently developing the Global Environmental Data Strategy (GEDS) to strengthen data quality, interoperability, governance, access, and capacity building. The strategy will support countries and institutions in utilizing digital tools such as AI, Earth Observation, and data analytics to close data gaps, enhance decision-making, and track SDG progress. Ensuring that high-quality, accessible environmental data is available is key to unlocking its full potential.
- 8.3. Meanwhile, attention must also be paid to the environmental impacts of digital technologies to ensure that their costs do not outweigh their benefits. Technologies such as AI impact the environment across their life cycle, from mineral extraction and energy use to water consumption and e-waste generation—often with issues of injustice deeply entrenched. In this regard, Member States are encouraged to consult UNEP’s Issue Note on the Environmental Impacts of AI¹⁴ for further guidance.
- 8.4. Demand is surging for critical minerals—used in batteries, solar panels, and digital infrastructure. As countries transition toward renewable energy and digital technologies, action is needed to strike a balance between promoting economic prosperity and ensuring environmental sustainability. The UN Secretary-General’s Panel on Critical Energy Transition Minerals¹⁵ underscores the urgent need to manage the sustainability of the transition. Environmental degradation and other detrimental effects associated with the supply chain of grid systems, energy storage, and digital technologies must be mitigated, particularly in regions where transition minerals are extracted or processed.

9. Conclusion

- 9.1 The triple planetary crises (TPC) of climate change, nature and biodiversity loss and pollution are interrelated and often transboundary in nature and highlight the urgent need for collective global and regional action to mitigate climate change, halt biodiversity loss, and reduce environmental pollution to ensure the right to a clean, healthy and sustainable

¹³ <https://www.un.org/global-digital-compact/en>

¹⁴ <https://wedocs.unep.org/handle/20.500.11822/46288>

¹⁵ <https://www.un.org/en/climatechange/critical-minerals>

environment. Addressing these interconnected challenges requires shared regional cooperation and learning. Regional cooperation will be critical in mitigating the common social, economic, and environmental threats, as well as in advancing sustainable development, and in building greater resilience in dealing with future shocks in Asia and the Pacific.

- 9.2 The wide range of regional and subregional intergovernmental forums in the region therefore provide critical platforms for action and learning to address the TPC. These forums include, inter alia: Association of Southeast Asian Nations (ASEAN), Secretariat of the Pacific Regional Environment Programme (SPREP), South Asia Co-operative Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD), and Mekong River Commission (MRC). Regional Seas programmes further provide regional frameworks on priority issues related to the marine and coastal environment, such as blue economy, marine and coastal ecosystem management, plastic litter, and nutrient pollution. They provide forums for dialogue and coordination across countries and stakeholders, for knowledge exchange and collective action to address transboundary challenges.
- 9.3 The Sixth Forum of Ministers and Environment Authorities of Asia Pacific, with governments, intergovernmental organizations, and other stakeholders is expected to deliberate on challenges and opportunities at the regional, subregional and national levels to scale up effective, inclusive and sustainable multilateral actions to tackle climate change, biodiversity loss and pollution. Through these actions, Member States in Asia Pacific can support decarbonization, address air and water pollution and uphold the right to a clean, healthy and sustainable environment for people and the planet.