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Navigating Nature-Related Regulations for Banks

Mapping the policy landscape

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Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Economic Affairs SECO

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About

United Nations Environment Programme Finance Initiative (UNEP FI)

UNEP FI brings together a large network of banks, insurers and investors that collectively catalyses action across the financial system to deliver more sustainable global economies. For more than 30 years the Initiative has been connecting the UN with financial institutions from around the world to shape the sustainable finance agenda establishing the world's foremost sustainability frameworks that help the finance industry address global environmental, social and governance challenges. Convened by a Geneva, Switzerland-based secretariat, more than 500 banks and insurers with assets exceeding USD 100 trillion are individually implementing UNEP FI's Principles for Responsible Banking and Principles for Sustainable Insurance. Financial institutions work with UNEP FI on a voluntary basis to apply the sustainability frameworks within their industries using practical guidance and tools to position their businesses for the transition to a sustainable and inclusive economy.

World Wide Fund for Nature (WWF) and Greening Financial Regulation Initiative

WWF is one of the world's most respected and experienced conservation organisations, with more than five million supporters and a global network active in more than 100 countries. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which people live in harmony with nature. WWF has worked with the finance sector for more than a decade through innovative collaborations that seek to integrate environmental, social and governance (ESG) risks and opportunities into mainstream finance, to redirect financial flows in support of the global sustainable development agenda. Through its Greening Financial Regulation Initiative (GFRI), WWF engages specifically with central banks, financial supervisors and insurance regulators on the need to fully integrate climate and environmental risks into mandates and operations. For more information, visit panda.org/gfr or contact us at gfr@wwf.ch

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Acronyms

AIBIM	Association of Islamic Banking and Financial Institutions Malaysia
APAC	Asia Pacific
ASEAN	Association of Southeast Asian Nations
BCB	Banco Central do Brasil
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BFP	Biodiversity finance plans
BNM	Bank Negara Malaysia
BSP	Bangko Sentral ng Pilipinas
CSDDD	Corporate Sustainability Due Diligence Directive
CSRD	Corporate Sustainability Reporting Directive
DNB	De Nederlandsche Bank
DNSH	Do no significant harm
EBA	European Banking Authority
ECB	European Central Bank
EO	Environmental objective
ESAP	European Single Access Point
ESG	Environmental, social and governance
ESRS	European Sustainability Reporting Standard
FINMA	Eidgenössische Finanzmarktaufsicht
FSB	Financial Stability Board
GAR	Green asset ratio
GBF	Kunming-Montreal Global Biodiversity Framework
GFI	Green Finance Institute
GFRI	Greening Financial Regulation Initiative
GRI	Global Reporting Initiative
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
ISSB	International Sustainability Standards Board
MEA	Middle East and Africa

NBS	Nature-based solutions
NBSAPs	National biodiversity strategies and action plans
NGFS	Network for Greening the Financial System
OECD	Organisation for Economic Co-operation and Development
PPP	Periodic penalty payment
SARB	South African Reserve Bank
SBTN	Science Based Targets for Nature
SME	Small- and medium-sized enterprise
SREP	Supervisory review and evaluation process
SUSREG	Sustainable Financial Regulations and Central Bank Activities
TNFD	Taskforce on Nature-related Financial Disclosures
TSC	Technical screening criteria
UNDP	United Nations Development Programme
UNEP FI	United Nations Environment Programme Finance Initiative
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
WWF	World Wide Fund for Nature

Contents

Executive summary

The Kunming-Montreal Global Biodiversity Framework (GBF) highlights that the financial sector has a critical responsibility in achieving the overall ambition to halt and reverse biodiversity loss by 2030 and live in harmony with nature by 2050. As was seen at COP16 in Colombia in 2024, banks and the wider financial system have taken important steps in the two years since the GBF was adopted (UNEP FI, 2024b). The path forward demands that financial institutions take an active role in delivering on the biodiversity commitments set forth. While banks have a unique role to play in supporting the economy to become nature positive, it is also dependent on coordinated actions and responses across both the private and public sector. As the pace of new regulatory initiatives picks up globally, regulatory uncertainty around nature-related issues is a key challenge for the financial sector (GARP, 2024). Making sense of recent regulatory developments, and how the broader policy frameworks work together, will support banks in anticipating and navigating this rapidly changing regulatory environment.

This publication is a resource for banks to understand the latest regulatory developments on nature-related issues, and for government policymakers to consider ways to promote coherent and effective nature-related policies for the banking sector. The primary focus of the report is nature loss—for example, risks arising from ecosystem degradation (physical risk) as well as from economic activities that don't align with protecting and restoring nature (transition risk). As the twin threats of nature loss and climate change are inextricably linked, there is widespread agreement that an integrated approach should be taken to address climate change and nature loss together where feasible (IPCC-IPBES, 2021). This publication provides an overview of global nature-related initiatives across prudential regulation and the wider policy enabling environment.

Central banks and supervisors are starting to acknowledge the necessity of tackling nature-related financial risks as part of their prudential mandate. The primary objective of prudential supervision for banks is to promote the safety and soundness of banks and the financial system overall. As nature loss can alter the value of assets and impact operations and processes, it can have a material impact on the financial soundness of households and companies and, in turn, banks and financial stability—which relates to the core objective of prudential mandate (NGFS, 2024; IMF, 2024b). For central banks and supervisors, this means taking nature loss into account in the pursuit of their monetary policy and supervisory objectives (Elderson, 2024b). This report shows that at least 29 jurisdictions totalling more than EUR 75 trillion of banking assets around the world have started reflecting nature-related considerations in their prudential frameworks. Some of these jurisdictions are so-called megadiverse countries, namely those exhibiting great biodiversity. From the 13 megadiverse jurisdictions in scope of this report, roughly half have made at least initial steps in reflecting nature-related considerations in prudential regulation.

Prudential regulation does not act in isolation—it is part of a wider system of rules, standards and regulation that depend on and inform each other. The financial sector's ability to manage nature-related (financial) risks will depend on a broad coalition of coherent policies that address the interplay between the real economy, banks, and the financial system. It is therefore important to understand how prudential regulation interacts with the wider "policy enabling environment" that includes, amongst others:

- **Taxonomy frameworks** to establish a classification system for defining how economic activities can be considered environmentally sustainable.
- **Corporate disclosure frameworks** to enhance transparency and comparability of corporate disclosures, helping actors to make informed decisions.
- **Corporate due diligence frameworks** to enhance corporate transparency and accountability along their operations and value chains.

The main objectives of the nature-related policy landscape for banks are to help stop and reverse nature degradation and the loss of ecosystem services, and to ensure that the global financial system remains resilient in view of the financial risks arising from nature loss. Where central banks and supervisors remain within the boundaries of their prudential mandate, the Global Biodiversity Framework promotes a synergistic and coherent policy response to nature loss across all levels of government and society ("whole-of-government-and-society approach"). This requires coherent, long-term policy commitments with proportionate measures and effective incentives across the policy landscape globally. National biodiversity strategies and action plans (NBSAPs) can be a useful way to lay out national strategies to embed these nature-related objectives across policies for different economic sectors. Figure A provides a schematic representation of the nature-related policy system for banks.

