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Information document on Leadership Dialogues: Economic and Financial Resilience depends on Environmental Health*

Note by the secretariat

I. Introduction

(i) This paper serves as background to the UNEA-7 Leadership Dialogues (see Annex 1) by highlighting evidence that links economic and financial resilience to environmental health. More specifically, it examines how addressing environment challenges can support global resilience across health, industry, and finance sectors, identifying key questions to spark a dynamic debate based on addressing systemic challenges.

(ii) **Climate change, nature degradation, and pollution carry large costs and can create systemic macro-financial risks.** Climate and other shocks have contributed to sovereign debt challenges that have become one of the greatest obstacles to realizing sustainable development (UN DESA, 2025). In 2023, 62 per cent of global economic losses from natural catastrophes totalling US$ 290 billion were uninsured (Glemark, Y., Solana, M. & Babinsky, F. 2025). Growing damage and economic losses from natural catastrophes are widening protection gaps and causing strain on economies and government budgets, with potential systemic ramifications (IAIS, WBG, 2025). They can affect lives, livelihoods, assets and productive capacity, depress collateral values, disrupt supply chains, and raise liabilities and insurance premia. Climate impacts and biodiversity loss have the potential to cause higher default rates, market volatility, and consequently sovereign downgrades. Pollution compounds these pressures, with unmanaged liabilities impairing asset quality, raising claims, and eroding profitability (UNEP FI, 2024). These impacts can worsen balance sheets and funding conditions, underlining the need for credible transition plans and robust risk management.

(iii) **Risks from the physical impacts of climate change can amplify operational and credit stress, with widening disparities.** The impacts of climate change are driving rising losses (insured and uninsured), with forecasts of up to US$ 145 billion in 2025, while acute weather events have raised near-term credit and operational risks (Swiss Re Institute, 2025; Commonwealth Bank, 2022). While about half of reported economic losses from climate-related events were insured in high-income countries, less than one per cent were covered in Africa in 2024. Delayed action to cut greenhouse gas (GHG) emissions will increase impacts on climate-vulnerable communities and could

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* The document has not been formally edited.

lead to economic dislocation. As the climate crisis intensifies, uninsured global losses could double by 2030. Some communities and businesses may become 'uninsurable' due to lack of insurance options or inadequate, inaccessible, or unaffordable coverage, amplifying economic risk.

(iv) **Natural capital underpins over half of global economic value (US$ 58 trillion).** Its degradation is driving food price shocks, inflationary pressures and mounting fiscal and debt risks (PWC, 2023; WEF, 2020). Nature loss and water stress can drive commodity volatility, inflation and fiscal strain, raising credit and sovereign risk in nature-dependent economies (IPBES, 2019; WEF, 2020; ECB, 2024; OECD, 2023).

(v) **Pollution, human health, and economic wealth are inextricably linked**. Environmental pollution accounts for approximately 24 per cent of global deaths and 28 per cent of deaths among children under five (WHO, 2023). Pollution and contamination can create liabilities, cleanup costs and reputational damage that impair asset quality and insurer reserves (UNEP, 2021; World Bank, 2016; OECD, 2016; UNEP FI, 2024; UNEP, 2025; UN News, 2025).

(vi) **Without decisive action to address sustainability risk drivers, macro-financial costs are large and compounding.**[1] Inadequate action to address climate and biodiversity risks could lead to up to an 18 per cent GDP decline by 2050 and trillions in annual ecosystem service losses by 2030 (Swiss Re Institute, 2021; World Bank, 2021). Global GDP per capital could contract by a quarter by 2100 without substantial mitigation and adaptation (Mohaddes and Raissi, 2025). Ecosystem collapse could cost US$ 2.7 trillion annually by 2030 (World Bank, 2021), while heat stress could reduce global working hours equivalent to 80 million jobs (ILO, 2019). These losses translate into higher default rates, sovereign downgrades, and market volatility as credit agencies' price intensifying risks. It is especially important to understand risk exposure in the many developing countries already facing high debt service burdens and borrowing costs, which constrain their fiscal space and ability to address poverty and inequality and invest in sustainable development.

(vii) **Addressing sustainability risks can contribute to resilience.** Economic and financial resilience emerge from complex interaction of actors such as households, communities, businesses, financial institutions, and policy institutions that operate within broader societal and planetary systems (Hafele et al., 2022). Goods, services, and finance flow through these actors while creating emissions and waste as a by-product that contributes to environmental and social pressures. Action to address impacts generates benefits and opportunities. Mitigating emissions often aligns with economic growth, job creation, energy security and achievement of other Sustainable Development Goals (UNEP, 2025). Protecting planetary systems protects human health and economic and financial systems. For developing economies reliant on natural resources, protecting ecosystems and controlling pollution are preventive investments against productivity loss, climate vulnerability, and disaster-related economic shocks (UNEP, 2023). Healthy ecosystems enhance climate adaptation, as intact wetlands, forests, and watersheds buffer communities from floods, droughts, and heat extremes, stabilizing economic activity. Adaptation investments yield a "triple dividend," as each US$ 1 invested in climate-adaptive measures can return up to US$ 10.50 in avoided damages and productivity gains (Global Commission on Adaptation, 2019).

