Making Natural Capital Count

An investment agenda

September 2025

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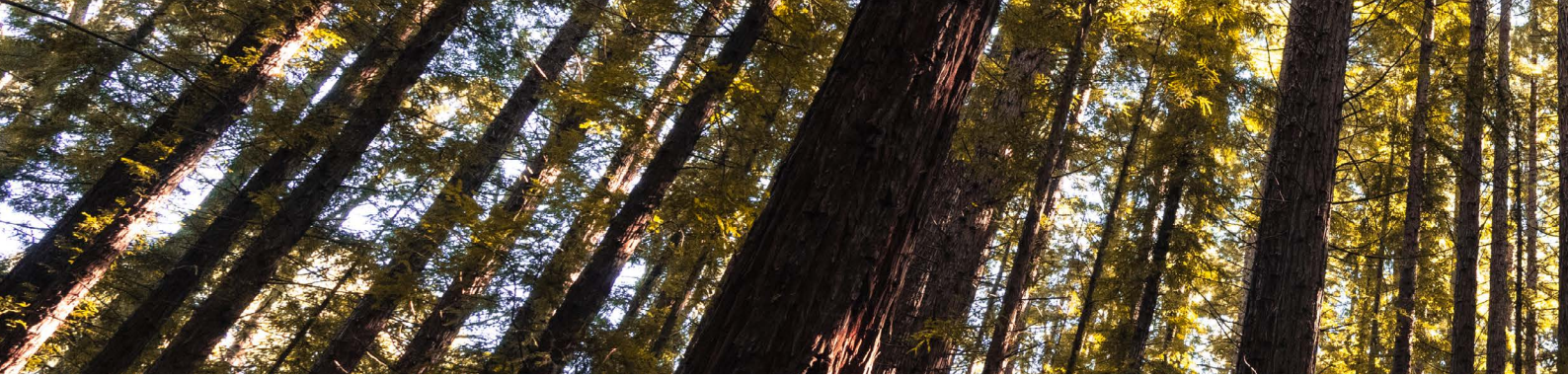
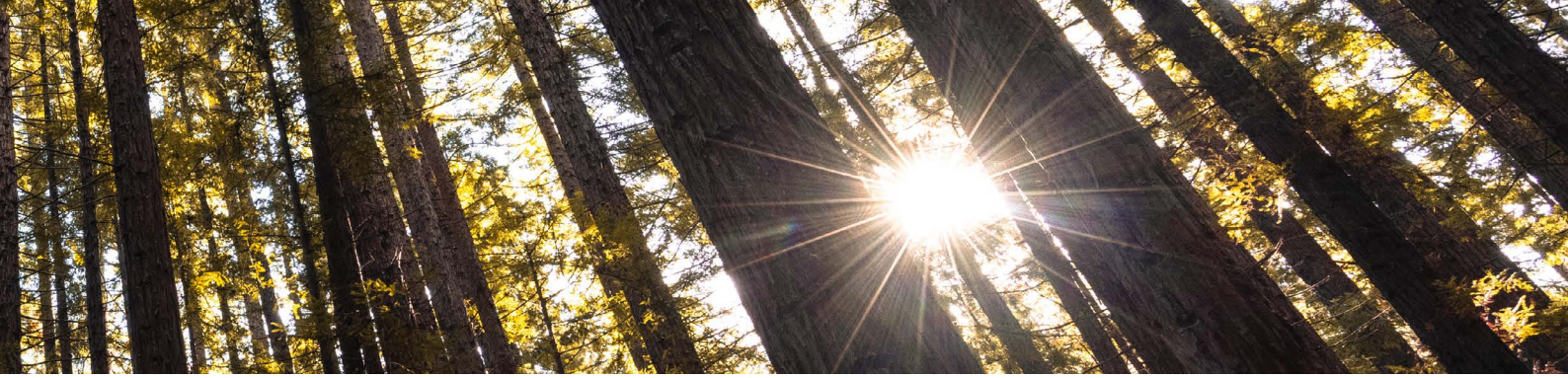
SYSTEMIQ





Foreword

Nature underpins our economies, our societies, and our very survival. Yet, since economic and financial decision-makers overlook the value of nature as economic infrastructure, natural capital is degraded. Countries and companies around the world face rapidly raising risks from nature and fail to recognise one of the potentially most valuable assets on their balance sheets. Valuing nature is critical for climate finance and indeed international finance.

This companion report to the 2025 report by the Independent High-Level Expert Group on Climate Finance focuses on a roadmap for embedding natural capital into economic and financial decision-making and for mobilising investment at scale. It envisages what key principles, governance, institutions and policies are needed to realise such a new system. Its scope is global: the analysis is not about prescribing specific answers for sectors or regions, but about clarifying pathways that can support decision-makers everywhere.

This report is necessarily incomplete.

Building a bridge between the existing system and a new one takes time, with many building blocks yet to be tested, and trust and confidence to be earned. In this report, we pursue an objective of showing how changes to policies, institutions, accounting systems, financial instruments, investment pathways, and other enablers can pave the way to enable the consideration of natural capital in economic decision-making. We show how this will allow decision-makers to reduce risks and generate more value from natural capital.

The direct incremental $400 billion investment need cited in this report should be understood as the minimum incremental finance required to restore and safeguard nature. Once we move to a new system with enablers, much larger volumes of financing must be mobilised towards more nature enhancing outcomes. This additional finance can and should be mobilised through private markets provided governments create the enabling conditions to put nature on private balance sheets – e.g. through appropriate pricing of markets for carbon, water, and biodiversity – and we pursue the enablers identified in this report.

The journey towards putting nature on balance sheets remains at an early stage, but we are excited that the tools are now largely in place, including thanks to a revolution in nature data and AI. We need to bring about and curate those critical components together to create a new system. We cite examples where they already exist, and we look forward to supporting more proof points as the necessary tools and polices reach maturity.

Naoko Ishii
IHLEG,
The University of Tokyo,
Center for Global Commons

Amar Bhattacharya
Co-chair IHLEG,
Brookings Institution

Guido Schmidt-Traub
Systemiq

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Glossary

Concept	Explanation
Capitals approach	An approach enabling organisations (public or private) to understand how their success is directly or indirectly underpinned by natural capital, social capital and human capital, empowering them to make decisions that offer the greatest value across all capitals.[1]
Debt sustainability analysis	A tool to assess a country's ability to manage its debt without requiring exceptional financing, such as debt relief or rescheduling, and without undertaking unsustainable economic adjustments. It projects debt burdens and debt service over time using indicators like debt-to-GDP and debt-to-revenue ratios.[2]
Ecosystem services	The contributions which ecosystems make to human wellbeing. Classified into provisioning services, regulating and maintenance services, and cultural services.[3]
Externality	A positive or negative consequence (benefits or costs) of an action that affects someone other than the agent undertaking that action and for which the agent is neither directly compensated nor penalised.[4]
Inclusive wealth	The social value (based on accounting prices) of an economy's total stock of natural, produced and human capital assets.[5]
Indigenous Peoples and local communities (IPLCs)	Individuals and groups who self-identify as indigenous or as members of distinct local communities with distinct cultural, social, and economic ties to their lands and natural resources, often serving as custodians of ecosystems. They play a critical role in conserving biodiversity and sustaining ecosystem services, while their rights, knowledge, and participation are increasingly recognised as essential for equitable and effective environmental governance.
Market price	The price at which a good, service or asset is exchanged in a market.
National account	National accounts are a system of accounts and balance sheets that provide a broad and integrated framework to describe a nation's economy. They record wealth (stocks) and activity (flows) for the nation's households, corporations, and government. The System of National Accounts is the internationally agreed standard set of recommendations on how to compile these measures.[6]

1 The Capitals Approach, Capitals Coalition
2 IMF
3 Dasgupta Review (2021)
4 Dasgupta Review (2021)
5 Dasgupta Review (2021)
6 UN Statistics Division, The System of National Accounts (2008, updated 2025)

Concept	Explanation
National balance sheet	The national balance sheet measures national wealth, or total net worth. It shows the estimated market value of the nation's assets and liabilities.[7]
Natural asset company	A corporation designed to hold and manage the rights to the productivity of natural assets, such as forests or wetlands. Natural asset companies are envisioned as a new asset class to convert nature's value into financial capital by improving ecosystems, with the goal of reinvesting that capital into conservation.[8]
Natural capital	The stock of renewable and non-renewable natural assets (e.g. ecosystems) that yield a flow of benefits to people (i.e. ecosystem services). The term "natural capital" is used to emphasise it is a capital asset, like produced capital (roads and buildings) and human capital (knowledge and skills).[9]
Natural resources	Resources which are naturally occurring (such as land, water, air and materials), including renewable resources such as forests and non-renewable resources.[10]
Resilience	The magnitude of disturbance that an ecosystem or society can undergo without crossing a threshold to a situation with different structure or outputs, i.e. a different state. Resilience depends on factors such as ecological dynamics as well as the organisational and institutional capacity to understand, manage, and respond to these dynamics.[11]
Shadow price	The contribution that an additional unit of a good, service or asset makes to intergenerational wellbeing, other things equal. Shadow prices reflect the true value to society of any good, service or asset.[12]
System of Environmental-Economic Accounting (SEEA)	A UN-approved accounting framework integrating economic and environmental data to provide a comprehensive view of the interrelationships between environmental assets, and the services they provide to humanity. It consists of two main frameworks: the Central Framework focusing on natural resources; and the Ecosystem Accounting Framework, focusing on ecosystems and ecosystem services. The SEEA framework follows a similar accounting structure to the System of National Accounts.[13]

[7] UN Statistics Division, The System of National Accounts (2008, updated 2025)
[8] David Stead, "Natural Asset Companies (NACs) | Impact Entrepreneur," January 23, 2022, https://impactentrepreneur.com/natural-asset-companies-nacs/.
[9] Dasgupta Review (2021)
[10] Dasgupta Review (2021)
[11] Dasgupta Review (2021)
[12] Dasgupta Review (2021)
[13] UN Statistics Division, System of Environmental- Economic Accounting (SEEA) (2021)

Executive Summary

1. Valuing Natural Capital in Economic Decisions

Prosperous economies rely on produced, human/social and natural capital as economic infrastructure. Degrading or underinvesting in any of them undermines growth and creates macro-critical risks. Economists have been using inclusive wealth to understand the roles of different types of capital, including how natural capital such as land, forests, freshwater systems and biodiversity underpin growth, livelihoods, and resilience.

Yet, most countries and the private sector ignore natural capital in economic decision-making as if it were unproductive and worth nothing. Ecosystem services like clean air, water regulation, flood protection, and pollination remain absent from balance sheets and national accounts, leaving natural capital undervalued in decisions and chronically underinvested. Rising economic shocks and lower debt carrying capacity, vulnerable value chains, struggling insurance markets, and poor livelihoods are all proof of rising nature and climate risks to economies at large. The IMF's emerging framework shows nature loss is financially material in both directions: economic activity degrades ecosystems, and ecosystem decline feeds back into growth, inflation, and financial stability.[14]

The value of natural capital is hiding in plain sight for economic and financial decision-makers. Properly valued nature will lower macro-critical risks and drive prosperity for countries and companies alike – especially for emerging markets and developing countries (EMDCs) that are rich in natural capital. Our hard-nosed assessment of tools and emerging practice suggests that countries and the private sector can value natural capital, integrate it in decision-making, direct financing, and enable risk reduction and faster growth. Decision-makers need to believe in five findings to drive better decisions and mobilise more financing.

i. **Declining natural capital undermines prosperity and escalates risks.** Natural capital is the stock of natural assets – soils, forests, watersheds, oceans, and biodiversity – that generate essential ecosystem services for human wellbeing. These include food production, water regulation, climate stability, and cultural values. Many assets are safeguarded by Indigenous Peoples and local communities. Around 60% of global GDP is directly dependent on ecosystem services, but the entire economy is structurally exposed through aggregate demand, fiscal positions and financial (in)stability.[15]

   Yet, the stock of natural assets is shrinking as soils are degrading, forests are disappearing at >7 million hectares a year, and two-thirds of the ocean is under stress.[16] As natural capital erodes, the flow of ecosystem services declines, pushing economies towards tipping points where damage accelerates and becomes irreversible. A partial collapse of ecosystem services – including pollination, coastal protection, and food provision – could result in a decline of global GDP of 2.3% per year by 2030. For developing countries, the GDP losses could rise to 10% annually.[17] Tail risks might be far higher in many situations.

[14] Charlotte Gardes-Landolfini, *Embedded in Nature: Nature-Related Economic and Financial Risks and Policy Considerations* (IMF, 2024).
[15] World Economic Forum (2020). *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*.
[16] UN Department of Economic and Social Affairs, *Forests – a Lifeline for People and Planet,* March 2020, https://www.un.org/development/desa/en/news/forest/forests-a-lifeline-for-people-and-planet.html.
[17] Justin Andrew Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*, n.d.

ii. **Economic and financial decisions do not recognise natural capital.** Economists know that prosperity and resilience depend on the combined stock of produced, human/social, and natural capital. This is called inclusive wealth – or the "capitals approach" for individual organisations.[18] Yet this is not reflected in economic and financial decisions, which creates risks and underestimates prosperity. By recognising nature's full value on their balance sheets, governments and companies can tackle these risks and manage their wealth. Today's national and corporate accounts are at the heart of driving poor economic and financial decisions. They focus on short-term flows and market transactions, while ignoring the balance-sheet view of natural capital. This allows GDP and profits to rise even as natural capital declines, masking long-term risks. Ecosystem services such as pollination and climate regulation remain unaccounted for,[19] while the costs of degradation go unrecorded.

iii. **Systemic underinvestment in natural capital demands redirected and some new finance.** Public budgets allocate very little spending to nature, and private investment flows tend to extract rather than maintain or build natural capital. Unlike education or transport infrastructure for example, spending on natural capital is seen as a cost rather than an investment. This has led to a persistent shortfall in maintaining and restoring natural capital, even where evidence shows substantial economic and social benefits. Nature investment is climate investment: healthy ecosystems are both indispensable mitigation assets (carbon stocks and sinks) and our first line of defence for adaptation and resilience (water regulation, heat mitigation, disaster buffering). It also leads to a lot of private and public investment that undermines natural capital. So we need to mobilise more financing for natural capital and ensure that other investment flows to do not undermine natural capital – just as we would not accept investments that undermine physical infrastructure or human capital.

iv. **Tools exist to value nature to drive better economic and financial decisions.** Accounts and established instruments can capture the value of natural capital to enable better investments. Decision-makers can use shadow pricing to assign monetary value to natural capital and ecosystem services that markets currently ignore, while biophysical accounting records them in physical terms such as hectares, tonnes, or cubic metres. Different methodologies exist, each with strengths and limitations; users should apply them critically and help improve their robustness over time.

v. **The economic prize is better investment to lower risks and drive prosperity.** Better accounts will value what really matters and enable better economic and financial decisions. Decision-makers can mobilise new financing, redirect investments that currently undermine natural capital, and enable change across their economies. Private actors, in turn, can extend this shift through their value chains – influencing suppliers, customers, and investors – mobilising greater investment into natural capital as a critical driver of growth, prosperity, and resilience. Getting there requires taking some bold but eminently practical steps that we outline in the action agenda.

The economic prize is better investment to lower risks and drive prosperity – Better accounts will value what really matters and enable better economic and financial decisions. Decision-makers can mobilize new financing, redirect investments that currently undermine natural capital, and enable change across their economies. Private actors, in turn, can extend this shift through their value chains – influencing suppliers, customers, and investors. Mobilising greater investment into natural capital as a critical driver of growth, prosperity, and resilience. Getting there requires taking some bold but imminently practical steps that we outline in the action agenda.

[18] Inclusive wealth, sometimes referred to as comprehensive wealth, is the formal economic measure of prosperity that combines produced, human, and natural capital. It is usually applied at the level of an economy. The "capitals approach" translates this logic to the level of an organisation, such as a business or an Indigenous Community Conserved Area (ICCA). The capitals approach uses the same capitals, but separates human capital into human and social capital.

[19] Economists often describe these ecosystem services as "externalities". Their benefits or costs fall largely outside market prices and therefore remain invisible in financial or economic accounts.

2. The natural capital investment agenda

Investment in natural capital is a core pillar of the global climate and resilience investment agenda – not an additional ask. Investment in natural capital must rise from $46 billion in 2022 to around $400 billion annually by 2030, with two-thirds in emerging markets and developing countries (EMDCs). This direct need is climate-relevant finance: it delivers material mitigation (especially from forests, soils, coasts and wetlands) and the bulk of cost-effective adaptation and resilience. Close to two-thirds of resources should be prioritised for degraded land, forests, and biodiversity corridors, with the rest flowing to freshwater, coastal ecosystems, and urban nature.

This $400 billion reflects the minimum direct incremental investment identified by UNEP and IHLEG. At the same time, significant impact will come from aligning the broader flows of capital into infrastructure, business assets, and production systems with the value of natural capital. Such alignment does not require large new volumes of international climate finance, but rather changes in incentives, standards, and policies to ensure that all investments support ecosystems, instead of eroding them.

About two-thirds should support restoration: most directed to reforestation alongside peatland, mangrove, saltmarsh and seagrass recovery. Roughly one-third of incremental natural capital finance (excluding sustainable land management) should go to protection: avoiding deforestation, conversion of grasslands and peatlands, and loss of coastal ecosystems. Protection is the most cost-effective option, yet the area that requires safeguarding is over ten times greater than that needing active restoration to 2030.[20]

Matching financing instruments to asset characteristics is critical. Any activities where natural capital generates direct revenues (e.g. through agriculture and other provisioning services) should be financed through private capital. Ensuring fairness and affordability for the poor can be obtained via other measures. Where natural capital provides savings, e.g. in the form of greater resilience to future storms, blended and public co-financing will be needed. Such public goods with uncertain cashflows belong on public balance sheets, since their return comes via risk reduction – lower disaster bills, lower sovereign spreads, and higher fiscal resilience – rather than direct revenues. It is a mistake to consider investments in nature a "cost"; well-targeted spending on natural capital enhances fiscal space and drives bottom-line growth.

- **Scale of direct investment needs** – Investment in natural capital and sustainable agriculture must reach some $400 billion annually by 2030 (rising to $480–580 billion by 2035).[21] These resources are indispensable for climate, biodiversity, and development goals, including the Kunming-Montreal "30x30" commitment to conserve at least 30% of land and ocean by 2030. Failure to mobilise this investment would directly expose over half of global GDP that is highly dependent on nature to escalating risks from supply-chain disruption, resource scarcity, and asset devaluation.

[20] UNEP, *State of Finance for Nature* (2023).
[21] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance* (2024).

- **EMDC investment needs** – Nearly two-thirds of the requirement (~$250 billion) is within EMDCs excluding China, where ecosystems are critical for livelihoods and fiscal stability, but fiscal space is most constrained.

- **Resource mobilisation** – Financing will come from a multitude of private and public sources, and in some cases a combination of both. Importantly, many investments will not require any "new money" by redirecting public and private investments and budgets towards enhancing natural capital as part of existing programmes and value chains.

  - **Public sources:** Governments currently channel at least $1.7 trillion annually into harmful subsidies that degrade natural capital. Repurposing even part of this could dwarf today's natural capital finance need.[22] Leveraging natural capital accounting and shadow pricing can help governments redirect traditional public investments (in agriculture, water, infrastructure) into nature enhancing projects. In an era of official development assistance cuts and tight fiscal space, governments must be realistic and creative, using subsidy reform, smarter expenditure, and blended approaches to stretch scarce resources.

  - **Private sources:** Where ownership and revenue streams are clear, private capital can scale. Among private sources, equity capital is indispensable. Policy, philanthropy, and debt can all play important roles but are inherently limited in scale or scope. Putting nature on the corporate balance sheets requires valuing different key elements of the Planetary Boundaries – including carbon, water, nutrients, and biodiversity.

    - **Valuing carbon** at $100/t$CO_2$e could mobilise ~$700 billion annually into natural capital and agriculture, abating 11–12 GtCO_2e.[23] Redirecting a share of today's harmful subsidies could more than cover these annual incremental costs, preventing food price rises while accelerating the shift to sustainable systems. Supply-chain regulation, disclosure standards, and new markets for biodiversity and water credits can reinforce the shift.

    - **Valuing water** at $1–2 per m³ in scarcity regions could mobilise billions annually into agriculture, utilities, and ecosystems. Many solutions – irrigation efficiency, reuse, leakage reduction – cost less and deliver high returns. Raising regional prices by ~40% can often close the 2030 water gap; in India this would mean only a ~2% rise in farm output prices. Aligning tariffs, reforming subsidies, and creating water markets can reinforce the shift.

- **Finance will need to be mobilised across sources** – Likely around 60% would be domestic public resource mobilisation and around 40% private, including from both households and companies. There is ample opportunity (and risk) to justify national resource mobilisation. However, this can still be complemented with international sources to scale up further, both from public (donor countries and MDBs) and private sources (multinational corporations with a value chain stake). International sources currently count for ~30% of climate finance.[24]

- **The instruments** – Financing natural capital requires a continuum of instruments. At the commercial end, equity and debt support revenue-generating projects (e.g. Natural Asset Companies, impact funds). In the middle, blended finance, sustainability-linked bonds, credits, and PES channel capital into nature enhancing projects. At the public good end, grants, programme-related investments, and philanthropic funds (e.g. biodiversity funds, Indigenous conservation grants) back interventions without direct revenues but high societal returns. At the household level, microfinance, conditional cash transfers, and insurance products can enable smallholders and communities to invest in sustainable land and resource management.

[22] UNEP, *Finance for Nature - Finance Flows* (UNEP, 2022).
[23] Systemiq analysis – see Chapter 2
[24] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance*.

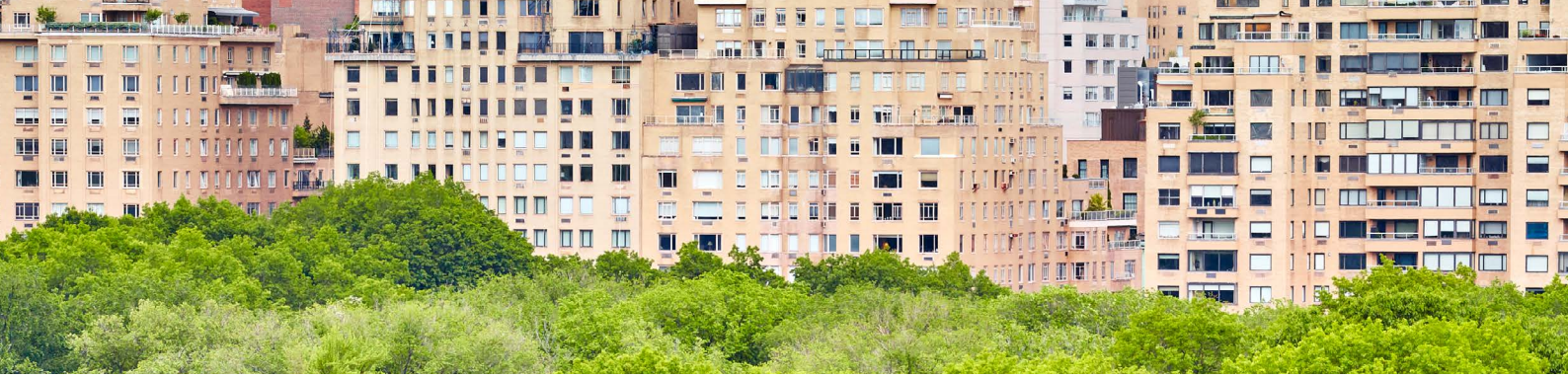
Box 1: Land degradation – an urgent investment priority

Land is the foundation of food security, livelihoods, and climate stability – yet more than half of global agricultural land is moderately or severely degraded, with the densest concentrations in EMDCs.[25] Degradation goes far beyond declining soil fertility: it includes erosion, salinisation, desertification, biodiversity loss, chemical contamination, declining water retention, and in some regions the physical disappearance of land through coastal erosion, subsidence of drained peatlands, and sea-level rise. Together these processes already reduce yields by up to 50% in some regions, undermine rural incomes, increase disaster risks, and weaken social stability.[26]

The economic stakes are high. Agriculture employs roughly a quarter of the world's labour force – and up to half in many lower-income regions – so degraded soils threaten not just food supplies but also livelihoods and social stability.[27] Globally, soil degradation costs over $400 billion each year in lost productivity, and if current trends continue, more than 90% of soils could be degraded by 2050.[28] Healthy soils, by contrast, underpin resilience: they sequester carbon, regulate water, increase biodiversity, and reduce disaster risks. Restoring degraded land and soils could deliver close to 40% of cost-effective land-sector mitigation potential by 2050, while generating strong co-benefits for food security and adaptation.[29]

Investment must rise sharply. At least $105 billion per year – over one-third of total direct incremental natural capital investment needs – should flow into degraded land and soils by 2030 in EMDCs excluding China.[30] The returns are compelling: each $1 invested in land restoration yields $7–30 in economic benefits through higher yields, avoided losses, and enhanced ecosystem services.[31] Scaling requires repurposing harmful subsidies, expanding concessional and blended finance, and mobilising private capital through sustainability-linked loans, payments for ecosystem services, and high-integrity carbon and water pricing. Without urgent action, degradation will deepen fiscal and food security risks, and increase vulnerability, especially in emerging markets and developing countries.

[25] FAO, *Global Symposium on Soil Erosion*, 2025, https://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/.
[26] FAO, "*Sustainable Soil and Land Management for Climate Smart Agriculture: Preventing and Mitigating Land Degradation*," 2020; FAO, Global Symposium on Soil Erosion.
[27] FAO, *Employment Indicators 2000–2022* (October 2024 Update), 2024.
[28] FAO, "*Sustainable Soil and Land Management for Climate Smart Agriculture: Preventing and Mitigating Land Degradation*," 2020; FAO, *Global Symposium on Soil Erosion*.
[29] Stephanie Roe, *Land-Based Measures to Mitigate Climate Change* (2021).
[30] See Chapter 2 for details
[31] UNEP, *State of Finance for Nature* (2023).



3. Nature on public balance sheets

Today's national accounts and GDP capture only a narrow slice of natural capital – traded resources like timber or minerals – while ecosystems and their services remain invisible. So governments do not integrate natural capital into their economic decision-making. They target growth regardless of whether soils erode, aquifers dry up, or forests vanish. Correspondingly, economic growth forecasts and fiscal frameworks treat investments in strengthening natural capital as if they did not generate any economic benefits. This omission also distorts fiscal and debt frameworks: ecosystem degradation increases sovereign risk and fiscal liabilities, while investments in natural capital strengthen growth prospects and debt carrying capacity. Practical changes are underway to quantify how such investments enhance growth and debt carrying capacity. Providing evidence on how natural capital investment protects national net wealth in a bond prospectus can lower the cost of borrowing. However, these now need to be adopted and institutionalised more widely.

Box 2: How to make use of SEEA in practice

The UN System of Environmental-Economic Accounting (SEEA) provides the statistical foundation to put nature on the national balance sheet. Over 90 countries already compile (partial) SEEA accounts, but uptake in decision-making remains limited. To realise its potential, SEEA data must be translated into actionable insights for finance and planning ministries.

From accounts to impact – priority areas for how ministries can leverage SEEA:

- **Fiscal screening** – use SEEA data to assess long-term wealth impacts of subsidies, taxes, and budgets, ensuring policies build natural capital rather than deplete it.
- **Cost–benefit analysis with shadow pricing** – capture the real economic value of ecosystem services in public investment appraisal and fiscal decisions.
- **Sovereign debt issuance** – include natural capital indicators from SEEA in bond prospectuses, debt sustainability analysis, and sustainability-linked loan KPIs.
- **Spatial planning and zoning** – identify priority areas for protection, restoration, or development by mapping ecosystem extent and condition.

Consolidating SEEA into these decision tools turns accounts into influence. Countries such as Costa Rica, China, and New Zealand already show how natural capital accounting can shape budgets, fiscal space, and investment priorities. Wider adoption would strengthen fiscal resilience, lower sovereign risk, and unlock new flows of nature-positive finance.

The UN System of Environmental-Economic Accounting (SEEA) provides a technical foundation for valuing natural capital, but it is yet to have transformative impact: SEEA accounts are often too aggregated, too static, and commonly disconnected from fiscal and economic policy. In most countries they remain confined to statistical offices, rather than shaping budgets, debt analyses, or investment planning. Linking SEEA accounts directly to fiscal and debt sustainability analyses would allow governments and investors to see how ecosystems affect macroeconomic stability and borrowing costs. There is a dual challenge on the quality of prepared accounts and strengthening their use in policy decisions. Both are indispensable and must advance together:

- SEEA and its associated indicators must be upgraded and adapted to be as informative as possible to decision-making – disaggregated, timely, and linked to macro-fiscal variables. This will require investments to improve data collection, accounting systems and relevant expertise.

- Accounts are not enough; they must be integrated into decision-making and prepared with applications in mind and embedded in institutions that know how to use them. This must include policy that enables private actors to recognise and value natural capital by shaping markets, incentives, and regulations that reward sustainable stewardship.

Four steps for governments to integrate nature into decision-making:

» **Value** – Today's national accounts capture only natural resources at market prices; the value of ecosystems and their services is largely missing. The UN System of Environmental-Economic Accounting (SEEA) provides a global standard to account for these, including monetary valuation using shadow prices. Over 90 countries compile some accounts, but integration into fiscal and economic policy is rare. Where applied, results show how natural capital accounting can guide smarter investment and long-term resilience. This is seen with China's gross ecosystem product (e.g. Zhejiang, Shenzhen) influencing budget signals, or Brazil's Plano Safra combining credit lines, insurance, and guarantees to steer agricultural finance. Once they account for nature, it will be clear to policymakers how many investment opportunities exist with positive returns.

» **Decide** – The value of natural capital needs to be integrated into public policy decisions at all levels of government. This will put nature on the *national* balance sheet, leveraging public resources. These measures should be carefully coordinated policies: regulations, spatial planning and how policies enable the private sector to put nature on the balance sheet (see below – "Enable"). Importantly, this includes embedding nature into fiscal frameworks and debt sustainability analyses, so that ecosystems are recognised as assets that support growth, resilience, and sovereign creditworthiness. The more national policies are harmonised with international processes (e.g. UNEA, CBD COPs, UNGA), the more efficient and impactful they will be, enabling policymakers to orient financing and implementation towards shared global goals.

» **Finance** – Governments can use financial instruments that bring forward the future benefits of natural capital into present fiscal space. Examples include debt-for-nature swaps, sustainability-linked bonds, and resilience bonds that help overcome the mismatch between short-term budget cycles and long-term returns. Recognising natural capital as a fiscal asset can also lower sovereign risk premiums and unlock more affordable capital for investment. SEEAs can provide evidence on how natural capital investment protects national net wealth to be included in the prospectus of sovereign bonds. Equally important is pricing these risks: embedding ecosystem condition into sovereign risk models is one of the fastest routes to reallocate capital, as it directly influences risk premiums and cost of capital.

» **Enable** – Governments have a lead role to enable private land-stewards to put nature on the balance sheet to improve long-term outcomes for both land-stewards and society at large. They can directly price nature to make private actors consider the cost and benefits of natural capital, and provide incentives by redirecting harmful subsidies to social and nature benefits.

Box 3: What we mean by "nature on the balance sheet" in public and private contexts

Putting nature "on the balance sheet" is figurative. It means recognising natural capital as an economic driver, ideally by recording it in accounts. For private actors (Indigenous People and local communities (IPLCs), corporates, financial institutions), this may involve recognising assets and liabilities, profit and loss effects through ecosystem service payments or carbon and nature markets, gains in resilience and brand value, or shifts in cost of capital as stewardship is rewarded.

For governments, natural capital can be part of national balance sheets, but also shapes fiscal flows (e.g. carbon tax revenues, conservation spending) and sovereign creditworthiness. Policy levers such as pricing, regulation and fiscal planning also depend on recognising nature as part of national wealth.

In short, "nature on the balance sheet" covers all the ways nature's condition affects financial performance and economic strategy, ultimately strengthening natural capital stocks.

Different stakeholders often use different framings to make nature visible in decisions. Some emphasise *natural capital* as the stock of assets underpinning economic value; others stress *nature-based solutions* as practical interventions for climate and development goals; still others highlight the importance of *valuing living nature* that cannot get prices and stress the link to Indigenous Peoples and local communities' knowledge and leadership. Each framing speaks to different audiences – economists, policymakers, communities, investors – but they point toward the same destination: recognising nature's role as essential and ensuring it is respected, valued, stewarded, and restored. In this paper we adopt the natural capital lens, as it best connects to the "balance sheet" metaphor, while recognising the importance of these other complementary approaches.

No single economic framing will be sufficient. Prevailing approaches to nature are deeply embedded in traditional ways of handling land, resources and ecosystems, and ultimately a broad cultural change will be required. But waiting for cultural change to emerge naturally is not an option: urgent action is needed now to prevent further erosion of natural capital.

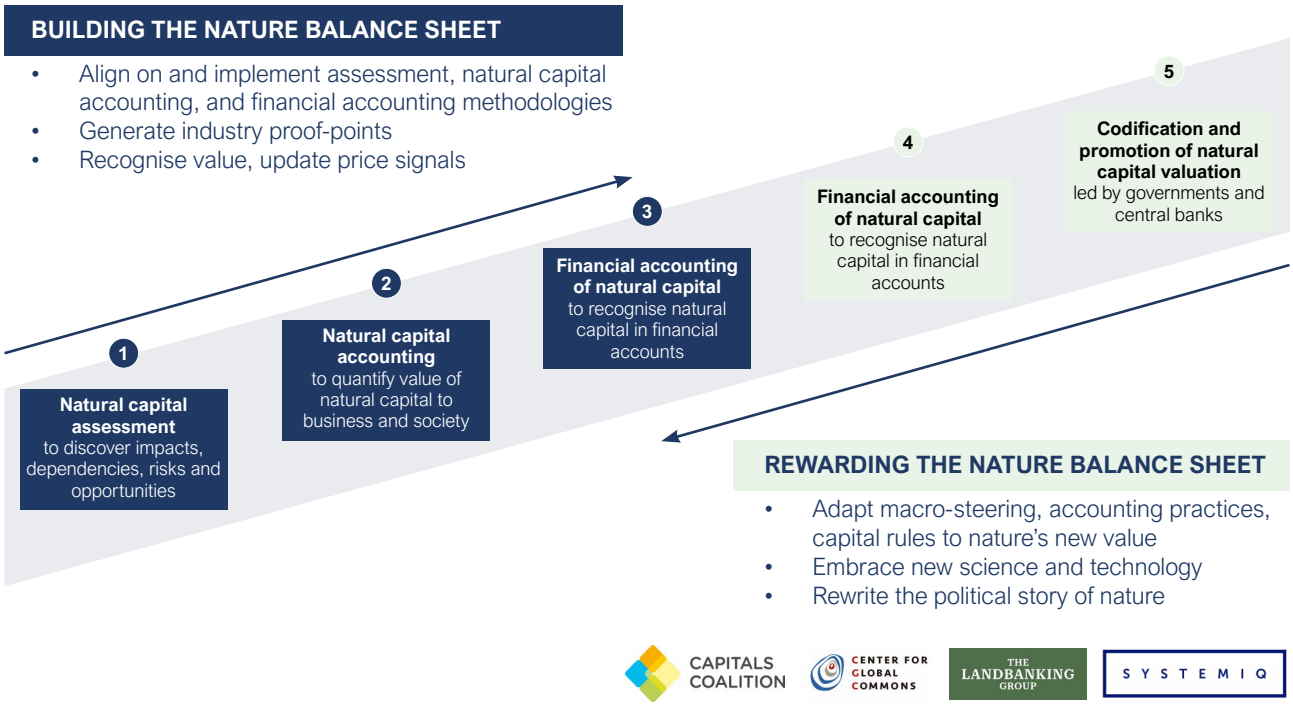
4. Nature On Private Balance Sheets

Private actors – from IPLCs and farmers to corporates and financial institutions in their role as landowners – can put nature on their balance sheets by assessing, accounting and finally integrating natural capital into financial accounts. In addition, to put nature on private balance sheets also means establishing the enabling conditions to reward private valuation of nature, particularly market pricing in capital markets and codification in economic policies. Both of these – the internal steps and the external enablers – are required to embed it across management decisions, strategy and governance.

Land-stewards who recognise the value of natural capital can mobilise investment into better practices that enhance natural capital, transition value chains and strengthen resilience. Stewardship, once treated as a cost, can become recognised as the investments that improve local outcomes for land-stewards while also contributing to long-term prosperity for society.

Critically, natural capital accounting improves private decision-making across strategy, procurement, and risk management – revealing hidden dependencies, avoiding stranded assets, and strengthening resilience. Pricing mechanisms are one part, but the real value comes from embedding nature into the full cycle of business choices.

Figure 1. The roadmap for putting nature on private balance sheets, developed by the Nature on the Balance Sheet Initiative.



With the right enabling conditions in place, private actors can take the following steps towards putting nature on their balance sheets:

- **Value** – "Building the nature balance sheet". Natural capital accounting enables companies and land-stewards to measure their dependencies and impacts across operations and value chains. Once they account for nature, private actors can recognise where they have strong investment opportunities to invest in natural capital. This happens in three steps:
  - » **Natural capital assessment** to discover impacts, dependencies, risks and opportunities of natural capital and the degradation of natural capital.
  - » **Natural capital accounting** to quantify the value of natural capital to the business and society more broadly across the dimensions of the assessment.
  - » **Financial accounting of natural capital** to recognise natural capital in financial accounts in order for this to directly influence corporate decision-making.