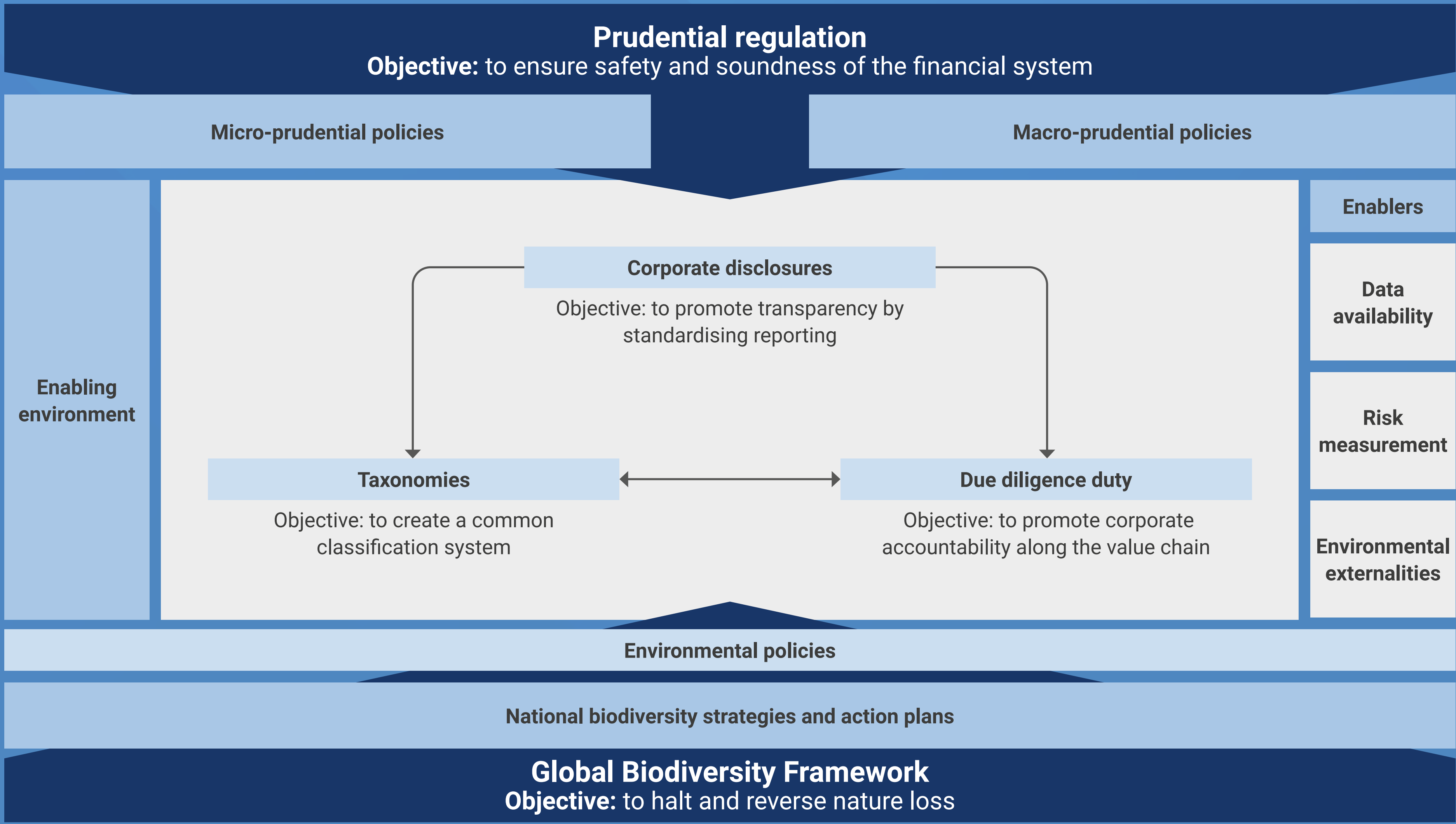

Figure ES1: The nature-related policy landscape for banks

Government policymakers are introducing nature-related initiatives across prudential regulation and the wider policy enabling environment. Twenty-five nature-related indicators from the 2024 Sustainable Financial Regulations (SUSREG) assessment framework were evaluated across 50 jurisdictions spanning all major regions. These indicators were mapped onto key components of the policy landscape, distinguishing between the three pillars of the Basel prudential framework (Figure V).

Within the prudential framework, some regulators have started reflecting nature-related risk in their supervisory review guidelines (Pillar 2) and prudential disclosures guidelines (Pillar 3). As capital and liquidity requirements (Pillar 1) and macroprudential measures are typically subject to more complex data requirements and higher levels of standardisation, there are comparatively fewer examples observed. Within the enabling environment, more than half of the jurisdictions are integrating nature-related considerations into taxonomies and corporate disclosure frameworks. Corporate due diligence frameworks are less common, an exception being the Corporate Sustainability Due Diligence Directive (CSDDD) in the European Union.

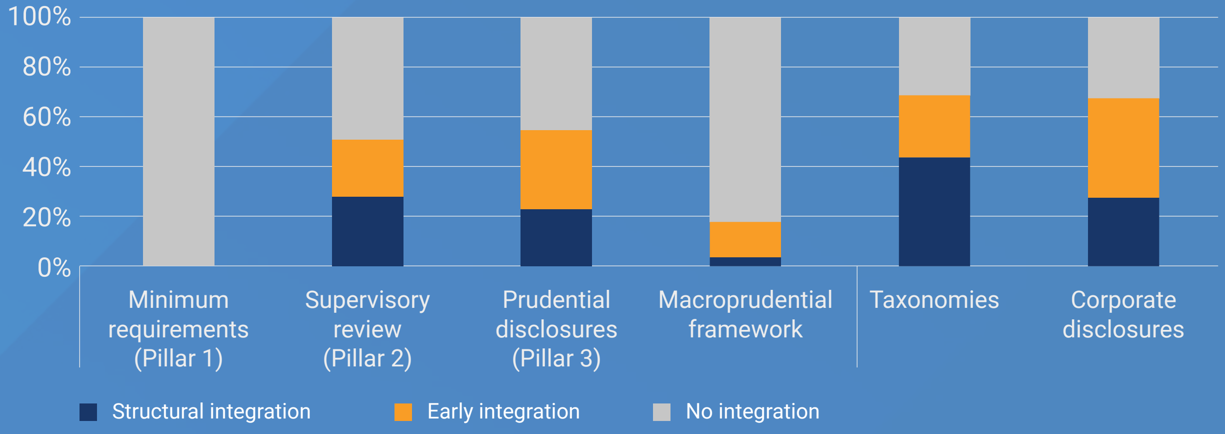

Figure ES2: The level of nature-related integration across the policy landscape

Source: Adaptation from SUSREG (WWF, 2024b).

Note: The Y-axis represents the share of indicators for each of the dimensions across all 50 jurisdictions (see Appendix for methodology). Corporate due diligence obligations are not in scope of SUSREG.

To support a whole-of-government approach, this publication identifies three key enablers to promote coherence and synergies between prudential regulation and the wider policy landscape for banks. The nature-related policy landscape for banks is a complex network of connections that interact both locally and globally. Some of these connections may lead to synergies, while others may lead to inefficiencies. In preparing this publication, literature research and interviews with key stakeholders were conducted (see Appendix). The findings suggest at least three main enablers that can be the focus of nature-related policy interventions to help strengthen synergies within the policy landscape:

1. Promoting accessibility and availability of reliable and decision-useful nature data
2. Mobilising resources and expertise towards advanced risk measurement modelling
3. Addressing externalities to better reflect harmful environmental impacts

Targeting policy approaches on these specific enablers helps to increase effectiveness by amplifying synergies and minimising trade-offs across the policy landscape. Chapter 3.2 presents key considerations for government policymakers around these enablers and sets out pathways for jurisdictions across all levels of regulatory maturity to continue integrating the risks and impacts arising from nature loss.

Key considerations for government policymakers[1]

Enablers	Overall policy considerations
Data availability	Support the establishment of a **global data architecture** that makes already available data **readily accessible** to all relevant stakeholders and sets underlying conditions needed to increase availability of **reliable, comparable and decision-useful data**.
Risk measurement	Promote the advancement of a **common framework** for measuring how **material** nature-related financial risks are for banks, e.g. by mobilising resources to advance modelling of **nature-climate-economy interactions**
Environmental externalities	Prioritise policies that address environmental externalities, for example by recognising nature-related financial risks in **pricing mechanisms**, by imposing **quantity restrictions** and/or reducing **harmful subsidies**

This report also presents a stocktake of nature-related initiatives across all major regions that can serve as a resource when executing a whole-of-government approach. Across all regions, jurisdictions have started integrating nature-related risks into their regulatory frameworks, albeit at different levels of maturity.

- In Asia-Pacific, various countries are addressing nature-related considerations across prudential regulation and the policy enabling environment (e.g. Thailand, China, Indonesia, the Philippines and Malaysia). These countries influenced the global agenda by domestically addressing broader environmental risks such as deforestation early on.
- The Americas have shown differing levels of integration over the years. Brazil leads the way, with other countries adopting taxonomies that include environmental objectives (e.g. Costa Rica, Colombia and Mexico).
- Africa is at an early stage of integrating nature-related risks. Several countries are working on sustainable finance taxonomies (e.g. South Africa and Kenya) and some countries, such as Morocco, have begun reflecting nature-related issues in prudential regulation.
- Europe has taken significant steps to integrate nature-related financial risks into prudential regulation, corporate disclosures, due diligence, and taxonomy regulation.

See Table A for a detailed overview of selected nature-related initiatives across the major regions globally.

1 Government policymakers are defined as government authorities, in particular finance and economic ministries, treasuries and environmental agencies, who have a mandate to propose and implement prudential, financial, industrial or environmental regulations that either directly or indirectly impact banks and their clients. In some jurisdictions, prudential standard setting also falls (partly) under the remit of central banks and supervisors, while in others their mandate is confined to the supervision and enforcement of prudential standards set by a separate prudential regulatory authority.

Table A: Selected nature-related initiatives across the policy landscape (non-exhaustive)

Type	Sub-type	APAC	Africa	Americas	Europe
Prudential regulation	**Requirements** (Pillar 1)				
	Supervisory review (Pillar 2)	OJK Regulation on Sustainable Finance	BAM Directive No. 5/W/2021 on environmental risk	BCB CMN Resolution No. 4945/21 on environmental risk	EBA Guidelines on mngmt of ESG Risk (draft)
		BB Guidelines on Environmental Risk for Banks		Resolution S.B.S. Nº 1928-2015 on Environmental Risk	FINMA Circular on Nature-related Financial Risks
	Prudential disclosures (Pillar 3)	MAS Guidelines on Environmental Risk	BAM Directive No. 5/W/2021 on environmental risk	BCB Disclosure of Metrics for Environmental Risk (draft)	EBA ITS on Pillar 3 ESG risk (under review)
		CBIRC Green credit guidelines			NBG ESG Reporting Form under Pillar 3
	Macro-prudential framework	BSP Pilot Stress test on environmental risk			
Policy enabling environment	**Taxonomies**	ASEAN Taxonomy for Sustainable Finance	South African Green Finance Taxonomy	Colombian Green Taxonomy	EU Taxonomy Regulation 2020/852 and the related Delegated Act 2021/2178
		Indonesia Taxonomy for Sustainable Finance	Kenya Green Finance Taxonomy (draft)	Costa Rican Green Taxonomy	
	Corporate disclosures	Malaysia Sustainability Reporting Guide	Nairobi Exchange ESG Disclosure Guidance	Colombia Ministry of Finance and Public Credit's Decree 151 of 2021	Corporate Sustainability Reporting Directive
		China stock exchange guidelines on sustainability	JSE Sustainability Disclosure Guidance		
	Corporate due diligence	Philippine Climate Accountability Act (Bill 9609)		Chile's Bill on Business and Human Rights Due Diligence (draft)	Corporate Sustainability Due Diligence Directive

Source: WWF, 2024d

Introduction

Nature loss as a financial risk

The loss of nature has huge consequences as our economies and societies are dependent on nature's ecosystem services. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) refers to nature as being the natural world with an emphasis on the diversity of living organisms and their interactions among themselves and with their environment. The living and non-living elements of nature combine in ecosystems, which provide a flow of benefits described as ecosystem services. Ecosystem services provide society with tangible goods (e.g. food), the regulation of natural processes (e.g. surface temperature cooling), supporting services (e.g. soil formation), and cultural services (e.g. recreation) (NGFS, 2024). This nature is under threat due to human activities. The WWF 2024 Living Planet Report shows a catastrophic 73 per cent decline in the average size of monitored wildlife populations in just 50 years (1970–2020). There are five main drivers of nature loss: (i) changes in land- and sea-use, (ii) overexploitation of natural resources (i.e. extraction of living and non-living materials), (iii) climate change, (iv) pollution, and (v) invasive alien species—all of which can result in decline of ecosystem services (IPBES, 2019).