(viii) **Pollution, human health, and economic wealth are inextricably linked.** Clean water and fertile soil sustain agriculture and fisheries, while reducing pollution safeguards human health, strengthens natural capital, and catalyses innovation that contributes to long-term economic benefits. Pollution reduction is increasingly recognized as an environmental imperative and as a strategic driver of human well-being and economic resilience. Population health is inextricably linked to the quality of their environment and is a critical component of national wealth. Integrated air quality and climate policies could cut attributable mortality by up to 35 per cent against the current trajectory, saving more than 2 million lives annually, while increasing global GDP by US$ 1.9-2.4 trillion (Climate Policy Initiative, 2025). By improving air, water, and soil quality, countries strengthen their human capital base, reduce fiscal burdens on healthcare, and enhance the adaptive capacity of their economies to withstand shocks. Improving ecosystem health and reducing pollution improves life expectancy and cognitive development, resulting in a healthier, productive workforce.

(ix) **The economic cost of inaction is much higher than the costs of transforming economies to address impacts, which would deliver long-term returns on investment**. While there are upfront costs to transform economies to achieve net-zero emissions and ensure adequate funding for

[1] The UN Brundtland Commission defined sustainability in 1987 as the meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability is based on social, environmental and economic pillars. Transitioning to sustainable economic activity entails aligning strategies and operations with the Sustainable Development Goals, adopted by all UN member states in 2015

conserving and restoring biodiversity, transformation could deliver global macroeconomic benefits estimated at US$20 trillion per year by 2070 (UNEP 2025). Whole-of-society, whole-of-government approaches to reshape the systems of economy and finance, materials and waste, energy, food and the environment would mitigate risks and unlock opportunities. Governments, the private sector, civil society, academia and other stakeholders could collaborate to co-design and implement integrated policies, strategies and actions to deliver a better future for all (UNEP 2025).

(x) **The resilience of public and private finance is codependent on sustainable development priorities**. Countries adopting the Seville Declaration in July 2025 committed to promoting the consideration of the environment, biodiversity, climate, disaster risk, food security, nutrition and sustainability of agrifood systems in fiscal programming, sustainable development priorities and poverty eradication strategies, through measures such as green budgeting, taxation and fiscal rules; and taxes on environmental contamination and pollution. They agreed to take concrete actions to enhance fiscal space, address debt challenges of developing countries and lower the cost of capital, while mobilizing additional financing from all sources of public and private finance. They committed to promoting the development of domestic financial sectors, and to expand long-term bond and insurance markets, equity markets and institutional investment.

II. Managing financial system exposure

(xi) **As climate and nature loss can alter the value of assets and impact operations and processes, it can have a material impact on the financial soundness of households and companies and, in turn, banks and financial stability**. This can bring climate and nature risk to the core objective of central banking and the supervision and regulation of financial institutions and markets. Financial institutions play an important role in economies, and central banks and supervisory agencies have a key role in providing prudential supervision to ensure the safety and soundness of banks and the stability of financial systems overall (NGFS, 2024; IMF, 2024b). For central banks and supervisors, this involves monitoring systemic risks, and increasingly, taking climate risk and nature loss into account as part of monetary policy and supervisory objectives (Elderson, 2024b).

(xii) **Banks face rising credit and collateral risks from sustainability-related drivers.** If unmanaged, climate-driven physical damage, nature and biodiversity loss and pollution liabilities can erode asset values, increase non-performing loans, and raise funding costs (NGFS, 2022). Climate-adjusted probability-of-default and loss-given-default estimates can materially change credit outcomes in climate-sensitive sectors.

(xiii) **Rising environmental risks are driving a sustained increase in losses and reshaping insurers' risk exposures.** Insured losses from weather-related perils reached US$ 136 bn in 2024. Climate-related catastrophes and the loss of nature's defences are driving a five to seven per cent annual rise in insured losses (Swiss Re Institute, 2025). Insurers are absorbing higher claims from climate-driven extreme weather (NGFS, 2022). In addition, insurers face growing exposure to biodiversity loss and pollution-related liabilities, which are increasingly recognized as material financial risks (Swiss Re Institute, 2020; NGFS & INSPIRE, 2021).

(xiv) **Central banks and supervisors in several jurisdictions are considering climate risks as part of prudential mandate.** The Basel Committee on Banking Supervision has developed principles for effective management and supervision of climate-related financial risks. Some central bank mandates in regions such as Asia Pacific include flexibility to support or integrate sustainability goals, with macroprudential tools focusing on system-wide climate stress tests. While there is no evidence of central banks in some countries integrating climate risk, supervisors in several jurisdictions are translating policy intent into prudential requirements, anchoring environmental risk in prudential frameworks to safeguard financial stability as climate hazards evolve. Central banks in countries including Australia, Indonesia, Malaysia, the Philippines and Singapore are consistently integrating these risks. Since 2021, The People's Bank of China (PBoC) has required its top state-owned banks to conduct annual climate stress tests across high-emission sectors (PBoC et al., 2016). Hong Kong SAR's Monetary Authority doubled its Supervisory Review and Evaluation Process pilots to 46 banks in 2023, evaluating exposures to transition costs and extreme weather as part of its supervisory reviews (UNEP FI, 2025). The Bank of England requires Prudential Regulation Authority-regulated banks, building societies, and insurers to embed climate-scenario analysis into Internal Capital Adequacy Assessment Process (ICAAP) and Pillar 2 frameworks[2], ensuring both physical and transition risks directly inform capital planning and buffer calibration (Bank of England, 2025).