  Standards such as the Natural Capital Protocol provide guidance, and advances in AI are drastically lowering the cost of preparing accounts.[32] Methods are still fragmented, but they are rapidly improving, and consolidation is underway. While sustainability disclosure standards are beginning to enter regulated financial reporting, natural capital accounts are still largely voluntary (e.g. Taskforce on Nature-related Financial Disclosures).

- **Decide** – Natural capital information needs to move from measurement into action. This means embedding it in core business decisions – strategy, capital allocation, risk management, and governance. For example, Kering's environmental profit and loss (EP&L) accounts revealed that most impacts were upstream in raw materials, leading the group to redirect procurement and invest in regenerative supply chains. Similarly, Nestlé's shadow water pricing has shifted investment decisions toward water-efficient plants in high-risk regions. Beyond compliance, firms are applying internal pricing of environmental costs, using natural capital management accounting to guide investment choices, and tightening supply chain standards. These include zero-deforestation commitments – although these are becoming compliance in EU (i.e. EU Deforestation Regulation). These shifts ensure that natural capital is not just accounted for but actively shapes corporate strategy and financial decision-making. Accounting data must be embedded in analytical tools – such as UNEP's Green Economy modelling or the IADB's IEEM – so that information translates into fiscal, corporate, and investment decisions.

  Crucially, to make the step from "Value" to "Decide" the enabling conditions need to be in place that reward private actors for putting nature on the balance sheet. There are two principal enablers that will really move the needle in private decisions:
  - » **Market pricing of natural capital assets and liabilities** driven by investors, banks and insurance companies. Alongside nature pricing, risk pricing is essential. Capital markets, insurers, and lenders should differentiate costs of capital based on nature-related risks, ensuring nature-negative assets face higher risk premiums while stewardship is rewarded.
  - » **Codification and promotion of natural capital valuation** led by governments and central bank. The economic policy environment (across fiscal incentives, standards and regulation, spatial planning,) should reward the valuation as natural capital. This goes across economic policy across ministries, but also includes financial market regulation.

[32] Natural Capital Protocol is a decision-making framework by the Capitals Coalition

- **Finance** – By valuing natural capital (step 2) and recognising natural capital on their balance sheets (step 3), it becomes possible for companies to access new forms of financing and lower their cost of capital. As one example, the Australian forestry company Forico reported lower cost of capital based on natural capital valuation, but this practice remains in its infancy. Emerging instruments include sustainability-linked loans, outcome-based bonds, ecosystem insurance, and markets for carbon and biodiversity credits. Looking beyond debt-like instruments, Natural Asset Companies (NACs) mobilise equity based on the intrinsic value of natural capital, creating a true equity structure for firms that manage land or resources.

- **Enable** – Companies can shape markets and value chains so that natural capital is recognised and rewarded. This includes setting procurement standards for suppliers, embedding sustainability criteria in contracts, product design and labelling that inform consumer choices, and transparent disclosure that builds trust with investors. By using their purchasing power, brand influence, and reporting practices, firms can create ripple effects across industries and accelerate the shift to nature enhancing markets. Regulators, auditors, and stock exchanges also play a critical role by tightening sustainability disclosure (e.g. ISSB/TNFD alignment), developing assurance pathways, and embedding listing requirements that accelerate recognition of natural capital in financial markets.

5. The financial system as critical enabler

The financial system is critical for pricing natural capital in financial products and shifting capital, as outlined in the roadmap for putting nature on private balance sheets (step 4). Without the financial system moving along, natural capital cannot become integral to decision-making, and efforts to do so would remain fragmented. Recent IMF work shows how nature loss transmits macro-financial risks through growth, revenue, and balance-sheet channels, offering a blueprint for financial intermediaries and regulators to integrate nature into underwriting, valuation, and stress testing.[33] Natural capital must become embedded across financial intermediation and rule-setting for finance.

- As **intermediaries**, banks, insurers, investors, and market actors allocate capital, transfer risk, innovate instruments, and build the infrastructure that determines how nature is valued. When financial intermediaries start valuing natural capital (and the risks of its erosion) and integrate this in their investment decision, pricing and risk management, this provides strong financial incentives for public and private players to value natural capital.[34]

- As **rule-setters**, multilateral development banks, the International Monetary Fund, central banks, regulators, and standard-setters codify how risks are measured and incentives structured – from debt frameworks and stress tests to International Sustainability Standards Board (ISSB) disclosure standards. They can reform the rules of the game for financial intermediaries, embedding the value of natural capital (and risks) at the heart of financial incentives and regulations. As such, the rule-setters become the enablers of intermediation to put nature on private balance sheets.

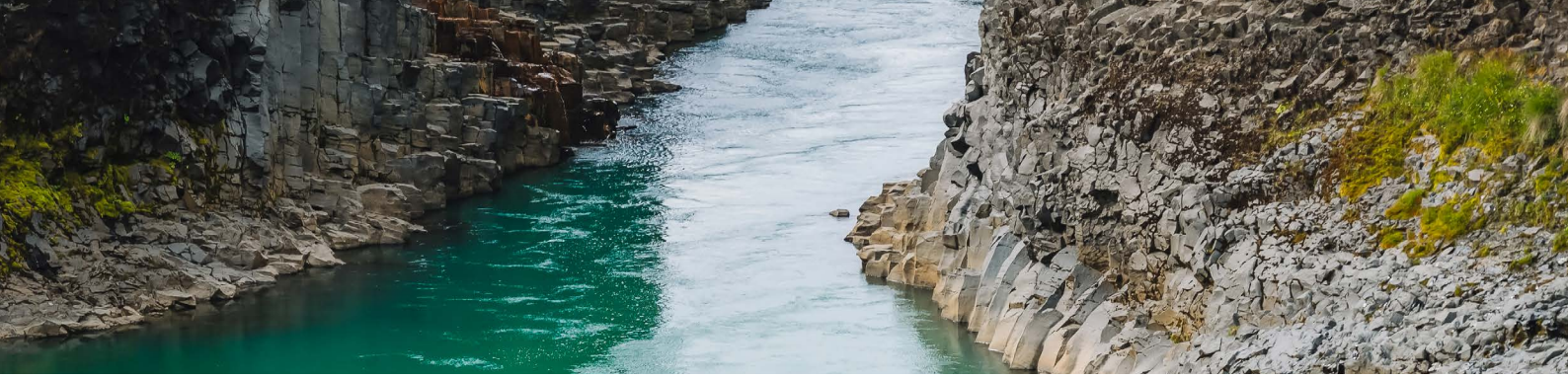
Through these two roles, the financial system can help ensure that the value of natural capital becomes central to economic and financial decision-making across lending, financial securities, risk management, insurance and other instruments.

[33] Gardes-Landolfini, *Embedded in Nature: Nature-Related Economic and Financial Risks and Policy Considerations*.
[34] Their role as landowners – when financial institutions directly hold land or forests – is addressed in Chapter 4 alongside other stewards of natural capital.

6. Illustration: Natural capital into IHLEG's six progress indicators

Embedding natural capital into IHLEG's six progress indicators can move nature from pilot projects to economic and financial decision-making – improving pipelines, mobilising capital, and strengthening resilience. These recommendations fall within existing domains of competence across ministries of finance, planning, environment, and financial authorities. Yet as much as possible, they must be pursued in a coordinated manner and through whole-of-government approaches, since fragmented action will not capture the systemic value of natural capital.

- **Country-led investment planning** – Natural capital data and SEEA accounts are often too aggregated or disconnected from finance ministry tools; integrate them into national plans, spatial strategies, and public investment systems to bring nature enhancing projects into early decision stages, with full engagement of Indigenous Peoples and local communities.
- **Debt and fiscal policy** – Climate and nature risks are rarely built into DSAs or fiscal frameworks; link ecosystems to macro-fiscal models and deploy nature-linked sovereign instruments to align fiscal and environmental outcomes.
- **Concessional finance** – Most concessional flows overlook natural capital and its co-benefits; use shadow pricing to target the highest-impact opportunities and design long-term performance-linked instruments for conservation.
- **Multilateral development banks** – MDB finance often misses transboundary and global commons benefits; embed natural capital into country strategies, safeguards, and project preparation, using system-level cost–benefit analysis.
- **Domestic resource mobilisation** – Harmful subsidies and tax abatements still dominate fiscal systems; apply green budgeting and natural capital accounting, reform subsidies and taxes, and treat restoration as public capital investment.
- **External private finance mobilisation** – Corporate disclosure is weakly aligned with national ecosystem data; embed nature into financial regulation and stress testing, and scale instruments that monetise ecosystem services.



7. Call to action: Making natural capital count

As stated at the outset, the value of natural capital is hiding in plain sight for economic and financial decision-makers. This report shows that the tools to value and account for nature exist, but they need to be applied consistently. The prize of integrating natural capital into economic and financial decision-making are better investment decisions that lower risks and drive prosperity. Many opportunities can already be realised within national boundaries or value chains, without the need for donor support. Decision-makers can mobilise new financing, redirect investments that currently undermine natural capital, and enable change across their economies and value chains.

Progress is emerging, but fragmented. To make natural capital count, four systemic shifts are needed:

1. **Build upon shared data and metrics infrastructure.** Nature cannot be managed if it remains invisible. We can now create a common foundation through harmonised typologies, building on existing global natural capital databases, and shadow pricing and valuation methodologies for key ecosystem services. Unlocking existing global natural capital databases by enabling access, and making them interoperable and assured can make ecosystem data as authoritative and usable as current economic statistics.

2. **Turn natural capital valuation into decision-ready insights.** This shared infrastructure can help upgrade and integrate natural capital into economic decision-making, both nationally and towards a Bretton Woods for Nature public good. Upgrade accounts and other sources of insight for key economic decision-making processes so they align with fiscal cycles and macro-fiscal variables, and embed corporate accounts into board-level decisions and capital allocation. Decision-ready systems will also require hectare-level integrity data, a standardised shadow price library, and open registries linking projects, budgets, and MRV.

3. **Broadcast and amplify proof points where valuing nature pays off.** Demonstrate through examples: governments securing lower borrowing costs by integrating ecosystem data; cities reducing fiscal risks by restoring natural buffers; companies publishing assured natural capital accounts and accessing cheaper finance; project developers winning concessional capital; asset owners strengthening balance sheets by recognising ecosystems. At the same time, successes should be scaled, while mechanisms with mixed outcomes refined and adapted.

4. **Align globally.** Natural capital is transboundary, requiring international rules and incentives that are coherent across jurisdictions. G7 finance ministers and the Coalition of Finance Ministers are beginning to act, while new facilities like the Tropical Forest Forever Facility reward custodianship, but more is needed. Joint ambitions should be set and action to protect global commons should be coordinated. Embedding nature into MDB operations, IMF surveillance, central bank stress tests, and capital markets will be decisive to ensure investment reinforces, not erodes, ecosystems.

Together, these shifts can turn natural capital from a neglected externality into a recognised driver of fiscal stability and competitiveness, while exposing and managing the material risks of degradation. The alternative is clear: ecological liabilities and unmanaged risks will continue to accumulate until they erupt as crises. The cost of inaction will dwarf the cost of reform.

1 Valuing natural capital in economic decisions

Chapter 1 – What one needs to believe

- Declining natural capital poses macro-critical risks, undermining growth, stability, and resilience. Investing in nature – especially restoring degraded land and forests – strengthens communities, companies, and countries while contributing to climate mitigation.
- Returns are high – every $1 invested can yield $7–30, with restoring degraded land one of the greatest opportunities.
- Economists recognise natural capital as productive, yet it is largely absent from policy and business decisions, leading to misallocation and chronic underinvestment.
- Valuation tools and data exist; what's missing is coherence. Orchestrating them into a system is urgent – application can begin now, even if imperfect.
- Natural capital is a balance-sheet asset. Treating it only as a flow (GDP or P&L) hides risks and accelerates degradation.
- By managing their natural capital better, countries, companies, and communities can seize an economic prize.

Nature is essential economic infrastructure. It is a productive form of capital and should be considered a core component of wealth. Yet today this is not recognised, because nature's value is largely invisible in market transactions and national accounts. Modern industrial growth has pushed ecosystems to the margins, treating them as expendable rather than productive assets. Current accounting and valuation systems have not caught up: they disregard externalities, erode natural capital stocks, and underestimate future liabilities. The result is a steady decline in wealth masked by short-term gains in output, with particularly severe consequences in nature-dependent EMDCs.

This chapter sets out the economic foundation for putting natural capital at the heart of decision-making. Section 1.1 shows how natural capital underpins prosperity through five main transmission channels: productivity, resilience, fiscal stability, aggregate demand, and creditworthiness. Section 1.2 introduces the "inclusive wealth" approach – highlighting why prosperity depends on the combined stock of produced, human, and natural capital – and explains how accounting biases distort decisions, masking liabilities and undervaluing ecosystem services. Section 1.3 highlights the systemic underinvestment that results, particularly acute in EMDCs. Section 1.4 reviews the tools available to measure nature's value – from shadow pricing to biophysical accounting – which can make nature visible in economic systems and provide the evidence base for reform. Finally, Section 1.5 concludes these insights.

Box 4: What is *natural capital*?

Natural capital is the stock of renewable and non renewable natural resources – ecosystem assets and their biodiversity, and abiotic resources such as water, soils, minerals and the atmosphere – that generate flows of benefits ("ecosystem services") underpinning the economy and the climate system (mitigation, adaptation, resilience).[35, 36]

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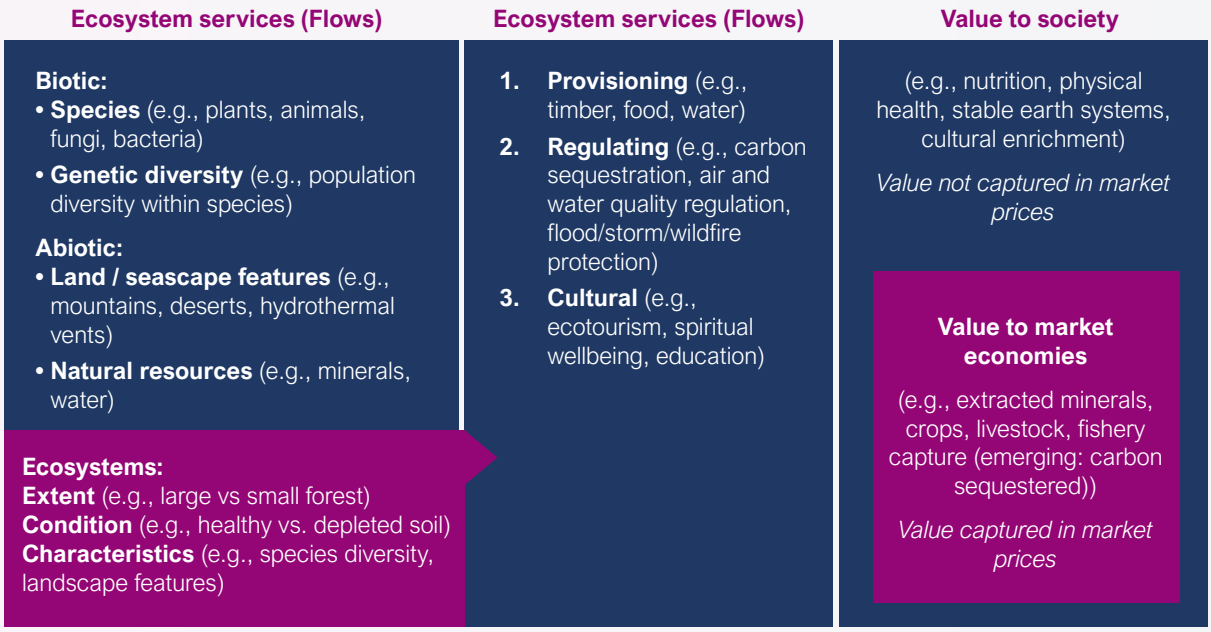
[35] TNFD, "*Guidance on the Identification and Assessment of Nature-Related Issues: The LEAP Approach – TNFD*," April 17, 2025, /.
[36] Capitals Coalition, "Natural Capital Protocol," Capitals Coalition, 2021, https://capitalscoalition.org/capitals-approach/natural-capital-protocol/.
[37] Dasgupta (2021), *The Economics of Biodiversity*.

BOX 4: What is *natural capital*?

***The Dasgupta Review on the Economics of Biodiversity* frames natural capital as "productive capital": not only a store of wealth, but the enabling infrastructure for all other forms of production.** Just as machines require maintenance and workers require training, ecosystems must be stewarded to keep generating essential services. These assets underpin our societies and economies in both visible and invisible ways: forests regulate rainfall, soils store carbon and support food production, wetlands purify water, and coral reefs protect coastlines. Without healthy ecosystems providing such services, produced and human capital cannot function effectively.[37]

Figure 2. Overview of Natural Capital Assets creating flows of services for human wellbeing, and economic productivity



Ecosystem services can be grouped into three categories:[38, 39]

- **Provisioning services** – the goods we extract and consume, such as crops and livestock, freshwater for drinking and irrigation (e.g. Nile Delta), fish and wild foods (e.g. Amazon fisheries), timber and charcoal (e.g. African drylands), and medicinal resources.
- **Regulating services** – the benefits from nature's ability to regulate climate (e.g. carbon stored in forests and peatlands), stabilise rain and wind, purify air and water (e.g. wetlands, mangroves), buffer floods and coastal storms (e.g. coral reefs in the Caribbean), and control disease and pests.
- **Cultural services** – the intangible values that ecosystems provide, including tourism and recreation (e.g. national parks, reefs), spiritual and religious significance (e.g. sacred forests), aesthetic inspiration, and cultural heritage.

Natural capital assets are the basis to providing these ecosystem services and their health is essential for the foundational ecological processes such as soil formation and nutrient cycling, primary biomass production, and habitat provision, which make all other services possible. In the way these assets provide the basic conditions for human life and economic activity, natural capital is truly foundational to our economy more broadly, as well as being a factor of production.[40]

[38] UN SEEA (2021). *System of Environmental-Economic Accounting – Ecosystem Accounting*.
[39] TNFD (2023). *Recommendations of the Taskforce on Nature-related Financial Disclosures*.
[40] TNFD, "*Guidance on the Identification and Assessment of Nature-Related Issues*."
[41] World Economic Forum (2020). *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*.

1.1 Declining natural capital undermines prosperity and escalates risks

Nature is not just ecological background; it is productive capital that underpins prosperity. The ecosystem services it provides translate directly into sector performance and macroeconomic outcomes. Like security or electricity, demand is inelastic: when nature fails, economies stall.

Over 60% of global GDP depends *directly* on nature's services, including water regulation, pollination, and climate stability.[41] Wetlands and forests help regulate water flows essential for agriculture, hydropower, and industrial processes. Soil health and pollinators support food systems that employ more than 1 billion people worldwide.[42] Coastal ecosystems like mangroves can reduce flood damage by up to $65 billion annually by protecting infrastructure in low-lying areas.[43]

The remaining 40% is indirectly dependent on nature. Finance, manufacturing, and services may appear less exposed, but they suffer when degradation drives inflationary shocks, insurance losses, or fiscal volatility.[44]

The IMF's emerging framework shows nature loss is financially material in both directions: economic activity degrades ecosystems, and ecosystem decline feeds back into growth, inflation, and financial stability.[45]

The below five illustrative (macro-)economic transmission channels show how ecosystem degradation translates into systemic economic impacts. They are not exhaustive, but highlight the main ways nature underpins prosperity:[46]

1. **Productivity and output** – Loss of ecosystem services reduces agricultural yields, constrains water supply, and disrupts sectors such as fisheries and tourism. In some low-income, nature-dependent countries, ecosystem collapse could cut GDP by over 10% by 2030.[47]
2. **Resilience and risk exposure** – Nature buffers economies from shocks such as floods, droughts, fires. When degraded, the cost of disasters multiply, damaging supply chains and infrastructure. For example, coral reefs reduce coastal storm-surge damage by more than $5 billion annually in US alone, while urban tree canopies can lower peak summer temperatures by up to 5°C, reducing heat-related health risks and energy costs.[48, 49]
3. **Fiscal pressure** – Governments are forced to spend more on disaster relief, healthcare, and infrastructure repairs while (tax) revenues fall as nature-dependent sectors underperform.[50]
4. **Aggregate demand** – As households, businesses, and government absorb higher cost, spending and investment in the economy go down, weighs on aggregate demand and lowers current economic output further.
5. **Investment and creditworthiness** – With productivity, resilience, and fiscal stability eroded, investor confidence weakens, borrowing costs rise, and sovereign downgrades become more likely.[51]

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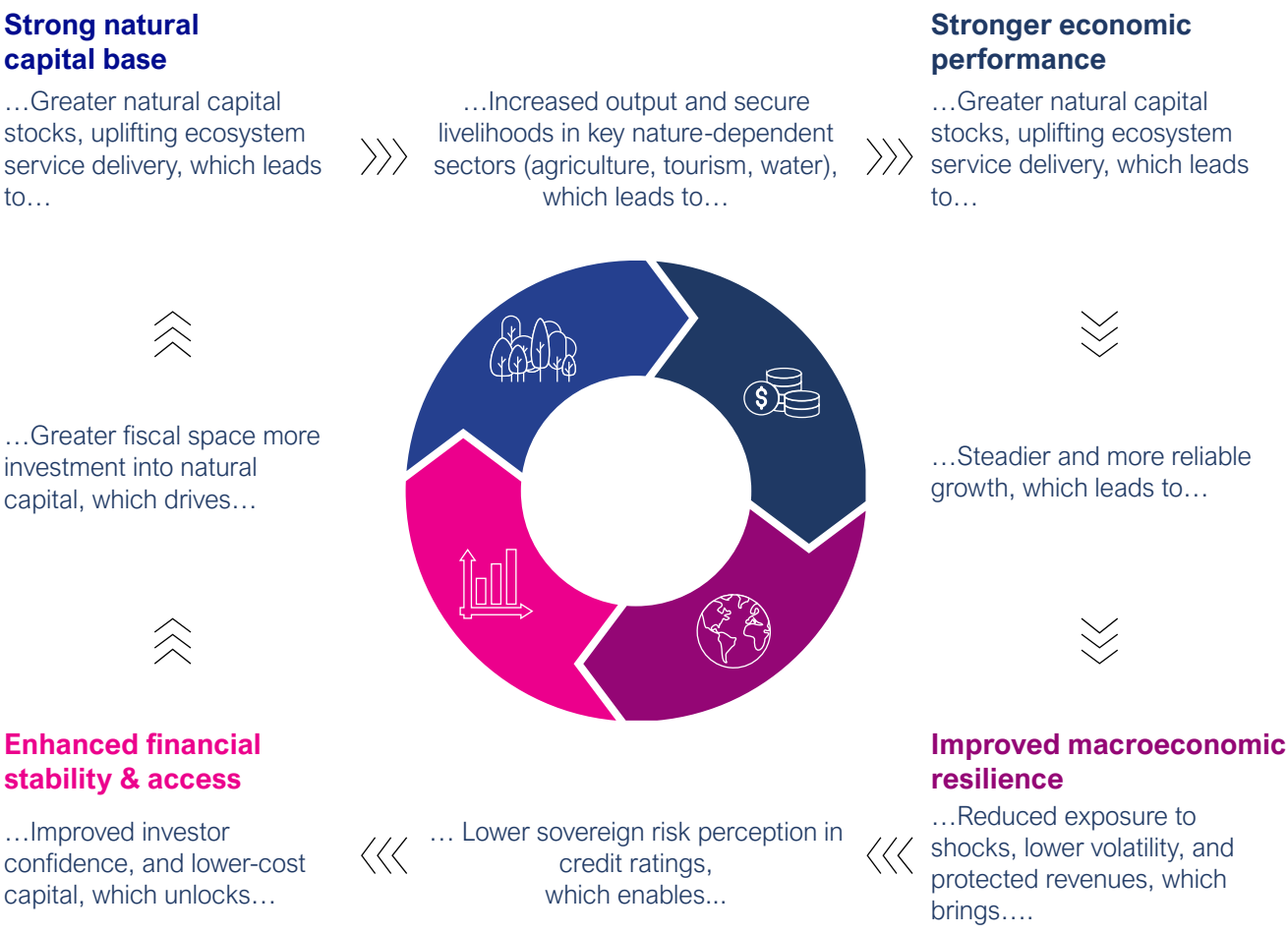
[42] IPBES (2019). *Global Assessment on Biodiversity and Ecosystem Services*.
[43] World Bank (2017). *Managing Coasts with Natural Solutions: Guidelines for Measuring and Valuing the Coastal Protection Services of Mangroves and Coral Reefs*.
[44] NatureFinance (2025). *Nature as a Shock Absorber: The Macroeconomic Case for Natural Capital*.
[45] Gardes-Landolfini, *Embedded in Nature: Nature-Related Economic and Financial Risks and Policy Considerations*.
[46] These five categories mirror the main macroeconomic transmission channels recognised in the literature: supply-side impacts on productivity and output (World Bank 2021, The Economic Case for Nature), the role of ecosystems in buffering shocks and systemic risk (UNDRR 2025; IPCC 2022), fiscal pressures from rising public spending and reduced revenues (LSE 2023, Nature in Debt Sustainability Analyses; Ranger et al. 2025), demand-side effects of environmental degradation on consumption and investment (Dasgupta Review 2021), and financial system impacts on investment flows and sovereign creditworthiness (NGFS 2022; World Bank 2021). Together, they align with how economists assess growth, fiscal stability, and financial risk.
[47] World Bank (2021). *The Economic Case for Nature: A Global Earth-Economy Model*.
[48] Arthur Elmes, *Effects of Urban Tree Canopy Loss on Land Surface Temperature Magnitude and Timing* (USDA, 2017); Borja G. Reguero, *Coral Reefs Are Natural Infrastructure Barriers That Protect from Flood Related Risks and Damages* (Cambridge, 2021).
[49] IMF (2023). *Managing Nature-Related Financial Risks*.
[50] Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review.*
[51] Fitch Ratings & SOAS (2023). *Nature Loss and Sovereign Credit Ratings*.
[52] Dasgupta, *The Economics of Biodiversity*.

These channels reinforce one another. Lower output reduces tax revenues, shrinking fiscal space and deterring investment. Rising debt burdens further weaken the ability to protect or restore ecosystems. The reverse is also true: restoration boosts productivity, reduces volatility, eases fiscal pressure, and attracts capital – creating a positive feedback loop across economies.

In short: nature is both a driver of prosperity and a shock absorber against decline. Whether economies rise or falter depends on whether natural capital is managed as productive infrastructure – or allowed to silently deteriorate.

Figure 3. Ecosystem health benefits economies in a positive feedback loop



1.2 Economic and financial decisions and accounts do not recognise the value of natural capital

1.2.1 Inclusive wealth gives a broad understanding of prosperity

The prosperity of any nation ultimately rests on the extent and quality of its wealth – the portfolio of assets available to generate wellbeing today and tomorrow.[52] To gain a comprehensive picture of national wealth, we need to take a capitals approach.[53] National wealth is more than produced capital (infrastructure and financial capital – currently captured by today's national accounting practices); it includes human capital (knowledge, skills, and health of people), and natural capital (ecosystems and natural resources). This combination of capitals underpins all economic activity.

[53] "Capitals Approach," *Capitals Coalition*, n.d., accessed August 21, 2025, https://capitalscoalition.org/capitals-approach/.
[54] Dasgupta, *The Economics of Biodiversity*.

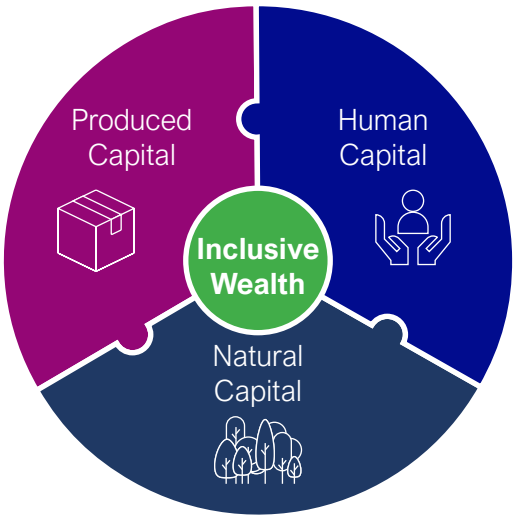
Natural capital directly supports other asset classes, specific sectors and economic activity at large:

- **Foundation for produced and human capital.** Ecosystem services such as clean air and water, fertile soils, and a stable climate sustain human health, skills, and productivity, while protecting infrastructure and other built assets.
- **Driver of key sectors.** Forests regulate water flows that sustain agriculture and hydropower; pollinators boost crop yields; coastal ecosystems protect tourism assets and fisheries.
- **Pillar of overall economic stability.** By underpinning food security, public health, and resilience to shocks, nature sustains demand, investment confidence, and long-term growth; without it, economies quickly falter.

Economic decision-making, both public and private, overlooks this. GDP measures how much value is produced in a year by market transactions, but overlooks non-market value, and whether the underlying asset base is being maintained or eroded. A country can raise GDP by clearing forests or overfishing, while silently reducing its future capacity to grow. Firms face a similar bias when quarterly profits are prioritised over long-term resilience.[54]

While *practice* is lagging, orthodox economic *theory* has long recognised the need for inclusive wealth in steering towards long-term prosperity. It measures the aggregate value of all three core forms of capital – produced, human, and natural – using appropriate market and shadow prices that reflect their true economic contribution, including the non-market services nature provides.

Figure 4. Inclusive Wealth captures produced, human, and natural capital[55]



By tracking whether this capital base is growing or shrinking, inclusive wealth reveals whether current economic activity is building or depleting the foundations of future wellbeing. It enables policymakers and firms to:

- **Detect when growth is unsustainable**, such as when natural capital depletion outpaces investment in other forms of capital.
- **Make informed trade-offs** between short-term output and long-term resilience.
- **Integrate nature's value into national balance sheets**, aligning fiscal and investment strategies with the preservation of wealth for future generations

[55] UNEP, *Inclusive Wealth Report 2023*. & Dasgupta *The economics of Biodiversity*
[56] "System of National Accounts." accessed August 12, 2025, https://unstats.un.org/unsd/nationalaccount/sna2025.asp.

In short, inclusive wealth bridges today's performance with tomorrow's prosperity. If governments adopt it as a core measure of success, natural capital will be fully captured on balance sheets – incentivising both public and private stewards to treat ecosystems as assets, not expendables.

1.2.2 Accounting bias distorts economic decisions

Governments track national economic performance and design policy using the UN System of National Accounts (SNA): the international standard for measuring a country's economic performance and wealth. It includes guidance on accounting for national economic flows – such as GDP – and stocks, as captured on national balance sheets.[56] GDP, the dominant measure, records the annual market value of goods and services produced and is closely tied to fiscal capacity, since higher GDP generally means higher tax revenues. While national balance sheets track assets and liabilities in the aggregate economy, they are rarely used to guide policy, with most economic strategy focused on year-to-year GDP and budget balances.

This creates biases in how accounting steers decisions, particularly relevant for natural capital. While this section focuses on natural capital, it is important to recognise that inclusive wealth depends on the integration of all capitals – natural, human, social, and produced. Natural capital is a foundational component: once nature is properly accounted for in economic terms, it becomes clearer how it underpins and interacts with the other forms of capital, rather than being treated in isolation.

- **Short-term flow bias** – Policy steers for short-term output measures, not for the maintenance of the underlying asset base. GDP can rise even while national wealth declines (such as when natural resources are over-exploited) masking long-term risks to prosperity. This often leads to nature losing out, as short-term extraction is prioritised over maintaining a healthy stock.

- **Monetary bias** – National accounts are based on the monetised economy: they track goods and services recorded in market transactions, and assets and liabilities that are financially valued. Ad hoc adjustments are made for public services but limited to visible examples like heath care. Nature largely misses out: it is still primarily captured when resources are extracted and sold (e.g. timber, oil, minerals), while many non-market ecosystem services remain excluded. The UN's System of Environmental-Economic Accounting (SEEA) does assign values to certain regulatory services through its Ecosystem Accounts module, but uptake is limited and most countries have yet to embed these consistently into their core accounts. This leaves much of nature's economic value invisible. Ecological liabilities (e.g. degraded soils, or declining water quality) rarely appear in fiscal assessments despite their erosive effect on productive capacity.

Economists refer to these blind spots as externalities: the positive or negative consequences (benefits or costs) of an action that affects someone other than the agent undertaking that action, and for which the agent is neither directly compensated nor penalised. Neither the societal value creation nor erosion are represented in the monetary value of transactions. Out of sight often means out of mind: there is neither visibility nor incentive for decision-makers to take externalities into account. This creates distortions in how we allocate capital, measure progress, and manage risk.[57]

- **Positive externalities** such as the climate regulation services of forests, or the pollination benefits of biodiverse landscapes are systematically undervalued. Without proper incentives, public goods go unrewarded, and underinvestment is inevitable. Just as investors charge a return for the use of their funds, stewards of natural capital should be compensated for the ecosystem services they provide. This means establishing regulation and market mechanisms rewarding ecosystem stewardship (delivery of positive externalities) and penalising degradation.[58]

[57] Dasgupta, *The Economics of Biodiversity*.
[58] Dasgupta, *The Economics of Biodiversity*.
[59] Dasgupta, *The Economics of Biodiversity*.

- **Negative externalities** such as carbon emissions or biodiversity loss impose real costs on society but are not included in market prices. This means that benefits from extracting natural capital (e.g. revenues from mineral extraction) are privately captured, while side effects are absorbed by society without compensation (e.g. pollution for communities living downstream of mining sites). Without market pricing this is not reflected in financial statements or national accounts. They are hidden liabilities: they erode wealth and resilience, even as GDP rises in the short term.[59]

Methods already exist to internalise these externalities: shadow pricing can underpin payments for ecosystem services, and fiscal incentives. But today, trust in shadow price valuations remains limited, methods are not standardised (there are several ways to estimate the monetary value of ecosystem services in the absence of market prices, all with criticism), and valuations rarely translate to real incentives or penalties. Therefore, much of nature's value remains exactly that: *an externality*.

1.3 Systemic underinvestment in natural capital

As a result of current accounting, nature is chronically underinvested. Unlike education or infrastructure, spending on the environment is still too often seen as a cost rather than an investment. Public budgets typically allocate less than 0.1% of GDP to biodiversity, and private sector contributions remain minimal.[60] The result is a chronic shortfall in maintaining and restoring natural infrastructure, even where its economic returns are high. For example, mangrove restoration in the Philippines has been shown to deliver more than $450 million per year in avoided flood damages, but restoration programmes remain small-scale and fragmented.[61]

The consequences of this underinvestment are most severe in EMDCs, where degraded ecosystems directly undermine livelihoods, food security, and fiscal stability. In sub-Saharan Africa, land degradation costs an estimated $56 billion annually in lost ecosystem service value,[62] threatening agricultural export revenues and increasing reliance on costly food imports. In South Asia, deforestation and watershed degradation contribute to water scarcity that constrains industrial output and urban growth, while increasing disaster risk; flood-related losses in Pakistan in 2022 exceeded US$30 billion, exacerbated by deforestation and wetland loss.[63] Overfishing and coastal ecosystem loss already cost the global economy $80–100 billion annually in foregone revenues, according to the World Bank. This undermines livelihoods for hundreds of millions of people, erodes tax bases, and increases fiscal vulnerability in many coastal states that are already debt-stressed.[64]

Highly biodiverse countries face a vicious cycle where debt distress drives further nature loss: the ten most forested EMDCs owe nearly $460 billion in external debt service over the next five years, and past crises have seen deforestation accelerate after credit downgrades.[65]

A partial collapse of ecosystem services – including pollination, coastal protection, and food provision – could result in a decline of global GDP of 2.3% per year by 2030. For developing countries the GDP losses could rise to 10% annually due to higher dependence on natural capital.[66]

These examples illustrate that failing to treat natural capital as core economic infrastructure results in predictable, high-cost economic shocks – costs that are magnified in economies most dependent on nature's asset base.