The loss of ecosystem services leads to nature-related financial risks for banks and wider financial system. Like climate risks, nature-related financial risks are categorised as physical risks and transition risks.[2] Physical risks arise from the loss of nature's ecosystem services, while transition risks arise from a misalignment of economic actors with interventions aimed at protecting negative impacts on nature (NGFS, 2024). For example, a bank with a large agricultural client base may be subject to nature-related physical risks. If there is a substantial loss of pollinators such as bees due to habitat destruction, crop yields could drastically decrease. This would lead to lower revenues for farmers, who might then struggle to repay their loans and thus pose a higher credit risk for banks. These risks can also become systemic through so-called ecosystem topping points (Marsden and others, 2024). These can best be understood as large-scale and potentially abrupt changes in the quantity and quality of ecosystem services provided by previously stable natural systems.

In recent years, a series of studies have been conducted by central banks (such as the European Central Bank (ECB) and the central banks of Malaysia (BNM), the Netherlands (DNB) and Brazil (BCB)) to understand the dependency of financial systems on nature's ecosystem services using the online tool ENCORE (Exploring Natural Capital Opportuni-

2 The terms "nature-related financial risks" and "nature-related risks" are used interchangeably for the purpose of this report.

ties, Risks and Exposure) (see Table 3). The results are clear: our financial systems are highly dependent on nature. For example, a recent study showed that the loss of the natural environment in the United Kingdom of Great Britain and Northern Ireland could lead to an estimated six per cent loss to gross domestic product (GDP) with possible adjustment in asset values of up to five per cent for the country's largest banks, which is likely still an underestimation (GFI, 2024).

The complex and unique features of nature-related risks pose challenges in terms of quantifying how they may translate into losses for the financial system. Nature is location specific. It is always unique and distinct across different locations (NGFS, 2024). The pollution of a freshwater lake in one region compared to another may have completely different consequences. A spatially explicit approach is needed to understand the risks associated with nature loss. This means there is not a single metric available (such as carbon dioxide in measuring climate risk). Yet nature is not isolated within these locations, but interconnected and subject to systemic impacts due to spillover and feedback effects (NGFS, 2024). For example, the collapse of the Amazon ecosystem would have serious consequences for other ecosystems around the world, for example by changing rainfall patterns in the American Midwest (i.e. cascading effects). Likewise, nature risks affecting individual banks can spread throughout the financial system and back to the real economy (i.e. contagion effects). There are also complex interactions between a changing climate and nature more broadly, the so-called climate-nature nexus (GFI, 2024) (see Figure I). All these features make it extremely challenging for prudential supervisors and banks to capture how nature loss results in quantifiable financial risks to individual banks and the financial system. Several multilateral institutions have started developing conceptual policy frameworks to understand how nature-related risks affect prudential mandates (NGFS, 2024; IMF, 2024b; OECD, 2023) (see Figure I).

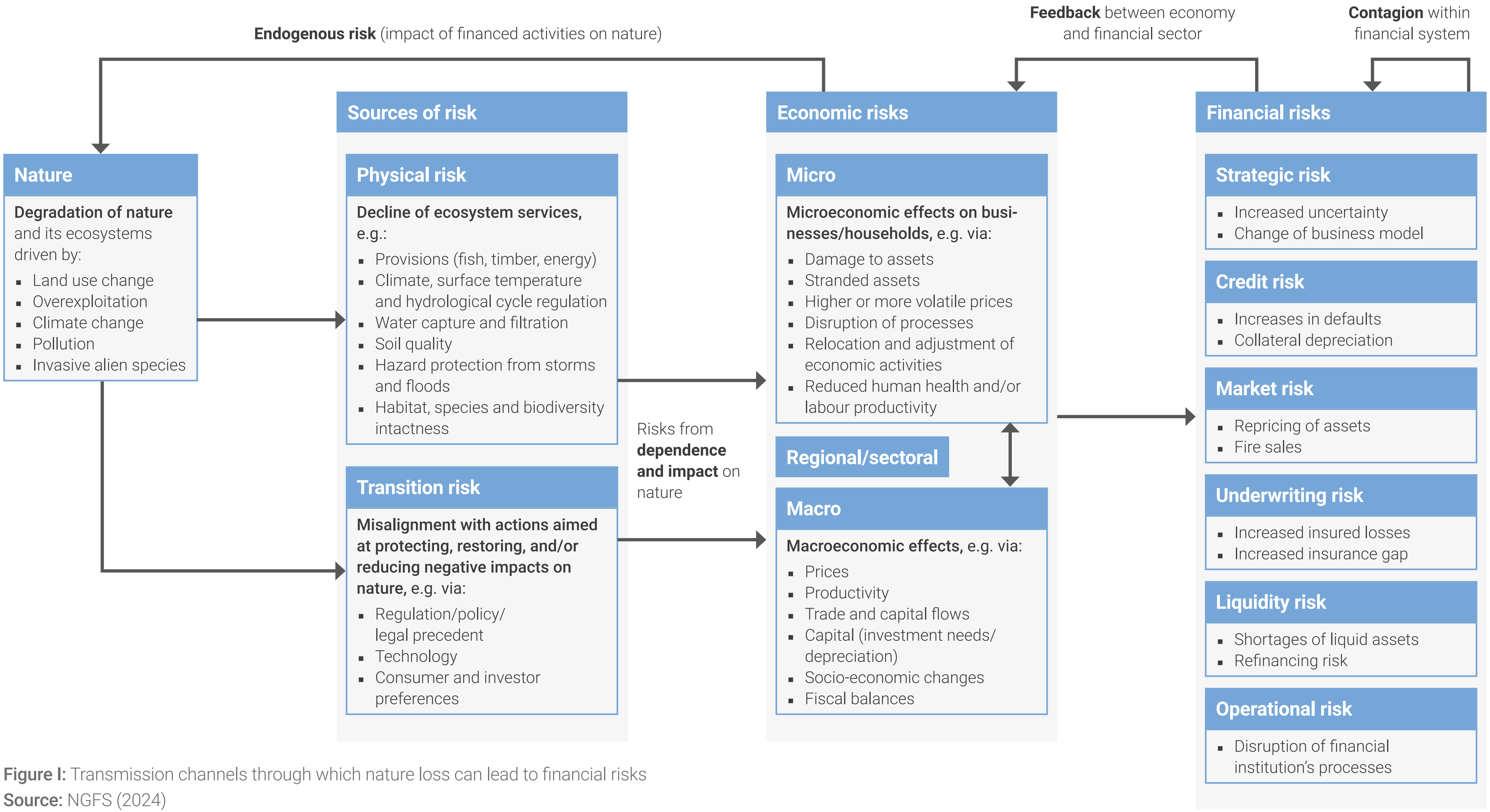

Figure I: Transmission channels through which nature loss can lead to financial risks
Source: NGFS (2024)

Purpose of this report

This publication is a resource for banks to understand the latest regulatory developments on nature-related issues, and for government policymakers to consider ways to promote coherent and effective nature-related policies for the banking sector. As the pace of new regulatory initiatives increases globally, regulatory uncertainty around nature-related issues is a key challenge for both the financial sector and the policy community. Making sense of recent regulatory developments, and how the broader policy frameworks work together, will support all stakeholders in anticipating and navigating this rapidly changing regulatory environment.

This report is the first of its kind in providing a comprehensive overview of the nature-related regulations and policies relevant for banks globally. After this introduction, it consists of three chapters:

- Chapter 1 provides an overview of how nature-related considerations are reflected in the prudential mandate and how this interacts with the wider nature-related policy landscape for banks.
- Chapter 2 gives a stocktake of nature-related initiatives across prudential regulation, taxonomies, corporate disclosures and corporate due diligence obligations. It primarily relies on the WWF's Sustainable Financial Regulations and Central Bank Activities (SUSREG) tracker that covers 50 jurisdictions across all major regions including Americas, Europe, Middle East and Africa, and Asia-Pacific (see Appendix).
- Chapter 3 identifies several considerations for government policymakers when developing and implementing nature-related policies for banks. These considerations are based in part on interviews with a variety of central banks, multilateral institutions and prudential regulators (see Appendix).

CHAPTER 1:

The nature-related policy landscape for banks

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1.1 Prudential regulation and supervision

Prudential regulation aims to safeguard financial stability by strengthening the resilience of the financial sector. The primary objective of prudential supervision for banks by government or quasi-governmental agencies is to promote the safety and soundness of banks and the banking system overall. The Basel Committee on Banking Supervision (BCBS, 2024), the global standard setter for prudential regulation for banks, has set out a global framework with core principles to promote a forward-looking and risk-based approach to banking supervision. This framework comprises three pillars:

- Pillar 1: Minimum regulatory requirements for bank capital and liquidity
- Pillar 2: Supervisory review of banks' capital adequacy and risk management
- Pillar 3: Public disclosure requirements for banks to promote market discipline

The prudential framework also includes a macroprudential overlay that targets systemic risks. The BCBS standards on their own are not legally enforceable, but members (national supervisory authorities) are expected to implement them in their respective domestic jurisdictions.