[2] Pillar 2 under the Basel Framework of the Basel Committee on Banking Supervision relates to the supervisory review process to make sure a bank's capital and liquid asset holdings are adequate, given its risk profile (BIS, 2019)

(xv) **Integrating climate and nature exposures into stress tests and prudential rules ensures banks and insurers plan for and absorb environmental losses.** By integrating physical, transition and liability exposures into stress tests, supervisory expectations and capital frameworks, authorities ensure that banks and insurers incorporate climate and nature risks in their loss-absorption planning, allowing for earlier and more strategic risk management. The main objectives of the nature-related policy landscape for banks are to help stop and reverse nature degradation and the loss of ecosystem services, and to ensure that the global financial system remains resilient in view of the financial risks arising from nature loss. Several central banks and prudential supervisors are embedding environmental risk into financial oversight. At least 29 jurisdictions totalling more than US$ 77 trillion of banking assets have started to consider nature-related risks in their prudential frameworks (UNEP FI, 2024e). In Asia-Pacific, countries addressing nature-related considerations across prudential regulation and the policy enabling environment include Thailand, China, Indonesia, the Philippines and Malaysia. In the Americas, levels of integration vary, with Brazil leading the way, and countries including Costa Rica, Colombia and Mexico adopting taxonomies to create common classification systems to define sustainable economic activities. Africa is at an early stage of integrating nature-related risks, but several countries are working on sustainable finance taxonomies (e.g. South Africa and Kenya) and some countries, such as Morocco, have begun reflecting nature-related issues in prudential regulation. Although Europe is simplifying its regulatory framework to strengthen competitiveness, the region has taken significant steps to integrate climate- and nature-related financial risks into prudential regulation, corporate disclosures, due diligence, and taxonomy regulation and aims to continue to protect economic, social and environmental objectives.

(xvi) **International efforts are critical for harmonising rules and building consistent global approaches to sustainability-related financial risk management**. Work in international fora by standard setters and international organizations, such as the Basel Committee on Banking Supervision, International Association of Insurance Supervisors (IAIS), Financial Stability Board (FSB), and Network for Greening the Financial System (NGFS), is critical to achieve standardization and harmonization on these issues. This complements efforts of the Coalition of Finance Ministers for Climate Action, which supports Ministries of Finance in aligning macro-fiscal frameworks with climate and nature objectives.

III. Science-based policy frameworks to support resilient economies

A resilient, sustainability-aligned financial sector depends on a predictable, science-based policy environment and governance that internalizes environmental and social externalities. This is more important than a narrow focus on market-value maximization (Hart & Zingales, 2017). A report to the UN General Assembly by an Independent Expert on the effects of foreign debt and other related international financial obligations of States on the full enjoyment of all human rights, called for a principles-based approach to decision-making as crucial to ensure issues are managed in a fiscally legitimate manner, and to keep human rights and planetary health at the centre of decisions (Waris, A. 2025). Interlocking policy levers—national transition planning, science-based taxonomies and disclosure, fiscal innovation and incentives, prudential integration, and financial health, inclusion, and gender equality—that span real economy, financial and cross-cutting themes translate policy ambition into systemic resilience. These levers, complemented by other policies, provide clear rules, derisking mechanisms, data-driven insights, and inclusive safeguards, creating the predictability and comparability that mobilize private capital at scale. When policy is predictable and science-based, it can lower transaction costs, scale private finance, and create a feedback loop in which finance and policy are mutually reinforcing in addressing risks and creating value. Several regulators, supervisors and standard setters have been developing frameworks and standards for disclosures of sustainability-related information and taxonomies to classify sustainable economic activities (UNEP FI, 2025c). Measures such as these work best in predictable, interoperable policy environments.

(xvii) **Science-based taxonomies provide a common language for transition finance and economic activities to address sustainability risks, opportunities, and impacts.** More than 50 countries are developing or implementing sustainable finance taxonomies that classify economic activities as sustainable, transitional, or harmful using clear technical thresholds, helping markets and regulators speak a common language and reducing greenwashing (OECD, 2021). The People's Bank of China's 2016 Guidelines for Establishing the Green Financial System introduced a five-pillar framework, including a green taxonomy, mandatory disclosures, and supervisory incentives. UNEP supported Brazil's development of a Brazilian Sustainable Taxonomy as a scientific classification system to enable investment towards Brazil's climate, environmental, and social objectives.

Decree nº 12.705/2025[3] established the taxonomy as a public policy instrument of Brazil's Ecological Transformation Plan and a reference for critical policy measures, including labelled financial products, disclosure requirements, fiscal incentives, public investment programs and monitoring sustainable financial flows. In the Association of Southeast Asian Nations (ASEAN), UNEP is supporting the Malaysian SEC to design adaptation criteria for the science-based ASEAN Taxonomy for Sustainable Finance. Well-designed, interoperable taxonomies enable consistent eligibility rules for green and transition finance, simplify cross-border project comparison, and lower transaction costs, supporting faster capital mobilization (BIS, 2021). To support the effective use of taxonomies, UNEP Finance Initiative, the UN-supported Principles for Responsible Investment (PRI) and Climate Bonds Initiative released Principles for Taxonomy Interoperability in November 2025, under the umbrellas of the Roadmap for Advancing Interoperability and Comparability of Sustainable Finance Taxonomies launched at COP29. Sustainable finance taxonomy developers and policymakers can use the Principles in creating, governing and implementing taxonomies.