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[60] "A Comprehensive Overview of Global Biodiversity Finance," OECD, April 5, 2020, https://www.oecd.org/en/publications/a-comprehensive-overview-of-global-biodiversity-finance_25f9919e-en.html.
[61] World Bank, *Valuing the Protection Services of Mangroves in the Philippines* (n.d.).
[62] Ayele Almaw Fenta et al., "*Cropland Expansion Outweighs the Monetary Effect of Declining Natural Vegetation on Ecosystem Services in Sub-Saharan Africa*," Ecosystem Services 45 (October 2020): 101154, https://doi.org/10.1016/j.ecoser.2020.101154.
[63] World Bank, "*Pakistan: Flood Damages and Economic Losses Over USD 30 Billion and Reconstruction Needs Over USD 16 Billion - New Assessment*," World Bank, accessed August 13, 2025, https://www.worldbank.org/en/news/press-release/2022/10/28/pakistan-flood-damages-and-economic-losses-over-usd-30-billion-and-reconstruction-needs-over-usd-16-billion-new-assessme.
[64] World Bank, *The Sunken Billions Revisited: Progress and Challenges in Global Marine Fisheries* (2017).
[65] Center for Global Commons, *Financing Nature: A Transformative Action Agenda* (2023).
[66] Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*.
[67] H2O IQ (n.d.). *How Deforestation Affects Flood Risk*. Retrieved from https://www.h2oiq.org/deforestation-affects-flood-risk

Box 5: How ecosystems loss cascades through economies

- **Environmental shockwaves:** The degradation of forests, wetlands, and watersheds can trigger self-perpetuating crises across sectors. Deforestation, for instance, not only emits carbon but also increases downstream flood risk by removing natural water buffers. Likewise, when upland watersheds are denuded, irrigation systems falter, hydropower dams silt up, and drinking water quality declines, undermining agriculture, energy supply, and public health in one blow.[67]

- **Emerging economies are the most exposed:** The fallout from nature loss is most severe in emerging and developing economies, as a large share of national wealth and jobs directly depends on ecosystems (almost half in low-income countries).[68] Importantly, they lack fiscal buffer to absorb impact.[69] A country that clears its forests or overdraws its aquifers may see an immediate boost in GDP, but it courts long-term macro-fiscal peril – crop failures, power blackouts, and disaster relief bills that strain budgets. In low-income countries, essential ecosystem services like pollination, fisheries, and water regulation are so vital that their collapse could reduce GDP by an average of 10% annually.[70]

- **Advanced economies are impacted too:** No economy is truly "decoupled" from nature. Developed countries may have fewer industries directly tied to untouched forests or reefs, but they remain entwined via global supply chains, commodity markets and basic services. The collapse of pollinator populations or rainforests in one region can drive up food and raw material prices worldwide, squeezing business margins and consumers alike. Manufacturing sectors face input volatility when natural resources become scarce. Basic services falter when infrastructure systems endure damage without climate regulation and the protection of natural defences, and insurers must cover more losses from floods, fires, and crop disasters.[71]

- **The stakes are systemic.** Healthy ecosystems provide the soil fertility, freshwater, climate regulation, and other services that make sustained growth possible. If those services unravel, economies do not gradually slow – they can *break*. Environmental degradation is often nonlinear and irreversible: once critical thresholds are crossed, damage accelerates and alternatives are few.[72] Preserving nature is therefore a matter of economic survival, not just environmental ethics.

These risks are already materialising. We see it in the increasing frequency of climate-induced crop failures, fishery collapses, and urban water crises – each with real fiscal and social costs. Yet current economic systems largely ignore these warning signs. What's missing is an ability to account for nature-related risks before they erupt into crises. In practice, that means rethinking how we measure and manage the economy's dependency on nature.

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[68] Natural capital underpins 47% of wealth in low-income countries, compared to just 3% in high-income countries. Continued deforestation of the Amazon could cause Brazil to lose up to 2.2% of GDP per year by 2050, as reductions in regional rainfall of up to 40% hits the country's critical agri-business and energy (hydropower) sectors.

[69] WAVES Partnership (2017). *Wealth Accounting and the Valuation of Ecosystem Services*. World Bank. Retrieved from https://www.wavespartnership.org

[70] World Bank (2021). *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*. Retrieved from https://documents.worldbank.org/en/publication/documents-reports/documentdetail/292751641288541845

[71] World Economic Forum (2020). *Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy*. Retrieved from https://www.weforum.org/reports/nature-risk-rising

[72] Coalition of Finance Ministers for Climate Action (2022). *Nature-Related Fiscal Risks: Integrating Nature into Fiscal and Economic Planning*. Retrieved from https://www.financeministersforclimate.org

[73] Dasgupta, *The Economics of Biodiversity*.

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1.4 Tools exist to measure nature to drive better economic and financial decisions

There is no shortage of methods to capture the economic importance of natural capital for both public and private organisations. Much progress is being made in standardising and expanding these methods, through SEEA (the UN-approved statistical standard for natural capital accounting) as well as the value factors used by corporates (for example, through the efforts of the Capitals Coalition, Value Balancing Alliance, and International Foundation for Valuing Impacts (IFVI)).

Underpinning natural capital accounting frameworks for both public and private sectors are two core methods:

- **Shadow pricing:** attributing monetary value to goods or services not currently captured by market prices – such as valuing unmarketed flood defences provided by a wetland.
- **Quantitative biophysical accounting:** measure nature's goods and services in physical units – such as hectares of mangrove forest, tonnes of carbon stored, or cubic metres of water retained.

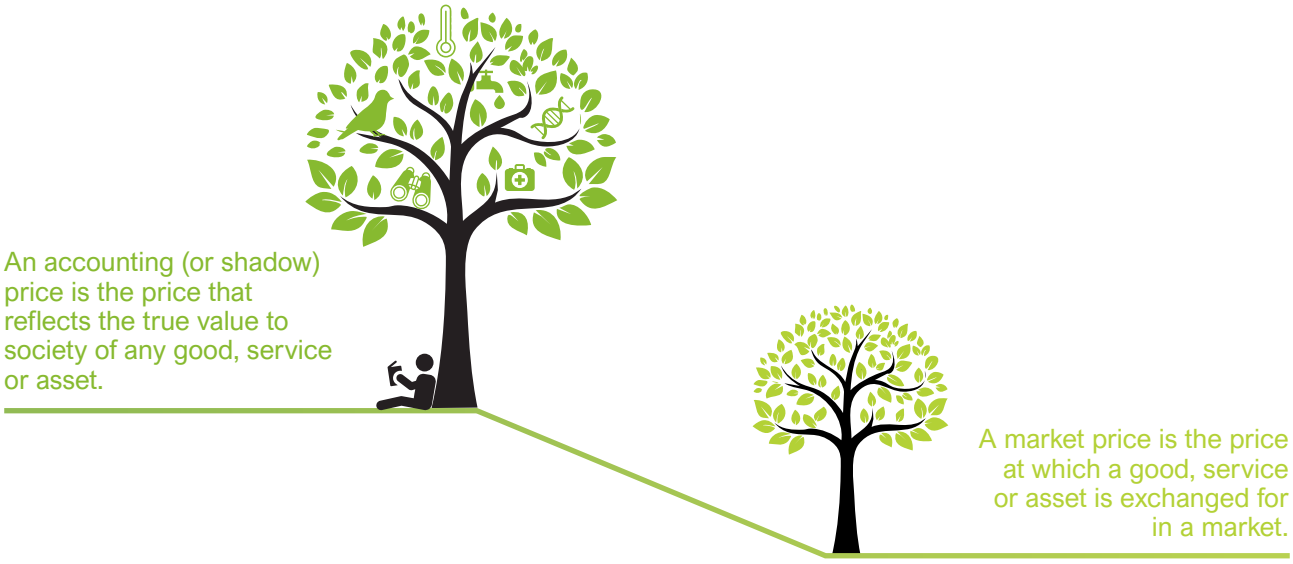
These methods are complementary: the former translates unpriced ecosystem services into economic terms that can be compared directly with other assets and liabilities, while the latter grounds decisions in measurable physical indicators. Together, they provide a fuller evidence base for both economic and environmental policy choices.

Each of these methods has clear strengths but also limitations and risks, particularly when applied at scale. They are still evolving, and results can vary depending on assumptions and context. It is therefore important that users apply them deliberately and critically, while contributing to the refinement of more robust methodologies over time.

1.4.1 Shadow pricing

Shadow pricing assigns monetary value to things which do not have market prices – such as ecosystem services like flood protection from wetlands or carbon storage in forests.[73] In public economics, shadow pricing has long been used to evaluate projects with social returns that differ from market returns.

Figure 5. Shadow prices and market prices[74]



[74] Dasgupta, *The Economics of Biodiversity*.
[75] Robert Costanza et al., "*Changes in the Global Value of Ecosystem Services*," Global Environmental Change 26 (May 2014): 152–58, https://doi.org/10.1016/j.gloenvcha.2014.04.002.

When developing monetary natural capital accounts, shadow prices are applied to estimate the monetary value of ecosystems and ecosystem services and asset changes, using social valuations, cost-based proxies, and willingness-to-pay studies.

There have been several efforts to put a shadow price on global ecosystem service delivery – most notably the work of Robert Costanza of UCL and colleagues: they valued global ecosystem services at $125 trillion/yr.[75] The work has faced criticism: from the ethics of putting a monetary value on nature at all (if ecosystem services totally collapsed, it would result in the extinction of humanity – not merely loss of $125 trillion), to concerns about the methodology. For example, some argue that Costanza must overestimate willingness to pay for ecosystem services, since the final value exceeded the size of the global economy at the time.[76]

However, shadow pricing can be a useful tool in demonstrating the economic contribution of nature – for example, it is essential for comparing the cost effectiveness of green infrastructure compared to grey solutions. One well known example of such cost-benefit analysis comes from the Catskills mountains: natural water provision proved more cost-effective than grey infrastructure, so the New York City municipality chose to invest in natural capital (ecosystem conservation and restoration to ensure the service), rather than purely produced capital (new grey water provision infrastructure).[77]

Efforts are underway to categorise and synthesise global ecosystem service shadow prices and value factors. The Capitals Coalition has aggregated an overview of where value factors can be found.[78] These include the Ecosystem Services Valuation Database (ESVD) (developed by the Netherlands-based Foundation for Sustainable Development) currently containing 10,874 value records from over 1,100 studies distributed across all biomes, ecosystem services and geographic regions;[79] and the IFVI that has developed a comprehensive database of nearly 100,000 value factors across key topics such GHG emissions, land use and conversion, and pollution to guide shadow pricing of environmental impacts.[80]

Despite these efforts, shadow pricing is rarely used systematically in project appraisals and investment decisions. The Capitals Coalition has published an Integrated Decision-Making Framework to establish internationally accepted standards for its application in economic policy and decision-making alongside the Governance for Valuation framework, which sets out transparency requirements and safeguards in the use of shadow pricing.[81]

1.4.2. Quantitative biophysical accounting

Unlike shadow pricing, which expresses ecosystem services in monetary terms, biophysical accounts measure nature's goods and services in physical units – such as hectares of mangrove forest, tonnes of carbon stored, or cubic metres of water retained. These accounts provide the foundational data needed to understand the condition and extent of ecosystems and the services they deliver, even where market or shadow prices are unavailable or uncertain.

Biophysical accounting is especially important where pricing is ethically or methodologically contested, or where decision-making relies more on thresholds and trade-offs than cost-benefit analysis. For instance, water quotas, biodiversity credit requirements, and habitat restoration targets often depend on biophysical metrics, not monetary valuation.

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[76] Richard B Howarth and Stephen Farber, "*Accounting for the Value of Ecosystem Services*," Ecological Economics 41, no. 3 (2002): 421–29, https://doi.org/10.1016/S0921-8009(02)00091-5.

[77] "How New York City Used an Ecosystem Services Strategy Carried out through an Urban-Rural Partnership to Preserve the Pristine Quality of Its Drinking Water and Save Billions of Dollars and What Lessons It Teaches about Using Ecosystem Services," accessed August 7, 2025, https://vtechworks.lib.vt.edu/items/737f7a63-503b-4e35-a600-f5da9c643ad1.

[78] Capitals Coalition, What Is a Value Factor?, 2025, https://capitalscoalition.org/capitals-approach/value-factors/#:~:text=A%20value%20factor%20is%20an,or%20produced%20capitals%20to%20people.

[79] "ESVD," accessed August 7, 2025, https://www.esvd.net/; L. M. Brander et al., "*Economic Values for Ecosystem Services: A Global Synthesis and Way Forward*," Ecosystem Services 66 (April 2024): 101606, https://doi.org/10.1016/j.ecoser.2024.101606.

[80] "International Foundation for Valuing Impacts (IFVI)," IFVI, accessed August 7, 2025, https://ifvi.org/.

[81] Capitals Coalition, Integrated Decision-Making Framework, 2025, https://capitalscoalition.org/capitals-approach/frameworkintegrated/.

[82] UN Statistical Division, "*2024 Global Assessment | System of Environmental Economic Accounting*," accessed July 29, 2025, https://seea.un.org/content/2024-global-assessment.

Biophysical accounting and mapping can support spatial planning and policy appraisal even where monetary values are uncertain or politically sensitive. For instance, Colombia and Vietnam have used ecosystem service maps derived from biophysical accounts to prioritise areas for conservation investment and nature-based infrastructure, based on service supply and local demand.[82]

Box 6: Using methods to generate insights – geospatial mapping and valuation of ecosystem services

Spatial mapping of ecosystem services is a critical tool for translating biophysical and ecological information into decision-relevant insights. These tools allow governments, planners, and businesses to understand the location, quantity, and economic value of the services nature provides – from water purification and sediment retention to carbon storage and flood risk reduction.

One of the most widely used and validated tools in this field is InVEST (Integrated Valuation of Ecosystem Services and Trade-offs), developed by the Stanford Natural Capital Project. InVEST is an open-source software suite that models and maps multiple ecosystem services using spatial data, allowing users to assess both current conditions and future scenarios.[83] It includes modules for carbon sequestration, nutrient cycling, pollination, coastal protection, and more. InVEST tools have been used in over 185 countries.[84] Its outputs support a variety of planning and investment decisions – including coastal zone management in Belize, land-use zoning in China, and water fund design in Latin America. What distinguishes InVEST is its ability to integrate ecological, social, and economic data – helping identify trade-offs across development and conservation goals. Its outputs can be used alongside SEEA ecosystem accounting, to give a comprehensive picture of natural capital value.

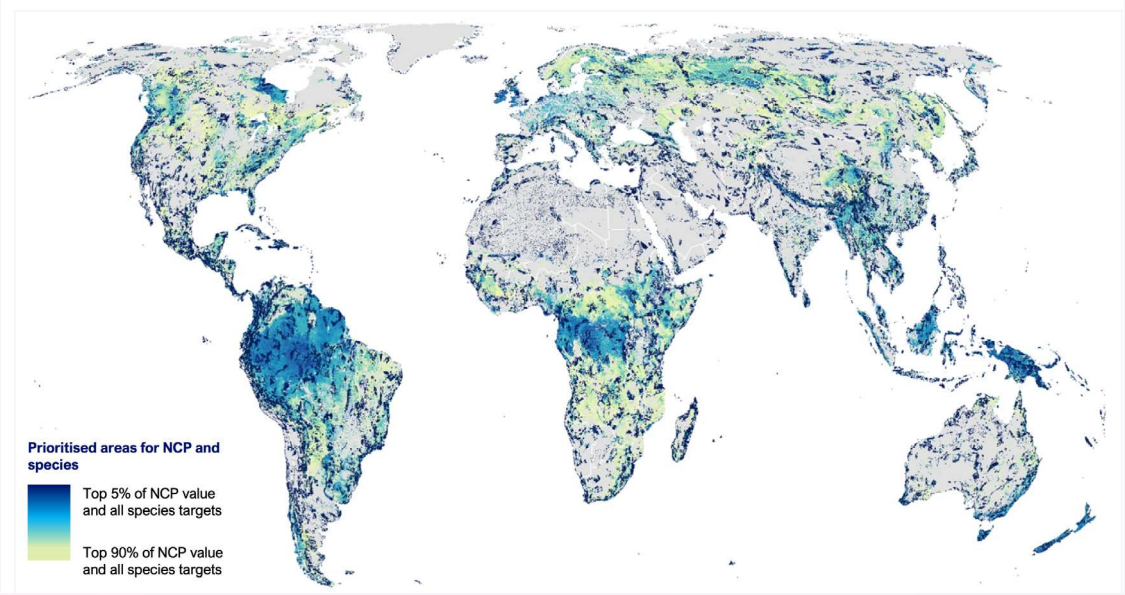
InVEST can also be linked with macroeconomic models to simulate the systemic consequences of nature degradation or restoration. For example, InVEST outputs have been combined with the GTAP (Global Trade Analysis Project) Computable General Equilibrium model, to demonstrate that ecosystem degradation could reduce global GDP by 2.7% by 2030, with disproportionately higher losses in low-income, nature-dependent economies.[85]

Spatial ecosystem service mapping is not restricted by national borders – it can be an effective way to demonstrate the criticality of important ecosystems in providing services on which the whole globe depends. For example, InVEST was used to map critical areas for delivering nature's contributions to people, showing locations of global importance for ecosystem service delivery (including carbon capture, coastal protection and food provision).[86] This could be an effective tool for pricing in global positive externalities: quantifying the value of ecosystem services provided by global commons.

[83] Anne D. Guerry et al., "*Natural Capital and Ecosystem Services Informing Decisions: From Promise to Practice*," Proceedings of the National Academy of Sciences 112, no. 24 (2015): 7348–55, https://doi.org/10.1073/pnas.1503751112.
[84] "InVEST | Natural Capital Project," accessed August 7, 2025, https://naturalcapitalproject.stanford.edu/software/invest.
[85] Justin Andrew Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*, 2021.
[86] Rachel A. Neugarten et al., "*Mapping the Planet's Critical Areas for Biodiversity and Nature's Contributions to People*," Nature Communications 15, no. 1 (2024): 261, https://doi.org/10.1038/s41467-023-43832-9.

Box 6: Using methods to generate insights – geospatial mapping and valuation of ecosystem services

Figure 6. Ecosystem service mapping tools show globally critical natural assets



Biophysical ecosystem service mapping alone can also be very powerful for certain decisions. Showing comparative importance of services delivered could be enough to guide investment in top-priority areas. Monetary valuation is not necessarily essential for every economic decision.[87] For example, in Colombia's Cauca Valley, the Natural Capital Project and The Nature Conservancy applied the RIOS (Resource Investment Optimization System) tool – built on InVEST models – to spatially map water yield and sediment retention across. These biophysical maps guided the design of the Water for Life and Sustainability Fund, pinpointing priority upstream areas for investment in reforestation and watershed management.[88]

[87] Dasgupta, *The Economics of Biodiversity*.
[88] Water for Life and Sustainability Fund - Cenicaña, n.d., accessed August 7, 2025, https://www.cenicana.org/en/water-fund-for-life-and-sustainability/.

1.5 Conclusion: The economic prize is better investment to lower risks and drive prosperity

Better accounts will value what really matters. When decision-makers see the true costs of degradation and the benefits of stewardship, they can shift capital flows accordingly. Policymakers can create the enabling conditions through fiscal reform, standards, and incentives. Private decision-makers, in turn, can embed natural capital into the way their value chains operate, reducing exposure to risk while unlocking opportunities for growth.

The economic prize is clear. Redirecting finance away from activities that erode natural capital, and scaling investments that restore and protect it, will strengthen resilience and drive long-term prosperity. Governments can mobilise resources for national priorities, while companies can enhance competitiveness and secure supply chains. In both cases, integrating natural capital is not only about risk management – it is a pathway to productivity, innovation, and inclusive growth.

Getting there will require bold but practical steps. The task ahead is not to invent new tools, but to apply what already exists with far greater ambition and urgency. The next chapter sets out the action agenda for how finance, policy, and institutions can turn better accounts into better investments – lowering risks and driving prosperity.

Failing to treat natural capital as productive infrastructure distorts economic choices and erodes the foundations of prosperity. Inclusive Wealth provides the lens to correct this bias, but measurement alone will not be enough. The next step is to mobilise finance at scale – ensuring investment flows towards maintaining and rebuilding natural capital rather than subsidising its depletion. Chapter 2 sets out the scale of this investment need and the pathways to meet it.

2 Mobilising investments into natural capital

Chapter 2 – What one needs to believe

- Direct incremental financing needs for nature are about $400 billion per year by 2030 – roughly 0.4% of global GDP – with nearly two-thirds of the requirements within EMDCs excluding China
- Governments can enable and incentivise the private sector to undertake a large share of these investments.
- Redirecting larger investment flows – in infrastructure and food systems – towards nature-positive outcomes such as land restoration has modest incremental costs, and should be a policy priority
- Financing instruments must match assets' characteristics: private finance where cashflows exist, blended and public finance where returns are public goods.

Natural capital is essential economic infrastructure, yet it remains chronically underfunded. Meeting global needs will require raising investment from $46 billion in 2022 to around $400 billion annually by 2030, with two-thirds of this in EMDCs.[89] Mobilisation cannot rely on a single source: it must combine the reform of harmful subsidies, the redirection of existing public and private flows, and the mobilisation of new finance from both markets and public budgets. Trillions of public and private investments in infrastructure, business assets, and production (agriculture, manufacturing, and services) must be aligned with protecting and enhancing natural capital. Crucially, this requires shifting from a "cost" to an "investment" lens, so that spending on nature is recognised as building productive assets rather than draining scarce resources.

Private finance is most effective where natural assets generate reliable revenue streams, such as in certified forestry, carbon markets, or regenerative agriculture. Public finance is indispensable where assets deliver broad social and fiscal savings but limited direct cash flows, such as in mangroves, watersheds, or land rehabilitation. Between these poles lies a spectrum of blended solutions, where concessional finance and guarantees can improve risk–return profiles and crowd in commercial capital.

This chapter sets out the scale of the investment need and how it can be met. Section 2.1 quantifies the $400 billion requirement and highlights the misalignment with today's $1.7 trillion in harmful subsidies. Section 2.2 focuses on EMDCs, where most of the need is concentrated. Section 2.3 then examines the four complementary levers for mobilisation – repurposing harmful subsidies, redirecting existing flows, scaling new private finance, and expanding public finance. Section 2.4 shows how these map onto a continuum of instruments matched to asset characteristics.

2.1 $400 billion in direct investment needs for natural capital

Global direct investment in natural capital must increase rapidly – from $46 billion in 2022 to around $400 billion annually by 2030, and to $480–580 billion by 2035. These resources are essential to invest in natural capital and sustainable agriculture, both central to mitigation, adaptation, and development. They are also indispensable for achieving the Kunming-Montreal Global Biodiversity Framework, including the "30x30" commitment to conserve at least 30% of land and ocean by 2030. Failure to mobilise this investment would directly expose over half of global GDP that is highly dependent on nature to escalating risks from supply-chain disruption, resource scarcity, and asset devaluation.

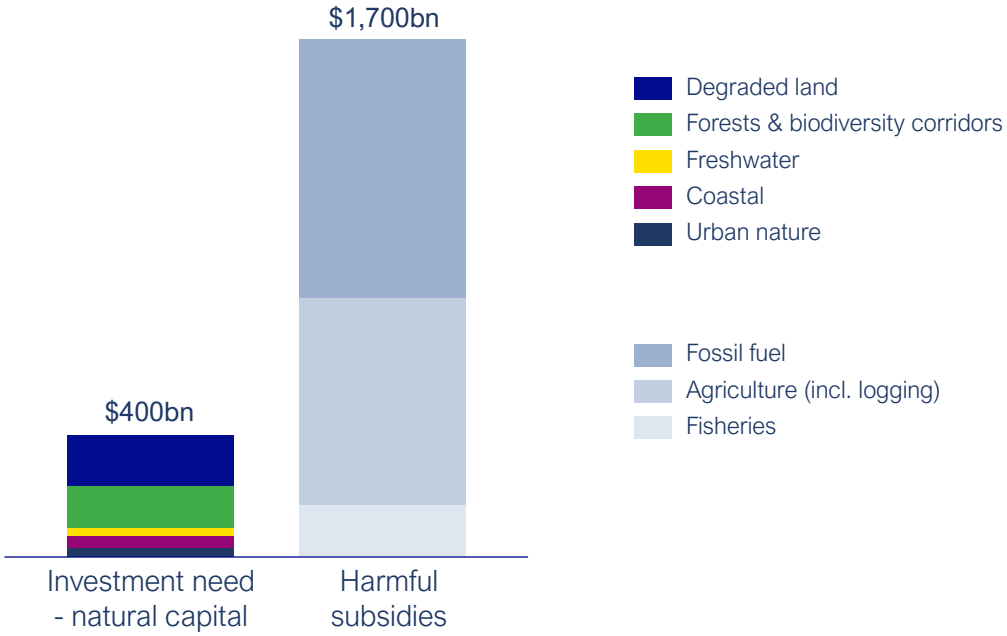
[89] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance*.

Roughly one-third of incremental natural capital finance (excluding sustainable land management) should go to protection – avoiding deforestation, conversion of grasslands and peatlands, and loss of coastal ecosystems – while about two-thirds should support restoration, with most directed to reforestation alongside peatland, mangrove, saltmarsh and seagrass recovery. Protection is the most cost-effective option, yet the area that requires safeguarding is more than ten times greater than will that needing active restoration to 2030.[90]

Nature-based solutions such as conservation, restoration, and sustainable land management could cut more than 11 billion tonnes of CO_2-equivalent by 2030 – an impact comparable to halting global oil combustion. Nature-based measures are among the most cost-effective options available, delivering multiple co-benefits for jobs, poverty reduction, and food security. Each dollar invested in ecosystem restoration generates an estimated $7–30 in returns.[91]

Yet scaling up investment while continuing to subsidise the destruction of natural assets is self-defeating. In 2022, governments all over the world channelled at least $1.7 trillion annually into environmentally harmful subsidies – ranging from support for fossil fuels and intensive agriculture to deforestation, seabed dredging and industrial pollution – equivalent to 2% of global GDP. On top of that, a further $5 trillion of private finance flows with a direct negative impact on nature. This far exceeds the scale of finance directed toward nature enhancing action and underscores a profound misalignment in fiscal strategy.[92]

Figure 7. Overview of the annual 2030 global incremental investment need for natural capital and 2022 harmful subsidies flowing into nature degradation annually[93]



Redirecting these subsidies and re-aligning incentives would yield immediate and systemic economic benefits. Reforming harmful subsidies – repurposing them toward social objectives, conservation, ecosystem restoration, and sustainable production – could mobilise resources that exceed current biodiversity finance needs several times over. Financial incentives can be reframed to reward positive externalities: payments for ecosystem services, tax breaks for regenerative practices, and lower borrowing costs for nature enhancing investments. Couple that with stronger environmental safeguards, shadow pricing in fiscal decisions, and mandatory integration of natural capital into budget and investment appraisals, and public and private finance would actively build – rather than erode – the asset base that underpins growth and stability.[94]

[90] UNEP, *State of Finance for Nature* (2023).
[91] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance*.
[92] Doug Koplow, *Protecting Nature by Reforming Environmentally Harmful Subsidies* (Earth Track, 2024).
[93] UNEP, *Finance for Nature - Finance Flows*; IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance.*
[94] Ivetta Gerasimchuk, *Reforming Environmentally Harmful Subsidies* (IISD, 2025).

2.2 The investment need for natural capital in EMDCs

This global investment surge in natural capital is critical – and nowhere more urgent than in EMDCs. Nearly two-thirds of the global requirement for natural capital and sustainable agriculture investment is concentrated in EMDCs excluding China, amounting to roughly $250 billion per year by 2030.[95] These economies hold the highest concentration of global biodiversity and are disproportionately dependent on healthy ecosystems for growth, resilience and fiscal stability. At the same time, many EMDCs are highly indebted, with debt servicing consuming scarce fiscal space and raising the risk of a downward spiral. Public resources are often further constrained by subsidies that favour short-term exploitation over long-term resilience. The result is a structural vulnerability: economies most reliant on natural capital have the least means to protect it.[96, 97]

Delivering on the natural capital investment agenda begins with clarity on what must be financed – and why. The investment need is grounded in five priority natural asset categories:

1. **Degraded land and soils;**
2. **Forests and biodiversity corridors;**
3. **Watersheds and freshwater systems;**
4. **Coastal ecosystems; and**
5. **Urban nature and green infrastructure.**

Each plays a distinct economic role in supporting livelihoods, buffering shocks, and sustaining growth. All face accelerating degradation. And all demand urgent and coordinated financing action. The following tables provide an overview of the five natural asset categories, setting out:

- **What the asset category entails**, including its primary functions
- **Why the asset matters** to development and macroeconomic stability, and to which sectors mostly;
- **What types of interventions are needed** to protect and restore them; and
- **How much investment** is required annually for EMDCs excluding China by 2030;

[95] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance.*
[96] The overall investment need in EMDCs other than China amounts to $2.4 trillion by 2030 annually, including clean energy, adaptation and resilience, loss and damage, natural capital and sustainable agriculture, and fostering a just transition [IHLEG 2024]
[97] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance*.

2.2.1 Degraded land & soils

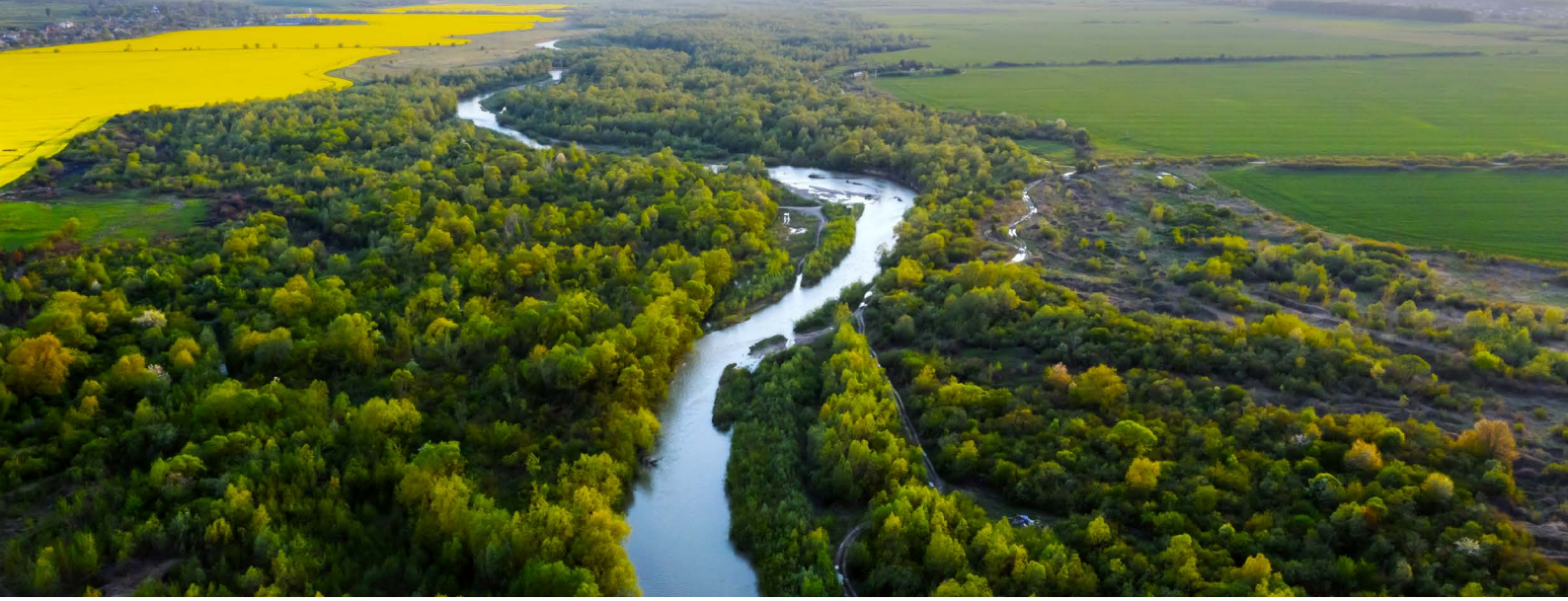
Description	Land and soils whose productive and ecological functions are impaired by overuse, erosion, nutrient depletion, salinisation, or contamination – and in some regions even by the physical loss of land through subsidence, coastal erosion, or desertification. More than half of global agricultural land is moderately or severely degraded, with the densest concentrations in EMDCs, particularly in Africa, South Asia, and Latin America. Poor soil health reduces yields by up to 50% in some EMDC regions, contributing to food insecurity and rural poverty. Over 90% of soils could become degraded by 2050.[98] This includes overgrazed rangelands in Sub-Saharan Africa, or salinised croplands in South Asia. Primary functions include food production, water flow regulation, and carbon storage.
Economic contribution	Soil degradation reduces agricultural yields, raising food prices and undermining rural incomes; global cost estimated at >$400 billion/year in lost productivity.[99] Agriculture employs about 25% of the world's labour force, with much higher averages in lower income regions (e.g. 50% in Africa).[100] Healthy soils contribute to climate mitigation via carbon sequestration and reduce disaster costs via water regulation.
Key dependent sectors	Agriculture and food systems, bio-based industries, insurance (drought/flood risk)
Intervention required	Investments in regenerative agriculture, erosion control, soil carbon enhancement, and restoration of vegetation cover. These approaches rebuild soil fertility while enhancing long-term yields and resilience. Funding should flow to smallholder farmers and producer cooperatives for adopting conservation agriculture and regenerative practices. Technical support should be provided by agro-extension networks and NGOs. Local governments and ministries of agriculture should scale land restoration programmes.
Investment need	$105 billion annually

[98] FAO, *Global Symposium on Soil Erosion.*
[99] FAO, "*Sustainable Soil and Land Management for Climate Smart Agriculture: Preventing and Mitigating Land Degradation.*"
[100] FAO, *Employment Indicators 2000–2022* (October 2024 Update).

2.2.2 Forests and biodiversity corridors

Description	Forests and connected landscapes regulate hydrological cycles, absorb carbon, host biodiversity, and sustain livelihoods. Moreover, they are also home to 80% of all land-based biodiversity. Annually, over 7 million hectares of natural forests are still lost, mostly through conversion to other land uses – such as large-scale commercial agriculture and other economic activities. For EMDCs, especially tropical forest countries, forests are both a strategic asset and a frontline of vulnerability.[101] Most new protected areas, and the largest conservation financing gaps, lie in biodiverse EMDC regions such as the Amazon, Congo Basin, and Southeast Asia. Functions include timber/non-timber products, climate regulation, soil moisture and erosion, habitat connectivity.
Economic contribution	Forests support livelihoods for 1.6 billion people and underpin $44 trillion of GDP through ecosystem services. Corridors maintain genetic diversity critical for agriculture, health, and climate resilience. Forest loss drives ~10% of global CO_2 emissions.[102]
Key dependent sectors	Agriculture (rainfall regulation), timber and paper, tourism, and pharmaceuticals
Intervention required	To halt biodiversity loss and meet the 30x30 conservation target, EMDCs must significantly scale investments in protected and protecting area networks, ecological corridors, and sustainable forest management and restoration. These investments protect intact forests, restore deforested areas, while enabling economic use of production forests under improved governance. Biodiversity corridors – critical for ecological connectivity – are especially underfunded, despite their low cost and high impact. Target beneficiaries include protected area agencies, NGOs and forest ministries for conservation and enforcement; Indigenous People and local communities with legal tenure for stewardship; ecotourism operators, sustainable timber enterprises, and agroforestry schemes.
Investment need	~$90 billion annually

[101] UN Department of Economic and Social Affairs, Forests – a Lifeline for People and Planet.
[102] Nature4Climate, *Nature-Positive Recovery - for People, Economy and Climate* (2020); World Bank, Thijs Benschop, *Deforestation: Accelerating Climate Change and Threatening Biodiversity,* 2023.



2.2.3 Watersheds and freshwater systems

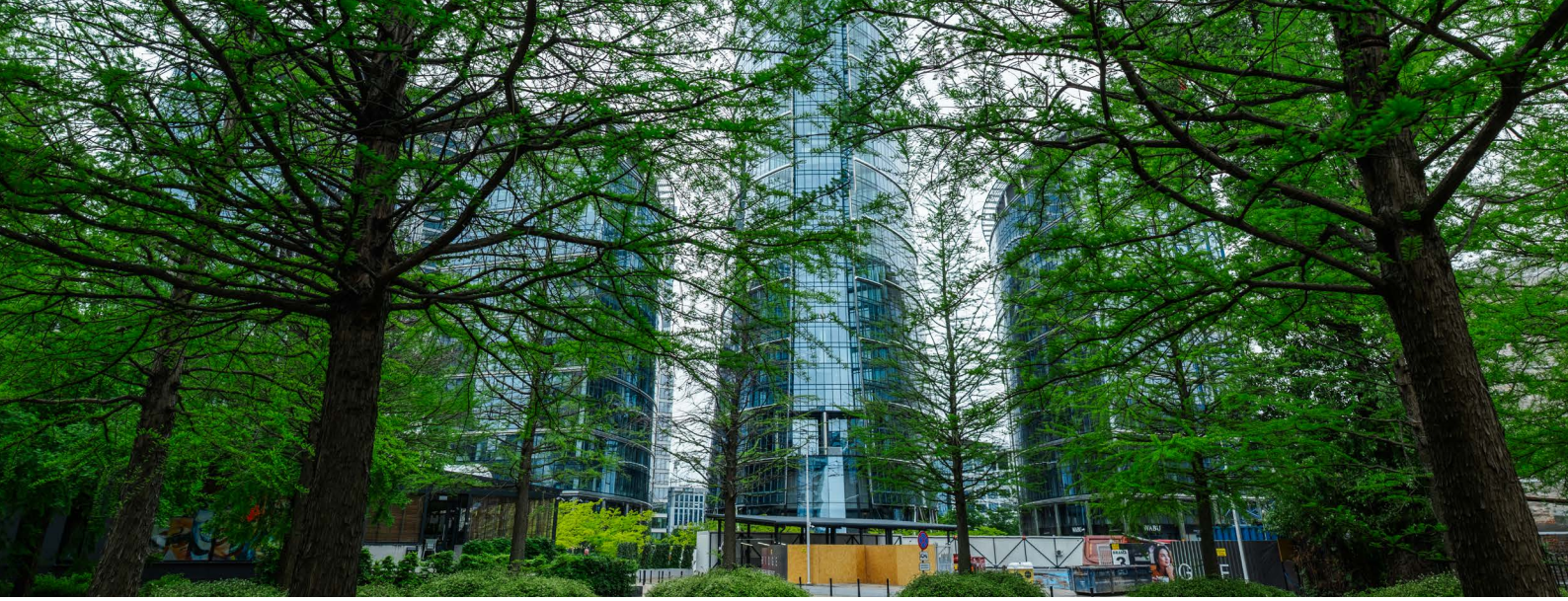
Description	River basins, lakes, wetlands, and aquifers that store and supply freshwater, regulate floods, and filter pollutants. Yet in many EMDCs, they are degraded and overstressed. In developing countries 80% of wastewater is discharged untreated, degrading rivers and wetlands. Water-related shocks cost EMDCs up to 6% of GDP annually in some cases. Pollution, sedimentation, and unsustainable withdrawals have diminished both water quality and ecosystem function.[103]
Economic contribution	Healthy watersheds sustain agriculture, industry, energy generation, and drinking water for billions. Degradation increases treatment costs, flood damage, and drought losses. As climate extremes intensify, these systems will be essential for reducing disaster risk and ensuring water security.
Key dependent sectors	Agriculture, energy, health, food sector, and urban development
Intervention required	Investments must prioritise wetland restoration, upstream reforestation, and natural infrastructure to improve flood control and water purification. This also includes buffer zones, sustainable catchment management, and the rehabilitation of degraded river systems. Funding goes to water utilities, municipalities, watershed management authorities. Global restoration efforts under the UN Decade on Ecosystem Restoration include ambitious targets: 300,000 km of rivers and 350 million hectares of wetlands restored by 2030. A large share of this need lies in EMDCs.[104] Investment should prioritise municipalities and water utilities for upstream conservation and pollution reduction; river basin agencies for catchment-wide management; community groups managing wetlands or riparian zones.
Investment need	~$15 billion annually

[103] UN WWDR, *Wastewater: The Untapped Resource* (2017); World Bank Group, *High and Dry: Climate Change, Water and the Economy* (2016).
[104] World Bank Group, *Water*, 2025, https://www.worldbank.org/en/topic/water/overview.