Risk-based supervision seeks to ensure that prudential requirements reflect underlying risks banks face, considering both micro- and macroprudential perspectives. An effective system of banking supervision identifies, assesses and addresses risks originating from banks and the banking system as a whole (BCBS, 2024). Microprudential supervision concentrates on assessing the risks for individual banks, while macroprudential supervision addresses the stability of the overall financial system by limiting the build-up of aggregate and systemic risk within the system. Supervisors are expected to employ an appropriate mix of supervisory techniques and tools such as those outlined in the framework—deploying them on a proportionate basis consistent with the banks' systemic importance (e.g. size and complexity) and risk profiles—to ensure safety and soundness of the financial system (BCBS, 2024).

Central banks and supervisors are starting to acknowledge the necessity of tackling nature-related risks as part of their prudential mandate. As nature loss can alter the value of assets, it can have a material impact on the financial soundness of households and companies and, in turn, financial stability—which relates to core objective of the prudential mandate (NGFS, 2024; IMF, 2024b). For central banks and supervisors, this means taking climate and nature into account in the pursuit of their monetary policy and supervisory objectives (Elderson, 2024b). Figure II indicates which supervisory tools have been employed already in the context of nature risk. For example, a variety of central banks and supervisors have produced supervisory guidelines that address nature-related risks, either explicitly (e.g. Switzerland) or as part of broader environmental or ESG risks (e.g. Singapore, Indonesia, Morocco, Brazil and the European Union). The ECB (2002, 2024c) has performed annual reviews and on-site inspections covering nature-related risk management and imposed corrective measures when banks were not compliant. It also integrated nature-related risks into their fit and proper assessment frameworks to authorise new members of management bodies at banks (ECB, 2021). The Bangko Sentral ng Pilipinas (BSP) performed a preliminary analysis with a stylised stress-testing exercise addressing risks from biodiversity loss (BSP, 2023).

Type	Supervisory tool	Examples	Early integration of nature risk
Micro-prudential framework	Minimum requirements	Common equity, liquidity coverage	
	Off-site work	Annual reviews, benchmarks	✓
	On-site work	Independent inspections	✓
	Corrective measures & sanctions	Action plans, penalty payments	✓
	Authorisations	Bank licensing, fit & proper	✓
	Stress-testing	Stress scenarios for individual banks	
Macro-prudential framework	Capital-based measures	Capital buffers, leverage add-ons	
	Borrower-based measures	Loan-to-value caps, concentrations	
	Liquidity-based measures	Liquidity add-ons	
	Stress-testing	Stress scenarios for financial system	✓

Figure II: Micro- and macro-prudential tools and early integration of nature-related risks
Source: Based on BCBS (2024) and ESRB (2014); see also ECB (2022, 2024c); ECB (2021); BSP (2023).

Prudential regulation cannot be substituted for other relevant public policies. One challenge for the prudential framework in dealing with nature risk is the existence of environmental externalities in the economy, namely the fact that pricing of products and activities may not fully reflect their true environmental costs (EBA, 2023). The primary responsibility for dealing with environmental externalities lies with political authorities, for example by taxing or restricting environmentally harmful activities. From a prudential perspective, if companies and households were subject to an environmental tax they would incur higher costs if they continued to conduct their environmentally harmful activities, which in turn, would lower their debt-servicing capacity leading to higher credit risks for banks. The existing prudential framework should capture these effects, as long as environmental externalities are being internalised through other relevant public policies. This underscores the importance of assessing how the nature-related work done by prudential regulators and supervisors interacts with the broader regulatory and political environment.

1.2 The policy enabling environment

Prudential regulation does not act in isolation—it is part of a wider system of rules, standards and regulation that depend on and inform each other. The financial sector's ability to manage nature-related risks and meet its potential in supporting the GBF will depend on a broad coalition of coherent policies that are consistent between and within jurisdictions. In view of this interplay between the real economy, banks, and the financial system, it is important to understand how prudential regulation interacts with the wider regulatory environment. This report addresses the following types of non-prudential rules, standards and regulation:

- Taxonomy frameworks to establish a classification system for defining how economic activities can be considered environmentally sustainable.
- Corporate disclosure frameworks to enhance transparency and comparability of corporate disclosures, transition plans and value chains.[3]
- Corporate due diligence frameworks to enhance corporate transparency and accountability along their operations and value chains.

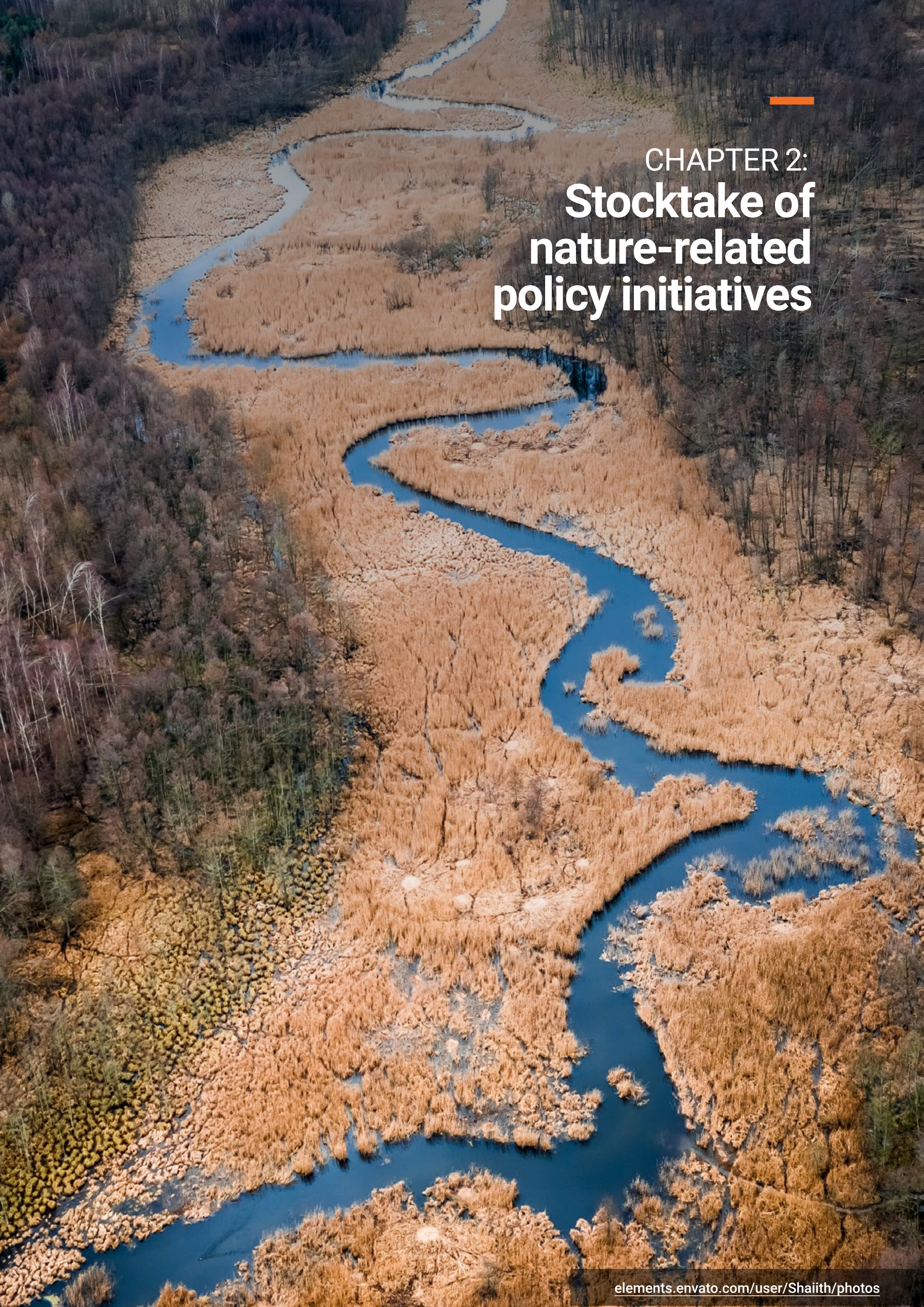
While each of these types of rules have their own objectives, their effectiveness will depend on and inform each other. Figure III provides examples of how these rules can enable and influence prudential risk management and regulation.

Enabling environment	Interactions with prudential regulation	Example in the context of nature risk
Corporate disclosures	The environmental information that corporates disclose, such as for example impact of operational sites on biodiversity, increases data availability for banks to perform assessments of clients' creditworthiness in view of nature-related risks.	Taskforce on Nature-related Financial Disclosures
		Nairobi Exchange ESG Disclosure Guidance Manual
Taxonomies	A common classification of sustainable economic activities can for example help banks align their portfolios to sustainable transition pathways to reduce nature-related transition risks	Green taxonomy in Costa Rica
		EU Taxonomy Regulation
Due diligence duty	Increased transparency of the environmental impact along corporates' value chains could for example help banks identify nature-related reputation and litigation risks of their clients that could impact their creditworthiness.	EU Corporate Sustainability Reporting Directive
		Climate Accountability Act in Philippines

Figure III: The policy enabling environment of prudential regulation

Effective approaches to nature risk will depend on how prudential regulation interacts with other enabling forces in the broader policy landscape. This policy landscape is a complex network of connections that interact both locally and globally. Some of these connections may lead to synergies, while others may lead to inefficiencies. For example, globally active banks may face undue divergences between jurisdictions that can affect comparability and interoperability of nature-related policies and regulations. Such regulatory fragmentation leads to regulatory uncertainty around nature-related issues, which is a key challenge for the financial sector (GARP, 2024). This interaction between global approaches and local implementation is critical to ensure an effective and responsive policy landscape for nature risks.