(xviii) **Common disclosure standards and frameworks help create a coherent ecosystem.** A global baseline for climate and sustainability reporting, jurisdiction-specific standards that raise ambition and coverage, classification tools to direct capital and guidance help close critical gaps and enable markets to access comparable, decision-useful, high-quality information Transparent, comparable disclosures enable markets to assess environmental and social risks, hold firms accountable and allocate capital more effectively. To support global convergence, the International Sustainability Standards Board (ISSB) has developed IFRS sustainability and climate-related disclosure standards (S1 and S2). Over 35 countries representing over 60 per cent of global GDP have adopted or will adopt these standards (IFRS, 2025). ISSB-aligned disclosure and robust governance reduce greenwashing and improve capital allocation to sustainable firms (OECD, 2025; UNEP FI, 2023; UNEP FI, 2024; Ozili, 2021; Ellen MacArthur Foundation, 2019). The ISSB now plans to build on IFRS S1 and undertaking standard-setting to introduce incremental disclosure requirements to meet investors and creditors needs for common information about nature-related risks and opportunities, drawing on the Taskforce on Nature-Related Financial Disclosures (TNFD) framework.

(xix) **Clear policy signals to transition economies can contribute to GDP growth.** While some governments have raised concerns about trade-offs between the costs of transitioning to sustainable economies and economic growth, some import-dependent countries see reducing dependence on fossil fuels by substituting with electricity using renewable energy technologies as reducing vulnerability to external shocks and risks while enhancing energy security (IMF, 2025). Policies that enhance resilience may come at the cost of efficiency, including higher consumer prices during transitions. However, industrial policies to address multiple objectives can present opportunities for growth and resilience. For example, clean energy sectors accounted for 10 per cent of China's GDP and 25 per cent of GDP growth in 2024 (Centre for Research on Energy and Clean Air, 2025). Empirical evidence from China shows that green development programmes, bolstered by supportive provincial policies, enhanced economic resilience by 20–30 per cent over ten years (Wang et al., 2024).

(xx) **National transition plans anchor cross-ministry alignment.** When multiple ministries jointly develop integrated strategies that link climate, biodiversity, circular economy, and pollution objectives to real economy pathways, with just-transition measures to protect livelihoods, support reskilling, and structure social dialogue, they send durable market signals and reduce social resistance. When embedded in national transition plans, circularity creates predictable frameworks for investment and helps governments and industries meet climate, nature, and pollution targets. It can also support a just and inclusive transition by aligning economic diversification with social safeguards, skills development, and gender-responsive approaches that broaden market participation and resilience.

IV. Circular economy strategies provide a pathway to resilience

(xxi) **Circular economy strategies that cut across multiple ministries and policy domains can contribute to whole-of-government coherence.** Circular economic activities tackle climate change, biodiversity loss, waste, and pollution by decoupling economic activities from resource extraction and consumption. Circular economy, when embedded in a national transition policy framework, can become a whole-of-government instrument that aligns fiscal incentives, regulatory standards, infrastructure investment, and skills programmes toward shared resilience (Robins et al., 2024; UNEP FI & ILO, 2023). Circularity can reduce import dependency, stabilize input costs, and create new jobs in repair, remanufacturing, and recycling; design for circularity can reduce toxic materials to deliver health benefits. Circularity provides a framework through which all actors can improve efficiency, innovate and create value: it strengthens upstream capacity, promotes responsible

[3] D12705

production and extends material lifecycles without undermining opportunities in producing countries. The goal is not to end extraction, but to rethink the value chain as an interconnected ecosystem (OECD, 2021, ICMM, 2024). Public-private action is critical to eliminate unnecessary waste, promote reuse and recycling, improve product design, including transitioning from single, and short-lived products, promote safer chemical use, and harmonize policies as drivers of systemic change. In parallel to the integration of circular design and product lifetime extension, the importance of just transitions for workers in both producing and receiving countries and ensuring affordability for consumers are critical elements for the transition to circular systems.

(xxii) **Circularity can deliver significant climate and economic benefits**. In circular economies materials and products are kept in circulation through maintenance, reuse, refurbishment, remanufacture, recycling and composting while nature is regenerated (Ellen MacArthur Foundation, n.d.). Recycling could meet around 20 per cent of total mineral demand by 2050 and circular practices could cut new raw-material demand by 18 per cent by 2030 (Simas, Aponte & Wiebe, 2022). Resource efficiency and circularity could deliver 45 per cent of the emission reductions needed to meet the goals of the Paris Agreement while boosting GDP by eight per cent by 2060 (IRP, 2024).

(xxiii) **Circular approaches can optimize resource use and ease pressure on critical mineral supply chains in the energy transition.** Circularity can reduce resource use, especially as the energy transition raises demand for critical minerals. Under net-zero scenarios, demand for lithium is projected to increase 7-fold, nickel and cobalt 3-fold, and copper 2-fold by 2035 (IEA, Global Critical Minerals Outlook, 2025). Financing circularity and secondary processing for minerals like lithium and cobalt reduces bottlenecks, conflict, and social-environmental risks (UNEP FI, 2024; IEA, 2024). A central challenge for governments is balancing climate goals, short-term development needs and planetary health. Considerations include how to manage demand, share benefits fairly, diversify economies to reduce dependence on extraction and ensure environmental and social protection. Pathways towards lower-demand scenarios could align with the goals of the Paris Agreement while remaining economically viable for producer countries, through the "8R" strategy (reduce, rethink, redesign, reuse, repair, refurbish, remanufacture, recycle) (UNEP, 2024).