2.2.4 Coastal ecosystems

Description	Mangroves, seagrasses, saltmarshes, coral reefs that protect coasts from floods and storms, support fisheries, and store blue carbon. Yet they are vanishing at alarming rates, and nowhere more so than in EMDCs with vulnerable coastlines and limited adaptive capacity.[105]
Economic contribution	Mangroves, coral reefs, and seagrasses provide natural defences against storm surge, protect fisheries, absorb carbon (often more efficiently than most terrestrial forests), and support tourism and livelihoods. Mangroves alone reduce flood damage by up to $65 billion annually globally.[106]
Key dependent sectors	Fisheries, tourism, insurance, coastal real estate and infrastructure
Intervention required	Funding is needed for large-scale protection and restoration of these ecosystems. Priorities include mangrove replanting, reef rehabilitation, sustainable marine spatial planning, and integrated coastal zone management. Strategic recipients include local coastal authorities for zoning, management, and restoration; marine NGOs and regional alliances for reef and seagrass protection; small-scale fishery cooperatives and tourism operators as frontline stewards;
Investment need	~$25 billion annually

[105] Michael W. Beck et al., "*The Global Flood Protection Savings Provided by Coral Reefs*," Nature Communications 9, no. 1 (2018): 2186, https://doi.org/10.1038/s41467-018-04568-z.
[106] Beck et al., "*The Global Flood Protection Savings Provided by Coral Reefs*."



2.2.5 Urban nature & green infrastructure

Description	Parks, urban forests, green roofs/walls, permeable surfaces, and constructed wetlands that provide ecosystem services in cities. Green spaces in EMDC cities are often far below the WHO threshold for health and heat resilience.
Economic contribution	By 2050, 70% of the urban population will reside in developing countries.[107] As EMDC cities expand rapidly, integrating nature-based solutions into urban infrastructure becomes essential to reduce heat stress, manage floods, improve air quality, and enhance health. UNEP highlights how even modest investments in green infrastructure can deliver significant resilience and health benefits: planting trees and shrubs in Medellin reduced average temperatures by up to 2°C. Done right, green infrastructure offers a cost-effective complement to traditional grey infrastructure.[108]
Key dependent sectors	Real estate, public health, utilities, construction, tourism
Intervention required	Reduce heat island effects, improve air quality, lower stormwater management costs, and enhance property values. Investment priorities include urban forest expansion, park creation, green roofs, and natural drainage systems such as bioswales and restored wetlands. Urban nature funding should be directed to municipal governments integrating green infrastructure into capital plans; urban planning departments for tree cover, parks, and flood buffers; public developers and utilities for bioswales, wetlands, and green roofs.
Investment need	~$15 billion annually

[107] U. N. Environment, "*Finance for Nature in Cities | UNEP - UN Environment Programme*," December 21, 2023, https://www.unep.org/topics/cities/cities-nature/finance-nature-cities.

[108] Environment, "*Finance for Nature in Cities | UNEP - UN Environment Programme*"; Caleb Debrah et al., "*Drivers for Green Cities Development in Developing Countries: Ghanaian Perspective*," International Journal of Construction Management 23, no. 6 (2023): 1086–96, https://doi.org/10.1080/15623599.2021.1955321.

Box 7: The ocean – a vital pillar

The ocean covers over 70% of the planet, regulates the climate, and sustains much of the world's biodiversity. It is the largest carbon sink on Earth, absorbing about a quarter of annual CO_2 emissions and over 90% of excess heat caused by global warming. Marine ecosystems also underpin food security, jobs, trade, and the livelihoods of billions, particularly in EMDCs. Yet pressures from overfishing, plastic and chemical pollution, and rising acidification are accelerating ocean degradation, eroding both climate stability and economic resilience.[109]

This paper includes *coastal ecosystems* as one of the five priority asset categories. Investment needs and levers for restoration and protection in these zones are relatively well defined and more advanced than for open ocean areas. The ocean beyond coastal regions is addressed through the Kunming-Montreal Global Biodiversity Framework's 30x30 target under the *biodiversity* asset category, which commits countries to protect at least 30% of marine and coastal areas by 2030. Other levers for the open ocean – such as managing fisheries on the high seas or advancing certain open ocean-based carbon sequestration methods – are not yet incorporated here, as their investment models and policy frameworks remain less mature and more complex. Nevertheless, given the ocean's vast role in climate regulation and biodiversity, developing these approaches further will be critical.

A further complexity is that much of the ocean lies beyond national jurisdiction. Open waters are a global common good: they provide climate and biodiversity benefits worldwide, yet lack clear governance and financing mechanisms. This makes coordinated international action indispensable. Deep sea mining, which is expected to have significant impact on ocean biomes, is one area where economic pressure is rising, prompting resolute international cooperation.

Scaling ocean action is therefore a critical complement to the five categories. It strengthens global biodiversity, stabilises the climate, and safeguards the resilience of economies highly dependent on fisheries, maritime trade, and coastal protection. Without healthy oceans, neither climate goals nor sustainable development can be achieved.

2.3 Mobilising investment from private and public sources

Meeting the global investment needs for natural capital – and particularly the $250 billion required annually in EMDCs excluding China – depends not only on how much capital is mobilised, but on how existing flows are structured and deployed. Financing will need to come from a multitude of private and public sources, often in combination, and in many cases will not require "new money" but a redirection of existing budgets and investments towards enhancing natural capital as part of established programmes and value chains.

Natural assets are underfunded, in part because today the economic cost savings do not show up as direct financial gains (as previously discussed). Many high-impact projects – such as restoration of degraded land – offer significant social and economic value but do not generate predictable or sufficient cash flows with today's economic incentives to attract private capital at scale. The stakeholders most directly involved – from local communities to smallholder farmers and public land agencies – also often lack the financial capacity or creditworthiness to access available funding.

[109] Center for Global Commons, *Financing Nature: A Transformative Action Agenda*; UNEP, Finance for Nature - Finance Flows.

Mobilising the capital to finance natural assets will therefore require a differentiated approach. These assets fall along a continuum – from commercially viable ventures generating stable cash flows to core public goods with no immediate financial return. Matching instruments to these asset characteristics is essential: private capital where viable, public finance where necessary, and blended approaches to bridge the middle ground. Public investment in risk-reducing natural assets earns its return through lower disaster bills, lower spreads, and higher fiscal resilience – not cashflow alone. Aligning financing models with this continuum will create the right incentives, redirect existing flows, and close the funding gap:[110]

- **Commercially bankable assets** are revenue-generating projects with monetisable cash flows in line with market expectations (e.g. certified forestry, carbon markets, regenerative agriculture, ecotourism). These should attract private capital at scale under clear policy guardrails, supported by de-risking instruments, removal of perverse subsidies, and targeted project-prep/data infrastructure. For example, existing value chains can internalise their impact on natural capital, for example through a carbon tax in agriculture and forestry.

- **Assets that mostly provide societal cost savings** but limited or uncertain revenues should be treated as capital expenditure in public budgets, financed through long-term concessional capital from MDBs, blended with risk-sharing instruments. Examples include mangrove restoration for coastal infrastructure protection, the conservation of intact forests and biodiversity corridors that sustain ecosystem services, or the maintenance of wider public goods such as clean air, water regulation, and pollination.

Non-investable interventions without monetisable returns or societal savings require dedicated grant flows and non-debt transfers, such as international climate funds, budgetary allocations, or insurance-linked payouts. These sit outside the $400 billion investable nature-finance envelope and are therefore beyond the scope of this chapter. They represent loss and damage expenditure – cleaning up the damage caused by underinvestment in natural capital – rather than investment in natural assets themselves. They remain relevant as post-disaster recovery is a significant part of public budgets and offers a channel to integrate natural capital restoration. For example, US flood recovery programmes often require cleared sites to be restored as wetlands or buffers, reducing future risk. Leveraging such budgets can build resilience and lower long-term costs.

Mobilising capital at this scale requires both public and private resources to be reoriented toward nature enhancing outcomes. Public finance remains indispensable to correct market failures, redirect subsidies, and fund assets that deliver broad societal value but limited cash flows. Private finance, by contrast, can scale rapidly where revenues are predictable and risk–return profiles align, particularly if supported by carbon pricing, disclosure frameworks, and blended finance. The two following subchapters examine these sources in turn, and highlight how public and private capital must be reshaped and deployed in complementary ways to close the natural capital investment gap.

Finance will need to be mobilised across sources: likely around 60% would be domestic public resource mobilisation and around 40% private, including from both households and companies. There is ample opportunity (and risk) to justify national resource mobilisation. However, this can still be complemented with international sources to scale up further, both from public (donor countries and MDBs) and private sources (multinational corporations with a value chain stake). International sources currently count for ~30% of climate finance.[111]

[110] Avinash Persaud, *Unblocking the Green Transformation in Developing Countries with a Partial Foreign Exchange Guarantee* (CLimate Policy Initiative, n.d.).
[111] IHLEG, *Raising Ambition and Accelerating Delivery of Climate Finance*.

2.3.1 Public Sources

- **Repurposing harmful subsidies** – The most immediate way to mobilise resources for natural capital is to stop paying for its destruction. In 2022, governments channelled directly at least $1.7 trillion into subsidies that incentivise nature-negative activity – from fossil fuel consumption and intensive agriculture to deforestation, overfishing, and industrial pollution. This figure, equivalent to 2% of global GDP, dwarfs the investment need of natural capital and agriculture.
    - The majority – in the order of half to three quarters – of these nature-negative subsidies goes into fossil fuel. Fossil fuel usage, incentivised by subsidies, is a key driver of the 7 million premature deaths each year due to air pollution.
    - Agriculture subsidies are the next largest component, about 20–50% of totals, responsible for the loss of 2.2 million hectares of forest per year – or 14% of global deforestation. In Mexico, the government's PROGAN programme – a livestock subsidy scheme – was found to stimulate deforestation by incentivising expanding grazing areas. A study showed that municipalities benefiting from PROGAN experienced a 7% increase in deforestation, compared to those without such subsidies.[112, 113]
    - Fisheries subsidies, which exceed $35 billion each year, are smaller in absolute terms but have an outsized impact on oceans. These are a key driver of dwindling fish stocks, oversized fishing fleets, and falling profitability.[114]

  Reforming these subsidies yields a double dividend: it reduces direct environmental harm, while freeing up fiscal resources that can be redirected towards social and nature enhancing outcomes. Repurposed support can still meet social and economic objectives such as rural livelihoods, energy access, or food security, but without eroding the natural asset base. For example, fertiliser subsidies can be redesigned to promote regenerative soil practices; fisheries subsidies can be shifted to sustainable aquaculture; and fossil fuel subsidies can be reoriented toward clean energy and public transport.

- **Redirecting public investments** – Governments allocate trillions annually to agriculture, land use, water, and infrastructure. Much of this capital unintentionally erodes natural capital. By integrating ecosystem values into project appraisal (through SEEA accounts, shadow pricing, or cost–benefit analysis), these flows can be redirected toward nature enhancing infrastructure. For example, watershed restoration can substitute for dams or water-treatment plants, delivering better fiscal returns over time.

- **Mobilising new public finance** – For assets with clear societal benefits but limited private returns (e.g. mangroves, watersheds, large-scale land rehabilitation), concessional or budgetary finance must lead. MDBs and development banks can supply long-term concessional loans and guarantees to crowd in private finance. At the international level, concessional flows and official development assistance remain essential to fund global public goods such as tropical forests and the high seas.

[112] UNEP, *Finance for Nature - Finance Flows.*
[113] Fanny Moffette, *Agricultural Subsidies: Cutting into Forest Conservation?* (Cambridge University, 2024).
[114] UNEP, *Finance for Nature - Finance Flows*; World Bank Group, *Detox Development: Repurposing Environmentally Harmful Subsidies*, 2023.

2.3.2 Private Sources

There are two ways private capital can flow:

- **Redirecting private capital** – The private sector already invests trillions annually – estimated at $5 trillion in 2022 – in sectors that harm natural capital outcomes, including agriculture, forestry and fisheries.[115] Redirecting these flows is at least as important as mobilising new finance. Emerging disclosure standards (e.g. TNFD, ISSB) and supply-chain regulations (e.g. EU deforestation-free law) are beginning to shift mainstream capital away from degradation. Internal corporate tools like shadow pricing are also reshaping investment choices. Chapter 4 explores these mechanisms in detail, but the financial takeaway is clear: reoriented private flows could dwarf current dedicated nature finance.

- **Mobilising new private finance** - Private finance can be mobilised effectively where assets are privately owned, revenue streams are predictable, and risks are manageable. Among private sources, equity capital is indispensable. Policy, philanthropy, and debt can all play important roles but are inherently limited in scale or scope. Certified forestry, premia for regenerative agriculture, carbon credits, and ecotourism illustrate cases where markets already provide sufficient cash flows. In these contexts, commercial capital can scale rapidly if supported by de-risking instruments, data infrastructure, and the removal of harmful subsidies. Where revenues are less predictable, concessional instruments from DFIs or MDBs can complement private flows and improve risk–return profiles.

It is important to be deliberate in which dimensions of natural capital private finance can play a constructive role. The Planetary Boundaries can help draw that line: they identify the Earth system processes most critical to long-term economic stability and map the inputs that drive their transgression. Some of these processes lend themselves to valuation through private markets more than others. By targeting these inputs, finance can act directly on some boundaries and indirectly on others, influencing multiple domains at once.

Through "putting nature on private balance sheets", governments can mobilise significant private financing for interventions to tackle carbon, freshwater, land-system change, biosphere integrity, and nutrient cycle boundaries. Key drivers for transgressing each boundary are clearly identifiable. They can be measured, valued, and incorporated into corporate accounts or financial instruments if governments enact the right policy measures. Care needs to be given to ensure synergistic approaches. For example, more productive and efficient agriculture can reduce pressure on land conversion and lower nutrient outflows. Trade-offs need to be managed carefully, e.g. between the demand for critical raw materials for the energy transition and the imperative to protect critical ecosystems where some of these minerals are found at commercial scale.

Other domains – such as novel entities, or aerosol loading – offer fewer direct market levers. But their inputs (e.g. industrial chemicals, agricultural pollutants, or particulate emissions) can still be governed through regulation, standards, and targeted public finance, as has been done successfully for stratospheric ozone through the Montreal Protocol.

To guide action, we map the Planetary Boundaries against their relevance for private finance and balance-sheet treatment, followed by illustrations on carbon and water systems to show how respective boundaries can be valued directly on private balance sheets, and the scale of private finance they are capable of mobilising.

[115] UNEP, *Finance for Nature - Finance Flows.*

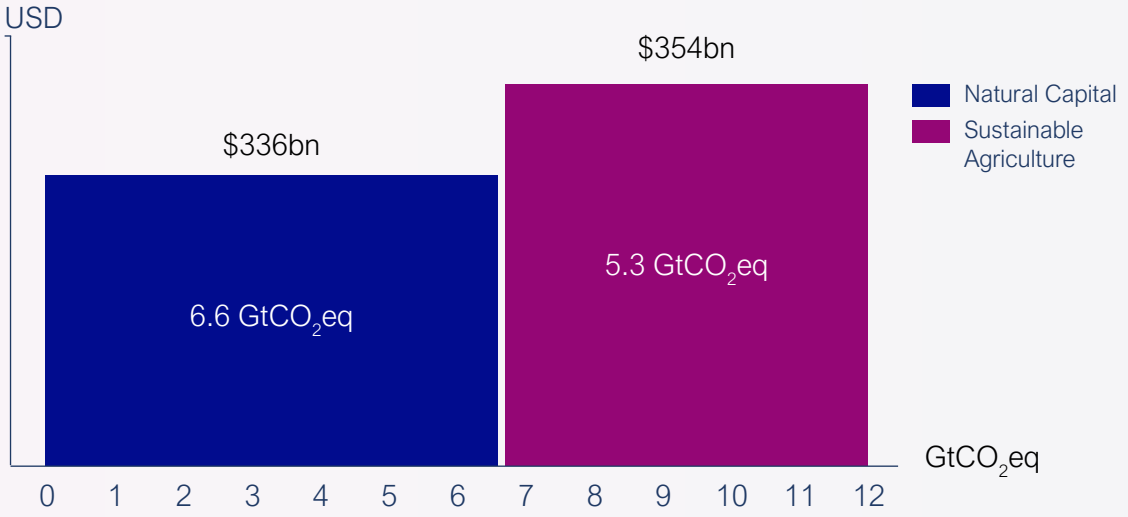
Table 1. Overview of the planetary boundaries and their relevance for private finance

Planetary boundaries	Main driver for transgression	Financial lever	Examples
Climate change	Greenhouse gas emissions	Valuing/pricing greenhouse gas emissions and sequestration	Tropical Forest Forever Facility; REDD+; Emissions Trading Systems; See text box 'carbon valuation
Freshwater	Water withdrawals, pollution	Valuing/pricing water use and water pollution	Water Pricing Instruments in Australia and South Africa; One Water Valuation USA; See text box 'water valuation'
Land-system change	Deforestation, land conversion	Biodiversity valuation	Landbanking; Group; NatureMetrics;
Biosphere integrity	Species loss, habitat fragmentation		
Biochemical flows (nitrogen and phosphorus)	Fertiliser use, wastewater discharge	Nutrient valuation/pricing	Chesapeake Bay nitrogen market; EU wastewater nutrient trading
Ocean acidification	Carbon emissions	*indirectly* – linked to carbon valuation	See '*climate change*'
Air quality	Fossil fuel combustion, industrial emissions	*indirectly* – linked to greenhouse gas valuation	Largely policy driven, e.g. EU Industrial Emissions Directive
Novel entities	Chemicals, plastics, waste streams	*indirectly* – linked to water quality valuation	Largely policy driven, e.g. EU EPR
Ozone	CHCs, HFCs	n/a	Addressed by Montreal Protocol

Box 8: Illustrative example: What nature on the private balance sheet looks like when valuing carbon at a $100/tCO$_2$

**At a carbon price of $100/tCO$_2$ applied to carbon sequestration and greenhouse gas emissions from land use, a significant share of carbon mitigation measures in natural capital and agriculture becomes financially viable, attracting financial resources in the order of $700 billion annually.**[116] In such a scenario, roughly 11–12 GtCO$_2$e could be mitigated cost-effectively – of which ~7 GtCO$_2$e stems from natural capital interventions (e.g. protect and restore forests, peatlands, and mangroves) and ~5 GtCO$_2$e from agricultural transitions (e.g. biochar, agroforestry, soil restoration, low-emission rice, and improved livestock systems).[117] The calculation builds on Roe et al., who quantified the mitigation potential of these levers at a marginal abatement cost of up to $100/tCO$_2$e. This mitigation potential was paired with their respective cost ranges per tonne to derive the implied investment flows. The result is an aggregate annual resource requirement of around $700 billion – an order of magnitude larger than today's nature finance flows, yet within the bounds of cost-effective climate action.

Figure 8. Potential global annual carbon mitigation and private capital flowing into natural capital and sustainable agriculture

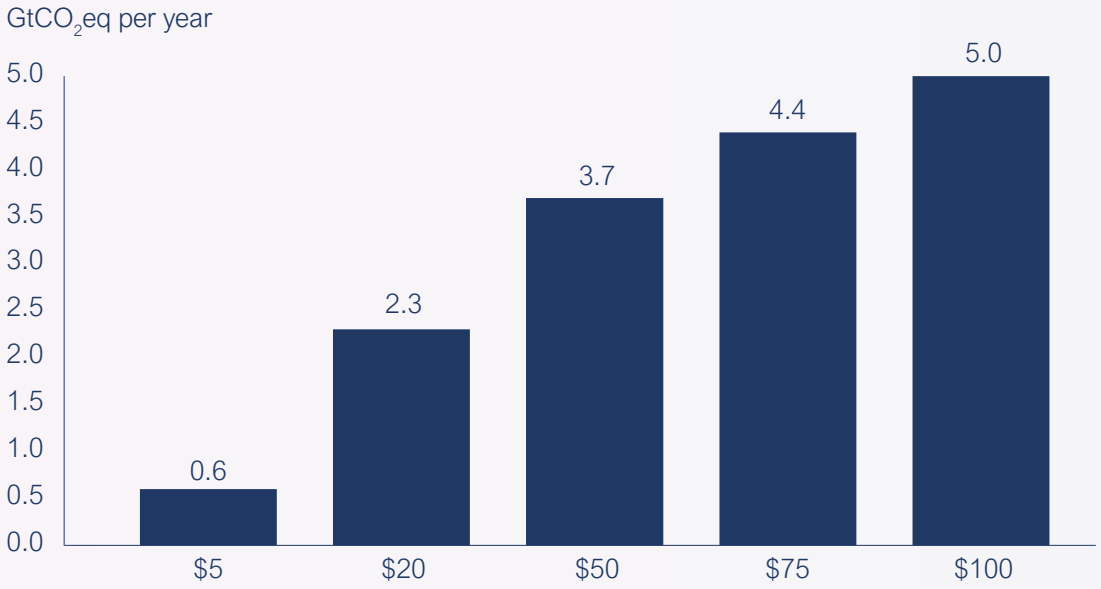


The effectiveness of carbon pricing depends critically on the level at which it is set. Prices that are too low leave large mitigation opportunities untapped, while very high prices may result in reduced social buy-in, particularly inducing high rises in food prices of some goods.[118] Global forest-sector evidence illustrates this sharply – doubling mitigation from 2.3 to 4.4 GtCO$_2$ per year drives total costs up over four-fold, from $35 billion to $160 billion.[119] This points to a sector specific sweet spot where a broad set of natural capital and agricultural practices remain economically viable, attracting investment at scale. Striking this balance is essential – it ensures that carbon pricing mobilises private capital, delivers mitigation efficiently, and maintains political and social acceptability.

[116] A carbon price of $100/tCO$_2$e is considered as cost-effective as it is in the middle of the range for carbon prices in 2030 for a 1.5°C pathway, and at the low end of the range in 2050 [Roe et al. 2021]
[117] Roe, *Land-Based Measures to Mitigate Climate Change*.
[118] Christian Stoll, *Climate Change and Carbon Pricing: Overcoming Three Dimensions of Failure* (2021).
[119] Austin, *The Economic Costs of Planting, Preserving, and Managing the World's Forests to Mitigate Climate Change*.

Box 8: Illustrative example: What nature on the private balance sheet looks like when valuing carbon at a $100/tCO$_2$

Figure 9. Global marginal abatement cost curves in the global forest sector at different carbon prices (GtCO$_2$e/year, $/tCO$_2$e starting price, 2035)



Carbon pricing can increase production costs and translate into higher food prices – but this effect can be modest relative to wider price volatility observed and relative to climate gains achieved, and largely compensated through subsidy reform. Within agriculture, a $100/tCO$_2$ pricing would raise costs from novel farming techniques, leading to a 2–7% rise in agricultural output costs, yet delivering around 33% abatement across the sector.[121] Redirecting a share of today's harmful agriculture subsidies – which globally exceed $550 billion per year – could more than cover these annual incremental costs estimated at $120–350 billion, preventing food price rises while accelerating the shift to sustainable systems.[122] Similar dynamics apply in other sectors: rice cultivation, where alternate wetting and drying can cut methane emissions, or cattle systems adopting improved feed and manure management. For rice, switching to sustainable systems can result in only a 1% price increase.

While upward pressure on prices is possible, the impacts are generally manageable when set against the avoided costs of climate damage in combination with repurposed subsidies and the long-term gains in productivity and resilience. Well-designed policy can also recycle part of the revenues – for example through targeted transfers or support to smallholders – helping to offset distributional effects while preserving the incentive for low-carbon, nature enhancing investment.

[120] Austin, *The Economic Costs of Planting, Preserving, and Managing the World's Forests to Mitigate Climate Change*.
[121] These food price increase calculations assume a straight pass-through of increased production costs to the consumer – this is a limitation of the current estimates.
[122] Potential of 5.3GtCO$_2$e abatement of the 16.2GtCO$_2$e full sectoral emissions [FAO 2024]

Box 9: Illustrative example: what nature on the private balance sheet could look like when valuing water

Water is indispensable productive economic infrastructure – yet its value is systematically under-recognised. Communities and economies are bound together and depend on rivers, aquifers, and atmospheric moisture flows, meaning water must be governed at basin and transboundary levels. Water underpins the most direct economic functions – from crop and livestock production to household health, industrial cooling, and hydropower – making it central to productivity and fiscal stability. Failing to do so carries systemic risks. By 2030 global demand could exceed supply by 56%. By 2050 GDP losses could reach 8% in high-income economies and 10–15% in EMDCs. Already, 3.6 billion people are exposed to water scarcity at least one month a year, disasters cost $260–300 billion annually, and more than 1,000 children die daily from unsafe water.[123]

The economics of water are shifting into the money. Utilities spend around $1 per m³ to treat and deliver water, while companies such as Nestlé apply internal shadow prices of $1–6 per m³ in high-risk regions such as India, South Africa, and parts of Latin America where water scarcity directly threatens supply chains and production. Many solutions come at or below these levels: wastewater recycling, leakage reduction, and irrigation efficiency often cost well under $1 per m³, generating 2–4x returns in avoided treatment or supply costs.[124]

Closing the water gap requires five missions:[125]

- **Transform food systems** (70% of freshwater use) through regenerative practices and water-smart crops;
- **Restore "green water" ecosystems** such as soils, wetlands, and forests that regulate rainfall and storage;[126]
- **Build a circular water economy** by recycling and reusing wastewater, and reducing leaks;
- **Decouple growth from water intensity** in industry and energy;
- **Ensure universal safe access** to secure human health and social stability.

Investment needs are significant but affordable. Securing water by 2030, including nature conservation and industry innovation, would cost up to 1% of global GDP (~$105 per person per year). The returns are high: each $1 invested in water and sanitation yields ~$6.8 in productivity, health, and resilience benefits – a sevenfold return.[127]

Unlike carbon, water is primarily a regional challenge. While the global water economy exists today through virtual water trade and multinational investment, the dominant effects are intra-basin and watershed-specific, with regionally distinct implications. Case studies illustrate how regional water prices can feasibly close local gaps. In India, the 2030 water gap could be closed at an additional $0.04 per m³. While this is a 40% water price increase it translates into just 2% higher farm output prices – mobilising $5.9 billion in private financial flows. About three-quarters can be obtained

[123] 2030 Water Resources Group, *Charting Our Water Future - Economic Frameworks to Inform Decision-Making* (2009); Global Commission on the Economics of Water, *The Economics of Water - Valuing the Hydrological Cycle as a Global Common Good* (2024).
[124] Edie.net, *Nestlé Makes Case for Water Pricing to Boost Efficiency Gains,* 2012; *2030 Water Resources Group, Charting Our Water Future - Economic Frameworks to Inform Decision-Making*; Global Commission on the Economics of Water, *The Economics of Water - Valuing the Hydrological Cycle as a Global Common Good*.
[125] Global Commission on the Economics of Water, *The Economics of Water - Valuing the Hydrological Cycle as a Global Common Good*.
[126] Green water: rainfall stored in soils and vegetation that sustains crops, forests, and ecosystems; Blue water: liquid water in rivers, lakes, reservoirs, and aquifers available for withdrawal.
[127] Global Commission on the Economics of Water, *The Economics of Water - Valuing the Hydrological Cycle as a Global Common Good*.

Box 9: Illustrative example: what nature on the private balance sheet could look like when valuing water

through agriculture. In São Paulo state, the gap could be met at an additional $0.11 per m^3 – or 40% water price increase. This would imply $285 million private finance mainly flowing into industrial and municipal efficiency. These figures sit well below corporate shadow prices, confirming that water solutions are profitable economic investments relative to scarcity and disruption costs.[128]

Currently, 78% of water investment is public and only 22% is private. But the role of private capital could grow to ~55% with the right incentives. Instruments include payments for ecosystem services, tariffs reflecting real costs, subsidy reform, and catalytic public finance to de-risk investment. Establishing water rights, caps, and functioning water markets can further ensure efficient allocation.[129]

2.4. Financing instruments for natural capital

These strategies map onto a continuum of financing instruments, illustrated in the figure below:

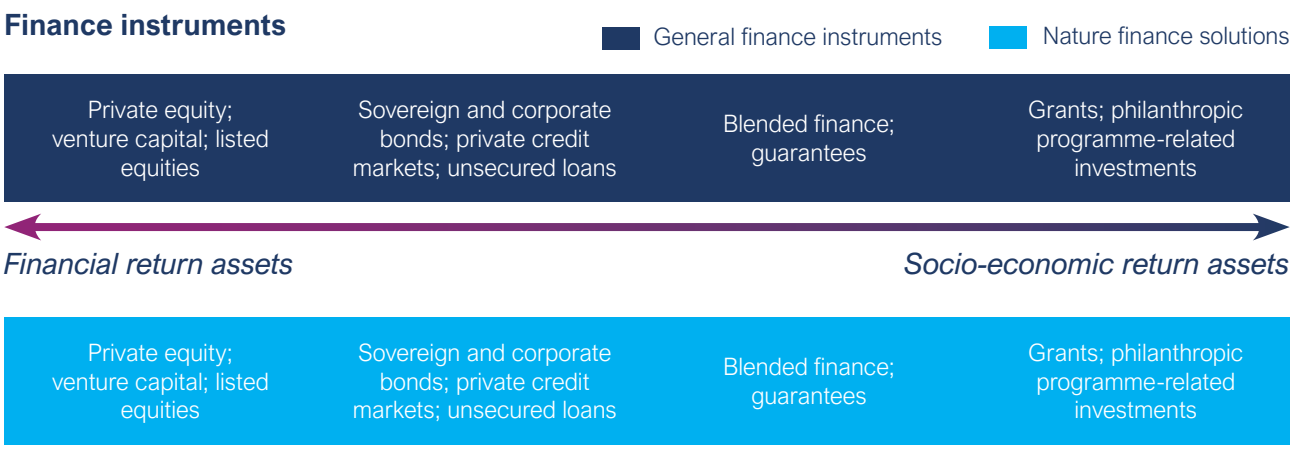
- **At the commercial end,** venture capital, equity, and debt finance revenue-generating projects – with nature finance solutions such as Natural Asset Companies, impact funds, and internal nature pricing mechanisms creating investable assets out of ecosystems.
- **In the middle,** blended finance structures, guarantees, and concessional loans improve the risk–return profile of investments with high social value but below-market returns – here sustainability-linked and thematic bonds or loans, biodiversity and carbon credits, as well as payments for ecosystem services and debt-for-nature swaps, channel private capital into nature enhancement.
- **At the public-good end,** grants, recoverable grants, and programme-related investments fund interventions with no direct revenue stream, as well as the enabling environments needed to scale investment. Examples include philanthropic biodiversity funds and Indigenous conservation grants, which provide global, non-commercial capital for protecting and restoring ecosystems. Public goods with uncertain cashflows therefore belong on public balance sheets: their return comes not from direct revenues but from risk reduction – avoiding budget shocks, lowering insurance premiums, and reducing sovereign spreads.
- **At the household and community level,** microfinance, conditional cash transfers, and index-based insurance can empower smallholders to adopt sustainable land and resource management. These instruments are critical in EMDCs, where most land-stewards are smallholder farmers or Indigenous communities, and where targeted financial tools can directly shift practices while also reducing poverty and vulnerability.

It is important to distinguish clearly between the different types of capital. Policy provides the enabling environment through subsidy reform, tax incentives, and regulation. Philanthropy plays a catalytic role, de-risking early-stage initiatives and supporting non-commercial outcomes – including the protection of public goods through targeted grant funding. Debt capital is suited to assets with predictable cash flows, such as sustainable infrastructure or supply chains. Equity capital, by contrast, is essential for mobilising large, patient investment into nature as a productive asset in its own right.

[128] 2030 Water Resources Group, *Charting Our Water Future - Economic Frameworks to Inform Decision-Making*.
[129] WEF & McK, *Water Futures: Mobilizing Multi-Stakeholder Action for Resilience* (2025).

This continuum underscores a central lesson: natural capital investment cannot come from a single source of financing, but must build upon a portfolio of opportunities, each requiring tailored instruments. Mobilising the $400 billion annual need will require repurposing harmful subsidies, redirecting existing budgets, scaling private capital where returns are viable, and deploying public finance where societal benefits dominate. Only by aligning these levers across the continuum can the financing gap be closed.

Figure 10. Financing instruments – ranging from financial return assets to socio-economic return assets (adapted from CPI and McK&WEF)[130]



Mobilising $400 billion annually for natural capital by 2030 is ambitious but achievable. Yet capital mobilisation alone is not sufficient. For natural capital to become central to economic decision-making, governments must also integrate it into their fiscal frameworks and balance sheets. Chapter 3 turns to this challenge, setting out how countries can embed nature in their national accounts, budgets, and policies.

[130] WEF & McK, *Financing Solutions for Nature: Pathways to Returns and Outcomes* (2025).

3 | Nature on public balance sheets

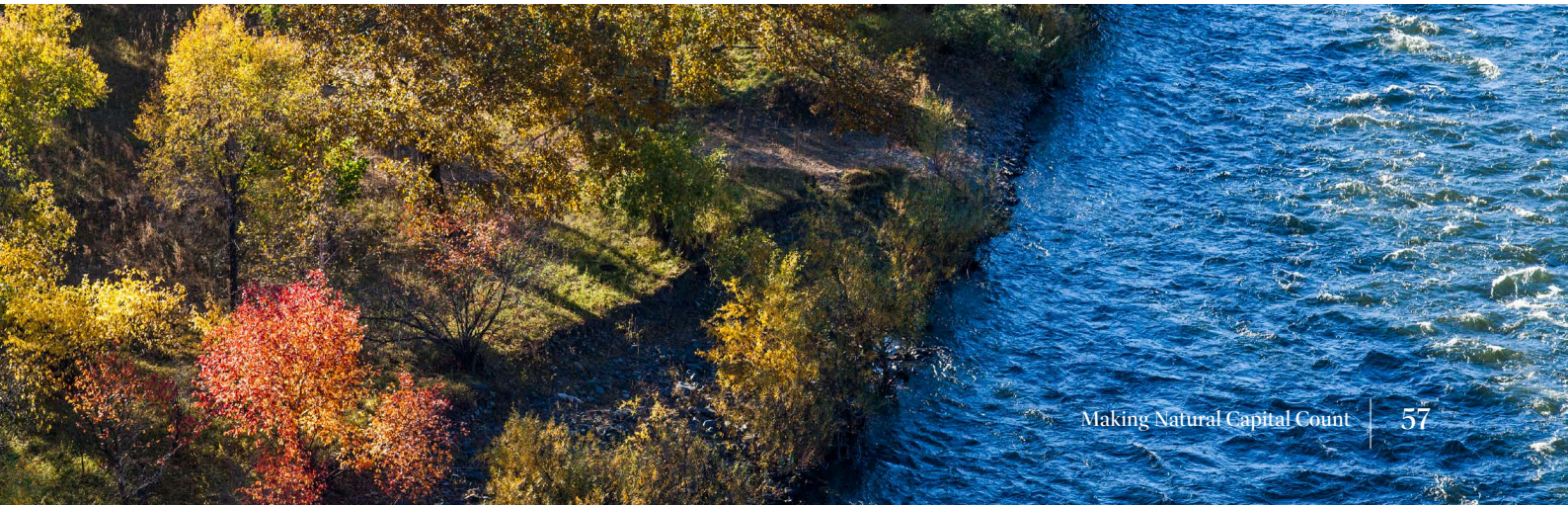
Chapter 3 – What one needs to believe

- Valuing natural capital raises recorded wealth, supporting faster growth and higher debt-carrying capacity.
- A net-wealth lens is needed: ecosystems are economic infrastructure shaping fiscal space, growth prospects, and sovereign risk.
- Tools and data exist, but must be applied systematically to economic decision-making.
- The System of Environmental-Economic Accounting (SEEA) is essential, but must become policy-ready – disaggregated, timely, and integrated into budgets, fiscal frameworks, and debt sustainability analyses (DSAs).
- Governments can embed natural capital into macro-fiscal programming through policy instruments and governance reforms already pioneered in some countries.
- Well-designed policies and regulation enable the private sector to put nature on balance sheets – carbon, water, land, and biodiversity – mobilising large private finance at modest consumer cost.
- Repurposing harmful subsidies can strengthen natural capital and provide revenues to mitigate social impacts from full valuation.