3 See also Accountability for Nature: Comparison of Nature-Related Assessment and Disclosure Frameworks and Standards (2024)



CHAPTER 2:
Stocktake of nature-related policy initiatives

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2.1 State of play

Global developments

There has been growing recognition of the need to integrate nature-related risks into banking regulatory frameworks in recent years—following and enabled by progress in climate-related regulatory initiatives. The 2024 Sustainable Financial Regulations (SUSREG) assessment by the WWF highlights how banking regulatory frameworks vary in integrating climate, other environmental and social dimensions (Figure IV). It follows that the 2024 level of environmental integration is similar to climate-related integration in 2021. While climate risk has historically dominated the environmental risk landscape, nature-related risks beyond climate risk—including those resulting from drivers of nature loss such as deforestation and water scarcity—are increasingly recognised as critical to financial stability.

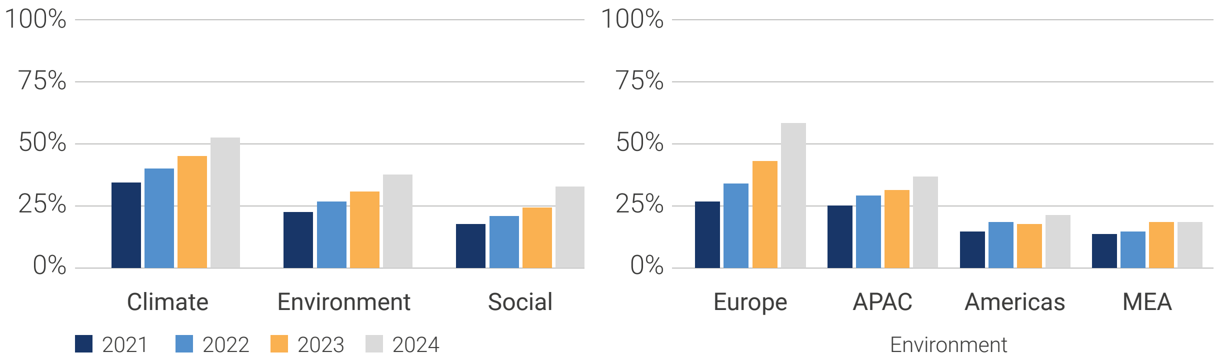


Figure IV: Integration of environmental risks beyond climate in banking regulatory frameworks

Source: WWF (2024b).

Note: The X-axis indicates the average level of fulfilment of SUSREG indicators in scope across different regions.

While nature-related risks are not reflected in global prudential standards for banks, some multilateral frameworks address them specifically. Global standard setting bodies such as BCBS and Financial Stability Board (FSB) do not explicitly address nature-related risks in their prudential standards.[4] A recent stocktake by FSB (2024) revealed that while some jurisdictions have begun analytical work on nature risks, others are still in the early stages of monitoring international developments. However, several multilateral organisations, including the Network for Greening the Financial System (NGFS), International Monetary Fund (IMF), and Organisation for Economic Co-operation and Development (OECD) have developed micro- and macroeconomic frameworks to guide understanding of the impact of nature loss on financial risks for banks and the wider financial system. More broadly, there is a variety of global nature-related efforts in the realm of corporate disclosures (e.g. the Taskforce on Nature-related Financial Disclosures (TNFD), the Global Reporting Initiative (GRI), and the International Sustainability Standards Board (ISSB)), target setting (e.g. Science Based Targets for Nature, (SBTN)),

4 BCBS has integrated "climate-related financial risks and other emerging risks" in the wording of its core principles (BCBS, 2024). That wording may create the space to accommodate nature-related financial risks beyond climate in the framework (as they become more material).

transition planning (e.g. TNFD, GFANZ) and government policy coordination (e.g. GBF) (UNEP FI, 2024a).

In the absence of global prudential standards, regions have started independently adding nature-related risks to their regulatory frameworks, albeit at different levels of maturity. See Chapters 2.2 and 2.3 for detail on the observed practices.

- In the Asia-Pacific region, various countries, particularly those that are highly biodiverse, have started to integrate nature-related risk (e.g. Thailand, China, Indonesia, the Philippines and Malaysia). These countries influenced the global agenda by domestically addressing broader environmental risks such as deforestation early on.
- The Americas have shown a varied level of integration over the years. Brazil stands out for its ESG-related prudential measures and a variety of countries have adopted taxonomies that include environmental objectives (e.g. Costa Rica, Colombia and Mexico).
- The Middle East and Africa are at an early stage of integrating nature-related risks. Some countries have adopted sustainable finance taxonomies (South Africa and Kenya) and some countries, such as Morocco, have begun integrating environmental concerns into their regulatory frameworks.
- Europe has taken considerable steps to integrate nature-related financial risks into prudential supervision, corporate disclosures, due diligence, and taxonomy regulation. However, there is still a disproportionate focus on climate-related factors in the European Union framework when compared to nature-related factors.

The policy landscape

Regulators are introducing nature-related initiatives across prudential regulation and the wider policy enabling environment. The maturity level varies across the regulatory ecosystem, with most initiatives in Pillars 2 and 3 of the prudential framework as well as taxonomies and corporate disclosures (see Figure V). The 2024 SUSREG tracker framework was adapted to address the scope of this report, assessing 25 nature-related indicators across 50 jurisdictions as either: no integration, early integration—e.g. indicator applies to only a subset of banks or addresses nature risk implicitly or in a broad sense, or structural integration—e.g. indicator applies to all supervised banks and with explicit inclusion of nature risks.

The following trends are observed:

- More than half of the jurisdictions have integrated nature-related considerations into taxonomies and corporate disclosure frameworks. Corporate due diligence frameworks are less common, an exception being the Corporate Sustainability Due Diligence Directive (CSDDD) in the European Union.
- Within the prudential framework, some regulators are reflecting nature-related risk in supervisory review (Pillar 2) and prudential disclosures (Pillar 3) as they are exploring nature-related stress tests, risk management guidelines and prudential disclosure guidelines.
- There are fewer examples of nature-related risk integration in both minimum capital requirements (Pillar 1) and macroprudential frameworks. This could be due to

complex data requirements and high levels of standardisation. None of the jurisdictions have incorporated nature-related risks in minimum capital and liquidity requirements. Only a few jurisdictions have introduced nature-related macroprudential measures, for example by conducting pilot macrostress tests and financial sector monitoring in the context of nature-related risks.

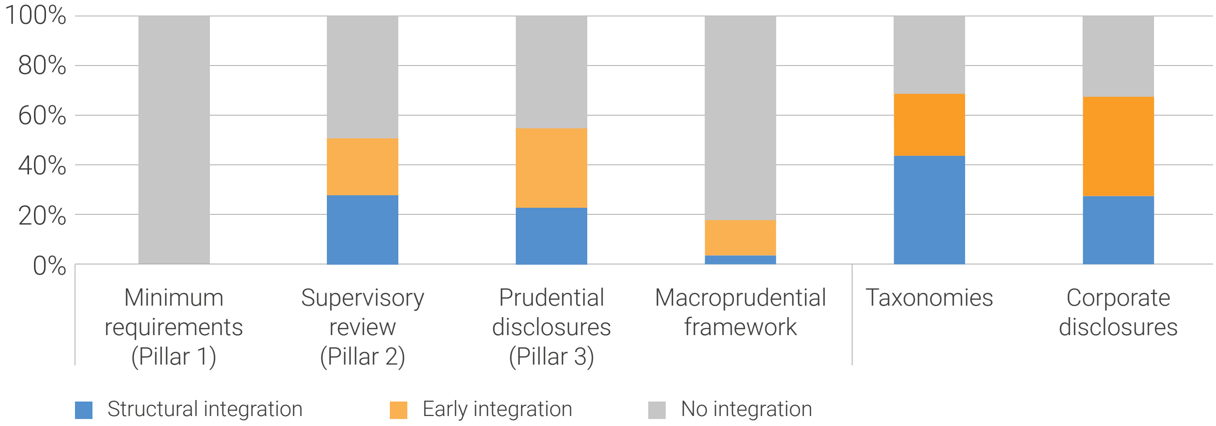


Figure V: The level of nature-related integration across the policy landscape

Source: adaptation from SUSREG (WWF, 2024d).

Note: The Y-axis represents the share of indicators for each dimension across all 50 jurisdictions (see Appendix for methodology). Corporate due diligence obligations are not in scope of SUSREG.

This stocktake places special focus on Indonesia, South Africa, Colombia and Peru, which have each developed various nature-related regulatory initiatives. While Peru is developing a green taxonomy, the other three countries have already implemented one with nature-related objectives (albeit without technical screening criteria). With regard to prudential regulation, only Indonesia and Peru have started reflecting nature-related risks in their practices. Indonesia stands out as the financial services authority, Otoritas Jasa Keuangan, has developed a multi-year sustainable finance roadmap to accelerate the integration of ESG principles, including nature-related topics, into Indonesia's financial sector. While each of the countries have developed domestic corporate disclosure policies, only South Africa has adopted the ISSB standards nationally (albeit only for climate risks). All countries have developed a broad set of environmental policies. Table 1 sets out these initiatives.