(xxiv) **UNEP uses scenario-based macroeconomic models to show how circular transitions affect growth, jobs, and resilience**. The models identify policy mixes and investment priorities that are economically viable. They help country partners tailor strategies to local conditions and social goals. Removing toxic chemicals enables circular practices and lowers pollution costs. For example, reducing toxic chemicals in plastics in developing countries could have yielded about US$ 1.5 trillion (2015 PPP) in benefits (Cropper et al., 2024). UNEP has programmes on the circularity of used vehicles and batteries end-of-life.

(xxv) **Circular economy policies are increasingly recognized as the cornerstone of industrial resilience and resource security.** Policymakers around the world are introducing integrated circular economy policies that promote design for circularity (reusability, repairability and recyclability and free of chemicals of concern). UNEP supports partnership initiatives including the 10Year Framework of Programmes on Sustainable Consumption and Production patterns (10YFP) and its One Planet Network, the Global Action Partnership for Extended Producers Responsibility (EPR), with 20 countries across Asia, Africa and Latin America & the Caribbean supported to address technical challenges in adopting EPR schemes; GACERE (Global Alliance on Circular Economy and Resource Efficiency), a coalition of governments and partners that advances circularity as a driver of sustainable growth and competitiveness through shared policy frameworks; **Latin America & Caribbean Circular Economy Coalition**, a regional platform to promote best practices in circular economy: design, reuse, repair, recycle, value retention etc, and knowledge exchange; and the **African Circular Economy Alliance**, a government-led coalition among African countries, hosted by the African Development Bank (AfDB), working to accelerate the transition to a circular economy in Africa.

(xxvi) **Sectoral policies and actionable transformation pathways are embedding circularity across key sectors.** Scaling circularity involves lifecycle thinking, incentivising material efficiency, building interoperability across trade and industrial systems, and coordinating financial and institutional alignment. Businesses stress the need for harmonized standards, predictable regulation, shared recycling infrastructure, and less financially prohibitive logistics—particularly for smaller firms (EMF, 2022). Policy makers can use circularity as an opportunity to build domestic industries in repair, reuse, and recycling, enhancing resource security and job creation (Global Resources Outlook UNEP, 2024). Policies promoting design for durability, traceability and recycling are emerging, raising questions about competitiveness, affordability and global value-chain equity. Most Extended Producer Responsibility (EPR) schemes remain confined within national borders, so fees collected in high-income markets seldom reach countries managing most end-of-life products. (Textile Exchange Materials Market Report 2025). Industry-specific circularity roadmaps complement macroeconomic

analyzes by translating efficiencies into actionable transformation pathways across energy, mining, textiles, plastics, electronics, food, building and construction, and mobility systems. For example, policies that focus on repair, reuse, repurposing and recycling of batteries can help to reduce environmental and social impacts across supply chains, from mining to end-of-life waste management. In addition, they can help relieve pressure in a sector that is resource constrained, especially when it comes to critical minerals, and can contribute to the creation of new industries and jobs.

(xxvii) **Efforts to scale reuse and refill systems are central to reducing single-use packaging and waste.** These systems can enhance material efficiency, reduce dependency on virgin resources and support local employment. Yet they also involve significant start-up and infrastructure costs, creating debate about who bears the transition burden and how to ensure fair market conditions. Companies highlight the operational and capital challenges of shifting to reuse at scale—such as logistics, hygiene standards and data traceability. They argue that profitability depends on clear regulatory frameworks and shared infrastructure to achieve economies of scale. Policymakers increasingly see reuse as part of national waste-reduction strategies.

V. Mobilizing and mainstreaming sustainable finance

(xxviii) **Bridging financial sector transformation with fiscal policy reform can contribute to a coherent whole-of-economy approach.** Regulatory measures to support economic transformation depend on the broader fiscal and policy environment. Ministries of Finance are increasingly looking to set incentives, direct public investment, manage fiscal risks that shape private finance responses, and establish fiscal and regulatory guardrails that protect economic and financial resilience. Public finance measures such as subsidy reform, green fiscal incentives, and sustainable budgeting/budget tagging can reinforce market signals and anchor private investment in the transition. While this paper focuses primarily on the financial sector, there are efforts by Ministries of Finance to integrate climate and nature considerations into macroeconomic management, budgeting, and fiscal policy. This alignment between financial and fiscal systems is critical to achieving durable, economy-wide transformation.

(xxix) **Policy levers and institutional alignment together create the predictability and comparability needed to mobilize private capital at scale.** Policy makers can accelerate impact by setting clear, time-bound policies, aligning standards across jurisdictions, and using public instruments to de-risk private investment in climate solutions, adaptation, nature restoration, and circularity. They can prioritize four actions: (i) publish an ambitious, science-based whole-of-government transition plan while incorporating climate and environmental considerations into legal and financial frameworks and policies; (ii) align procurement and public finance to bankable green projects; and (iii) convene finance regulators, industry and development partners to scale interoperable disclosures and de-risking tools (iv) Align domestic action and international cooperation, to accelerate the energy and industrial transition from risk to resilience.

(xxx) **National climate transition strategies provide the policy architecture that turns ambition into investment-ready pathways and measurable outcomes.** They set sectoral milestones, align fiscal incentives, sequence regulatory reform, and identify priority projects for public de-risking to lower investor uncertainty and mobilize private capital. Japan's Green Transformation initiatives, including its Climate Transition Bond Framework, show how cross-ministerial coordination and targeted finance instruments can speed industrial decarbonization and circular infrastructure investment.