Public policymakers sit at the steering wheel of the economy. They not only direct public resources through budgets and investment, but also shape private markets through fiscal policy, regulation, and incentives. Bringing natural capital onto national balance sheets would allow governments to see, value, and manage nature as core economic infrastructure – enabling them to plan, budget, and borrow in ways that reflect the real foundations of economic wealth. To ensure consistency with the IHLEG report, this section focuses on institutions and groups of decision-makers considered by the experts group. We recognise that there are other relevant decision-makers, such as central bankers.

Governments must take four steps to integrate nature into decision-making:

- **Value (3.1)** – Account for natural capital in national wealth and use shadow pricing to capture the economic benefits it provides.
- **Decide (3.2)** – Use natural capital insights to guide investment, budgeting, planning and policy so that decisions uplift ecosystem values.
- **Finance (3.3)** – Develop and experiment with financial instruments (e.g. green bonds or debt-for-nature swaps) that bring future benefits into present fiscal space and spur investment in nature.
- **Engage (3.4)** – Work with domestic and international stakeholders to convince and help them to put natural capital on the national balance sheet through role modelling and enablers.



Box 10: What we mean by "nature on the balance sheet" in public and private contexts

When we speak of putting nature "on the balance sheet," this is partly figurative language. The aim is to ensure that natural capital is recognised as a driver of economic and financial value, even if it does appear as a formal accounting entry. For private actors (land-stewards, including IPLCs, corporates and financial institutions), this can take several forms: recognition of natural assets and liabilities on balance sheets (still rare today); profit and loss effects through mechanisms like payments for ecosystem services, and carbon and nature markets; enterprise value gains from enhanced resilience, brand equity, and licence to operate; and shifts in the cost of capital as investors, lenders, and insurers increasingly reward good stewardship.

For governments, the spectrum is equally broad. Natural capital can be included in national balance sheets as assets and liabilities, but it also affects fiscal flows – through revenues from carbon taxes, or expenditures on conservation and restoration – and will increasingly influence sovereign creditworthiness as nature-related risks are priced into borrowing costs. Policy levers such as pricing, regulation, and fiscal planning also depend on recognising nature as part of national wealth.

In short, "on the balance sheet" refers to the full range of mechanisms – direct and indirect –by which nature's condition shapes financial performance, credit, and economic strategy. What all these initiatives have in common is that they build up the stock and quality of natural capital, hence they place "nature on the balance sheet" in one way or another.

Different schools of thought use different framings to make nature visible in decisions. Some emphasise *natural capital* as the stock of assets underpinning economic value; others stress *nature-based solutions* as practical interventions for climate and development goals; still others highlight *ecosystem services* or *inclusive wealth*. Each framing speaks to different audiences – economists, policymakers, communities, investors – but they point toward the same destination: recognising nature's role as productive infrastructure and ensuring it is valued, stewarded, and restored. In this paper we adopt the natural capital lens, as it best connects to the "balance sheet" metaphor, while recognising the importance of these other complementary approaches.

3.1 Value: Expand national accounting to include nature

National accounts are the backbone of economic policy. They determine how governments judge economic health, set budgets, and plan for the future. The UN System of National Accounts (SNA) measures flows – such as gross domestic product (GDP) – and stocks – captured on national balance sheets, documenting assets and liabilities. These indicators, especially flow measures, dominate fiscal debates, debt negotiations, and development planning.

Yet today's accounts capture natural capital very incompletely. After its 2025 update, the SNA includes natural resources traded at market value – such as minerals or timber bought and sold.[131] Ecosystems and their services remain invisible in the integrated national accounts (i.e. gross domestic product and national balance sheet). A country can log rising GDP even while its soils erode, aquifers run dry, or

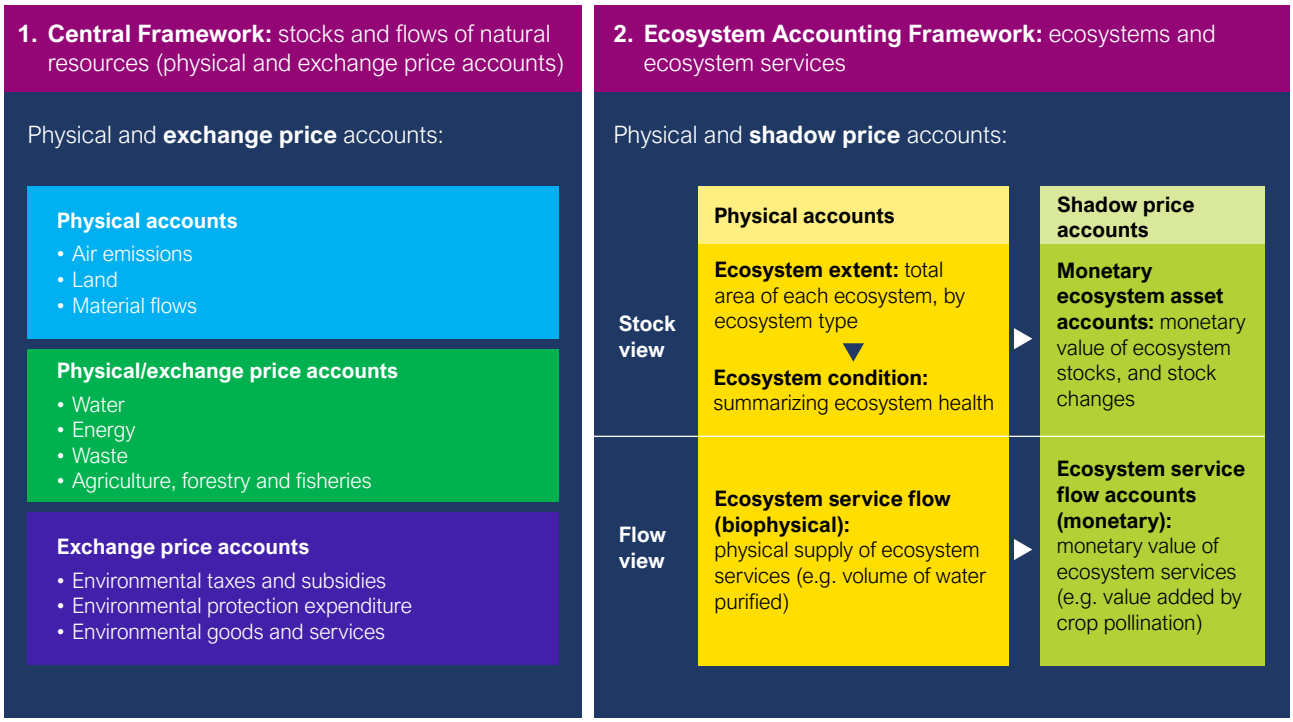
[131] "System of National Accounts."

forests are cleared. Balance sheets may show growing assets, yet exclude the depletion of ecosystems that underpin long-term productivity. This creates a profound blind spot: governments risk steering their economies while ignoring the depreciation of their most fundamental asset base.

To close this gap, the UN-approved System of Environmental-Economic Accounting (SEEA) provides the globally recognised framework for national natural capital accounting, in a parallel format to core national accounts. This consists of two main components:

- **SEEA Central Framework** – measures stocks and flows of natural resources (e.g., energy, water, land, timber) using both physical and monetary indicators.[132]
- **SEEA Ecosystem Accounting** – extends this to ecosystem assets, conditions, and services, capturing the flow of benefits from nature to people in both physical and monetary terms.[133]

Figure 11. Components of SEEA: the Central and Ecosystem Accounting Frameworks



As of 2024, 94 countries reported compiling SEEA accounts. While all 94 compile Central Framework accounts, only 46 have produced ecosystem accounts – and often only on a pilot basis or at subnational levels.[134] Only 17 countries have produced ecosystem service valuation accounts, and most have no evidence of their policy uptake. Ecosystem condition, extent, and service flows are not yet routinely used in economic decision-making, due to challenges in data collection, valuation, and institutional integration.[135]

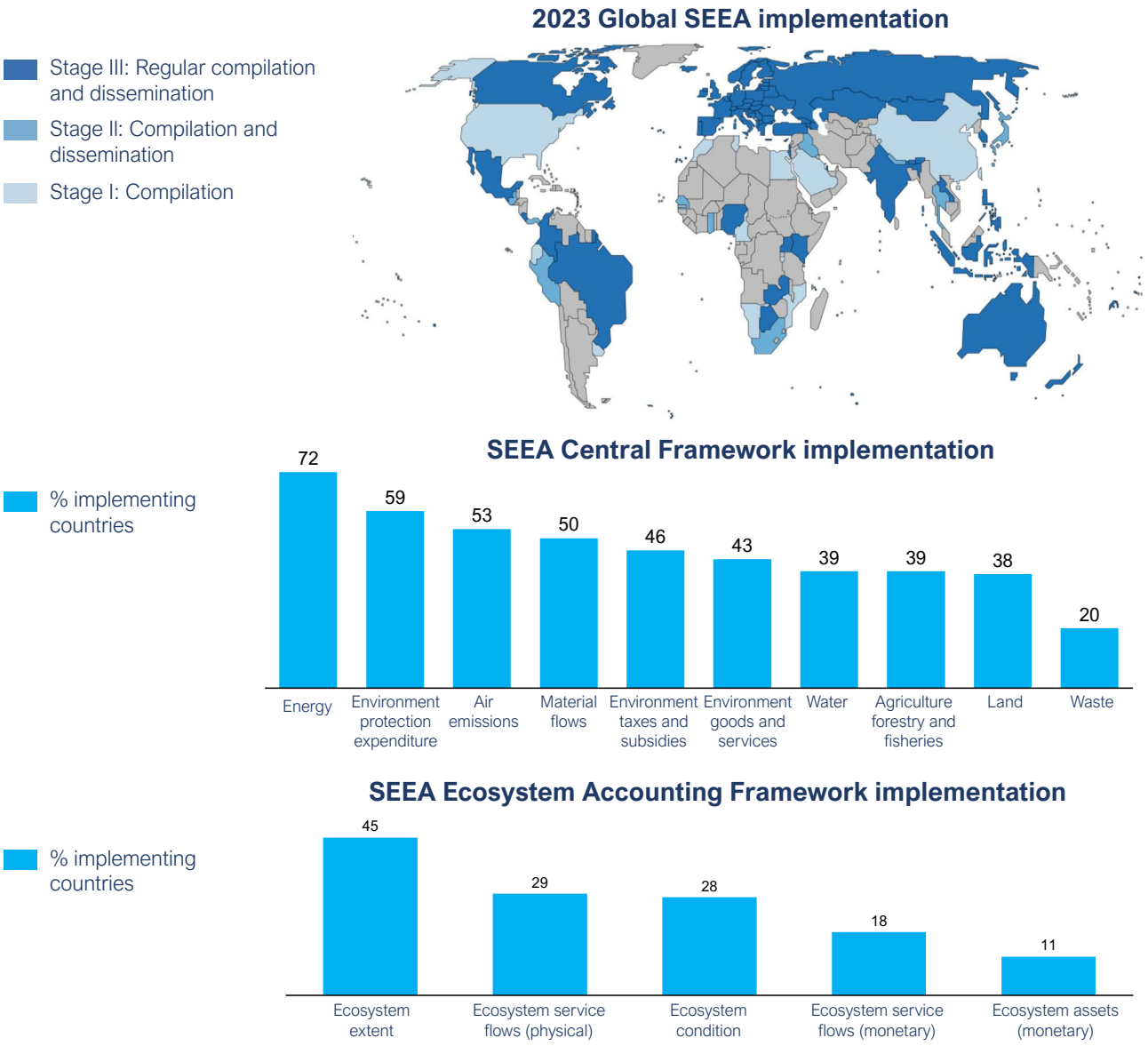
SEEA does not explicitly account for liabilities arising from the degradation or depletion of ecosystem assets. Loss of ecosystem services creates future economic costs – like declines in agricultural productivity – but these would not be explicitly calculated in current SEEA accounts.[136]

[132] UN Statistical Division, "*2024 Global Assessment | System of Environmental Economic Accounting.*"
[133] UN Statistical Division, "*2024 Global Assessment | System of Environmental Economic Accounting.*"
[134] UN Statistical Division, "*2024 Global Assessment | System of Environmental Economic Accounting.*"
[135] UN Statistical Division, "*2024 Global Assessment | System of Environmental Economic Accounting.*"
[136] Bram Edens et al., "*Establishing the SEEA Ecosystem Accounting as a Global Standard*," Ecosystem Services 54 (April 2022): 101413, https://doi.org/10.1016/j.ecoser.2022.101413.

SEEA-based natural capital accounts have been applied across more than 20 countries under the World Bank's WAVES partnership, supporting a broad range of policy uses. These include integrating water accounts into national development plans (e.g. Botswana), informing land-use zoning and protected area designations (e.g. the Philippines), and identifying risks from natural resource depletion (e.g. Indonesia).[137] However, many of these use cases remained local (e.g. at municipality or watershed level) – there are very few examples of integration into national-level economic policy.

Still, emerging examples show what application can look like. In China, gross ecosystem product (GEP) has been institutionalised in provinces such as Zhejiang, Shenzhen, and Yanqing, where it informs budget allocations and compensation schemes. In Brazil, the Plano Safra programme – though not yet a full natural capital account – combines mandatory lending quotas, BNDES credit lines, insurance products, and guarantee funds to steer agricultural finance, illustrating how fiscal and credit policies can embed natural capital considerations. These cases highlight the instructional infrastructure that exists to absorb natural capital valuation into fiscal and budgetary decisions.

Figure 12. SEEA Central Framework and Ecosystem Accounting uptake – over 90 countries were compiling some SEEA accounts in 2024, but very few go all the way to ecosystem service valuation, and even fewer apply the results[138]



[137] "From Accounts to Policy : WAVES Closeout Report – Wealth Accounting and Valuation of Ecosystem Services Global Partnership (2012-2019)," Text/HTML, World Bank, accessed August 8, 2025, https://documents.worldbank.org/en/publication/documents-reports/documentdetail/en/779351636579119839.
[138] UN Statistical Division, "2024 Global Assessment | System of Environmental Economic Accounting."

Box 11: Good implementation alone is not enough – Netherlands: world class natural capital accounts, but no meaningful (economic) policy integration.

The Netherlands is widely regarded as a global leader in natural capital accounting. Through its national statistical office (CBS), environmental agency (PBL), and Ministry of Agriculture and Nature, the country has developed some of the most comprehensive and technically robust natural capital accounts in the world. These include ecosystem extent and condition accounts, biodiversity indicators, and detailed valuation of ecosystem services in line with the SEEA Ecosystem Accounting framework.[139]

However, despite the technical quality and completeness of these accounts, there is little evidence of their consistent application in mainstream economic or fiscal policy. The accounts are frequently used for environmental monitoring and reporting under EU directives – but not yet consistently used to inform macroeconomic planning, budget allocation, or debt strategy.

This disconnect is not due to data gaps, but rather to institutional barriers and a lack of demand from core economic ministries. Efforts to integrate nature into financial risk supervision have made some headway through the Dutch Central Bank's pioneering 2020 report on biodiversity risk – but this remains largely confined to the prudential space, without traction in fiscal decision-making.

The Dutch case highlights a critical lesson: producing high-quality accounts is not sufficient to integrate natural capital into governance. As discussed in this chapter (Section 2.2), **without institutional incentives, political will, and strong engagement from economic actors, even the best technical work will remain siloed.**

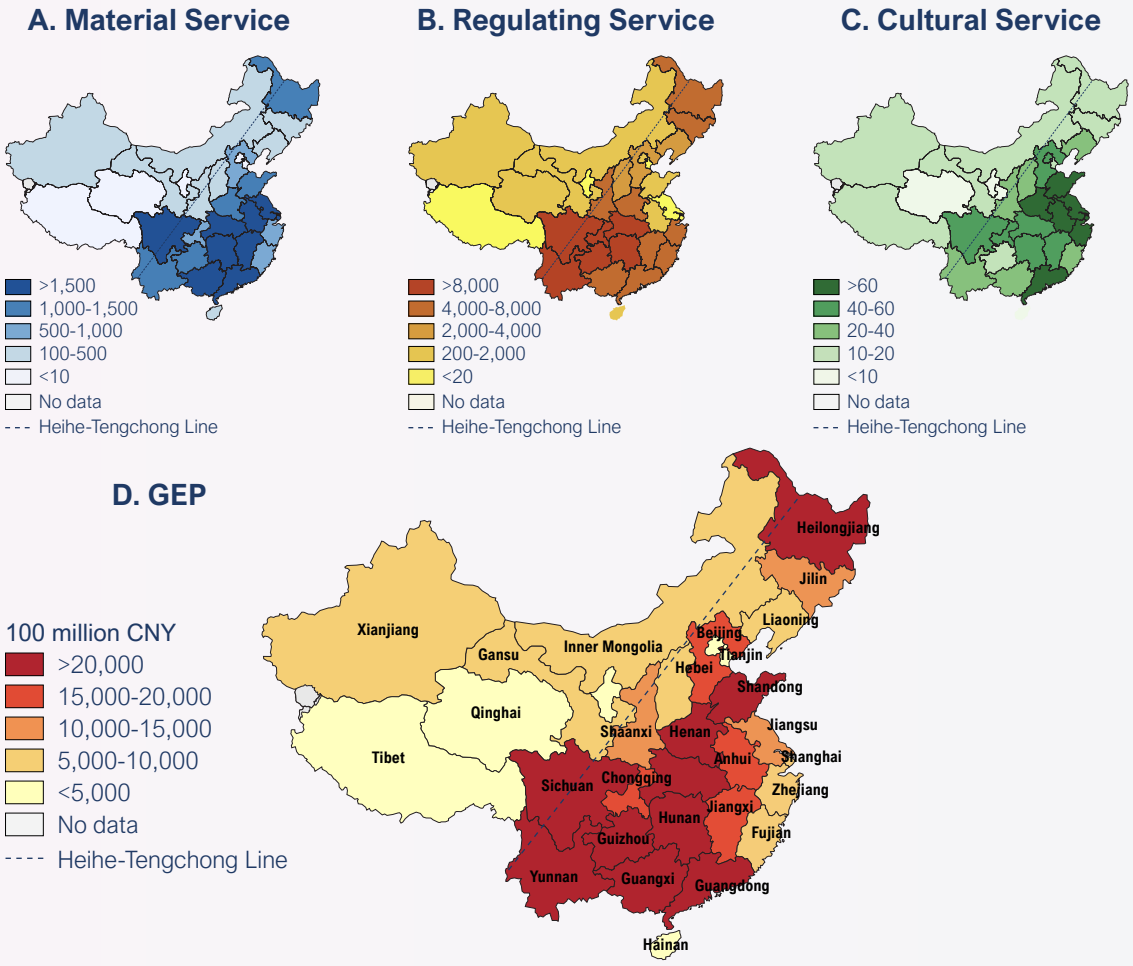
National tools miss the picture on global commons or offshored biodiversity impact – by accounting for nature only within your national borders, impact from international value chains is not captured. Therefore, although hugely useful for understanding national nature and how local populations depend on its services, national natural capital accounting is not the most effective tool for capturing global-scale nature-related externalities.

[139] *Natural Capital Accounting in the Netherlands - Technical Report 2022*, n.d.

Box 12: SEEA use case example – Gross ecosystem product (see more in Chapter 5)

Gross ecosystem product (GEP) – an approved metric within SEEA's Ecosystem Accounting Framework,[140] is an aggregate indicator which quantifies the value of ecosystem services in monetary terms, structured to mirror gross domestic product (GDP) but focused on nature's contribution to the economy.[141] While GEP was developed and institutionalised in China, it is fundamentally a general decision-support tool that can be applied in any context where policymakers seek to account for nature's economic value.[142] GEP's structure makes it particularly suitable for integrated planning: by combining ecosystem service delivery with economic valuation, it helps identify where investments in nature yield the greatest returns in terms of livelihoods, resilience, and economic stability. It can also serve as a natural capital indicator within national or subnational "beyond GDP" dashboards or wellbeing frameworks. As GEP aggregates ecosystem service values into one indicator, expressed in monetary terms, it overcomes barriers around relevance and accessibility of natural capital insights.

Figure 13. Spatial patterns of cropland ecosystem services in China during 2001–2019. (A–C) Spatial patterns of the multiyear mean values of the material (or provisioning), regulating, and cultural services; (D) Spatial pattern of the multiyear mean value of gross ecosystem product (GEP). The dashed line indicates the Heihe-Tengchong line.[143]



[140] "Accounting Gross Ecosystem Product (GEP) | System of Environmental Economic Accounting," accessed August 20, 2025, https://seea.un.org/content/accounting-gross-ecosystem-product-gep.
[141] Hua Zheng et al., "Gross Ecosystem Product (GEP): Quantifying Nature for Environmental and Economic Policy Innovation," Ambio 52, no. 12 (2023): 1952–67, https://doi.org/10.1007/s13280-023-01948-8.
[142] Zheng et al., "*Gross Ecosystem Product (GEP)*."
[143] Jiaying Zhang et al., "*Spatiotemporal Patterns of Gross Ecosystem Product across China's Cropland Ecosystems over the Past Two Decades*," Frontiers in Ecology and Evolution 10 (August 2022), https://doi.org/10.3389/fevo.2022.959329.

3.2 Decide: Integrate natural capital into policy and planning

SEEA and related tools give governments the data to see natural capital as part of the national economy. But measurement alone is not enough (see Netherlands example box). If accounts sit unused, they change nothing. The next step is to hardwire natural capital into the policy cycle – the governance structures, fiscal instruments, and financing mechanisms that shape economic outcomes.

This has two main dimensions:

1. **Governance changes** – adopting inclusive wealth as a measure of success and hardwiring natural capital into planning, budgeting, and appraisal.
2. **Policy instruments** – reshaping fiscal policy, regulation, public investment, and market design so that ecosystems are treated as balance sheet assets, not free inputs.

In practice, these dimensions must work together to shift natural capital from the margins into the core of decision-making.

Changes in governance can ensure that natural capital is embedded in decisions. This requires adaptation of the existing frameworks across policy domains to integrate natural capital insights. It means giving real decision or oversight power to mandated institution with monitoring and accountability on impact. For example, in 2024 the Philippines introduced its Philippine Ecosystem and Natural Capital Accounting System (PENCAS) Act, which mandates integration of ecosystem and natural capital considerations into economic and policy frameworks.[144] Further examples could include a natural capital committee as part of budget procedures, or inclusion of natural capital in among budget audits. It requires staffing experts that understand nature and economics, and the right coordination mechanisms where nature touches upon other areas of decision-making.

A growing number of countries are broadening their development frameworks beyond conventional GDP growth to include natural capital and wellbeing. These initiatives represent a new model of governance where natural capital is treated as a vital economic asset to be maintained, rather than a free input. Crucially, the more national policy frameworks are harmonised with international processes (e.g. UNEA, CBD COPs, UNGA), the more efficient and impactful they become, directing resources and political will towards shared global goals.

Public policymakers can wield a diverse set of instruments that shape both direct public action (where they *decide* directly) and private sector behaviour (where they *enable* the decisions of private stakeholders). Policymakers can most directly put nature on the public balance sheet by integrating natural capital outcomes in public investment decisions and government budgeting.

- **Budgets** – Explicitly consider natural capital in the annual government budget and forward-looking fiscal planning. This includes both ringfencing dedicated resources within the budget and introducing natural capital evaluation as a major evaluation criterion for the national budget overall. Budget evaluation should go beyond effects within the fiscal year but assess the impact on both the direct public balance sheet but also the national balance overall.
- **Investment** – Scale up investment in natural capital, not only through dedicated projects but by mainstreaming ecosystem considerations into all public spending. Treat nature as core infrastructure. Cost–benefit analyses should reflect ecosystem service values through shadow pricing, so natural assets are weighed fairly against grey substitutes. These investments can be further leveraged by aligning with existing international funding mechanisms such as the Global Environment Facility (GEF), the Global Biodiversity Framework Fund, the Kunming Fund, the Cali Fund, and multilateral development banks, which provide resources for countries advancing integrated natural capital policies.

[144] "Philippines Ecosystem and Natural Capital Accounting System Act," *Eco Jurisprudence Monitor*, n.d., accessed August 20, 2025, https://ecojurisprudence.org/initiatives/22045/.

Policy measures are most effective and enjoy the strongest public legitimacy when used together, sending reinforcing signals throughout the national economy. This means enabling private stakeholders, particularly land-stewards, as discussed below in section 3.4. But it also means aligning the wider policy landscape in line with public decision, including regulations, spatial planning; as well as transparency and disclosure requirements.

- **Regulation** – Maintain strong guardrails for nature. From water quality standards to bans on deforestation or overfishing, regulations define clear boundaries for economic activity. While politically sensitive, these rules are indispensable for protecting irreplaceable ecosystems and ensuring that baseline conditions are preserved.
- **Spatial planning** – Act as system orchestrators through landscape-level planning. Spatial planning can map the distribution of ecosystem services and ensure zoning and land-use rules reflect their public value. This is especially critical where competing pressures threaten high-value ecological areas.
- **Transparency** – Require disclosure of natural capital impacts. By making information available, governments empower households, investors, and firms to make informed choices, amplifying the effect of other instruments.

We can learn from emerging best practices around the world, as countries are piloting and sometimes scaling projects to include natural capital into policymaking.

- **New Zealand** has incorporated natural capital into the Treasury's Living Standards Framework, influencing national budget priorities leveraging monetary valuation.[145]
- **China** uses gross ecosystem product (GEP) to assess comparative performance of regions and inform funding allocation decisions.[146]
- **Belize** created a national coastal management and development plan for economic growth while protecting current livelihoods and the country's cultural and natural heritage – informed by ecosystem service valuation.[147]
- **Costa Rica's** natural capital accounting (SEEA forest accounts) informed the design of the national payments for ecosystem services programme, resulting in an 87% decrease in deforestation rates.[148]

Critically, good policy is not only about creating new programmes and initiatives, but to also review and reform existing ones that are inadvertently destructive. This includes confronting harmful subsidies, which remain one of the largest sources of natural capital erosion. Despite decades of awareness, most subsidy regimes have only grown. What needs to change is not just the level of support, but the direction: shifting subsidies decisively from ecosystem destruction towards ecosystem stewardship. Next to harmful subsidies, a significant source of natural capital erosion from the public budget, each major public investment should be evaluated with its natural capital impact taken along in cost-benefit analysis.

It is important that policymakers pay attention to a *just transition* towards natural capital integration. Even when it improves outcomes for society at large, no system change is ever without a cost. Some stakeholder groups can better bear the cost of transition than others. It is important that policymakers acknowledge and design policies that protect the most vulnerable groups of society.

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[145] Wellbeing and Natural Capital: Understanding the Sustainability and Risks: NZIER Report to the Treasury (2022), https://www.treasury.govt.nz/publications/commissioned-report/wellbeing-and-natural-capital-understanding-sustainability-and-risks.
[146] Kairui Li et al., *Valuation of the 2020 Gross Ecosystem Product of China and Analysis of Driving Factors*, 2025, https://www.sciencedirect.com/science/article/abs/pii/S0959652625010911.
[147] Integrated Coastal Zone Management, Belize, https://naturalcapitalproject.stanford.edu/research/projects/integrated-coastal-zone-management-belize.
[148] Dr. Edgar Ortiz Malavasi and Dr. John Kellenberg, "Program of Payments for Ecological Services in Costa Rica," 2020, n.d. https://www.cbd.int/financial/pes/costarica-pesprogram.pdf

Box 13: Natural capital and critical minerals: Managing trade-offs in transition planning

The global energy transition is driving a surge in demand for critical minerals like lithium, cobalt, and nickel, often in ecologically sensitive landscapes, including tropical rainforests.

Without integrated planning, mineral extraction risks undermining the ecosystems that support long-term development – particularly water availability, soil health, and climate resilience.

Key considerations for ministries of finance and planning:

- Many high-value mineral reserves overlap with natural capital hotspots (e.g. Uganda, Madagascar, Brazil), creating land-use conflicts. Forests and watersheds are particularly vulnerable to open-pit mining, road expansion, and water stress.
- Public investment systems and public investment management frameworks should account for ecosystem losses alongside revenue projections. Debt sustainability and sovereign risk assessments should consider the long-term trade-offs between extractive revenue and degraded resilience.
- Natural capital accounting and shadow pricing can help assess the true cost of degradation and inform smarter concession design.

This is not about stopping mining – but about ensuring the transition doesn't erode the ecosystems that economies depend on.

3.3 Finance: Innovate instruments for nature

Investing in natural capital, like all infrastructure, requires taking the long view. It requires governments to incur near-term costs to secure future benefits, such as improved climate resilience, avoided disaster losses, or enhanced agricultural productivity. Yet many countries face fiscal constraints or high debt burdens, and this forward-looking logic is difficult to act on. Budget cycles remain short, liquidity is tight, and nature-based investments often struggle to compete with conventional capital projects that promise faster returns, at least on paper.

To overcome this mismatch between timing of costs and benefits, fiscal innovation is essential. Emerging financial instruments are increasingly enabling countries to bring future nature-related returns into present-day fiscal space, as lower rates translate in lower interest burden:

- Sustainability-linked bonds – linking borrowing costs directly to environmental performance.
- Resilience bonds and related tools – aligning investment in ecosystems with reduced disaster risk.
- Debt-for-nature swaps – refinancing sovereign debt in exchange for conservation and climate commitments.

Equally important is risk pricing: embedding ecosystem condition into sovereign risk models is one of the fastest routes to capital reallocation. When ecosystem risks are reflected in fiscal planning and credit assessments, they directly influence risk premiums and the cost of capital, accelerating change at scale.

As climate and nature-related risks become more financially material, such instruments offer a pragmatic pathway to align sustainability goals with fiscal sustainability. By linking debt, investment, and conservation, countries can unlock the financial room to invest in natural capital today.

At the same time, public policy has a role to play in creating the right enabling environment for mobilising private capital for nature – one example of such a wider policy toolkit includes establishing compliance carbon markets which recognise and reward nature co-benefits, but a range of mechanisms can be considered. Such markets can create new revenue streams for projects that deliver both climate and biodiversity outcomes. Verified nature co-benefits – such as habitat restoration and watershed protection – can command price premiums over standard carbon credits, as seen in Australia's Australian Carbon Credit Units (ACCU) market. Establishing such a market is an example of a wider policy toolkit to channel private capital into degraded land restoration at scale.

Box 14: Australian Carbon Credit Units and nature co-benefits

In Australia's carbon market, Australian Carbon Credit Units (ACCUs) can be issued for projects that sequester carbon, such as reforestation or improved forest management. Increasingly, buyers are willing to pay a premium for ACCUs that demonstrate verified nature co-benefits – positive outcomes for biodiversity, water quality, or community wellbeing – alongside carbon abatement.3 Forico, Tasmania's largest private forestry company (see Chapter 3 box), has leveraged this by certifying biodiversity and ecosystem service gains (with specialist firm Accounting for Nature) and documenting natural capital uplift through its annual Natural Capital Reports.4 By evidencing benefits such as habitat restoration for threatened species and improved catchment health, Forico has marketed its carbon credits as "nature-positive", attracting corporate buyers seeking to meet both climate and nature goals. This has enabled sales at prices above standard ACCUs, demonstrating how co-benefit recognition can channel private finance into projects that deliver integrated climate and biodiversity outcomes.

Beyond carbon, emerging nature markets are enabling the sale of biodiversity credits (although the value of transactions is small so far),[149] where verified gains in species habitat or ecosystem condition can be transacted to meet regulatory requirements. For example, the UK Government has mandated Biodiversity Net Gain (BNG) for all infrastructure and large housing development projects – creating a marketplace for biodiversity credits.[150] However, adequate safeguards need to be in place to ensure genuine natural capital uplift, and avoid unintended consequences.[151]

[149] Simas Gradeckas, "Deep Dive: Biodiversity Credit Sales," July 30, 2024, https://newsletter.bloomlabs.earth/p/deep-dive-biodiversity-credit-sales.
[150] UK Government, "Understanding Biodiversity Net Gain," GOV.UK, June 26, 2025, https://www.gov.uk/guidance/understanding-biodiversity-net-gain.
[151] International Advisory Panel on Biodiversity Credits, "IAPB Framework for High Integrity Biodiversity Credit Markets," 2024, https://www.iapbiocredits.org/.

3.4 Engage: Reward corporate stewardship of natural capital

Importantly, putting nature on the *national* balance sheet (i.e. economy wide) requires policymakers to have a policy agenda that enables private stakeholders, particularly land-stewards, to put nature on the *private* balance sheet using a range of policies. For companies to put nature on their balance sheets, governments must create clear domestic rules and signals that reward stewardship and penalise degradation. This means making natural capital visible in corporate decisions by shaping the regulatory and fiscal context in which firms operate.

- **Subsidies and taxes** – Align taxes, subsidies and other incentives with nature outcomes. This is among the most important roles of governments, as it directly sets financial (dis)incentives to reward desirable behaviour among business and households. This includes dedicated measures that promote more investment in natural capital and penalise eroding it. A carbon price does exactly that: by setting a monetary cost on carbon, private markets can internalise the cost of carbon directly into their financial decisions. Another area is linking property valuation and tax systems to ecosystem conditions, with rewards for maintaining natural capital assets well.

  However, equally important is to calibrate existing taxes and subsidies across the economy to avoid perverse incentives that work against natural capital. Today, fossil fuel and agricultural subsidies remain a major driver of ecosystem degradation, often promoting land conversion, overuse of fertilisers and chemicals, or monoculture at scale. Redirecting even part of these flows could dramatically improve environmental outcomes in two ways.

- **Market creation** – Set up (obligatory) market mechanisms to shift incentives: governments can mandate nature offsets for development-induced habitat loss can channel capital towards ecosystem regeneration, but need to ensure proper market design and governance (for example, Biodiversity Net Gain in the UK mandates such investments).[152] In this way ecosystem services (e.g. as biodiversity or water regulation) are recognised within private markets.

- **Access to capital and insurance** – Require banks and insurers to integrate nature-related risks into prudential regulation and risk models, and mandate ecosystem-based risk assessment in insurance regulation. This enables firms protecting ecosystems (such as mangroves or wetlands) to benefit from lower borrowing costs or insurance premiums.

- **Reduced physical risk** – Invest in public natural capital data platforms that companies can access, and require companies to disclose dependencies and impacts (e.g. via TNFD-aligned reporting). This lowers transaction costs and ensures risks are visible to markets.

- **Reputation and licence to operate** – Introduce requirements for independent assurance of corporate claims such as "*nature positive*" or "*net gain*." Strengthen international audit standards to cover nature performance, and codify participatory governance frameworks to ensure fair benefit-sharing with Indigenous Peoples and local communities.

Through these shifts, governments can make corporate stewardship of nature financially visible and commercially attractive, ensuring that firms are rewarded for protecting ecosystems rather than degrading them.

[152] "Biodiversity Net Gain," GOV.UK, June 26, 2025, https://www.gov.uk/government/collections/biodiversity-net-gain.

Box 15: Nature knows no borders

Much of natural capital's value is tied to regional and global commons – ecosystems whose benefits extend far beyond national boundaries. Rainforests like the Amazon regulate global rainfall patterns; polar ice sheets and open oceans influence planetary climate systems; and high seas fisheries feed people across continents. Yet, in national cost–benefit calculations, these benefits are "missing": the cost of stewardship is borne domestically, but the value is dispersed internationally. This creates a systemic underinvestment problem: just as public goods within a country require public finance because private actors cannot fully capture their returns, global public goods need to be stewarded with collective responsibility, which in some cases will require international finance.

The ocean illustrates this challenge starkly. It is the largest global carbon sink and a foundation of biodiversity, yet overfishing, acidification, and plastic pollution are rapidly undermining its ability to provide these services. Governance of the high seas remains fragmented, leaving vast areas vulnerable to exploitation without accountability. Without stronger stewardship, the economic and ecological value of the ocean commons risks collapse.

When beneficiaries are global, but the payors are national, incentives misalign. The result is predictable: positive cross-border externalities go uncompensated; negative externalities go unpriced. Countries protecting high-value global ecosystems receive few rewards; those degrading ecosystems abroad face little penalty: a classic free rider problem.

Closing this gap demands a shift in economic thinking that goes beyond national stewardship of the economy but recognises the geographically different scales that nature operates and creates value within. Although nature's complexity defies neat boundaries, four broad geographic "lenses" help illustrate how natural capital's value scales from local to global – and why the accounting, governance, and financing model must match the scale of benefits:

Local – Natural capital assets whose benefits are linked to their immediate surroundings, such as urban wetlands that provide local flood protection or community forests supplying nearby households. Value creation is spatially constrained and often not "fungible" at a national level. In this sense, it behaves much like physical infrastructure.