Table 1: Deep dives into Indonesia, South Africa, Colombia and Peru across the policy landscape

Jurisdiction	Prudential regulation	Policy enabling environment		
		Taxonomies	Corporate disclosures	Environmental policies
Colombia		Green Taxonomy	▪ Ministry of Finance and Public Credit's Decree 151 of 2021 ▪ Financial Superintendency of Colombia's Basic Legal Circular CE 029/14 ▪ Colombian Stock Exchange' Guide for the Preparation of ESG Reports for Issuers	▪ Single Regulatory Decree on the Environment and Sustainable Development ▪ Government and Asobancaria's Green Protocol (2022–2027) ▪ Ministry of Environment and Sustainable Development's Biodiversity Action Plan 2016–2030
Peru	Superintendence of Banking, Insurance and Private Pension Fund Administrators Regulation on Social and Environmental Risk Management	Green Taxonomy (in development)	Superintendence of Securities Market Resolution No. 018-2020-SMV/02	▪ Law No. 28611 General Environmental Management ▪ Law No. 29763 Forestry and Wildlife ▪ Ministry of Environment's Green Finance Roadmap ▪ Ministry of Environment's National Biodiversity Strategy 2021
South Africa		Green Finance Taxonomy	Johannesburg Stock Exchange Sustainability Disclosure Guidance	▪ National Environmental Management Act (1998) ▪ National Environmental Management: Biodiversity Act (2004)
Indonesia	▪ 51/POJK.03/2017 on the implementation of sustainable finance ▪ Technical Guidelines for Banks on Implementation of 51/POJK.03/2017	Taxonomy for Sustainable Finance (2nd edition)	▪ 51/POJK.03/2017 on the implementation of sustainable finance ▪ POJK 18/2023 on the issuance of sustainable bonds and sukuk	▪ Law No. 40 of 2007 on Limited Liability Companies and Government Regulation No. 47 of 2012 on Social and Environmental Responsibility ▪ Indonesian Sustainable Palm Oil System (Reg. No. 44 2020) ▪ Forestry Law No. 41/1999, updated by Law No. 6 of 2023 ▪ Environmental Law No. 32 2009, updated by Law No. 6 2023 ▪ Law No. 5 of 1990 on Conservation of Natural Resources ▪ Law No 4 of 2023 on Strengthening of the Financial Sector

Source: ECOFACT Policy Outlook

2.2 Prudential regulation and supervision

Minimum requirements (Pillar 1)

The integration of nature-related risks into minimum capital and liquidity requirements under Pillar 1 remains limited. No region has demonstrated tangible integration of nature-related risks into Pillar 1 capital and liquidity requirements (see Figure VI). There are some capital incentives in place in the European Union and Hungary for select eligible green assets in banks' portfolios, but these are not a risk-based integration within Pillar 1 capital requirements. While substantial methodological work is being conducted (NGFS, 2024; IMF, 2024b; GFI, 2024), there is no commonly accepted approach available to isolate the quantitative effects of nature-related risks on regulatory capital requirements. It is also difficult to establish if nature risks are not already reflected in the existing prudential framework. Similarly, none of the regions have reflected nature-related considerations in their liquidity requirements, as they typically operate over even shorter time horizons than capital requirements, making it challenging to incorporate long-term environmental factors.

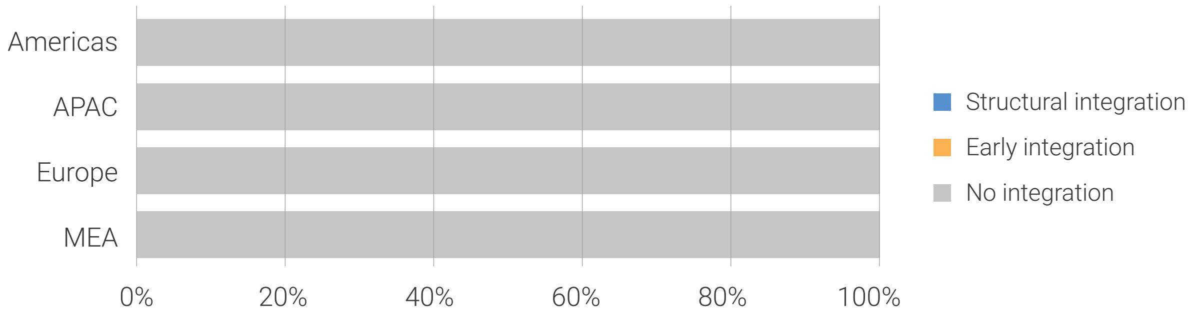


Figure VI: The level of nature-related integration across minimum requirements (Pillar 1)

Source: adaptation from SUSREG (WWF, 2024d).

Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology).

The European Banking Authority (EBA) has been tasked with exploring ways to integrate environmental and social risks into the Pillar 1 prudential framework. A key issue is the lack of high-quality, granular data, which complicates risk classification and assessment, and the reliance on historical data is insufficient for capturing the forward-looking and non-linear nature of environmental risks (EBA, 2023). As the frequency and severity of physical and transition risks increases, the traditional use of historical data under Pillar 1 fails to account for potential future financial losses. This creates difficulties in properly calibrating capital requirements, as environmental risks may not be fully reflected in the current models used for assessing credit, market, and operational risks. Nevertheless, the EBA recommends that banks integrate material environmental risks in their capital and collateral valuation models as long as it remains in line with the existing data and modelling requirements. Aside from the EBA's efforts, the few notable opinion and policy papers on the topic to date address only climate risks. These include:

- Bank of England—paper on the capital regulatory framework in 2023 (BoE, 2023)
- Council of Economic Policies—principles for addressing systemic risks with capital

buffers (CEP, 2024), and
- Bank for International Settlements (BIS)—a frequently asked questions (FAQ) document in 2022 (BIS, 2022).

Supervisory review (Pillar 2)

The integration of nature-related risks into supervisory review processes under Pillar 2 varies, with the European Union and Asia-Pacific region being most advanced. Prudential regulators and supervisors are increasingly expanding their supervisory expectations to cover a broader range of environmental risks (see Figure VII). In the European Union, the legislative and regulatory framework for the financial sector is undergoing changes, particularly the Capital Requirements Regulation III (CRR3) and the Capital Requirements Directive VI (CRD6). These regulations require banks to incorporate ESG risks into their internal governance, risk management, and strategic decision-making processes. Nature-related risks are broadly addressed within these regulations, for example CRD6 includes a reference to biodiversity loss as an aspect that banks should consider in the overall assessment of ESG risks. As part of CRD6, the EBA was mandated to develop guidelines on the management of ESG risks—a draft was published in January 2024, with a final version expected by the end of 2024 (Box 1).

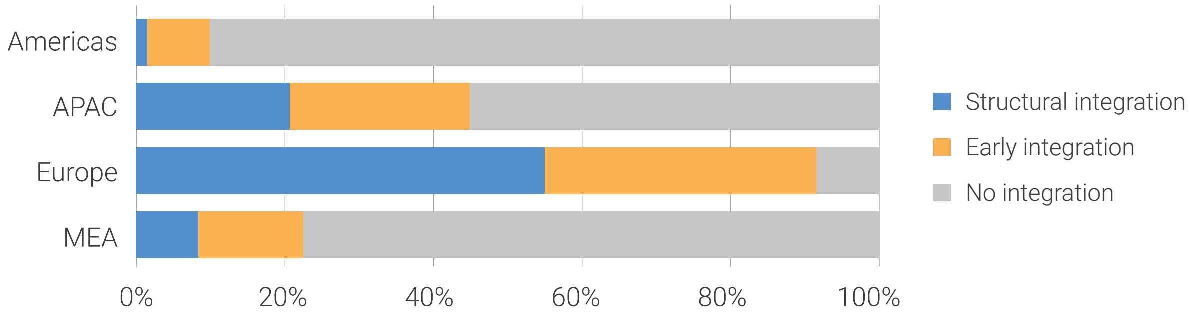


Figure VII: The level of nature-related integration across supervisory reviews (Pillar 2)

Source: adaptation from SUSREG (WWF, 2024d).

Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology).

There is high variability among the scopes and legal natures of nature-related initiatives that are developed as part of Pillar 2 frameworks. Table 2 provides an overview of the initiatives observed across all regions. Most initiatives address nature-related risks as part of broader environmental risks that also include climate-related risks, or even cover ESG risks more broadly. The initiatives that are specifically targeted to nature topics such as biodiversity or deforestation tend to be non-binding and often serve as a reference document for financial institutions, offering voluntary guidance on managing nature-related risks (e.g. the Kingdom of the Netherlands and Indonesia). Several prudential initiatives, in places such as the European Union, Philippines, Indonesia, Bangladesh, Brazil, and Morocco, have introduced binding guidelines that address environmental risks beyond climate risk.

The European Central Bank (ECB) has set-up a comprehensive supervisory monitoring and escalation framework addressing climate and environmental (C&E) risks. The ECB sent feedback to all banks, outlining deficiencies and institution-specific remediation plans. It agreed deadlines with banks to align fully with its 2020 supervisory expectations on C&E risks by the end of 2024 (ECB, 2022). In addition, the ECB is considering penalising financial institutions using periodic penalty payments (PPPs) and setting Pillar 2 capital requirements if banks fail to comply with the remedial plans on time (ECB, 2024c). PPPs are levied against banks that remain in violation of ECB-issued decisions or regulations. A non-compliant bank will be subject to daily fines, potentially reaching up to five per cent of its average daily turnover, for each day the infraction persists.

In the Philippines, the Bangko Sentral ng Pilipinas (BSP) has mandated that banks include environmental and social risks in their internal capital adequacy assessment process (ICAAP). Bank Negara Malaysia (BNM), United Nations Development Programme (UNDP) and the World Bank recently announced their collaboration to develop a nature-related financial risks assessment guide for Malaysian financial institutions. This guide will be based on the LEAP (locate, evaluate, assess, prepare) approach developed by TNFD to identify and assess nature-related issues (BNM, 2023).