(xxxi) **Public de-risking translates policy ambition into investable pipelines by lowering the cost of capital and shifting early-stage risk away from private investors.** Blended finance structures can leverage multiple dollars of private capital for every public dollar, directing scarce public resources toward catalytic roles. The OECD's Blended Finance Principles set out how guarantees, first-loss tranches, results-based payments, and concessional co-investment when targeted, time-bound and additional can help mobilize private capital that would not otherwise flow at scale (OECD, 2018). Examples of de-risking efforts include InvestEU, structured to mobilize up to EUR 372 billion (US$ 432bn) of private investment on the back of EUR 26 billion (US$ 32bn) of EU budget guarantees. This shows how budgetary risk-sharing can crowd in capital for adaptation, circular infrastructure, and green industrialization (European Commission, 2021). Complementing such instruments on the sovereign side, the IMF's Resilience and Sustainability Trust provides long-tenor, policy-anchored finance to help countries implement climate and resilience reforms, with Special Drawing Rights (SDR) 6.3 billion in member commitments in Q1 2024 (IMF, 2024).

(xxxii) **Public facilities and aligned standards turn policy into bankable projects by absorbing targeted risks, crowding in private capital, and protecting public balance sheets.** Well-designed facilities use public funds that absorb specific risks (policy, technology, construction, or offtake) to

enable private investors to finance at scale and at lower weighted-average costs of capital. Regional and national taxonomies and disclosure regimes, such as in the European Union, can then increase investor confidence that public guarantees and concessions are channelled to verifiably sustainable activities, tightening the link between policy objectives and capital allocation. Together, these fiscal and standards levers convert transition plans into bankable projects, crowd in private finance, and protect public balance sheets by making risk-sharing explicit and time-bound.

(xxxiii) **Inclusive finance and meaningful stakeholder engagement strengthen resilience by widening access, building buffers, and protecting livelihoods.** Financial regulators, social and labour ministries, and banks can incorporate meaningful stakeholder consultations, social dialogue, access to information and effective access to remedy and financial inclusion products, including gender-targeted products to strengthen day-to-day financial management, resilience buffers and planning capacity for vulnerable households and SMEs (UNEP FI & ILO, 2024). Closing the financing gap for women-led enterprises and embedding equitable access deepens domestic capital markets and extends stability across society (UNEP FI, 2021; UNEP FI, 2024a; UNEP FI, 2024b; UN Women & UNEP FI, 2024). When financial systems are inclusive and resilient, they enable smoother transitions for workers and communities affected by climate and nature loss. Embedding social safeguards and gender-responsive outreach in policy frameworks, while defining incentives and policies that promote financial inclusion, unlocks domestic savings, promotes equitable growth supports extending resilience gains across society (UNEP FI & ILO, 2024).

VI. Responsible Business and Finance Enhances Resilience

(xxxiv) **The shift to just, sustainable, resilient, low-carbon economies will be shaped by choices made by businesses and financial institutions.** Responsible business can transform sustainability risks into competitive advantage and investable pipelines while advancing inclusion and market depth. Circular economy and resource-efficiency measures reduce exposure to input-price volatility, supply-chain disruption and regulatory cost, producing steadier cash flows and higher-quality collateral, with evidence linking circular practices to lower default probability and stronger credit profiles (Palea et al., 2023; EMF, 2021; Zara & Bellardini, 2023). Firms with stronger circularity metrics tend to have lower default probabilities and better risk-adjusted returns (EMF, 2021). For corporates, effective action lies in addressing risks and opportunities that tend to be concentrated in transition-critical sectors such as power, heavy industry, transport, buildings, food, and land use.

(xxxv) **Responsible business practices strengthen national economic and financial resilience.** They do so by reducing systemic exposure to climate, nature, and pollution risks, lowering contingent fiscal liabilities, and expanding bankable investment in adaptation and low-carbon growth. High-impact sectors offer opportunities to address environmental degradation at scale. Responsible business models can convert sustainability risks into competitive advantage and investable pipelines. Aligning capex with credible transition plans, eliminating toxic inputs, and investing in regenerative supply chains create well-defined projects to attract green and sustainability-linked finance (UNEP FI, 2024).

(xxxvi) **Market signals increasingly reward sustainability-related revenue growth and credible transition plans.** Firms with higher green revenue shares show stronger equity performance and lower perceived environmental risk, while higher environmental, social and governance (ESG) quality in fixed income is associated with tighter spreads and lower financing costs (Kruse et al., 2023; Guo et al., 2025; Mendiratta et al., 2021). Firms with stronger sustainability commitments and practices have been more resilient during downturns and, in many cases, have outperformed peers over the medium to long term (MSCI ESG Research, 2024).

(xxxvii) **Responsible finance supports stable economies by embedding climate, nature and pollution, as well as social factors such as human rights, into investment decisions.** Sustainable finance can moderate the impacts of economic uncertainty, acting as a hedge against volatility (Sun et al., 2025). It can help increase operational resilience, futureproof institutions, and create value.