Regional – Many ecosystems cross borders and provide shared services to the different jurisdictions within its radius, such as transboundary river basins, mountain ranges, or migratory wildlife corridors. These require cross-jurisdictional governance and benefit-sharing arrangements that require collaboration between two or more countries.

Global – Much natural capital provides benefits that accrue worldwide, regardless of location. This includes ecosystems in global commons (e.g. Antarctica, the high seas) and those within sovereign territory but critical to planetary stability (e.g. Amazon rainforest, Congo Basin). Multi-lateral cooperation is needed across governance and investment to keep these assets intact.

*Governments hold the mandate to bring nature onto the public balance sheet. By **valuing** ecosystems through expanded accounts, **deciding** with natural capital at the core of fiscal and policy choices, **financing** long-term returns through innovative instruments, and **engaging** business, communities and the international community to act through clear rules and incentives, policymakers can reorient economies toward resilience and shared prosperity.*

Yet public action alone is not enough. Companies and financial institutions manage vast stocks of capital and shape global supply chains; their ability to account for and invest in natural capital will determine whether public reforms translate into economy-wide change.

The next chapter therefore turns to the private balance sheet, followed by Chapter 5 on the system accelerators that can ensure public and private action is scaled and sustained.

4 Nature on private balance sheets

Chapter 4 – What one needs to believe

- Natural capital is a driver of business value; its decline is a material source of risk.
- Tools exist – such as under the Natural Capital Protocol – but coherent policies are needed to put nature on balance sheets.
- Market pricing (payments for ecosystem services, credits) and risk pricing (capital cost differentiation) can shift investment decisions – at modest consumer cost. For instance, carbon pricing at $\$100/tCO_2e$ could abate $11–12GtCO_2e$ annually in natural capital and agriculture
- Nature on the balance sheet is feasible: corporate pioneers show that natural capital accounting can improve decisions, lower capital costs, and raise enterprise value.
- Firms can act now – assess, account, and recognise – using nature balance sheets in capital allocation and governance.
- High potential exists in the equity market which started to recognise the intrinsic value of nature; Natural Asset Companies (NACs) spearhead this trend.
- Better policies and financial products are needed to integrate natural capital into enterprise value and the cost of capital across sectors.

Just as governments must first account for natural capital and then reform policy to embed it in national decision-making, the private sector faces a parallel challenge. Corporations, Indigenous Peoples and local communities (IPLCs), and financial institutions alike depend on the long-term preservation of natural capital, not its depletion. Their business models are increasingly exposed to risks from ecosystem collapse, resource volatility, and regulatory tightening. Conversely, land-stewards who act early can strengthen resilience, secure reputational and operational benefits, and help shape the rules of the game.

Private actors steward significant natural capital, and can take important initial steps towards capturing the true value of nature on their balance sheets, recognising it as a productive aspect of their wealth. Full integration into the balance sheet is not possible yet due to the missing enabling conditions. These include steps 4 and 5 of the below staircase – market pricing of natural capital assets and liabilities, and codification and promotion of natural capital valuation. However, corporate natural capital accounting is now possible, and first mover benefits exist. Land-stewards stand to benefit from this shift: IPLCs, corporates, farmers, financial institutions (e.g. land funds, insurers, pension funds) that directly own land or forests.

Putting nature on private balance sheets requires targeted action and system change. The first steps are natural capital assessment (to map impacts, dependencies, risks, and opportunities) and natural capital accounting (to quantify the value of assets and ecosystem services using frameworks such as the UN SEEA). The most ambitious step is financial accounting of natural capital, where nature is recognised within corporate accounts and profit and loss statements. To unlock this at scale, two further system-level shifts are needed: market pricing of nature-related assets and liabilities, so that investors and insurers reflect natural capital status in costs of capital, valuations, and risk metrics; and codification of natural capital valuation through fiscal, budgetary, and regulatory frameworks, embedding stewardship of natural assets and liabilities into sovereign balance sheets. Together, these five steps create the enabling conditions for nature to be consistently recognised in economic decision-making, mobilising investment into preservation and regeneration.[153]

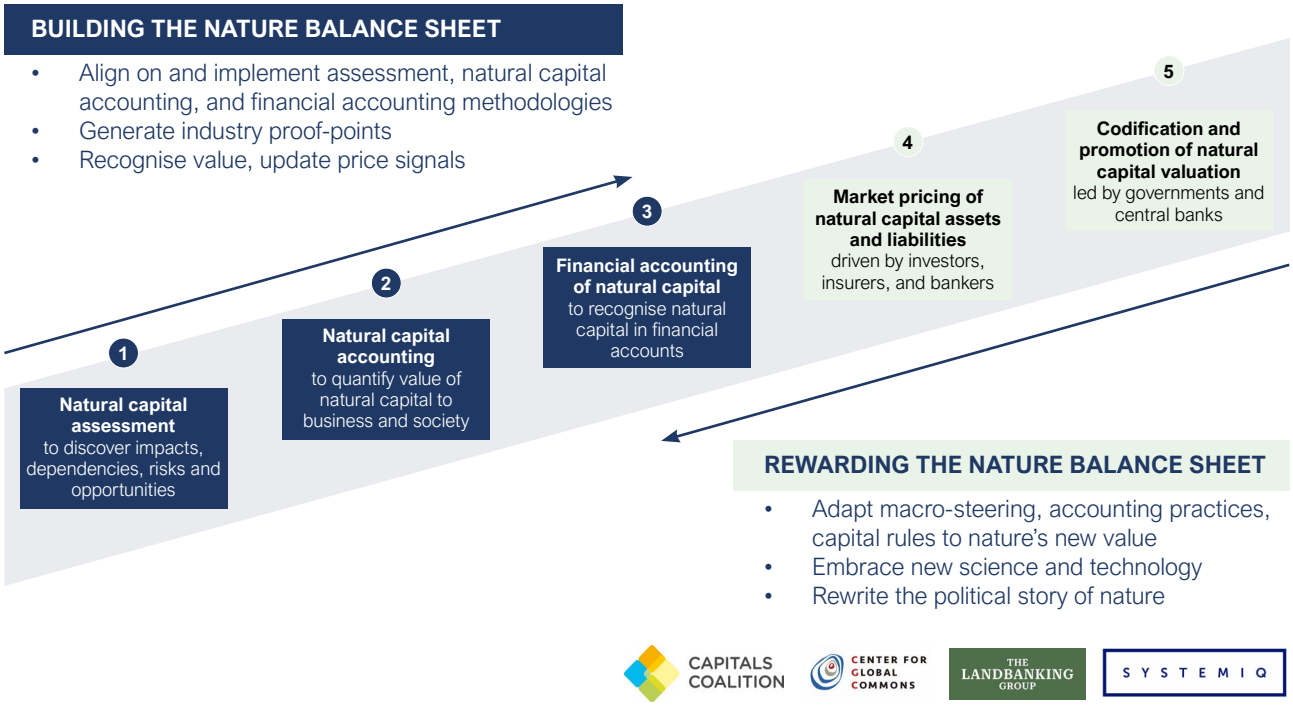
[153] "Nature on the Balance Sheet Initiative," Capitals Coalition, n.d., accessed August 7, 2025, https://capitalscoalition.org/project/nature-on-the-balance-sheet/.

Importantly, putting nature on the balance sheet requires system change, as the below roadmap from the Nature on the Balance Sheet Initiative makes clear. Steps 1 to 3 (assessment, accounting, management use) are feasible for private companies and can guide corporate action, but formal balance-sheet recognition depends on the enabling conditions of steps 4 and 5 – including standards, auditor assurance, investor demand, and policy codification.

The benefits for firms go well beyond new markets or pricing signals. Natural capital accounting provides insights that improve decision-making across strategy, procurement, and risk management. It can identify hidden dependencies, avoid stranded assets, and strengthen resilience to systemic risks. When embedded in corporate governance, these insights become institutional enablers that reward forward-looking decisions, attract capital, and reduce long-term costs. Pricing mechanisms are part of the story, but comprehensive action requires natural capital information to be integrated into the full cycle of business decisions.

Leaders can already use steps 1 to 3 to inform decisions and sometimes access incentives. For example, some land-stewards already benefit from ecosystem-service payments or cheaper credit terms from natural capital assessments, even without full financial account recognition. Forward-thinking financial institutions are signalling that they can reward good stewardship in this way.

Figure 14. The roadmap for putting nature on private balance sheets, developed by the Nature on the Balance Sheet Initiative[154]



In this chapter we build on that staircase, but focus specifically on the role of private actors who directly own or manage land – IPLCs, farmers, corporates, and financial institutions in their role as landowners. It concentrates on what land-stewards can do today on steps 1 to 3; Chapter 5 addresses the system enablers (steps 4 and 5) without which widespread balance-sheet recognition will remain elusive.

[154] "Nature on the Balance Sheet Initiative."

We therefore frame the chapter around four practical actions these actors can take:

- **Value (4.1)** – Measure dependencies and impacts across operations and supply chains through natural capital accounting, protocols, and metrics.
- **Decide (4.2)** – Embed natural capital into corporate strategy, governance, and management decisions, moving from measurement to action.
- **Finance (4.3)** – Invest directly in nature enhancing practices and access financial instruments that reward stewardship, such as sustainability-linked loans, outcome-based bonds, biodiversity and carbon credits, or innovative equity structures like Natural Asset Companies. These tools can help firms capture long-term value and bring it onto their balance sheets.
- **Enable (4.4)** – Influence value chains and markets so that natural capital is recognised and rewarded – for example through procurement standards, supplier requirements, product design, labelling, and transparent disclosure.

Box 16: Corporate action depends on enabling conditions that reward nature

Corporate leadership on natural capital can strengthen competitiveness over time, though the benefits are not always immediate in short-term financial metrics. In practice, however, most companies do not pursue these opportunities because the near-term costs are visible while the benefits are uncertain or long-term, and current market signals rarely reward stewardship. Still, there are exceptions: Danone and Nestlé have invested in regenerative agriculture to secure long-term supply and brand differentiation, while insurers such as Swiss Re are piloting mangrove restoration as a risk-reduction service. These examples show that where enabling conditions exist, corporate action can create both resilience and new revenue streams.

Yet corporate reform alone cannot deliver systemic change. Without policy frameworks that reward positive action and penalise degradation, most firms face little incentive to move beyond short-term profit maximisation. Public institutions set the rules of the economy and can make nature investment attractive by shaping market signals and codifying natural capital into economic governance. Two key roles stand out:

- **Market pricing of nature-related assets and liabilities.** Investors, insurers, and bankers should reflect the state of natural capital in cost of capital, asset valuation, underwriting, and pricing. Public policy can accelerate this by aligning disclosure, creating compliance markets, and mandating integration of nature into risk assessments. This unlocks new financial products such as securitisation of ecosystem services, resilience bonds, or risk-transfer mechanisms.[155]
- **Codification and promotion of valuation.** Governments and central banks can integrate natural capital into fiscal, regulatory, and budgetary frameworks. Sovereign balance sheets that reflect ecosystem assets and liabilities would allow countries to assess their true net wealth and borrow sustainably. Capital adequacy rules that account for nature-related risks would push financial institutions toward regenerative investment.[156]

In short, private competitiveness and public reform are mutually reinforcing. Firms that act early position themselves as leaders in the transition. But without governments adjusting the wider market context, these leaders will remain isolated. Embedding natural capital into the rules of the game allows corporate action to scale.

[155] "Nature on the Balance Sheet Initiative."
[156] "Nature on the Balance Sheet Initiative."

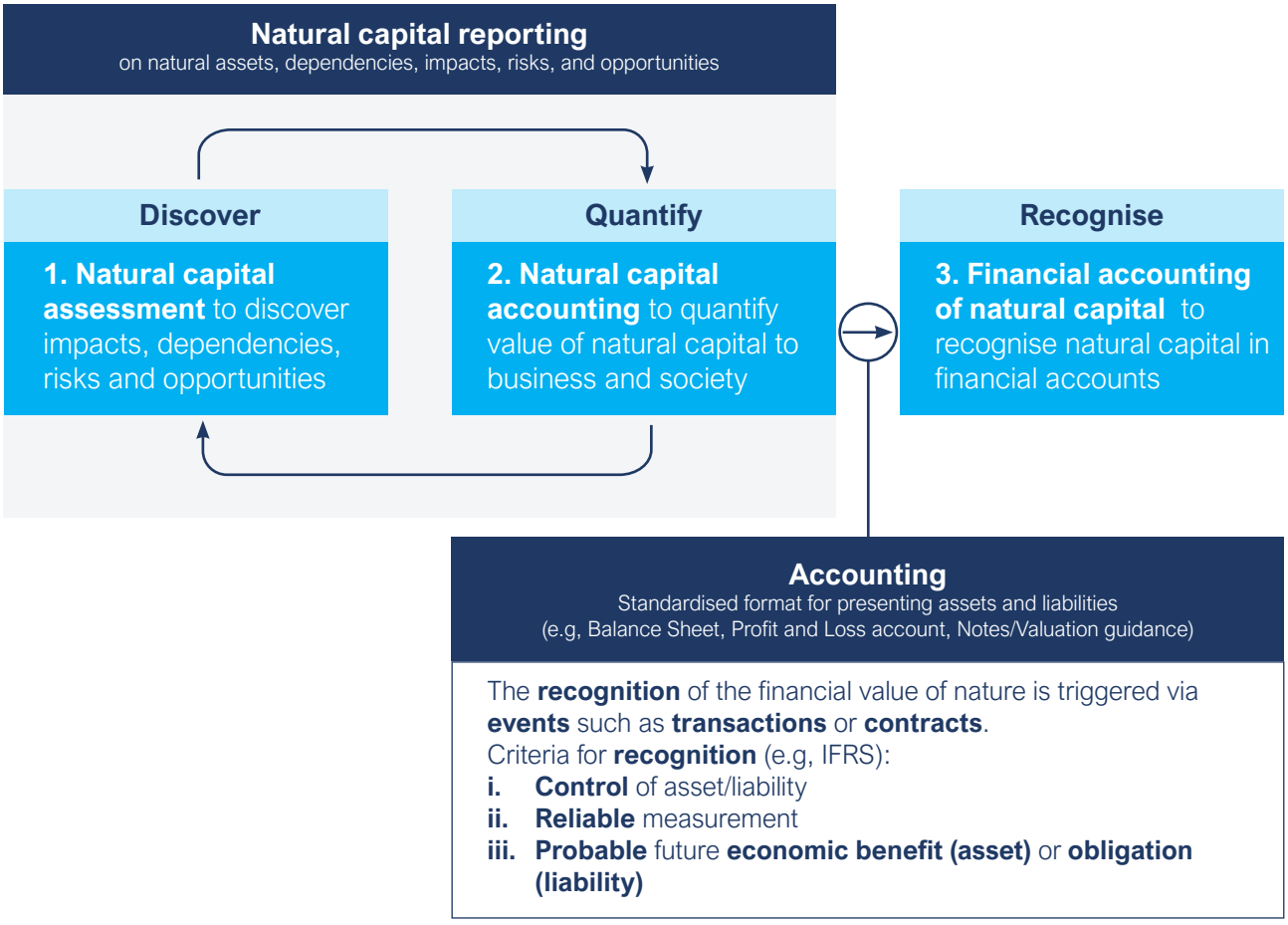
4.1 Value: Measure dependencies and impacts through corporate natural capital accounting

Just as national governments rely on the System of National Accounts, private actors who directly steward natural capital – corporates, farmers, IPLCs, and financial institutions in their role as landowners – need tools to measure how their activities depend on and impact ecosystems. Without this, nature remains off the balance sheet and under-valued in decisions.

It is important to note that accounting is not the same as official recognition in financial statements: without auditor assurance, accepted standards, and policy alignment, most firms cannot recognise nature as an asset or liability in statutory financials, even if internal natural capital values exist.

The Nature on the Balance Sheet Initiative have defined the journey which natural capital stewards can follow to capture natural assets on their core balance sheets.[157] Practical experience from businesses, communities, and land managers shows that applying standard accounting methods to recognise nature as an asset is entirely feasible. But for this to become mainstream and shape investment choices globally, the wider system – accounting rules, auditing practices, contracts, ratings, regulation, and government policy – must work in concert. Any organisation that owns, manages, or relies on natural capital, whether directly or through its supply chains, can begin this journey by taking three key steps:

Figure 15. Discovering, quantifying, and recognising nature on the balance sheet[158]



Example frameworks

- Natural Capital Protocol
- TNFD LEAP

- SEEA
- ISO 14054

Structured on standard accounting rules

[157] "Nature on the Balance Sheet Initiative."
[158] "Nature on the Balance Sheet Initiative."

1. **Natural capital assessment** – discovering nature-related impacts, dependencies, risks, and opportunities (e.g. through TNFD's LEAP framework);
2. **Natural capital accounting** – quantifying the value of natural assets (e.g. forests, water resources) and services (e.g. carbon removal, water regulation) to business and society using established accounting frameworks and standards, such as the SEEA or ISO 14054[159]; and
3. **Financial accounting for natural capital** – recognising natural capital in financial business accounts and profit and loss statements against international accounting requirements, such as IFRS.[160]

These three steps pave the way for corporates, IPLCs, farmers, and financial institutions in their role as landowners to capture nature as a balance sheet asset – and can already be undertaken by leaders. System-wide enablers, such as carbon markets or regulatory codification, are needed to unlock adoption at scale, but these are covered in Chapter 5.

Efforts to set this journey in motion are gaining traction. The Capitals Coalition has developed the *Capitals Protocol*, a practical framework for businesses to integrate natural capital into their decisions. Building on SEEA methodologies,[161] the Capitals Coalition have also developed bespoke guidance for corporate natural capital accounting: *Time to Take Stock*[162] *and Governance for Valuation*, a framework for building confidence in monetary valuation methodologies. These publications guide companies through producing impact and dependency pathways, natural capital balance sheets, P&Ls, and impact-weighted accounts. These tools can be internal decision aids,[163] or, when disclosed, a signal of credibility to investors and stakeholders.

Corporate natural capital accounts exist in parallel to, and in complement to, corporate financial accounts. Financial accounts are governed by external regulation, determining regular cycles of public release and audit, and do not yet include natural capital natural capital. In many jurisdictions, financial accounts must adhere to the International Financial Reporting Standards (IFRS) – its sustainability standards, developed by the International Sustainability Standards Board (ISSB), are becoming mandatory in several countries (e.g. Japan; 35+ countries are currently consulting on making the standards mandatory),[164] and will include specific standards on nature impacts and dependencies.[165]

Natural capital accounts, by contrast, remain voluntary for now. They can be used purely for internal decision-making, with no obligation to publish or audit. Developing standards on nature-related disclosure (e.g. TNFD) do not mandate production of natural capital accounts, but do encourage their compilation as a decision-making tool. For example, the Capitals Coalition is currently partnering with the International Sustainable Foresty Coalition (ISFC) and TNFD in an effort to standardise natural capital accounting in the forestry sector.[166]

When made public, natural capital accounts can generate reputational benefits and open new routes to value. Confidence is strengthened when they are independently assured. Major firms are beginning to build this capacity as aggregated by Capitals Coalition Protocol work – for instance, the Integrated Framework for Decision-Making.[167] Growing assurance practice could pave the way toward standards for public reporting, eventually enabling natural capital to be incorporated into core financial accounts.

Companies across sectors have begun experimenting. **BHP** used natural capital accounting to demonstrate the benefits of restoring former mine sites.[168] **Holcim** has explored integrating ecosystem impacts into reporting. Perhaps most powerfully, **Forico's** annual accounts reshaped boardroom conversations, reframing the company from a pure forestry producer to a joint forestry-and-nature

[159] ISO 14054 is the new ISO standard under development that will codify how companies and public bodies conduct natural capital accounting, linking measurement of ecosystem services and dependencies with financial and management accounting practices.
[160] "Nature on the Balance Sheet Initiative."
[161] "Time to Take Stock," *Capitals Coalition*, accessed August 6, 2025, https://capitalscoalition.org/publication/time-to-take-stock/.
[162] "Time to Take Stock."
[163] Capitals Coalition, "Natural Capital Protocol."
[164] Convention on Biological Diversity, "Kunming-Montreal Global Biodiversity Framework," Secretariat of the Convention on Biological Diversity, October 1, 2024, https://www.cbd.int/gbf.
[165] TNFD, "IFRS Foundation and TNFD Formalise Collaboration to Provide Capital Markets with High-Quality Nature-Related Information," 2025, https://tnfd.global/ifrs-foundation-and-tnfd-collaboration-to-provide-capital-markets-with-high-quality-nature-related-information/.
[166] ISFC and TNFD, "New Natural Capital Project with TNFD," Capitals Coalition, July 25, 2025, https://capitalscoalition.org/new-natural-capital-project-with-tnfd/.
[167] Capitals Coalition, *Integrated Decision-Making Framework*.
[168] "BHP Case Study a First for Natural Capital Accounting in Mining," accessed August 6, 2025, https://www.bhp.com/news/media-centre/releases/2023/05/bhp-case-study-a-first-for-natural-capital-accounting-in-mining; Johan Lammerant, *Business and Natural Capital Accounting: Holcim Spain Quarry Restoration Case Study*, September 9, 2021, https://policycommons.net/artifacts/3865756/business-and-natural-capital-accounting-study/4671626/.

steward.[169] They also revealed co-benefits of carbon credits, enabling premium pricing in Australia's market, which rewards biodiversity alongside carbon.[170]

Despite these promising use cases, uptake remains limited. For most firms, natural capital is still treated as a side disclosure rather than a material factor in financial decision-making.

Box 17: Forico's leading corporate natural capital accounting[171]

Forico, Tasmania's largest private forestry company, not only compiled high-quality natural capital accounts, but embedded them directly into its financial reporting. Starting in 2020, Forico published annual, independently assured Natural Capital Reports (NCRs) – structured like traditional financial accounts, including a natural capital balance sheet and profit and loss statement. These were the first of their kind globally. The accounts reported natural capital in both biophysical (e.g. tonnes of carbon sequestered, volume of water purified) and monetary terms.

Figure 16. Forico's Natural Capital balance sheet (2023)[172]

NATURAL CAPITAL REPORT Natural Capital Balance Sheet as at 30 June 2023	30 June 2023						30 June 2022		
	NOTES	Measure	Metric	Value to Business $k	Value to Society $k	TOTAL $k	Measure	Metric	TOTAL $k
ENVIRONMENTAL ASSETS									
Biomass									
Productive Plantation	3	11,889	'000 gmt	535,530	-	535,530	11,977	'000 gmt	553,159
Carbon Sequestration									
Productive Plantation									
Carbon - above ground	4	12,344	kt C02-e	1,949	384,909	386,858	12,387	kt C02-e	433,441
Carbon - below ground	4	52,370	kt C02-e	-	1,641,822	1,641,822	52,309	kt C02-e	1,830,809
Carbon - forest debris	4	6,423	kt C02-e	-	201,280	201,280	6,576	kt C02-e	230,177
Future carbon sequestration before harvest	4	31,506	kt C02-e	14,253	788,259	802,512	24,725	kt C02-e	714,137
Natural Forest									
Carbon - above & below ground	4	52,453	kt C02-e	-	1,644,417	1,644,417	52,453	kt C02-e	1,835,872
		155,096		16,202	4,660,687	4,676,889	180,471		5,044,436
Natural Forest Habitat									
	7	76,976	ha	-	273,084	273,084	77,024	ha	284,769
TOTAL ENVIRONMENTAL ASSETS				551,732	4,933,770	5,485,503			5,882,365
ENVIRONMENTAL LIABILITIES									
Maintenance provision - Natural Forest	8	76,976	ha	24,831	-	24,831	77,024	ha	21,388
Provision for future harvest carbon emissions	9	268	kt C02-e	8,522	-	8,522	295	kt C02-e	8,403
TOTAL ENVIRONMENTAL LIABILITIES				33,353	-	33,353			29,792
TOTAL NET NATURAL CAPITAL				**518,379**	**4,933,770**	**5,452,149**			**5,852,573**

This innovation was transformative for three reasons:

1. **Value creation and strategic alignment:** NCRs reshaped Forico's business model. The company transitioned from short to long rotation plantations to maximise carbon sequestration; launched new carbon projects that generated Australian Carbon

[169] Forico, "*Natural Capital Report*," 2023, https://forico.com.au/natural-capital-report-form.
[170] BloombergNEF, *Forico Harvests $670 Million with Sustainable Forestry* (2024), https://about.bnef.com/insights/nature-and-agriculture/twelve-case-studies-survey-the-business-opportunities-in-curbing-nature-loss/.
[171] BloombergNEF, Forico Harvests $670 Million with Sustainable Forestry. 2024; Forico, "*Natural Capital Report*." 2023
[172] Forico, "*Natural Capital Report*." 2023

Box 17: Forico's leading corporate natural capital accounting

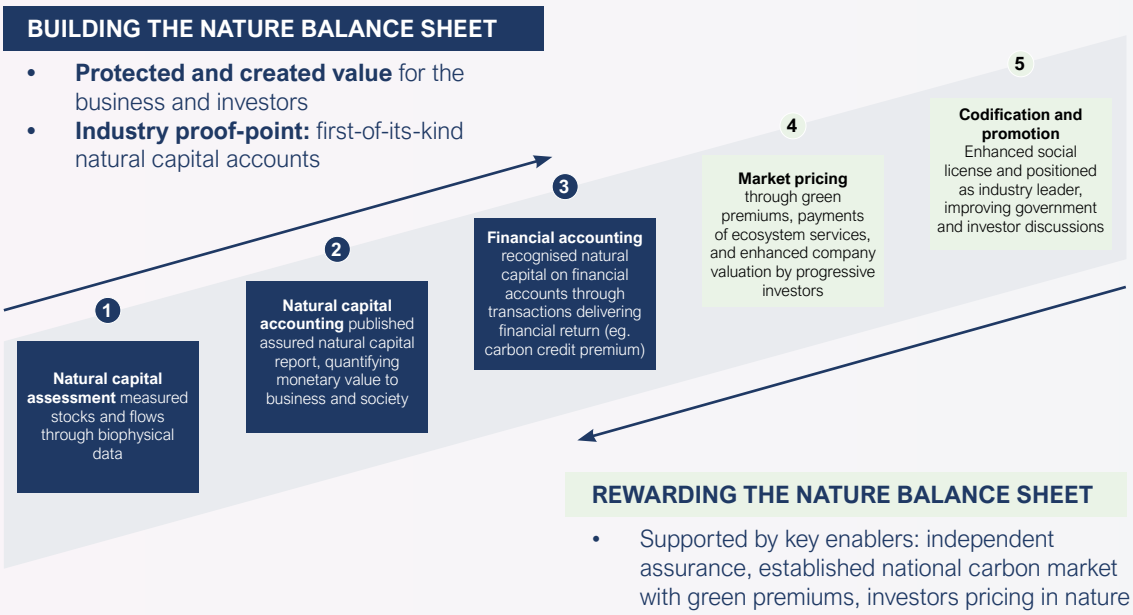
Credit Units (ACCUs) (which reward nature co-benefits); and captured "greeniums" – earning 225% above-market rates for carbon credits due to co-benefit transparency.

2. **Valuation uplift:** Natural capital reporting played a pivotal role in Forico's **2023 acquisition by UniSuper, PPF (UK), and APG (Netherlands)** – who valued the firm at over AUD $1 billion, **more than triple its 2014 valuation.**[173] ESG due diligence included modelling option value for ecosystem service income streams – positioning Forico as an asset-backed, nature-positive investment.

3. **Format and assurance familiarity:** By mirroring conventional reporting frameworks, Forico made environmental value legible to CFOs, investors, and boards. The accounts were also independently assured by KPMG, building external confidence in their conclusions.

NCRs also strengthened Forico's social licence, helped protect insurance access during biomass coverage withdrawals, and shifted the board's framing of the company as a **natural capital asset manager** rather than a timber supplier. By translating nature into the language of finance, Forico showed how businesses can future-proof their value by investing in nature.

Figure 17. Scaling up nature on the balance sheet – the Forico roadmap



The Forico case shows how natural capital can be mapped step by step into financial accounting: starting with ecosystem stocks, translating them into monetary valuation, and then recognising them in financial statements with independent assurance.

Forico's progress builds on the enabling market and policy environment (assurance, buyer demand, crediting rules). In other contexts (e.g. where auditor assurance is unavailable or standards are not codified), firms will not be able to value nature into statutory accounts to the same extent – underscoring that steps 4 and 5 are prerequisites, not afterthoughts.

[173] "Global and Australian Investors Acquire the Tasmanian Forest Fund," *Global and Australian Investors Acquire the Tasmanian Forest Fund*, accessed August 6, 2025, https://forico.com.au/news/forico-set-to-continue-as-manager-of-tasmanias-largest-forest-estate.

Box 18: Impact and dependency valuation can price risks for businesses and financial institutions

Businesses and financial institutions are increasingly recognising that understanding their dependencies on ecosystem services, as well as the impacts their operations exert on nature, is essential for identifying material risks and opportunities. The ENCORE tool (Exploring Natural Capital Opportunities, Risks and Exposure) provides a structured, sector-level framework to support this analysis. Developed through a collaboration of UNEP-WCMC, Global Canopy, and UNEP FI – and updated by Capitals Coalition – ENCORE maps production processes against dependencies and pressures on natural capital, breaking down outputs by sector.[174]

ENCORE's visual outputs help finance-sector users to see where their portfolios may be exposed to nature-related risks, with potential to guide decisions in underwriting, lending, and investment. It can also be used for more granular assessment: in the Netherlands, researchers combined ENCORE with the Biodiversity Footprint for Financial Institutions (BFFI) method to quantify dependency on services and biodiversity footprint of 25 firms in the Amsterdam Exchange (AEX) index to prioritise biodiversity-aligned investment strategies.[175]

NGFS's Green Scorpion study incorporated ENCORE with global natural capital datasets and multi-regional input-output modelling to assess cascading nature–climate risks across sectors and regions. The authors estimated that unmanaged nature-related risks could amount to over $5 trillion in value at risk, showing the potential for significant systemic financial shock if nature's role in economic stability is ignored.[176]

4.2 Decide: Embed natural capital into corporate strategy, governance, and management

As companies advance on assessment and accounting, they should in parallel reform governance structures, disclosure practices and risk management so natural capital becomes integral to decisions – ready to align with evolving standards, assurance practices, and market signals. The aim is to shift from treating nature as a costless input to managing it as a strategic asset.

4.2.1 Governance and disclosure

Leading organisations are beginning to broaden their oversight and accountability to cover environmental performance (including nature) alongside traditional financial metrics.

Many boards of directors now have sustainability committees or dedicate agenda time to climate. However, the integration of nature is still in its infancy in comparison. A major new development is the emergence of common reporting and disclosure frameworks for nature-related risks and impacts including the Taskforce on Nature-related Financial Disclosures (TNFD) recommendations.[177] Modelled after the TCFD framework for climate risk, the TNFD provides guidance for firms to assess and report their dependencies and impacts on nature, as well as associated risks and opportunities.

[174] "ENCORE," ENCORE, accessed August 7, 2025, https://www.encorenature.org/en.
[175] "Biodiversity Impact and Ecosystem Service Dependencies," *Biodiversity Metrics*, accessed August 7, 2025, https://www.biodiversity-metrics.org/biodiversity-impact-and-ecosystem-service-dependencies.html.
[176] Nicola Ranger et al., *The Green Scorpion: The Macro- Criticality of Nature for Finance*, n.d.; "$5 Trillion in Nature-Related Global Economic Risks Will Amplify Climate Change - Oxford Study | University of Oxford," accessed August 7, 2025, https://www.ox.ac.uk/news/2023-12-13-5-trillion-nature-related-global-economic-risks-will-amplify-climate-change-oxford.
[177] TNFD, "Guidance on the Identification and Assessment of Nature-Related Issues."

Disclosure of this information can lead to integrating nature into corporate and investor decision-making, shifting financial flows toward nature enhancing outcomes. Early adopter companies and financial institutions (over 500 globally have started aligning with TNFD, representing over $17 trillion in assets under management)[178] are screening their supply chains and portfolios, assessing exposure to issues like water stress or pollinator loss, and beginning to disclose this information to shareholders.

ISSB has released global baseline standards for climate and sustainability disclosures (IFRS S1 and S2), and has signalled it will tackle nature and biodiversity next. In fact, in 2025 the IFRS Foundation and TNFD signed a cooperation agreement to incorporate TNFD's work into future ISSB standards,[179] paving the way for unified nature-related financial disclosure requirements for companies worldwide. This is in line with Global Biodiversity Framework Target 15 on mandatory disclosure, which 190+ countries have signed up to.[180]

This means that in the near future, just as firms today must report material climate risks, they may be expected (or required) to report on material nature-related risks. Moving reporting from voluntary to mandatory (once standards are agreed) would be a game-changer, as it would drive internal corporate accountability and better risk pricing by investors.

4.2.2 Instruments to embed nature decisions

Integration must go deeper than disclosure, and influence management decisions and capital allocations.

1. Internal pricing – Some corporates and funds have introduced internal carbon prices; others are experimenting with "shadow prices" for water, land-use change, or waste. These tools are equally applicable to farmers, cooperatives, or land funds managing estates. For example:
    - A mining company in a water-scarce region might assign a high internal cost to water usage, making water-saving technologies economically attractive.
    - A consumer goods company might assign a notional price to land-use change or plastic waste, influencing design and sourcing decisions.
    - A regenerative land fund might shadow-price soil health to guide investment in soil restoration.

Nestlé applies internal shadow prices of $1–6 per m^3 of water in high-risk regions. This has shifted capital expenditure toward water-efficient technologies in plants in South Asia and Africa, reducing long-term operational and reputational risks. Though not yet widespread, these approaches show how corporate finance and project appraisal can evolve to account for natural capital constraints.

2. Management accounting – The concept of "natural capital management accounting" is emerging as firms attempt to quantify their stocks of natural resources or dependencies on ecosystem services in both physical and monetary terms. This can bring nature into investment appraisals, balance sheet considerations, and risk management. For farmers and IPLCs, such accounting translates directly into livelihood risk management; for corporates, it shapes strategic capital allocation; for financial institutions owning land, it influences asset valuations.
    - For instance, Kering has pioneered an environmental profit and loss (EP&L) account across all its brands. The EP&L revealed that most impacts lay upstream in raw material sourcing, prompting a shift in procurement strategy and investment in regenerative agriculture for cotton and leather. This has helped the group reduce supply chain risk and strengthen brand value.

[178] TNFD, "Over 500 Organisations and $17.7 Trillion AUM Now Committed to TNFD-Aligned Risk Management and Corporate Reporting," October 25, 2024, https://tnfd.global/over-500-organisations-and-17-7-trillion-aum-now-committed-to-tnfd-aligned-risk-management-and-corporate-reporting/.
[179] TNFD, "*IFRS Foundation and TNFD Formalise Collaboration to Provide Capital Markets with High-Quality Nature-Related Information*."
[180] Convention on Biological Diversity, "Kunming-Montreal Global Biodiversity Framework."

3. Supply chain applications – For non-financial corporates, sourcing and supplier standards are critical. Many companies have made zero-deforestation commitments or pledged to source certified sustainable commodities. The EU's deforestation-free supply chain regulation will make compliance mandatory, requiring traceability and auditing. Farmers and IPLCs can benefit from these shifts if supported with technology and finance. Zero-deforestation logic should be paralleled in the oceans by adopting time-bound, bottom trawling free, third-party-verified commitments for responsible seafood (wild capture and aquaculture), gear/bycatch standards, and supplier EPR for plastic and wastewater. For corporates, investing in monitoring and partnerships reduces reputational risk and safeguards long-term access to resources.

4.3 Finance: Invest in nature enhancing practices and use instruments that reward stewardship

Integrating natural capital is not only about managing risks – it also drives value creation and competitiveness. By investing in nature and using financial instruments that reward stewardship, land-stewards can safeguard future cash flows, open new revenue streams, and strengthen long-term resilience. This shifts natural capital from a peripheral concern to a boardroom and community priority. These innovations create value now, but widespread balance-sheet recognition still depends on pricing, assurance, and codification (as described in Chapter 5).

Examples of practices and instruments include:

- Regenerative agriculture – Farmers, cooperatives, and agribusinesses are investing in soil health as a productive asset, raising yields, lowering input costs, and improving resilience to climate shocks.

- Ecosystem insurance – Landowners and communities are piloting insurance products that finance ecosystem restoration after damaging events, recognising healthy ecosystems as natural risk mitigants. A related mechanism is parametric insurance, where payouts are triggered by events such as hurricanes – illustrated by coral reef schemes in Mexico and the Caribbean that fund immediate reef repair to maintain coastal protection.

- Biodiversity and carbon markets – Land managers and IPLCs are monetising restoration outcomes through biodiversity credits and nature-based carbon credits. If carefully governed, these markets can reward those who enhance ecosystem services.

- Sustainability-linked instruments – Corporates and land funds can access green bonds, sustainability-linked loans, and outcome-based financing that tie financial benefits directly to natural capital outcomes. For example, loan rates may step down if reforestation targets are met, or bond proceeds can be earmarked for watershed rehabilitation.