Table 2: Overview of policies relevant under Pillar 2 (non-exhaustive; ordered by region)

Jurisdiction	Institution	Description	Scope	Legal nature
Singapore	MAS	Guidelines on Environmental Risk Management for Banks	Climate; Nature	Non-binding
Philippines	BSP	Circular No 1128, Environmental and Social Risk Management Framework	Climate; Nature; Social	Binding
China	NFRA	Green Finance Guidelines for Banking and Insurance Sectors	ESG	Non-binding
Bangladesh	BB	Guidelines on Environmental & Social Risk Management for Banks and FIs	Climate; Nature; Social	Binding
Indonesia	OJK	No.51/POJK.03/2017 on Application of Sustainable Finance	Climate; Nature	Binding
	OJK	Palm Oil Plantation and Industry Financing Reference Book	Deforestation; biodiversity	Non-binding
Brazil	BCB	CMN Resolution No. 4,945/21 relating to social and environmental risk management	Climate; Nature; Social	Binding
Morocco	BAM	Directive No. 5/W/2021 relating to the financial risk management system linked to climate change and the environment	Climate; Nature	Binding
The Kingdom of the Netherlands	SFP [chaired by DNB]	Guideline on use of Deforestation Risk Mitigation Solutions for Financial Institutions	Deforestation	Non-binding
	DNB	Guide to managing climate and environmental risks	Climate; Nature	Non-binding

Switzerland	FINMA	Circular nature-related financial risks (consultation draft, planned issuance in December 2024)	Climate; Nature	Binding
European Union	EC	Capital Requirements Regulation III Capital Requirements Directive VI	ESG	Binding
	ECB	Guide on climate-related and environmental risks	Climate; Nature	Non-binding

Source: WWF 2024d; IMF (2024a)

Box 1: Examples of relevant guidance and supervisory review guidelines under Pillar 2

Bank Negara Malaysia's VBIAF sector guidance, 2019

Scope and implementation

The Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF) provides recommendations for financial institutions to integrate sustainability, including nature-related risks, into their financing and investment decisions across various sectors. The framework, which can be applied by all financial institutions, was initiated by BNM in collaboration with the Islamic financial institutions and strategic partners. Following the launch of the VBIAF, ten sectoral guides for high-risk sectors have been introduced to support its implementation (AIBIM, 2024).

The guidance provides detailed recommendations on the following nature-related topics:

Biodiversity and ecosystem health: Financial institutions should prioritise biodiversity protection by ensuring their activities do not harm key biodiversity areas or ecosystems, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage sites and Ramsar wetlands.

Deforestation: Institutions are explicitly advised to avoid financing activities that contribute to deforestation, particularly in forests with high conservation value.

Water risks: Water-related risks are emphasised, especially in sectors such as agriculture and energy. Institutions are advised to manage water use in regions facing high water stress by promoting sustainable practices.

Pollution management: Financial institutions should reduce pollution risks by managing water, air, and soil contamination effectively. The framework encourages minimising the use of hazardous chemicals and improving waste management.

EBA Guidelines on the management of ESG risks, 2024
[draft version for consultation]

Scope
The guidelines set out requirements for banks for the identification, measurement, management and monitoring of ESG risks, including plans aimed at addressing the risks arising from the transition towards a climate-neutral and environmentally sustainable economy for the European Union.

Proportionality
Based on their materiality assessments of ESG risks, banks are expected to design and implement proportionate strategies, policies, processes and systems.

A selection of relevant nature-related requirements include:
General: While banks are more advanced on the measurement and assessment of climate-related risks, it is important that institutions progressively develop tools and practices that aim at assessing and managing the impact of a sufficiently comprehensive scope of environmental risks, extending beyond climate-related ones, such as risks stemming from degradation of ecosystems and biodiversity loss.

Data processes: Banks should collect information needed to assess counterparties, covering material environmental impacts, including biodiversity.

Risk methodologies: Banks' internal procedures should include risk factors that address the likelihood of critical disruptions to clients' supply chain due to environmental factors such as biodiversity loss, water stress, or pollution.

Metrics and targets: Banks should assess which risk-based and forward-looking metrics and targets will support risk assessment and strategic steering related to nature and biodiversity-related risks.

Transition plans
The CRD6, which also mandated EBA Guidelines on the management of ESG risks, gives supervisors potentially wide-ranging and intrusive powers to compel firms to change their business model, governance strategies or risk management to reduce risks from misalignment with relevant European Union objectives in the context of ESG. Assessing banks' transition plans will become a part of the supervisory review and evaluation process (SREP), supported by a new mandate for supervisors to assess business model sustainability over a time horizon of at least 10 years.

Prudential disclosures (Pillar 3)

While the level of integration varies across regions, some jurisdictions have implemented prudential disclosure requirements that address nature-related risks (as part of Pillar 3 of the Basel framework). Pillar 3 focuses on promoting market discipline by requiring banks to publicly disclose their risk exposures, thereby increasing transparency for investors, clients and the public. Europe has gone furthest with nature-related integration, driven by advanced disclosure requirements that mandate banks to disclose the proportion of sustainable activities in their portfolio (see Figure VIII). A prime example is the European Banking Authority's Implementing Technical Standards (ITS) on Pillar 3 disclosure, which requires banks to report their green asset ratio (GAR) based on activities aligned with the EU Taxonomy (Regulation (EU) 2020/852) and qualitative information on environmental risk.

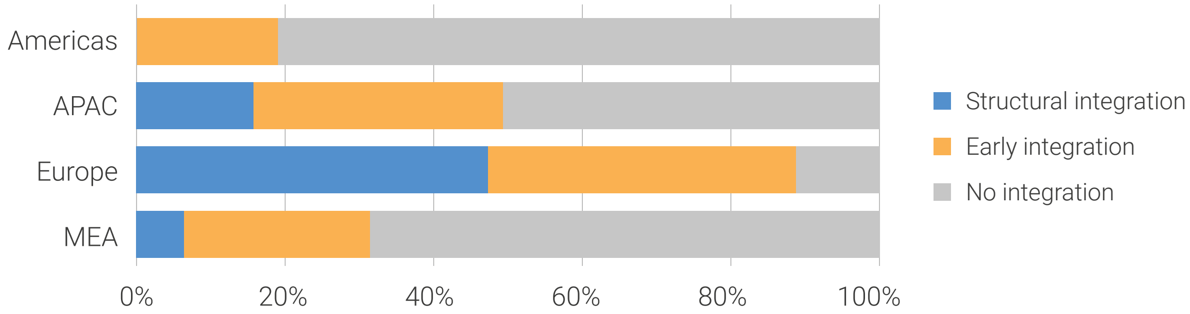


Figure VIII: The level of nature-related integration across prudential disclosures (Pillar 3)
Source: Adaptation from SUSREG (WWF, 2024d).
Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology).

Box 2: Integration of nature-related risks into Pillar 3 guidelines across jurisdictions

A notable disclosure requirement in **France**, under Article 29 of Law No. 2019-1147,[5,6] mandates French credit institutions and investment firms to report on risks associated with climate change and biodiversity related to their portfolio management on behalf of third parties and investment advice.

In the **Asia-Pacific region**, the Monetary Authority of Singapore's *Guidelines on Environmental Risk Management* require that banks disclose their approach to managing environmental risk at least annually, in a clear and meaningful way for stakeholders. The bank is encouraged to disclose the potential impact of material environmental risk on the bank, including quantitative metrics such as exposures to sectors with higher environmental risk. These disclosures should be included in sustainability and annual reports or made available on the bank's official website and in accordance with international reporting frameworks.

In the Americas, **Banco Central do Brasil** initiated a public consultation on broadening the scope of social, environment and climate risk reporting earlier in 2024. The consultation outlines requirements for the *Report on Social, Environmental, and Climate Risks and Opportunities* (GRSAC report). For environmental risks, the disclosure mandates institutions to share information on governance, strategies over different time horizons, indicators for managing environmental risks, and business opportunities related to environmental considerations.

5 legifrance.gouv.fr/jorf/article_jo/JORFARTI000039355992
6 globalcanopy.org/insights/insight/frances-article-29-biodiversity-disclosure-requirements-sign-of-whats-to-come/

In the **Middle East and Africa**, several countries include broader environmental risks under the disclosure requirements for banks, though in most cases these are encouraged rather than mandatory. In Morocco, financial institutions are required to disclose their practices and performance in managing financial risks related to the environment under the Bank Al-Maghrib (BAM) Directive No. 5/W/202. This includes the governance for environmental risks and opportunities, the current and future impacts of these risks, and the system for identifying, evaluating, and managing them.

Macroprudential policy framework

The integration of nature-related risks into macroprudential measures to protect financial stability remains limited globally. Only a few jurisdictions have introduced nature-related macroprudential measures (see Figure IX). For instance, BSP conducted a pilot analysis to evaluate how banks are exposed to impact from biodiversity loss (BSP, 2023). BSP's analysis used data from 2010 to 2021 to perform a credit stress test that assessed how biodiversity depletion might affect banks' solvency. This type of forward-looking scenario analysis helps banks better understand the implications of environmental risks for their portfolios.

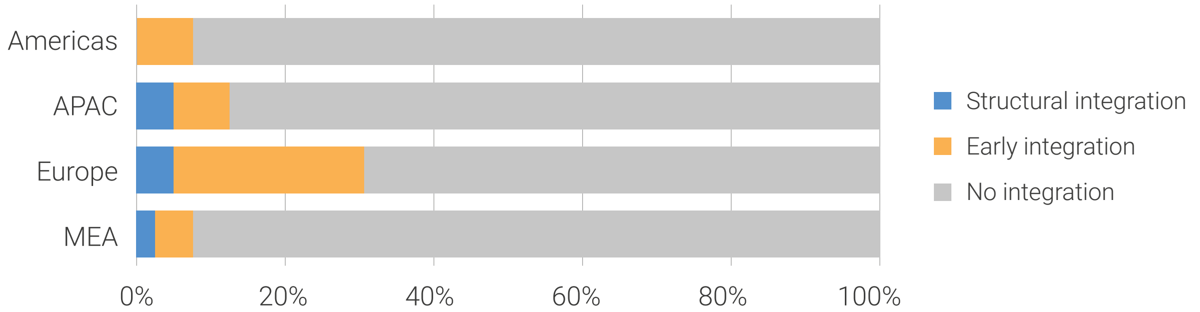


Figure IX: The level of nature-related integration into macroprudential policy framework
Source: adaptation from SUSREG (WWF, 2024d).
Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology).