(xxxviii)**Financial institutions applying responsible finance frameworks can support corporate action without harming competitiveness**. Adoption of frameworks such as the UN Principles for Responsible Banking (PRB), the UN Principles for Sustainable Insurance (PSI) and the UN-supported Principles for Responsible Investment (PRI), can strengthen governance, lower funding costs and translate ambition into bankable opportunities (MSCI Institute, 2025; PRI, 2006). Institutions that align with at least one of these frameworks are correlated with better access to capital, clearer strategy, and prudent risk management. Institutions that implement institution-level sustainability measures can help accelerate the transition, establish norms and inform regulators of emerging market practice.

A. Responsible Banking

(xxxix) **By embedding environmental metrics into credit policies, sector limits, and stress tests and by scaling sustainability-related lending, banks can materially reduce default probabilities and volatility (UNEP FI, 2025).** These measures strengthen bank portfolios and can channel capital into economic activities that accelerate national climate and nature targets, reinforcing social licenses to operate and alignment with government policy.

(xl) **Responsible banking enables banks to navigate risks, opportunities and impacts across areas including climate, nature, human rights, and healthy and inclusive economies.** Responsible banking can strengthen resilience in two linked ways. First, embedding sustainability into policies, credit decisions, sector allocations, and stress tests, engaging clients on risk management and scaling sustainability-related lending can make banks more able to withstand shocks. Second, it can strengthen wider socio-economic and planetary resilience by advocating for better institutions and financial infrastructure, widening access to finance and inclusive services, financing circularity and resource efficiency and supporting innovation that reduces systemic vulnerabilities. Banks that add environmental factors to lending decisions and stress tests, that scale sustainable and circularity-informed loans, and use verified sustainability-linked finance are correlated with lower default risk and volatility while opening new markets (NGFS, 2022; DNB et al., 2024; UNEP FI, 2023).

(xli) **Institutions implementing the PRB correlate with both lower capital costs and more credible sustainability integration**. Banks representing a little over 50 per cent of the global banking industry (measured by assets) are individually implementing the PRB framework across areas including strategy, risk, policies, portfolio composition and client engagement to deliver resilience and sustainability impact. Banks with public climate targets saw 0.25 percentage lower option-adjusted spreads on corporate bonds versus those without targets after controlling for credit rating, liquidity, duration, and sector (MSCI Institute, 2025). MSCI's analysis of PRB signatories and non-signatories shows signatories pay about one percentage point less, on average, for equity and debt capital. While this does not evidence causation, it does suggest that there is no downside risk to responsible banking. S&P Global Sustainable1's review finds PRB signatories show stronger governance of social and environmental risks (S&P Global Sustainable1, 2025).

B. Responsible Insurance

(xlii) **Insurers that factor climate and nature into underwriting and scenario planning, or offer incentives for risk-reducing measures, can lower losses, expand insurability, and protect solvency (IAIS, 2025; NGFS, 2022; UNEP FI, 2024).** By promoting risk-based approaches, insurance solutions can contribute to risk reduction and strengthen resilience. Collaboration between governments, supervisors, the insurance industry, civil society, and development partners is essential to close protection gaps, enhance resilience, address growing natural catastrophe impacts, and ensure insurance solutions are accessible, affordable, and effective for all of society. Strategic partnerships, such as those involving sovereign and municipal adaptation bonds, can enable risk-sharing and market expansion (NGFS, 2022). Broader risk reduction efforts such as disaster-resistant building codes and infrastructure resilience are critical to reduce vulnerabilities and expand insurability.

(xliii) **Responsible insurance evolves underwriting, curbs loss severity, de-risks balance sheets and expands insurable markets.** Insurers representing over 30 per cent of the global insurance industry (measured by premium) are signatories to the **UN Principles for Sustainable Insurance (PSI)**, which provides a framework to integrate sustainability issues across the insurance value chain. Responsible insurance can reduce systemic financial and economic risks by practices such as pricing and managing climate, nature, and pollution exposures, expanding insurability through resilience and adaptation finance, and mobilize capital towards sustainable recovery after natural disasters.

(xliv) **Responsible insurance safeguards the solvency of the sector and supports economic resilience.** Insurers can evolve underwriting, for example, by developing parametric products for climate and pollution events, premium incentives for risk-reducing measures for high-pollution activities and by aligning general-account portfolios with net-zero and nature-positive pathways. Furthermore, insurers can support low-carbon clients by insuring renewable energy, grid upgrades, storage and resilience projects with longer-term capacity, and de-risking structures that boost bankability (WEF, 2025). Allocating exposure to adaptation infrastructure and resilience bonds can reduce loss severity, expand insurable markets, stabilize combined ratios and lower stranded-asset risk while opening new revenue streams and strengthening client relationships. Embedding pollution-risk factors into underwriting standards and investment screens can prevent costly claims and open new markets in environmental services (UNEP FI, 2024).

(xlv) **Institutions implementing the PSI are correlated with financial benefits from the market and more likely to be rated as industry leaders on ESG issues**. MSCI analysis finds that PSI signatories,[4] on average and across several business lines, benefit from lower downside risk (smaller declines in profitability, as measured by the maximum year-over-year drop in return on equity) and exhibit greater stability (lower returns volatility) compared to non-PSI Signatories. Incorporating sustainability-linked considerations into underwriting, investment, risk management, and capital adequacy decisions may have contributed to more balanced risk portfolios, enhancing resilience and limiting the impact of adverse market or catastrophe events on returns.

C. Responsible Investment

(xlvi) **Responsible investment is the integration of environmental, social, and economic factors into investment decision-making and ownership practices**. It aims to generate sustainable long-term value for clients and beneficiaries, while contributing to the stability and resilience of financial markets. Investors who integrate sustainability, use forward-looking metrics, and pursue active stewardship, are correlated with more stable long-term returns, lower financing costs, and greater downside protection (Whelan et al., 2021; Mendiratta et al., 2021; Giese & Shah, 2024).