- New equity structures – Innovative models such as Natural Asset Companies (NACs) are advanced models seeking to monetise ecosystem stewardship directly, creating a true equity structure for firms that manage land or resources. This offers new ways for firms, farmers, and funds managing land to capture long-term value.

Box 19: Natural Asset Companies (NACs) seek to directly monetise ecosystem stewardship

The **New York Stock Exchange (NYSE) pilot with Intrinsic Exchange Group (IEG)** aimed to create listed companies whose primary assets are natural ecosystems (such as forests, wetlands, or farmland), with revenues derived from ecosystem services and stewardship. Though the pilot was paused in 2022 after political pushback in the US, it remains a key example.

A second example is **Costa Rica's exploration of NAC structures with IEG**, leveraging the country's extensive protected areas and track record in payments for ecosystem services to design investable equity vehicles tied to natural capital.

A third emerging case is **the Bahamas' Blue Carbon NAC initiative**, which is developing equity structures based on mangroves and seagrass ecosystems to attract private capital for conservation and restoration. Together, these examples illustrate the diversity of potential NAC applications – ranging from tropical forests to coastal ecosystems – and the ambition to scale equity financing for nature beyond traditional debt and grant models.

Together, these approaches show how private land-stewards across scales can use both practices and instruments to embed nature into their financing logic, making stewardship a source of growth, resilience, and competitive advantage.

4.4 Enable: Shape supply chains and markets to recognise and reward natural capital

Beyond their own operations, land-stewards can use their market power and relationships to ensure that natural capital is recognised and rewarded throughout value chains. By setting procurement standards, redesigning products, and engaging consumers, they can create ripple effects that extend well beyond their own balance sheets.

Key ways private land-stewards can enable others include:

- Procurement and supplier standards – Embedding nature-related criteria in contracts and purchasing decisions. For example, requiring suppliers to meet deforestation-free or sustainable sourcing standards ensures that ecosystems are protected throughout the value chain. Setting sourcing rules for marine supply chains (IUU-free, bottom trawling free, science-based catch limits, gear restrictions, traceability to vessel/farm), aquaculture water-quality thresholds, and plastic/wastewater discharge limits aligned with coastal ecosystem goals and 30×30 marine protection.
- Product design and labelling – Designing products with lower ecological footprints and providing transparent labelling that helps consumers make informed choices. This shifts demand toward nature enhancing goods and services.
- Disclosure and reporting – Voluntarily disclosing nature-related dependencies and impacts, even before mandatory rules take hold, builds trust with investors, customers, and regulators. Independent assurance of such disclosures can further strengthen credibility.

- Brand influence and partnerships – Using brand reach to shape norms and expectations, from promoting sustainable consumption to partnering with peers and NGOs to develop shared industry standards.
- Regulatory and market infrastructure – Regulators, auditors, and stock exchanges accelerate recognition of natural capital by tightening disclosure rules (e.g. ISSB/TNFD alignment), developing assurance pathways, and embedding listing requirements that integrate nature into financial market practices.

By enabling others in their value chains and markets to value natural capital, land-stewards amplify the impact of their own action. This not only reduces risks but also helps level the playing field, creating incentives for all actors who own or manage natural capital to move toward nature enhancing practices.

Private actors can bring nature onto their balance sheets by taking four concrete steps: valuing their dependencies and impacts, deciding with natural capital embedded in governance and strategy, financing practices and instruments that reward stewardship, and enabling change across their supply chains and markets. Together, these actions shift nature from a cost to an investment, building resilience and competitiveness for land-stewards – whether corporates, farmers, IPLCs, or financial institutions in their role as landowners – while supporting prosperity for society.

Yet even determined leadership by these actors will not be enough if nature remains invisible in financial markets, if data are fragmented, or if standards and incentives are inconsistent across jurisdictions. To scale change across the global economy, land-stewards need a supportive system – from investors and rating agencies to international accounting standards, disclosure frameworks, and government policy.

The next chapter therefore turns to the financial system as critical enabler, outlining how data, standards, financial institutions in their role as intermediaries, and global alignment can reinforce both public and private action and ensure nature is recognised as a core element of the global economy.

5 The financial system as critical enabler

Chapter 5 – What one needs to believe

- Financial intermediaries are integrating nature risk–return into underwriting, valuation, and portfolios.
- The financial sector can price natural capital, lowering firms' cost of capital and raising enterprise value through better stewardship.
- Natural capital strengthens markets – from private credit and insurance to sovereign bonds.
- Finance can standardise and scale new asset classes for nature.
- Regulators and central banks can embed nature into prudential rules, surveillance, and project standards, shaping incentives across finance and the real economy.
- Embedding nature into financial regulation and standards – prudential rules, sovereign instruments, and IFI performance standards – can create consistent incentives across financial markets.

Governments and private land-stewards can take direct steps to bring nature onto their balance sheets but systemic enablers are needed to accelerate and scale these efforts across the global economy. The financial system has a key role to play as the intermediary of capital – across banks, insurers, investors, stock exchanges, and credit rating agencies – that can embed nature into global finance through capital allocation, risk transfer, and market infrastructure.

Section 5.1 examines how financial intermediation can play this enabling role across capital allocation, risk transfer and insurance, market infrastructure and joint pledges, and through financial innovation. Section 5.2 turns to the rules of the financial system. It examines the role of international financial institutions, central banks and regulators, and finally standards disclosure and assurance in enabling in its turn the financial system to integrate natural capital.

5.1 Financial intermediation

Unlike corporates, farmers, or IPLCs, financial institutions do not always manage natural assets directly. Their core role is as **intermediaries**: allocating capital, transferring risk, and providing the market infrastructure that determines how natural capital is valued across the economy. (Where they directly own land or forests, their responsibilities are addressed in Chapter 4 alongside other land-stewards.) Recent IMF work shows how nature loss transmits macro-financial risks through growth, revenue, and balance-sheet channels, offering a blueprint for supervisors and markets to integrate nature into underwriting, valuation, and stress testing.[181]

5.1.1 Capital allocation

If companies are to put nature on their balance sheets, financial markets must also price it. Banks, insurers, and investors shape the cost of capital, the valuation of assets, and the allocation of risk – making their recognition of natural capital essential both to protect their own portfolios and to create the market context in which corporate reform can succeed. Just as public reform creates the enabling rules of the game, and corporate reform embeds nature into business strategy, financial institutions complete the picture by embedding natural capital into lending, portfolio construction, and investment decisions. Without this step, neither government measures nor corporate efforts will translate into durable shifts in capital allocation.

[181] Gardes-Landolfini, *Embedded in Nature: Nature-Related Economic and Financial Risks and Policy Considerations*.

Risk management is the key lever. Banks, insurers, and asset managers traditionally assess credit, market, and operational risks, but leading firms – often nudged by regulators – are beginning to incorporate nature-related risks into these frameworks. For example, Dutch and French regulators have piloted exercises examining how biodiversity loss could impact banks' loan portfolios (e.g. if a collapse in bee populations affected agricultural clients, or if new conservation regulations stranded certain assets).[182] The Network for Greening the Financial System (NGFS) has also warned that ignoring nature loss could undermine financial stability and recommends that financial institutions quantify and disclose these exposures.[183]

Some jurisdictions are even contemplating adjustments to prudential rules, similar to "green supporting" or "brown penalising" factors discussed in climate finance. These would mean higher capital requirements for loans that heavily impact nature, and lower ones for investments that enhance ecosystems.[184] Such measures could align prudential regulation with the real economy's dependence on ecosystems, reduce systemic risk, and shift portfolios toward sustainable natural capital stewardship.

5.1.2 Risk transfer and insurance

Insurers and reinsurers are uniquely positioned to recognise ecosystems as natural risk mitigants. Healthy mangroves, wetlands, and forests reduce flood, storm, and fire damages – yet these services rarely appear in underwriting models. A new generation of ecosystem insurance products is emerging that explicitly finances restoration or offers premium discounts where nature reduces risk.

Reinsurers are also beginning to explore how degraded ecosystems amplify catastrophe losses, with implications for global risk pooling. The Nature Conservancy and insurance partners have shown how coral reefs protect coastal assets worth billions of dollars annually.[185] Recognising ecosystems as part of the risk management infrastructure could transform both the insurance sector and incentives for conservation.

5.1.3 Market infrastructure

Market infrastructure actors – stock exchanges, credit rating agencies, auditors, and data providers – play a crucial role in embedding natural capital into the financial system. Listing requirements that integrate nature-related disclosure, or credit rating methodologies that factor in ecosystem degradation, directly affect the valuation of companies and sovereigns.

Ratings agencies can integrate nature risk by explicitly factoring ecosystem degradation and resilience into sovereign and corporate credit ratings, adjusting outlooks where nature loss undermines growth, fiscal stability, or debt repayment capacity. Agencies have begun to publish research on how environmental degradation can affect sovereign and corporate credit ratings, raising awareness that nature risk is financial risk.[186] One tangible reform under discussion is the integration of nature-related criteria into credit rating methodologies. If agencies systematically considered a country's or a company's dependence on natural capital, highly dependent economic activities with poor mitigation and resilience strategies would receive lower ratings, and vice versa. This would create strong incentives for governments to strengthen environmental protection.[187]

[182] Banque de France (2020). *Biodiversity and Financial Stability*.
[183] NGFS (2022). *Statement on Nature-Related Risks*.
[184] Basel Committee on Banking Supervision (2023). Exploratory paper on climate and nature-related capital requirements.
[185] Beck, M.W. et al. (2018). *The global flood protection savings provided by coral reefs.* Nature Communications.
[186] "Nature and Biodiversity," S&P Global, accessed August 26, 2025, https://www.spglobal.com/sustainable1/en/solutions/nature-and-biodiversity.
[187] Finance for Biodiversity, "Nature Loss in Sovereign Credit Ratings," NatureFinance, 2022, https://www.naturefinance.net/making-change/sovereign-debt/nature-loss-in-sovereign-credit-ratings/.

5.1.4 Pledges

Global capital markets and investors are aligning to reduce their exposure to nature risk through voluntary pledges. Large asset owners, including pension funds and sovereign wealth funds, increasingly subscribe to the Principles for Responsible Investment (PRI) which now encompass biodiversity. The Finance for Biodiversity Foundation's pledge commits to assessing and reporting nature-related risks in portfolios and engaging companies to reduce nature-negative impacts.

5.1.5 Financial innovation and new instruments

Beyond reallocating capital and adjusting risk management, financial institutions also play a vital role as innovators – designing new instruments that channel private and public investment into natural capital. These innovations can make stewardship investable at scale, create liquidity where nature has previously been invisible, and help bridge the gap between conservation needs and financial markets. For example:

- **Biodiversity and ecosystem credits.** While carbon markets have begun to monetise ecosystem services, new markets are emerging for biodiversity and watershed outcomes. For example, pilot biodiversity credit schemes are underway in Australia and Latin America, with credits tied to measurable ecological gains.[188] If carefully governed, these can provide reliable revenue streams to land-stewards, including IPLCs and farmers, who enhance ecosystem services.
- **Outcome-based bonds.** Instruments such as green, sustainability-linked, and outcome-based bonds – including debt-for-nature swaps – link financial terms directly to natural capital performance. Loan rates may step down if reforestation targets are met, or bond proceeds can be earmarked for watershed rehabilitation.
- **Natural Asset Companies (NACs).** A more radical innovation is the creation of new equity structures that directly monetise ecosystem stewardship. NACs, pioneered in the US, would allow investors to buy shares in entities whose core asset is natural capital, with returns linked to ecosystem outcomes rather than commodity extraction. Though controversial, such models highlight the potential for re-imagining corporate forms around nature stewardship.[189]

Together, these innovations demonstrate that financial institutions are not only intermediaries but also market-makers, creating the instruments through which natural capital can be valued, traded, and scaled.

[188] CreditNature & Pollination (2023). *Biodiversity Credit Markets: Unlocking Investment in Nature*.
[189] NYSE & Intrinsic Exchange Group (2021). *Natural Asset Companies Framework*.

5.2 Rules of the game

The financial system also depends on the rules set by international institutions, central banks, and regulators. These actors do not allocate capital directly, but they codify how risks are measured and how incentives are structured – making them crucial systemic enablers.

5.2.1 International financial institutions (IFIs and MDBs)

A priority is integrating natural capital into the mandates and operations of multilateral development banks (MDBs) and international financial institutions. These bodies – including the World Bank, IMF, regional development banks, and others – shape development trajectories through their financing and policy advice. Historically, nature conservation was often seen as separate from core development finance (addressed via specialised environmental funds or NGO grants). This is rapidly changing. Recognition is growing that investing in natural capital yields macroeconomic benefits and resilience, especially for countries dependent on agriculture, fisheries, or tourism.

The World Bank, for instance, has started highlighting the economic and fiscal payoffs of protecting nature: one analysis argues that achieving global biodiversity targets like protecting 30% of land and ocean could virtually eliminate the net economic cost by 2030 when ecosystem services are accounted for.[190]

However, to truly embed natural capital, these institutions need to look inward at their own processes: IFIs can update country diagnostic tools and debt sustainability frameworks to include natural capital. The IMF has begun discussing environmental risks in Article IV surveillance for vulnerable economies, and in 2021 it noted that biodiversity loss can pose material risks to fiscal sustainability and growth, suggesting sovereign risk assessments should factor in natural capital depletion.[191]

Current frameworks systematically treat investments in resilience – such as mangrove restoration, watershed protection, or soil conservation – as fiscal costs rather than productive investments, even though they generate measurable macroeconomic returns through avoided losses, enhanced productivity, and reduced fiscal volatility.[192] Reforming Article IV reports to incorporate natural capital would mean expanding baseline growth projections to account for the impacts of high-probability climate and nature risks, while also crediting the growth and stability benefits of resilience investments. This would align Article IV surveillance with debt sustainability frameworks that recognise natural capital as productive capital, enabling countries to make the case that borrowing for nature enhancing investments can improve long-term fiscal outlooks, strengthen creditworthiness, and lower financing costs.[193]

Another critical step will be to update the joint IMF–World Bank Low-Income Country Debt Sustainability Framework (LIC-DSF) to reflect nature-related risks and assets.[194] Today, the framework largely overlooks ecosystem degradation as a driver of fiscal distress and fails to account for resilience investments that strengthen long-term sustainability. Reforming the LIC-DSF would ensure that natural capital is systematically considered in debt negotiations and concessional finance decisions. There are also growing calls for the IMF and World Bank to treat nature-related shocks (like ecosystem collapse or natural disasters exacerbated by ecosystem loss) as legitimate grounds for debt relief or emergency financing, akin to how they respond to other exogenous shocks.

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[190] Johnson et al., *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*.
[191] "Comprehensive Surveillance Review," IMF, accessed August 26, 2025, https://www.imf.org/en/Topics/Comprehensive-Surveillance-Review.
[192] Nicola Ranger, *Integrating Nature into the IMF-World Bank's Debt Sustainability Framework for Low Income Countries: A New Systematic Approach to Nature-Economy Risk Assessment* (LSE, 2025).
[193] Bridgetown Initiative (2025), *Making the Case for Climate and Nature Resilience Investments: The Need to Revise Growth and Debt Sustainability Frameworks*
[194] Ranger, *Integrating Nature into the IMF-World Bank's Debt Sustainability Framework for Low Income Countries: A New Systematic Approach to Nature-Economy Risk Assessment*.

Likewise, MDBs can mainstream natural capital by embedding it in project appraisal, portfolio risk management, and country strategies. This means requiring natural capital accounting in cost–benefit analyses, using inclusive wealth metrics alongside GDP in country diagnostics, and treating investments in ecosystems as core infrastructure rather than environmental add-ons. MDBs can also integrate nature into their capital allocation frameworks, for example by linking lending terms to improvements in natural capital, and by scaling blended finance facilities that crowd in private investment for restoration and resilience. In doing so, they align development finance with long-term macro stability and debt sustainability.[195]

5.2.2 Central banks and regulators

Central banks and financial regulators at the global level are another crucial part of the architecture. The NGFS has already been mentioned; its work on nature has created the knowledge foundation for central banks worldwide to understand, assess and act on nature-related financial risks.[196] Prudential authorities' primary mandates revolve around price stability and financial stability, and many have concluded that climate change – and now nature loss – fall within those mandates due to their systemic impact. For example:

- Banque de France and De Nederlandse Bank have both published analyses on how biodiversity loss could threaten financial stability by reducing GDP and straining the insurance sector.[197] Building on this, an integrated nature-climate stress-testing framework is emerging. Recent research by LSE, Oxford University, the Financial Conduct Authority, the Green Finance Institute and HM Government concluded that environmental degradation could lead to a loss of UK GDP of 6–12% in the coming decade, which is amplified by climate change.[198] Half of that risk emerges from overseas, highlighting that it is insufficient for firms to consider only direct risks.

  This work is aiming to develop the next generation of stress tests and scenarios to enhance the resilience of the global financial system to climate and environmental risks.[199] The Earth Capital Nexus initiative,[200] now working with the European Central Bank to advance methodologies using asset-level data and high resolution satellite data to produce the first granular nature-related value at risk (nVaR), has found macro-critical risks related to water.[201]

- In 2024, a joint ECB–PIK study developed pilot scenarios where climate pathways and ecosystem degradation were modelled together using an integrated assessment modelling approach to assess implications for Europe's economy and banks.[202] One scenario imagined climate mitigation efforts without nature protection (leading to a "disorderly" outcome with continued biodiversity decline), and another envisioned coordinated climate and nature action (yielding an "integrated equilibrium" with better outcomes on both fronts).

Such exercises help central banks gauge potential credit losses, market shocks or sectoral contractions under varied nature/climate futures. As a result, central banks should make adjustments in monetary policy operations (e.g. tilting asset purchases toward nature-friendly activities), and banking supervision guidelines (e.g. requiring banks to conduct biodiversity risk analysis in certain loan portfolios).

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[195] Dasgupta, *The Economics of Biodiversity.*
[196] NGFS, "Nature-Related Risks," *Network for Greening the Financial System*, 2024, https://www.ngfs.net/en/what-we-do/nature-related-risks.
[197] "Climate, Nature and Sustainable Finance," Banque de France, accessed August 20, 2025, https://www.banque-france.fr/en/banque-de-france/engaged-central-bank/climate-nature-sustainable-finance; "Indebted to Nature," accessed August 20, 2025, https://www.dnb.nl/en/general-news/news-2020/indebted-to-nature/.
[198] Nicola Ranger, *Assessing the Materiality of Nature-Related Financial Risks for the UK* (Green Finance Institute, 2024).
[199] "Environmental Stress Testing and Scenarios," UK Centre for Greening Finance and Investment (CGFI), n.d., accessed August 26, 2025, https://www.cgfi.ac.uk/transition-risk/stress-testing-and-scenarios/.
[200] Earth Capital Nexus at the London School of Economics: https://www.lse.ac.uk/granthaminstitute/projects/earth-capital-nexus-ecn/
[201] Andrej Ceglar et al., *The European Economy Is Not Drought-Proof*, May 23, 2025, https://www.ecb.europa.eu/press/blog/date/2025/html/ecb.blog20250523~d39e3a7933.en.html.
[202] "Integrating Nature and Climate Risk Scenarios for the Financial Sector," Potsdam Institute for Climate Impact Research, accessed August 20, 2025, https://www.pik-potsdam.de/en/news/latest-news/integrating-nature-and-climate-risk-scenarios-for-the-financial-sector.

For example, central banks and supervisors could make it more expensive for banks to carry nature risk by integrating natural capital into the Basel framework, setting capital adequacy requirements – demanding higher buffers for higher nature-risk. Central banks and supervisors could adjust risk weights for loans and assets highly exposed to ecosystem degradation (e.g. deforestation-linked lending), while providing lower capital charges for investments in resilient, nature enhancing activities. This would align prudential regulation with the real economy's dependence on ecosystems, reduce systemic risk from nature loss, and create incentives for banks to shift portfolios toward sustainable natural capital stewardship.

Though still early, the inclusion of nature in the NGFS agenda signals that the highest levels of global financial governance are treating natural capital as relevant to core objectives, not just as a side issue. This represents a profound shift – comparable to when central banks began grappling with climate change as a financial risk a decade ago. The Nature Taskforce of the NGFS continues to convene central banks and leading scientists and economists to develop next generation models, methods and tools to strengthen the integration of nature within risk management practices.

5.2.3 Standards, disclosure and assurance

Measurement alone is insufficient; consistent standards, disclosure, and assurance are needed to make natural capital visible in markets. Just as financial reporting relies on International Financial Reporting Standards (IFRS), nature requires a common set of rules.

Several initiatives are converging:

- ISSB/IFRS Sustainability Standards are expected to expand beyond climate to include biodiversity and ecosystem services, creating a global baseline.
- TNFD (Taskforce on Nature-related Financial Disclosures) has published its recommendations, which are now being considered by regulators as the foundation for mandatory nature-related disclosures. TNFD has formalised a partnership with ISSB: its guidance will likely become part of formal accounting standards.
- IPSAS (International Public Sector Accounting Standards) sets standards for government accounting, and could integrate natural resource depletion into guidance on sovereign accounts, aligning public and private reporting.

Credibility requires assurance. KPMG's "True Value" and PwC's natural capital accounting pilots show how corporate accounts can be independently verified,[203] but systematic audit frameworks are still missing. Without trusted, independent assurance, nature-related reporting risks being dismissed as "greenwash."

As discussed in Chapter 4, mandatory disclosure is coming. The Kunming-Montreal Global Biodiversity Framework (Target 15) commits signatories to require large firms and financial institutions to disclose dependencies and impacts on biodiversity.[204] Early adopters, such as the EU through its Corporate Sustainability Reporting Directive (CSRD), are already moving in this direction, requiring companies to report on both climate and biodiversity.

As with climate, voluntary initiatives will need to consolidate into a global standard (such as ISSB), enforced through national regulation. Consistency, comparability, and credibility are what will ultimately allow natural capital to be priced into decisions.

[203] "True Value - KPMG Netherlands," KPMG, August 15, 2023, https://kpmg.com/nl/en/home/services/esg-and-sustainability-services/true-value.html.
[204] Convention on Biological Diversity, "Kunming-Montreal Global Biodiversity Framework."

Box 20: Risk markets move first

Financial markets are wired to respond to risk. This makes risk transfer, pricing, and regulation the first channels through which natural capital enters the financial system. Three frontiers show how risk markets can adjust to bring natural capital on the balance sheet:

(i) Prudential rules and stress tests

Central banks and supervisors are beginning to recognise that nature degradation can transmit into systemic financial risks. The Network for Greening the Financial System (NGFS) has set out a conceptual framework for nature-related financial risks, while the ECB and others have piloted climate–nature stress tests showing that loan portfolios are vulnerable to shocks such as pollinator collapse or soil erosion. The ECB has set a blueprint with the inclusion of a climate factor in the Eurosystem Collateral Framework – climate risk now impacts the value of assets posted at the ECB, and hence funding costs.[205] Prudential regulation will increasingly require banks and insurers to account for natural capital dependencies, shaping capital requirements and portfolio exposures.

(ii) Insurance premiums and parametric covers for ecosystems

Insurance markets are natural early movers. Premiums are already rising in sectors and geographies exposed to degraded ecosystems – from agriculture reliant on pollination, to coastal real estate without mangrove buffers. New products such as parametric insurance pay out directly when ecosystem thresholds are breached, and some pilots cover the restoration of natural defences as an insurable asset.[206] This reframes ecosystems as part of the risk pool: if they reduce disaster losses, they deserve a capitalised value in insurance models.

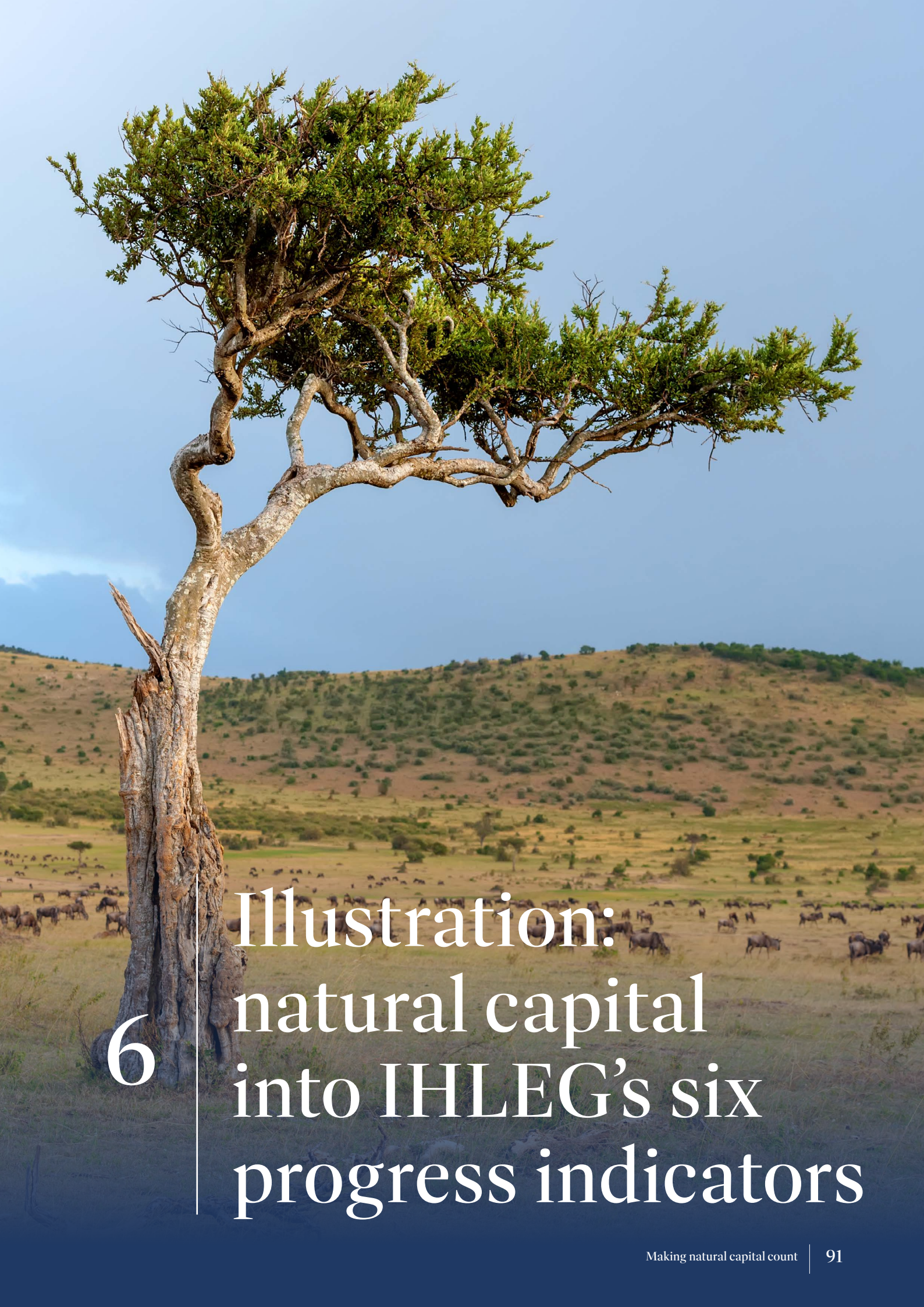
(iii) Ratings methodologies

Credit rating agencies are slowly integrating ecosystem dependencies into sovereign and corporate assessments. Where water scarcity, soil loss, or biodiversity decline undermine fiscal revenues or supply chains, ratings methodologies begin to reflect these risks.[207] That, in turn, feeds into borrowing costs and investor appetite. As methodologies standardise – often linked to disclosure frameworks like TNFD – capital markets will translate nature-related risk into spreads and valuations.

Design rule: *If it changes risk, it changes capital.*

Systemic change does not mean reinventing the wheel. What is missing is coherence and consistent incentives across the system. Natural capital can and must move from pilot projects into the core rules and plumbing of the financial system, integrating incentives across public budgets and investment and private markets. Chapter 6 illustrates how this integration can happen through IHLEG's six progress indicators, and the Call to Action sets out the concrete steps to get there.

[205] ECB, "ECB to Adapt Collateral Framework to Address Climate-Related Transition Risks," 2025, n.d., https://www.ecb.europa.eu/press/pr/date/2025/html/ecb.pr250729_1~02d753a029.en.html.
[206] Our Shared Seas, "Funding the Race to 30×30: Parametric Insurance," 2025, n.d. https://oursharedseas.com/wp-content/uploads/2025/05/oss-parametric-20250520.pdf?utm_source=chatgpt.com
[207] S&P Global, "Nature and Biodiversity." 2024, https://portal.s1.spglobal.com/survey/documents/SPG_S1_Nature_Bio_Risk_Methodology.pdf



6 Illustration: natural capital into IHLEG's six progress indicators

Chapter 6 – What one needs to believe

- Country-led investment planning – Integrate natural capital and SEEA accounts into national plans, spatial strategies, and public investment systems, so nature-positive projects enter early decision stages with full community engagement.
- Debt and fiscal policy – Build ecosystem condition into DSAs and fiscal frameworks; link nature to macro-fiscal models and deploy nature-linked sovereign instruments.
- Concessional finance – Use shadow pricing to direct funds to the highest-impact opportunities and design long-tenor, performance-linked structures for restoration and conservation.
- Multilateral development banks – Go beyond safeguards to embed natural capital into strategies and project preparation, accounting for system-level and transboundary benefits.
- Domestic resource mobilisation – Apply green budgeting, subsidy and tax reform, and treat restoration as public capital investment to strengthen fiscal space and net wealth.
- External private finance – bring natural capital into core financial decision-making to scale outcome-based instruments that monetise ecosystem services.

Natural capital is essential to economic stability. Previous chapters have shown this, and outlined how it can be valued and integrated into decision-making. But the question remains: how do we move from analysis to action? How do we move nature from pilot projects to mainstream economic and financial decision-making – improving pipelines, mobilising capital, and strengthening resilience.

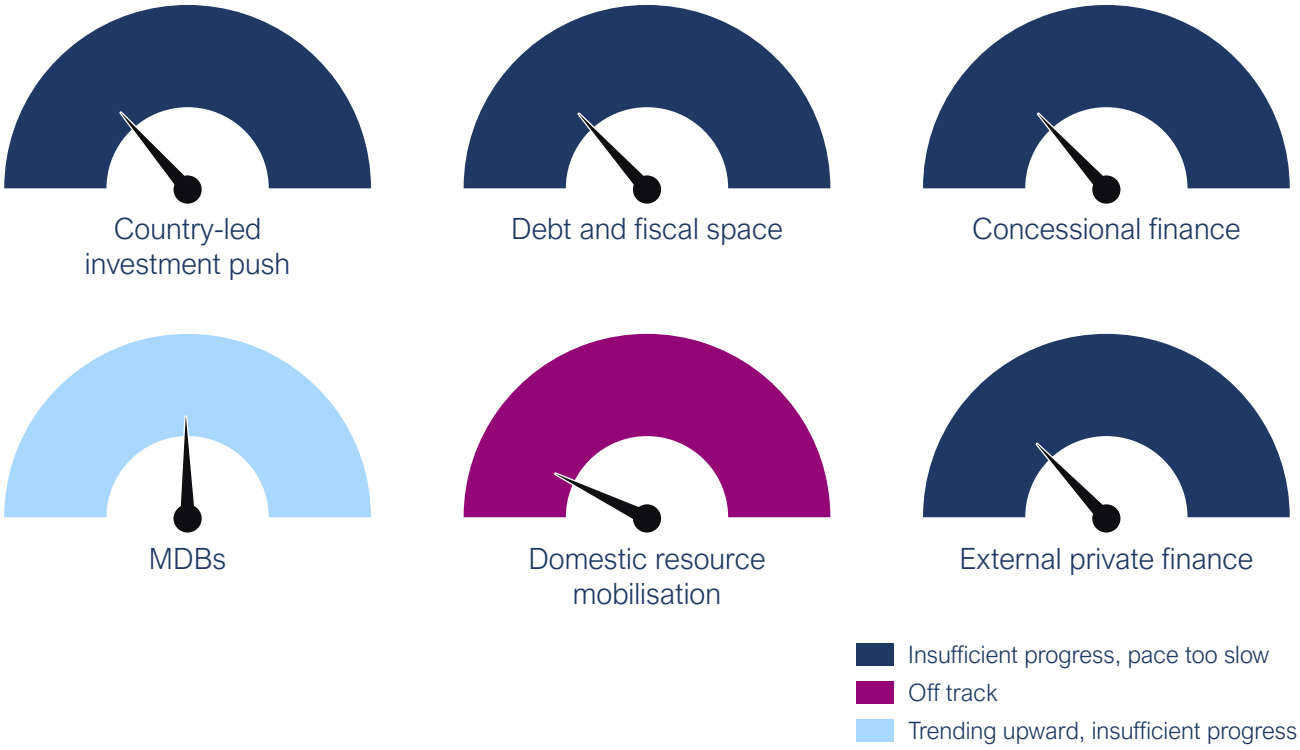
IHLEG's six progress indicators provide the bridge. These are the benchmarks through which governments, international institutions, and private finance can demonstrate real progress in aligning economic systems with climate and nature.

Embedding natural capital into these indicators is how it becomes part of the core systems. This means public investment planning, debt and fiscal policy, concessional finance, MDB operations, domestic resource mobilisation, and private capital markets all recognise nature as productive capital. By doing so, countries can expand pipelines of investable projects, lower borrowing costs, and attract more private investment. Equally, finance ministries and institutions gain stronger fiscal resilience, better risk management, and a clearer pathway to sustainable growth.

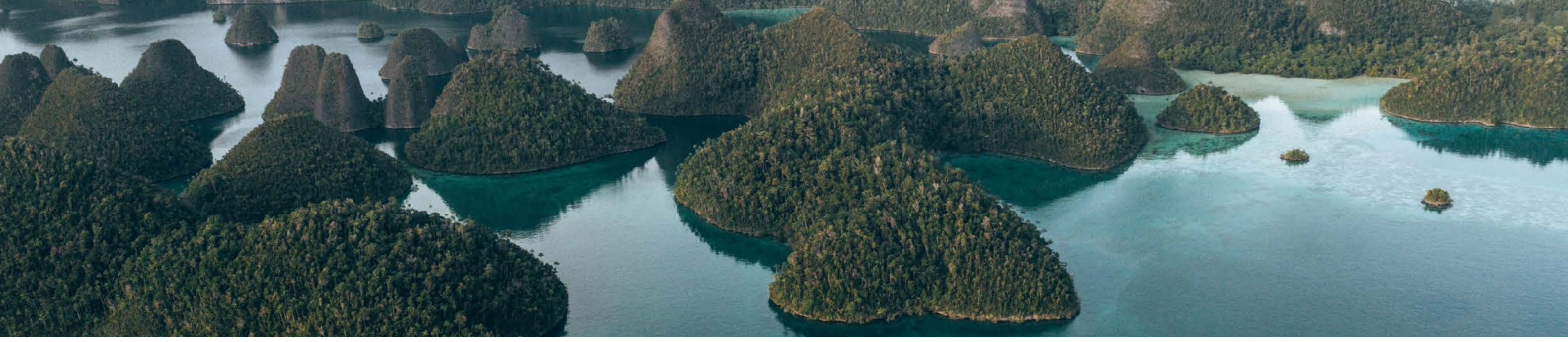
These recommendations fall within existing domains of competence across ministries of finance, planning, environment, and financial authorities. Yet as much as possible, they must be pursued in a coordinated manner and through whole-of-government approaches, since fragmented action will not capture the systemic value of natural capital.

This chapter shows how natural capital fits into each progress indicator, with practical shifts in how countries plan, finance, and govern their economies. The aim is not simply more finance for nature, but better systems that capture its value, safeguard prosperity, and strengthen long-term resilience. Each of these indicators is closely embedded in the global financial system and will require close collaboration of stakeholders across public and private institutions at global, national and local levels. For these progress indicators "engage" is core to how they value, decide and finance natural capital, rather than an additional ambition.

Figure 18. IHLEG State of Finance Delivery progress indicators[208]



[208] IHLEG, *The State of Delivery* (2024).



6.1 Country-led investment push

What this progress indicator is about

This progress indicator refers to how governments translate national climate and development priorities into investment decisions. It includes long-term strategies and development plans (e.g. NDCs, NAPs, LTS), sectoral or spatial plans and public investment management (PIM) systems. These processes structure how public funds are allocated, how development partners engage, and how pipelines of projects are prepared. If natural capital is excluded at this stage, it is unlikely to feature in downstream funding or implementation.

Where natural capital fits

Natural capital underpins core public objectives – from water and food security to infrastructure performance and disaster risk reduction. Yet in practice, ministries of finance and planning tend to see ecosystems mainly as sources of risk, rather than as productive assets that generate returns. By embedding natural capital into investment planning tools and data systems, governments can identify higher-return, lower-risk investments that build long-term resilience and inclusive growth.

Strategic shifts

- **Value – Integrate natural capital into investment diagnostics and planning tools**

  Many countries have begun compiling natural capital accounts under the UN System of Environmental-Economic Accounting (SEEA), but these are often too aggregated, too static, or not linked to sectoral and spatial datasets to directly inform investment decisions. The priority is to design SEEA accounts so they are policy-ready, disaggregated to the right geographic and sectoral level, updated regularly, and linked to the economic indicators used in national development planning, climate investment strategies, and spatial plans. This makes it possible for ministries of finance, planning, and sectoral agencies to use ecosystem data in setting priorities, identifying investment opportunities, and assessing trade-offs.

  Example: Indonesia's Low Carbon Development Initiative uses natural capital accounts to model alternative development pathways, showing that a greener growth trajectory can yield 6% annual GDP growth by 2045 while reducing emissions by 43% by 2030.[209]

- **Decide – Update public investment systems to systematically value nature-based options**

  Public investment systems – including cost–benefit analysis, fiscal screening, and project appraisal methodologies[210] – should explicitly capture the economic value of ecosystem services and the costs of degradation. This allows nature-based solutions to compete fairly with grey infrastructure and conventional projects in budget allocation.

  Example: China's gross ecosystem product (GEP) index integrates ecosystem service values into local government performance assessments, creating accountability for nature outcomes alongside GDP.[211]

[209] World Bank & Government of Indonesia (2020). *Low Carbon Development: A Paradigm Shift Towards a Green Economy in Indonesia.*

[210] While environmental impact assessments (EIAs) are common for large infrastructure projects, they typically assess compliance and mitigation at the project level, not the broader economic value of ecosystems. Natural capital accounting complements EIAs by embedding ecosystem values directly into upstream planning and investment diagnostics.

[211] National Bureau of Statistics of China (2023). *Gross Ecosystem Product (GEP) Accounting and Applications: National Technical Guidelines*.

- **Finance – Build cross-sector project preparation platforms for nature-aligned pipelines**

  Governments should establish platforms that link spatial planning, investment diagnostics, and financing strategies to prepare bankable, nature enhancing pipelines. This requires cross-ministerial coordination and early engagement with financiers and project developers to ensure alignment with macro-fiscal priorities and available capital instruments.

  Example: Costa Rica institutionalised inter-ministerial coordination through its national PES programme, aligning forest conservation with national development planning and enabling access to carbon and donor finance.[212]

Box 21. The SPACES approach – Linking natural capital data, planning reform, and investment mobilisation

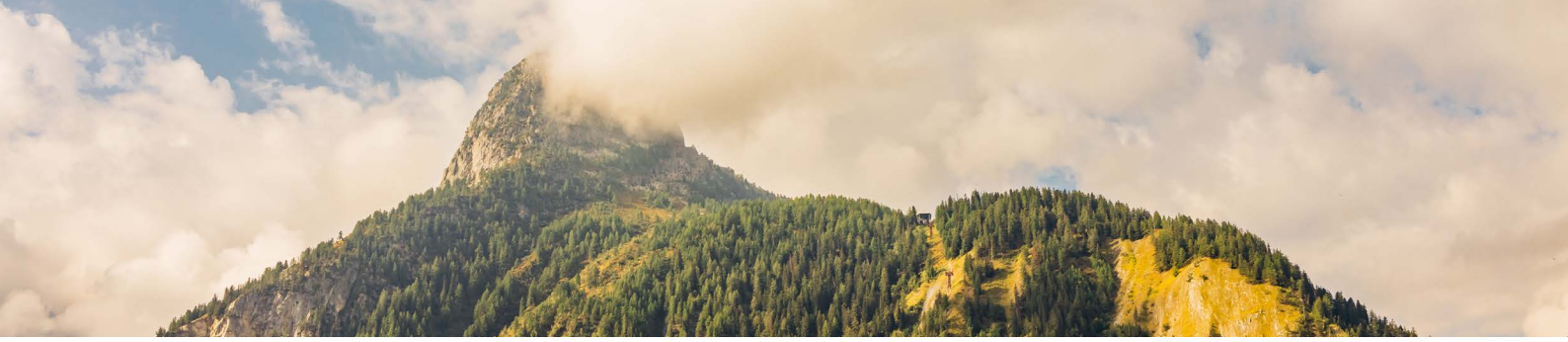
The SPACES initiative works with countries to integrate nature and climate into their economic planning and financing systems.

- **Value** – SPACES supports governments in delivering integrated spatial planning that aligns nature, climate, and economic development goals. It starts with a diagnostic that assesses ecosystem condition, financing, and regulatory contexts, creating a baseline assessment of natural capital to strengthen planning and enable nature's integration into national financial and sectoral strategies.
- **Decide** – The initiative helps embed natural capital into public investment systems and whole-of-government decision-making. This includes developing national land- and sea-use spatial plans, aligning economic and environmental objectives, and identifying investment opportunities and financing mechanisms that can deliver natural capital uplift and mobilise more and better finance.
- **Finance** – SPACES works with governments to prepare fully costed, investment-ready portfolios of nature enhancing projects, matched with financing strategies. This includes identifying potential instruments such as debt-for-nature swaps, high-integrity carbon markets, and Project Finance for Permanence (PFP) models, and connecting governments to public, concessional, and private investors.

How this accelerates delivery

Embedding natural capital in investment planning improves the scale, structure, and quality of national pipelines – critical for unlocking public and private finance. It ensures that nature enhancing projects enter early decision-making stages, improving the efficiency of concessional finance, reducing delays in project preparation, and increasing absorptive capacity. By shifting the logic of planning from short-term outputs to long-term wealth and resilience, governments create a more compelling, investment-grade narrative for climate and nature finance alike.

[212] OECD (2022). *Costa Rica's Payment for Ecosystem Services: Lessons for Scaling Up*.



6.2 Debt and fiscal space

What this progress indicator is about

Debt and fiscal space shape how governments borrow, budget, and sustain economic growth. Sovereign debt sustainability assessments (DSAs), credit ratings, and public accounting frameworks determine fiscal credibility and borrowing capacity. These systems form the "macro-fiscal backbone" for investment decisions, guiding how risks are priced and which expenditures are prioritised. Integrating climate and nature risks and investments into these systems is essential to build an accurate picture of countries' growth and debt sustainability trajectories.

Where natural capital fits

Ecosystem degradation – such as deforestation, land loss, or coastal erosion – is often driven by short-term economic incentives, from agricultural expansion to urban growth, but it also impairs productivity over time, deepens fiscal liabilities, and increases sovereign risk. Conversely, investing in natural capital enhances resilience, reduces disaster-related budget shocks, and supports long-term growth. The challenge is that the immediate gains from land conversion or resource extraction can appear more attractive than future benefits, particularly in fiscally constrained economies. But as shown in Chapter 1, the long-term economic costs of degradation far outweigh these short-term boosts to GDP. Recognising natural capital's macro-fiscal relevance is therefore essential to correct this systemic bias in public finance systems and ensure ecosystems are valued for the sustained revenues and fiscal stability they provide.

Strategic shifts

- **Value – Develop macro-relevant natural capital data for fiscal and debt analysis**

  SEEA-based natural capital accounts should be designed to link directly with macro-fiscal models and DSA inputs, providing data on how ecosystem trends affect GDP, exports, and fiscal balances. This requires aligning natural capital indicators with the variables used in debt modelling (e.g. agricultural productivity, hydropower output, disaster losses), and ensuring data is updated regularly enough to inform budget cycles. Baseline accounts should also quantify the economic returns of maintaining or restoring natural capital, so that these benefits can be incorporated into fiscal planning assumptions.

  Example: Grenada has incorporated climate and natural capital data into its Climate Resilience and Sustainable Development Plan, which serves as a reference for fiscal and debt management. SEEA-aligned data on coastal ecosystems, fisheries, and watersheds is linked to macroeconomic indicators in the Ministry of Finance's models, enabling the government to quantify how ecosystem degradation could affect GDP, exports, and fiscal balances. This evidence base informed Grenada's engagement with the IMF on incorporating climate resilience considerations into its DSA framework.[213]

[213] Government of Grenada (2022). *Climate Resilience and Sustainable Development Plan 2020–2035*. Ministry of Finance, St. George's.

- **Decide – Revise DSAs to capture climate and nature risks and investments**

  Sovereign debt sustainability analyses should integrate risks from natural capital degradation, which increases volatility in ecosystem services and amplifies climate vulnerability, as well as the productive effects of nature-based investments, such as forest protection, coastal restoration or climate-resilient agriculture. Baseline projections and stress test scenarios often underestimate climate and nature risks by assuming historical trends, ignoring their accelerating and non-linear nature. They also treat investments in ecosystem protection and restoration as fiscal liabilities, rather than assets that reduce risks and drive growth. Integration can begin with scenario-based sensitivity testing.[214]

  Example: There are several external models which produce scenarios about how climate and nature risks and investments impact growth and the fiscal balance over the short-to-medium term e.g. IMF DIGNAD, World Bank MANAGE, NatureFinance's FIMA, LSE's NVaR. Their outputs could be used in DSAs to inform scenario-based sensitivity testing. In IMF-World Bank DSAs, this approach has been applied in cases such as Grenada and Vanuatu, but it is not yet applied systematically.[215]

- **Finance – Deploy sovereign instruments linked to nature/climate performance**

  Nature-linked sovereign financing – like debt-for-nature swaps and sustainability-linked instruments – can align fiscal incentives with environmental outcomes. These instruments allow countries to reduce debt burdens and lower borrowing costs for protecting and restoring natural capital. More established state-contingent debt instruments – such as the World Bank's Cat DDO, sovereign insurance mechanisms and climate resilient debt-pause clauses – improve immediate debt sustainability after climate and nature shocks and build long-term resilience by stabilising key sector outputs and supporting natural capital investments.[216] Another direction worth exploring is integrating SEEA-based natural capital accounts into bond prospectuses, so that investors see how ecosystem trends link to fiscal performance and sovereign risk. This could provide a credible evidence base for sustainability-linked triggers and strengthens investor confidence.

  Example: Belize executed a debt-for-nature swap – repurchasing $553 million of its external debt at a 45% discount, reducing its debt stock by 12% of GDP. The savings allowed Belize to create an estimated $180 million in conservation funding over 20 years, and locked in commitment to protect 30% of its marine area.[217]

  Example: In the Philippines, green bond issuances have begun referencing environmental accounts and climate expenditure tagging in bond documentation, a model that could be expanded by directly embedding SEEA ecosystem accounts to link nature outcomes with fiscal performance.[218]

[214] Bridgetown Initiative (2025). *Making the Case for Climate and Nature Resilience Investments: The Need to Revise Growth and Debt Sustainability Frameworks*.
[215] Ranger, Pasqua and Adam (2025). *Integrating Nature into the IMF-World Bank's Debt Sustainability Framework for Low Income Countries*. Climate, Environment, and Nature (CLEAN) Helpdesk.
[216] Ranger, Pasqua and Adam (2025). *Integrating Nature into the IMF-World Bank's Debt Sustainability Framework for Low Income Countries*. Climate, Environment, and Nature (CLEAN) Helpdesk.
[217] https://www.nature.org/content/dam/tnc/nature/en/documents/TNC-Belize-Debt-Conversion-Case-Study.pdf
[218] Republic of the Philippines (2022). *Sustainable Finance Framework.* Bureau of the Treasury.

How this accelerates delivery

Integrating nature into DSAs and fiscal frameworks strengthens the investment case for adaptation and ecosystem protection. It enables governments to quantify the fiscal dividends of resilience – lower risk premiums, fewer budget shocks, and stronger growth – making it easier to access concessional finance, attract blended capital, and negotiate debt restructuring on more favourable terms. By reframing natural capital as a fiscal asset rather than a cost, these reforms unlock more affordable capital for resilience and help close the climate and nature investment gap. There are early signs that valuing and protecting natural capital can also enhance investor confidence in instruments tied to environmental outcomes. For example, in Belize, the Blue Bonds issued under its debt-for-nature swap received an Aa2 investment-grade rating thanks to DFC political risk insurance.[219] In Jamaica, Fitch Ratings stated that its Catastrophe Bond "significantly strengthens the country's natural disaster risk mitigation strategy", and that the structure of the new financing supported Jamaica's continued decline in debt-to-GDP.[220] Linking SEEA data and ecosystem outcomes to fiscal performance could further strengthen the case that caring for nature can lower borrowing costs.[221] Linking SEEA data and ecosystem outcomes to fiscal performance could further strengthen the case that caring for nature can lower sovereign risk premiums, but this needs further research.

[219] IMF (2022). *Belize: Swapping Debt for Nature*. IMF News Article, May 3, 2022.
[220] World Bank (2021). *Belize, Jamaica and Grenada: Catastrophe Bonds and Fiscal Resilience*. Includes Fitch Ratings commentary on Jamaica's Cat Bond.
[221] Columbia SIPA Center on Global Energy Policy (2022). *Can Debt-for-Climate Swaps Help Heavily Indebted Developing Countries Address Climate Priorities?*

6.3 Concessional finance

What this progress indicator is about

Concessional finance – including grants, below-market-rate loans, subordinated/junior debt, and guarantees – plays a vital role in correcting market failures and enabling investments in public goods. It is essential for catalysing nature enhancing investments that generate high societal returns but limited private cash flows. It also serves as a test bed for innovative financial structures and instruments that can later scale commercially. Concessional instruments also help to reduce risk and validate emerging business models, especially in low-income and vulnerable countries.

Where natural capital fits

Natural capital investments often deliver public goods – such as carbon storage, water regulation, disaster protection, and biodiversity conservation – that are not captured in market prices. As a result, many high-impact nature projects are commercially unviable without targeted support and therefore publicly funded. In addition, many conventional infrastructure and productive sector projects fail to account for the economic cost of nature loss they may cause. Correcting for this through concessional finance design – by recognising both the avoided damage to natural capital and the co-benefits of integrating nature – can shift investment decisions toward more sustainable outcomes. Concessional finance is critical to closing this value gap and enabling capital mobilisation into ecosystems with high climate, nature, and development relevance.

Strategic shifts

- **Value – Use shadow pricing to justify concessionality thresholds**

  Governments and development finance institutions should systematically apply shadow pricing – such as the social cost of carbon[222] or avoided disaster losses – to estimate the true economic value of nature-based projects. The same approach should be applied to projects where nature is not the primary objective (e.g. roads, ports, dams) to account for the economic cost of degrading natural capital. These valuations can inform the level and structure of concessional support required. For example, restoring mangroves to reduce flood risk or preserve fisheries may yield a 7:1 or higher benefit-cost ratio, even when private revenue is limited.[223] At the same time, care must be taken: in low-income and lower-middle income countries, where infrastructure investment is already scarce, applying shadow pricing could have the unintended consequence of making conventional but necessary projects (such as roads or ports) appear less attractive to foreign investors. This underscores the need to use shadow pricing not to block such investments, but to redesign them for lower ecological impact and to ensure concessional finance can offset additional costs.

[222] Both the United States and Canada already apply a federal shadow price on carbon emissions in cost–benefit analysis of public projects. For example, the U.S. Interagency Working Group on the Social Cost of Greenhouse Gases (2021) provides updated SCC estimates used in federal regulatory analysis; Canada applies a shadow price aligned with its carbon pricing trajectory in federal project appraisal.
[223] Global Mangrove Alliance (2023). *Innovative Finance for Coastal Resilience*.

- **Decide – Align concessional finance programmes with natural capital priorities and integrate nature valuation into all concessionality decisions**

  Blended finance should be strategically directed toward ecosystems where private finance alone is insufficient due to risk, externalities, or long payback periods. Public and philanthropic capital can absorb early-stage risks, while guarantees and concessional tranches improve the risk-return profile for private investors.[224] Focus areas include degraded lands, watersheds, coastal ecosystems, and dryland agriculture.[225] To activate this impact case, concessional finance programmes need to for example: (i) require the use of natural capital valuation in all project appraisals to determine eligibility and pricing of concessionality, and (ii) introduce performance criteria that reward sustained ecosystem outcomes over time, not just short-term outputs.

  Example: In Latin America and the Caribbean, programmes such as the IDB's Natural Capital Lab have piloted blended finance mechanisms that combine concessional loans, guarantees, and technical assistance to scale mangrove restoration, watershed protection, and regenerative agriculture.[226]

- **Finance – Develop long-term, performance-linked instruments for ecosystem protection**

  New concessional instruments can provide recurring, outcome-based payments for ecosystem conservation and restoration. These include results-based financing linked to deforestation rates, biodiversity outcomes, or ecosystem service metrics.

  Example: Brazil is proposing the Tropical Forest Finance Facility (TFFF), which would use concessional capital to pay countries per hectare of standing forest – penalising deforestation and rewarding long-term performance.[227]

  Example: Results-based payments under jurisdictional carbon crediting programmes provide long-term incentives for countries to reduce deforestation. These programmes blend concessional finance with private demand for high-quality carbon credits.[228]

How this accelerates delivery

Strategically deployed concessional finance enables bankable structures for ecosystem restoration and climate resilience, expands the pipeline of investable projects, and brings down the cost of capital. Integrating natural capital valuation into concessional finance design ensures that support is targeted to the highest-impact opportunities and avoids subsidising projects that erode ecosystems. It also allows countries to crowd in private finance where markets underprice risk or returns. By embedding natural capital into the design and targeting of concessional flows, governments and development partners can shift billions in climate finance toward more resilient and nature enhancing systems.

[224] Ensuring additionality is critical: concessional capital should only be used where it changes investment behaviour, not where private investors would have deployed capital anyway. Otherwise, it risks creating moral hazard and crowding out private finance rather than crowding it in.
[225] LSE Grantham Institute (2024). *Raising Ambition and Accelerating Delivery of Climate Finance.*
[226] Inter-American Development Bank (2023). *Nature-based Solutions in Latin America and the Caribbean: Financing Mechanisms for Regional Replication. IDB, Washington D.C.*
[227] Mongabay (2024). *Brazil's Tropical Forest Finance Facility Proposal.*
[228] Emergent (2023). *LEAF Coalition Overview and Results-Based Finance Mechanism.*

6.4 MDBs

What this progress indicator is about

Multilateral development banks (MDBs) play a central role in shaping development priorities and crowding in finance. Through their country strategies, policy dialogues with ministries of finance, technical assistance, safeguards, and investment rules, they influence both public and private capital flows. Because they operate at a multi-country and regional scale, MDBs are uniquely positioned to address the "commons" problem – valuing and financing regional and global public goods, such as large transboundary ecosystems, where the benefits are widely shared and no single country can fully capture the returns. Their scale of agency enables cost–benefit analyses to reflect system-level impacts, making investments in global commons more attractive.

Where natural capital fits

Ecosystems underpin the resilience and productivity of sectors that MDBs routinely support – agriculture, water, energy, infrastructure. Yet natural capital is often excluded from upstream diagnostics and project selection. The result is that MDB investments may overlook opportunities for cost-effective nature-based solutions, or even inadvertently finance degradation of critical ecosystems that underpin long-term development. Aligning MDB frameworks with natural capital accounting and valuation at both the country and system level can help scale nature enhancing investments and avoid maladaptation. Aligning MDB frameworks with natural capital accounting and valuation at both the country and system level can help scale nature enhancing investments and avoid maladaptation. MDBs also have a unique role in supporting finance ministries to integrate these considerations into country platforms, where policy and institutional reforms are critical to unlocking investment.

Strategic shifts

- **Value – Embed natural capital into country strategies and diagnostics**

  MDBs should systematically integrate natural capital considerations into Country Partnership Frameworks, Systematic Country Diagnostics, and policy-based lending. This includes incorporating SEEA-based natural capital accounts and ecosystem risk assessments and applying system-level cost–benefit analysis to capture the full economic value of regional and global commons. For example, restoring a shared watershed or protecting a transboundary forest may yield modest local returns, but large system-level benefits when the full set of downstream and cross-border impacts are accounted for. MDBs are often the only actors able to measure and finance at this scale.

  Example: The Inter-American Development Bank (IDB) launched a Natural Capital and Biodiversity Mainstreaming Action Plan (2024–2025), mandating integration of ecosystem services into country dialogues, knowledge products, and project pipelines.[229]

[229] IDB (2024). *Natural Capital and Biodiversity Mainstreaming Action Plan 2024–2025.*

- **Decide – Strengthen safeguards and investment criteria for nature-based co-benefits**

  MDB safeguards and appraisal processes should ensure that ecosystem degradation is avoided and that nature-based alternatives are seriously evaluated. This requires for example: (i) mandatory screening of all infrastructure projects against nature-based alternatives (e.g. mangroves vs. seawalls); (ii) explicit valuation of biodiversity and ecosystem service co-benefits in cost–benefit analysis; and (iii) no net loss requirements for critical ecosystems, ensuring restoration plans are embedded into financing terms. These reforms would prevent MDB capital from inadvertently financing degradation and instead direct flows toward projects that strengthen resilience.

  Example: The IFC's Performance Standard 6 requires clients to avoid and minimise impacts on biodiversity and ecosystem services, providing a strong precedent for safeguards aligned with natural capital.[230]

- **Finance – Support project preparation for nature-based investment pipelines**

  MDBs can use concessional windows, trust funds, and advisory services to help governments and sub-national actors develop pipelines of bankable nature enhancing investments. They are also well-placed to provide patient, long-term capital – critical for natural capital projects where returns accrue over decades rather than years. These might include restoration, ecotourism, sustainable forestry, or climate-smart agriculture. MDBs are uniquely able to finance public goods whose benefits are shared across boundaries, such as coral reef systems, migratory species habitats, or river basin management programmes.

  Example: The World Bank's PROGREEN platform supports nature-aligned project preparation and investment across over 40 countries, with a focus on forest and land restoration.[231]

How this accelerates delivery

By embedding natural capital into country platforms, upstream strategies, safeguards, and project preparation, MDBs can ensure that large-scale public finance is systematically directed toward nature enhancing outcomes. Their direct engagement with finance ministries gives them leverage to support policy and institutional reforms – such as subsidy reform, integration of SEEA data into planning, and green budgeting – that are indispensable to scaling investment. Their ability to operate at a transboundary scale and finance global commons allows them to unlock projects that individual countries or private investors would find unattractive under standard local cost–benefit approaches.

[230] IFC (2021). *Performance Standards on Environmental and Social Sustainability.*
[231] World Bank (2023). *PROGREEN Annual Report.*

6.5 Domestic resource mobilisation

What this progress indicator is about

Domestic resource mobilisation (DRM) refers to how governments and domestic private actors generate, allocate, and track capital. This includes tax systems, subsidies, budget processes, as well as local capital markets, pension funds, and private financial institutions. DRM is a critical enabler of climate and nature finance, especially in contexts of constrained fiscal space. Aligning DRM with ecological sustainability strengthens national ownership, reduces reliance on external funding, and improves long-term budget resilience.

Where natural capital fits

Today, many fiscal systems incentivise environmental degradation. Governments spend an estimated $1.7 trillion annually on subsidies that harm biodiversity, pollute ecosystems, or encourage unsustainable resource use.[232] At the same time, environmental taxes and green budget allocations remain limited. On the private side, most domestic capital still flows to conventional infrastructure and resource-intensive sectors, while very little is channelled toward ecosystem restoration or sustainable land use. Strengthening regulatory frameworks, disclosure, and risk pricing can redirect domestic banks, pension funds, and insurance companies toward nature enhancing investment. Integrating natural capital into financial systems allows countries to correct price signals, improve public spending efficiency, and channel domestic funds into ecosystem restoration, resilience, and inclusive growth.

Strategic shifts

- **Value – Institutionalise green budgeting and natural capital accounting**

  Governments should track nature enhancing and nature depleting spending and incorporate SEEA-based accounts into national budget systems. Budget proposals should be screened for environmental impact, and expenditure tagged for transparency.

  Example: The Philippines passed the PENCAS Act (2024), which mandates the compilation and use of natural capital accounts in budget planning, allocation, and reporting.[233]

  Example: The Governance for Resilient Development in the Pacific programme (Gov4Res) works with local and national governments and regional organisations in the region. The programme aims to mainstream resilient development into the government systems that are responsible for planning, financing and overseeing development. In doing so, it has a particular focus on gender equality and social inclusion. Outputs under this project include the introduction of climate budget tagging in Fiji, Solomon Islands and Tuvalu. It also includes a capacity building component to support the integration of risk informed development into the budget development process. The project is being implemented by UNDP, with funding committed from Australia, Korea, New Zealand, Sweden and the United Kingdom.[234]

[232] UNEP (2022). *State of Finance for Nature in Policy.*
[233] Government of the Philippines (2024). PENCAS Act.
[234] OECD (2024). *Climate Adaptation Investment Framework: Policy Highlights.* Paris: Organisation for Economic Co-operation and Development. Available at: https://www.oecd.org/climate-adaptation-investment-framework

- **Decide – Align subsidies and taxes with ecological outcomes**

  Harmful subsidies (e.g. for overfishing, land conversion, or fossil fuel use) should be phased out and redirected toward regenerative activities.[235] Environmental taxes (e.g. pollution levies, carbon pricing, resource royalties) can be scaled to internalise ecological costs.

  Example: New Zealand's Wellbeing Budget integrates environmental indicators into budget decisions and uses intergenerational analysis to support longer-term, nature-based investments – making harmful subsidies more difficult to justify.[236]

  Example: Kunming-Montreal GBF Target 18 commits to reducing harmful subsidies by at least $500 billion per year.

- **Finance – Treat ecosystem restoration as public capital investment**

  Public spending on restoration (e.g. of watersheds, mangroves, or degraded lands) should be treated as capital formation, not recurrent costs. This reframing enables sustained financing, budget protection, and alignment with infrastructure strategies. On the private side, mobilising domestic institutional investors (such as pension funds and insurance pools) into green bonds, blended vehicles, and local nature-based enterprises can expand the pool of investable domestic resources.

  Example: Costa Rica integrates its national payments for ecosystem services (PES) scheme into public expenditure frameworks, supporting forest conservation as part of green infrastructure.[237]

How this accelerates delivery

Aligning tax and budget systems with ecosystem values allows governments to mobilise more sustainable domestic finance while improving fiscal efficiency and resilience. At the same time, aligning private domestic capital markets with ecological sustainability can unlock a steady, locally anchored source of investment for nature enhancing projects. It also supports country platforms and national climate investment strategies by making public spending greener, more transparent, and more effective. In the IHLEG framework, this enabler is crucial for increasing fiscal ownership and strengthening public investment systems at the heart of long-term climate finance delivery.

[235] International Institute for Sustainable Development (2025). *Environmentally Harmful Subsidies Reform: Breaking the $1.8 Trillion Habit*. IISD, February 2025.
[236] NZ Treasury (2023). *Wellbeing Budget Framework*.
[237] OECD (2022). *Costa Rica's Payment for Ecosystem Services: Lessons for Scaling Up*.

6.6 External private finance

What this progress indicator is about

Private finance accounts for the majority of global financial flows. Mobilising it for nature and climate goals requires reliable data, investment-grade structures, and a regulatory environment that aligns incentives. This enabler focuses on how to bring natural capital into core financial decision-making, enabling risk-adjusted returns and crowding in private capital at scale.

Where natural capital fits

Private actors – including banks, insurers, and corporates – both depend on and impact ecosystems, but these linkages are typically invisible in financial accounts. Without clear signals, nature-related risks remain mispriced, and opportunities for investment in ecosystem services go unrealised. Integrating natural capital into corporate reporting, prudential regulation, and investment vehicles is essential for realigning capital flows with long-term resilience and growth.

Strategic shifts

- **Value – Align corporate disclosure with national ecosystem data**

  Corporate sustainability disclosures should reflect dependencies and impacts on natural capital using standardised frameworks that interface with government data systems. Alignment between corporate reporting (e.g. TNFD, ISSB) and national natural capital accounts (SEEA) creates a shared evidence base for investors, regulators, and governments, enabling better investment analysis and policy coordination.

  Example: The Taskforce on Nature-related Financial Disclosures (TNFD) integrates SEEA-compatible ecosystem classifications into its LEAP approach, enabling companies to report on nature dependencies in ways aligned with national accounts.[238]

- **Decide – Embed nature-related risk and opportunity into financial regulation and market standards**

  This is one of the most powerful levers for shifting private capital. Regulators, stock exchanges, and financial supervisors should require disclosure of nature-related risks, integrate natural capital into stress testing, and adjust capital adequacy rules to reflect environmental exposure. They can also embed natural capital into credit rating methodologies, collateral frameworks, and listing requirements, directly shaping the cost of capital. This creates a level playing field for companies that invest in ecosystem stewardship and ensures markets systematically price nature-related risks and opportunities. Reforms can also address structural barriers such as short investment horizons and lack of credit for nature enhancing business models, enabling private capital to flow toward long-term resilience.

  Example: The European Central Bank's climate stress tests have begun to integrate physical risk exposure to climate impacts; similar approaches can be expanded to include ecosystem degradation and biodiversity loss as material financial risks.[239]

[238] TNFD (2023). *Recommendations v1.0*.
[239] European Central Bank (2023). *Managing and mitigating climate and environmental risks*. Available at: ECB supervisory guidance on climate-related stress testing and integration of environmental risks into monetary policy frameworks.

- **Finance – Develop and scale financial instruments that monetise ecosystem services**

  Innovative investment vehicles such as Natural Asset Companies (NACs), and nature performance bonds create investable structures tied to the value of ecosystem services. Performance-based structures can channel capital to restoration, conservation, and sustainable production systems.

  Example: In Mexico, a parametric insurance scheme insures sections of the Mesoamerican Reef, paying out after storms to fund coral restoration – recognising reefs as protective infrastructure.[240]

How this accelerates delivery

Embedding natural capital in private finance standards and products strengthens the risk-adjusted case for investing in nature. By shifting prudential rules, credit ratings, and disclosure requirements, regulators can directly influence capital allocation and reduce financial system exposure to nature-related risks. These reforms unlock new investable asset classes and help ensure external private finance contributes to resilient growth.

[240] WEF (2022). *Blueprint for Coral Reef Insurance and Resilience Finance.*

7 Call to action: making natural capital count

Chapter 7 – What one needs to believe

- Every economic and financial decision-maker can act now: methodologies, tools, and data are already sufficient.
- International enablers can accelerate uptake:
  - Shared open-access infrastructure for data, investment typologies, and shadow pricing lowers costs and broadens adoption – demonstrating the right return on investments
  - Decision-ready tools should be applied creatively – learning by doing is better than waiting for perfection
  - Global alignment is essential to steward global commons, notably the three great tropical forest basins.

The message of this report is stark. The tools to value and account for nature exist, yet they are barely used in the decisions that matter most. Over ninety countries have compiled some aspect of the System of Environmental-Economic Accounts (SEEA), but ministries of finance seldom use them in budget planning. Companies commit to disclosure frameworks like TNFD, yet investors rarely adjust the cost of capital based on biodiversity risks. Debt sustainability analyses model commodity prices and natural disasters, but not the accelerating losses of soil fertility, water security, or forests. The result is that ecosystems continue to degrade, while the balance sheets of nations and firms carry hidden liabilities.

Chapter 6 of this report shows progress across six enabling conditions – in data, regulation, sovereign instruments, MDB operations, domestic resource mobilisation, and private finance. But it also shows how limited and fragmented these advances are. Each indicator points in the right direction, but collectively they remain insufficient. The common thread is clear: natural capital data and valuation methods are not yet designed or mandated to drive investment allocation. They sit in statistical offices and corporate ESG reports, not in fiscal frameworks or capital markets.

Unless this changes, the world will continue to lose wealth at catastrophic scale. The natural capital crisis is accelerating. The World Bank warns that if key ecosystem services collapse, global GDP could fall by $2.7 trillion by 2030.[241] Crop losses from declining pollinators already threaten food security worth $577 billion annually.[242] Two-thirds of the oceans are under pressure, and 40% of humanity lives on degraded land.[243] These are not environmental anecdotes; they are fiscal and financial shocks in waiting.

If we are serious about closing this gap, the next stage cannot be more pilots or voluntary frameworks. Progress is emerging, but too slowly and too piecemeal. What is needed are structural institutional reforms that cascade through the financial system, making natural capital inescapable in economic decisions. To close the gap, four systemic shifts are needed:

[241] United Nations Statistics Division (2023). *System of Environmental-Economic Accounting: Global Implementation Progress*. UN.
[242] World Bank (2021). *The Economic Case for Nature: A Global Earth-Economy Model*. Washington, DC.
[243] Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review.* HM Treasury.

1. Build shared infrastructure

The starting point is to create a common foundation that makes natural capital visible, consistent, and comparable across countries and firms. For example:

- Agree typologies for natural assets and ecosystem services so data can be compared across ministries, markets, and sectors. Consolidate SEEA accounts, shadow prices, and ecosystem risk indicators, accessible to governments, investors, and regulators further.
- Build upon global natural capital databases and software: a shared platform including the NatCap Data Hub, InVEST, the OECD Policy Instruments for the Environment (PINE) database, FAOSTAT, and ENCORE and connect outputs directly to fiscal and credit decisions (including zoning, budgeting, and underwriting).
- Standardise shadow pricing methodologies – building on Capitals Coalition and IFVI efforts on integrated decision-making and valuation, including through standardised use of impact and dependency pathways and value factors for core ecosystem services (e.g. pollination, water regulation, flood protection), akin to the "social cost of carbon". This allows consistent valuation in public cost–benefit analyses and corporate appraisals.

2. Turn valuation into decision-ready insights

Natural capital accounting and similar sources that help quantify and qualify the value of nature are not enough – they must be turned into insights that can directly inform economic and financial decisions across the public and private sectors.

- Public sector: SEEA-based accounts should be upgraded so they are decision-ready: with indicators that speak to policymakers, produced on timelines that match budget and debt cycles, disaggregated sectorally and regionally, and explicitly linked to macro-fiscal variables such as GDP, fiscal balances, and debt sustainability. The Philippines' PENCAS Act offers a model: making ecosystem accounts legally binding in planning and budgets. In addition, country platforms need hectare-level integrity data, a standard EII-based shadow price library, and an open registry linking projects, budgets, and MRV – creating the backbone for consistent, decision-ready application.
- Private sector: Firms should integrate updated natural capital accounts and internal prices that include impact and dependency data into capital allocation, procurement, and risk management. Tasmania's Forico shows what this looks like: annual natural capital reports independently assured and embedded in board-level decisions and bond issuance.

3. Broadcast and amplify proof points where valuing nature pays off

The strongest signal that natural capital matters is when those who protect it benefit directly. Proof points emerge when actors take action and are rewarded with better fiscal terms, lower capital costs, or more reliable revenues. A few illustrative stories:

- A finance minister chooses to integrate ecosystem accounts into budget planning. By showing how wetlands reduce flood losses or how soils sustain productivity, the government strengthens its fiscal outlook. Investors respond with greater confidence and offer lower borrowing costs on new bonds.
- A city authority invests in restoring natural buffers instead of relying only on grey infrastructure. Over time, the city faces fewer disaster recovery bills, sees reduced insurance premiums for public assets, and gains fiscal space to invest elsewhere.
- A company board decides to publish assured natural capital accounts alongside financial statements. By demonstrating stewardship, the firm secures sustainability-linked loans at reduced interest rates and attracts investors seeking resilient assets.

- A project developer embeds ecosystem valuation into project design – for example, quantifying the avoided flood damages from mangrove restoration. This makes the project more attractive to financiers, who provide concessional capital or premium pricing, lowering the cost of delivery.
- An asset owner puts nature explicitly on their balance sheet, recognising restored forests or watersheds as productive assets. This recognition strengthens the asset base, improves access to credit, and reassures investors of long-term resilience.

While it is important to broadcast successes, it is equally vital to recognise that not all mechanisms deliver perfectly in practice. Mixed outcomes – for example, from debt-for-nature swaps – highlight the need to take what works, refine what doesn't, and continue experimenting so that mechanisms evolve into more effective and scalable solutions.

4. Align globally

Nature does not know boundaries and in many cases cannot be solved within the boundaries of national policy or corporate management along. The global commons are the clearest example of nature pushing against the limits of public and private decision-making. Institutional governance at the international level means forums like the G20, UN, and international standard-setters must explicitly consider nature in their agendas.

- MDBs and the IFIs (such as IMF) can lead by integrating natural capital into country diagnostics, debt sustainability frameworks, and investment appraisals, treating ecosystems as productive infrastructure.
- Central banks and regulators – through the NGFS and Basel framework – can incorporate nature into stress tests and prudential rules, steering financial flows toward resilience.
- Capital markets and ratings agencies must price nature risk explicitly, ensuring that creditworthiness and asset values reflect ecosystem dependencies and vulnerabilities.

Embedding nature consistently across national policy, international rules, and corporate and financial markets, so that investment and business decisions worldwide protect rather than erode nature.

Each of these stories shows how valuing nature is not just a reporting exercise – it delivers concrete fiscal and financial rewards. As more proof points accumulate, ministries, firms, financiers, and communities alike will see that protecting ecosystems is a pathway to resilience and competitiveness, not a cost to be deferred.

These shifts – first creating a shared foundation, then making valuation decision-ready, building proof points where valuing nature pays off, and finally creating global alignment – can create cascading change. When SEEA data and shadow prices are more consistent and accessible, they can start to inform fiscal and financial choices alongside other core indicators. And as examples accumulate of governments, firms, and communities benefiting directly from integrating natural capital, protection of ecosystems will shift from being seen as optional to being recognised as a driver of resilience, competitiveness, and fiscal stability.

This is not a plea for "valuing nature" outside economic consideration. It is a call to rewire the global financial system so that degradation shows up as risk and healthy ecosystems show up as resilience. Just as post-war leaders built the Bretton Woods institutions to stabilise a collapsing world, we now need a systemic redesign to stabilise the natural foundations of our economies.

The alternative is clear: hidden ecological liabilities will keep piling up until they erupt as sovereign crises, food shocks, and financial instability. The cost of inaction will dwarf the cost of reform.

Making Natural Capital Count

An investment agenda

Center for Global Commons & Systemiq

September 2025