(xlvii) **Sustainability and governance factors have become mainstream for investors**. Institutional investors now treat sustainability and governance factors as standard inputs, alongside value and momentum, in portfolio construction (Amel-Zadeh and Serafim, 2017; Starks, 2023). Embedding these factors underpins fiduciary duty, enabling investors to manage risks and opportunities and deliver risk-adjusted returns aligned with beneficiaries' goals (Schanzenbach and Sitkoff, 2020; Gary, 2019). Four-fifths of PRI signatories, representing US$ 82.7 trillion in AUM, explicitly assess climate-related risks and opportunities, as part of embedding sustainability considerations across portfolios in line with fiduciary duties. Active stewardship, through proxy voting, asset-level and collaborative engagement, addresses system-level risks that cannot be diversified away (PRI, 2025).

(xlviii) **Integrating sustainability metrics into analysis and decisions can strengthen risk assessment and strategic allocation**. Asset managers face underperformance risk where investees carry unmanaged climate, nature and pollution risks that erode valuations and increase volatility (Hadhri et al., 2025). Integrating climate, nature, social, and circularity metrics into analysis strengthens risk assessment and strategic allocation.

(xlix) **Sustainability leaders are correlated with persistent returns, stronger cash flows, and lower default risk**. Over the long run, higher ESG-rated companies have tended to outperform and display greater crisis resilience across developed and emerging markets (Giese and Shah, 2024; MSCI, 2024; Ishihara, 2025). Multiple studies link strong sustainability integration to more stable revenues, higher risk-adjusted returns, better drawdown protection and lower default risk, supporting the case that internalizing environmental and social externalities is both financially material and consistent with fiduciary duty (Kroll, 2023; Maquieira et al., 2024; Zara & Bellardini, 2023; DNB et al., 2024; Whelan et al., 2021; Hart & Zingales, 2017; Condon, 2020).

VII. Conclusions

(l) **Sustainability actions by the private and public sectors will drive financial and economic resilience.** Governments that integrate ecosystem enhancement and pollution control into policies protect lives and secure the foundations for sustainable, inclusive growth. Resilience and pollution control require integrated interventions across multiple sectors such as energy, transport, industry, agriculture and construction. Scaling circularity requires integrated policies that apply life-cycle approaches, incentivize material efficiency, build interoperability across trade and industrial systems, and coordinate financial and institutional alignment. The virtuous cycle of policy enabling finance, and finance amplifying policy outcomes, is the basis of shared responsibility for resilience.

(li) **Private-sector resilience is vital to protect jobs, market value and supply continuity as climate, nature and pollution shocks intensify.** Private finance can be the engine of resilience. By implementing sustainability frameworks and embedding climate, nature and pollution metrics across lending, underwriting and investment decisions, institutions can lower default risk, lower costs and

[4] The analysis is based on a panel of 54 companies in the Life & Health Insurance, Multi-Line Insurance & Brokerage, and Property & Casualty ESG Industries. Brokerage firms were excluded to ensure comparability. PSI groups include companies that remained signatories throughout the analysis period. Region–industry segments with three companies or less were excluded to avoid results being driven by individual outliers and to ensure minimum viable samples.

secure more resilient returns. When governments and regulators create a predictable, science-based policy environment, they give business and financial institutions the confidence to innovate and scale sustainable finance. In turn, a financial sector that prices environmental risk and rewards sustainable performance will accelerate real-economy transitions, avoid future litigation, and open new markets, making policy goals more achievable, rewarding, and socially inclusive.

Annexes

Annex 1: Questions for discussion (see concept notes)

Leadership Dialogue 1. An Ounce of Prevention Beats a Tonne of Cure: Why addressing environmental crises is essential for human health (Thursday, 11 December 2025)

How can strengthened science influence economic and sectoral policies that ensure preventative action for environment and health co-benefits?

What social and institutional innovations are needed to create, improve or change policies to uplift the environment and prioritize prevention over cure?

What partnerships and innovations are needed to scale up action to yield multiple dividends at the environment-health nexus?

Leadership Dialogue 2. Round and Round: Why circularity and sustainability are critical to the future of global industry (Friday, 12 December 2025)

What policies, partnerships and innovations, including AI, are needed to build circular value chains that reduce environmental pressures, support livelihoods and ensure long-term resource supply?

What can we learn from policy makers that would be helpful in advancing circularity and encouraging competitiveness while ensuring social equity?

What are the key linkages and takeaways for governments and business leaders in looking at resilience in industry, finance and human health?

Leadership Dialogue 3. The Bottom Line: Why tackling environmental degradation is critical to the future of the global financial system (Friday, 12 December 2025)

How can policymakers and regulators support a whole-of-government approach to create the conditions to catalyze sustainable finance to transition high-impact sectors and promote economic, social and environmental resilience?

What are some effective, system-wide approaches that governments are taking to steer private finance toward pathways that enhance the stability of economic and financial systems, while also addressing climate change, biodiversity loss, land degradation, pollution and waste?

What role can UNEP play to facilitate coherence across policy and regulatory frameworks, as well as standards, across jurisdictions, and what actions can private financiers take to scale up investments in economic activities that contribute to social and environmental security?

Annex 2: Bibliography

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