In some regions, supervisory authorities have established prudential rules to limit banks' exposure to activities posing environmental risks to safeguard the financial system. An example is Germany's Federal Financial Supervisory Authority (BaFin), which issued Circular 05/2023 (BA), requiring financial institutions to regularly monitor and report their risk concentrations profile. This aims to ensure that significant risks, including those related to environmental degradation, are continuously addressed, helping to mitigate systemic risks associated with environmental exposures. However, the requirement relies on independent assessment by the banks rather than a set limit by the supervisor. Complementing these efforts, in 2023 the NGFS provided a stepwise approach to designing nature scenarios and factors to consider in their development (NGFS, 2023).

Supervisory authorities are starting to conduct financial stability studies to assess banks' exposure to nature-related risks, providing critical insights into the extent of environmental risk within the financial sector. For example, BNM, Banxico, and DNB are among those that evaluated their commercial loan portfolio's dependency on ecosystem services. These studies typically rely on the ENCORE tool to highlight the potential exposure of financial institutions to environmental degradation.

Table 3 gives an overview of the recent studies conducted, highlighting the observed impact related to physical risks arising from ecosystem services dependencies. The table shows that ground and surface water are commonly identified as having the highest material dependency. It should be noted that some of these studies also include findings on the transition risks related to nature loss. Notably, NGFS has developed a framework to assist central banks and supervisors in identifying and assessing nature-related financial risks, supporting further exploration and management of these risks (NGFS, 2024).

Table 3: Studies conducted by central banks and multilateral institutions using ENCORE (in order of year of publication)

Institution	Year	Geography in scope	Type of exposures	High or very high dependency (%)	Ecosystem service with highest dependency
De Nederlandsche Bank	2020	The Kingdom of the Netherlands	Loans; equity; bonds	36%	Groundwater; surface water
Banque de France	2021	France	Equity; bonds	42%	Groundwater; surface water
World Bank	2021	Brazil	Non-financial corporate loans	46%	Climate regulation; surface water; groundwater
Banco de México	2021	Mexico	Loans; equity; bonds	37%	Surface water; groundwater; climate regulation
Bank Negara Malaysia	2022	Malaysia	Loans	54%	Surface water; climate regulation; flood protection
European Central Bank	2023	Euro area	Non-financial corporate loans	72%	Mass stabilisation; surface water; groundwater
National Bank of Georgia	2023	Georgia	Loans	46%	Surface water; groundwater; flood and storm protection
OECD	2024	Hungary	Loans	39%	Surface water; groundwater

Source: DNB (2020); BdF (2021); World Bank (2021); BdM (2021); BNM (2022); ECB (2023); NBG (2023); OECD (2024)

2.3 The policy enabling environment

Taxonomies

Sustainable finance taxonomies provide a classification system that help to identify environmentally sustainable economic activities. This helps to create consistency and comparability that can provide better information of clients' activities for banks to manage their climate and nature risks exposure and impact. Taxonomies can also reduce the risk of greenwashing, particularly when developed through a science-based, multi-stakeholder approach (see Figure X). Related to taxonomies, the emergence of nature-positive investment frameworks, such as the International Finance Corporation's Biodiversity Finance Reference Guide (IFC, 2023), provides a structured approach to banks, investors and other stakeholders to identify eligible use of proceeds that help protect, maintain, or enhance biodiversity and ecosystem services.

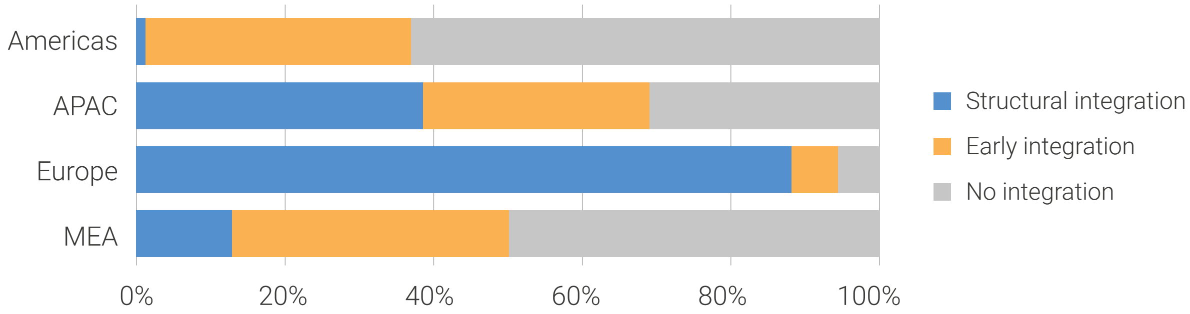


Figure X: The level of nature-related integration across taxonomies

Source: adaptation from SUSREG (WWF, 2024d).

Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology).

As of April 2024, 47 sustainable finance taxonomies have been issued globally (SBFN, 2024). Currently, few taxonomies include nature-related objectives and criteria, however, the trend toward their incorporation is gaining momentum (IMF, 2024b). These taxonomies range from formal regulatory frameworks to simpler tools, such as green bond eligibility lists. Among the 17 countries considered as mega-biodiverse, most have either adopted taxonomies, or are in the process of developing them, with the exception of the United States of America, Madagascar, Congo and Venezuela (IMF, 2024b).

Most existing taxonomies focus primarily on climate mitigation and adaptation, with limited direct focus on nature. While some have outlined general environmental objectives—such as protection of biodiversity and ecosystems, water conservation, or pollution prevention—these remain broad. The European Union has developed detailed technical screening criteria (TSC) or specific principles dedicated to achieving nature-related objectives. However, in many taxonomies, nature is addressed indirectly, mainly through compliance with the "do no significant harm" (DNSH) principle. Several taxonomies, including those of the European Union, China, Colombia, Indonesia and Thailand, (will) incorporate nature-related considerations under the taxonomies' environmental objectives. Meanwhile, other taxonomies, such as those of Malaysia, Kenya and the Philippines, include nature considerations as part of the DNSH criteria Table 4 provides an overview of sustainable finance taxonomies.

Box 3: An example of how nature-related risks are embedded in DNSH criteria

In the *Philippine Sustainable Finance Taxonomy Guidelines* a floating solar power plant is considered aligned with the climate change mitigation under the environmental objective (EO). However, it must also meet the DNSH criteria to ensure the activity does not cause significant harm to other EOs. For instance, the project must be evaluated against these questions:

- Is the economic activity harmful to the healthy condition of ecosystems and biodiversity, including threatening the protection and conservation of natural areas, habitats, and species?
- Does the activity avoid leading to or causing extensive deforestation?

The project must also implement necessary remedial measures and meet minimum social safeguards. Only after assessing the project based on these requirements can the activity be classified using the taxonomy's traffic light classification system.

Box 4: EU Taxonomy technical screening criteria

The EU Taxonomy (Regulation (EU) 2020/852) requires that economic activities significantly contribute to at least one of its six designated sustainability objectives. In addition to climate-related goals, the four other key objectives are: (i) the sustainable use and protection of water and marine resources, (ii) the transition to a circular economy, (iii) pollution prevention and control, and (iv) the protection and restoration of biodiversity and ecosystems. It is currently the only taxonomy that provides a methodological document with concepts and definitions of activities that substantially contribute to the European Union's biodiversity commitments and regulations (European Commission, 2022).

The EU Taxonomy outlines specific activities and their associated technical screening criteria across these six environmental objectives. These criteria serve as guidelines for evaluating companies' economic activities under the taxonomy. For the four non-climate environmental objectives, the Environmental Delegated Act (EU) 2023/2486 was published in November 2023, and the criteria have been in effect since January 2024.

It details the technical screening criteria for determining when an economic activity qualifies as substantially contributing to the protection and restoration of biodiversity and ecosystems. For instance, under environmental protection and restoration activities, an activity must contribute to at least one of the following:

a. Maintaining good condition of ecosystems, species, habitats or of habitats of species
b. Re-establishing or restoring ecosystems, habitats or habitats of species towards or to good condition, including through increasing their area or range.

In the Asia-Pacific region, the development of sustainable taxonomies has become mainstream in many countries, though some focus primarily on climate mitigation and adaptation as key objectives. The green bond endorsed project issued by the People's Bank of China, often referred to as China's taxonomy, goes beyond climate and includes a range of nature protection activities. These encompass ecological protection and construction projects, such as the conservation of natural forest resources, the ecological restoration of degraded mining lands, the rescue and protection of endangered wildlife, and broader biodiversity protection efforts. Similarly, the Association of Southeast Asian Nations (ASEAN) taxonomy lists "Protection of Healthy Ecosystems and Biodiversity" and "Resource Resilience and the Transition to a Circular Economy" as environmental objectives. However, despite recent updates to its TSC for various sectors, the ASEAN taxonomy has not yet established specific TSCs for these two environmental objectives.

In other regions, taxonomy frameworks are steadily advancing, particularly in the Americas and in the Middle East and Africa (MEA). Brazil, for example, recently released a sustainable taxonomy for public consultation. The Brazilian taxonomy covers a broad spectrum of environmental objectives, including: (i) Protection and restoration of biodiversity and ecosystems; (ii) Conservation, sustainable management and use of soil and forests; (iii) Sustainable use and protection of water and marine resources; (iv) Transition to a circular economy; and (iv) Contamination prevention and control.

Table 4: Overview of sustainable finance taxonomies (non-exhaustive)

Level of integration	Still in development	Under consultation	Implemented
Technical screening criteria (TSC) for nature-related objectives and DNSH			European Union
Environmental objectives incorporate nature but TSC are not defined		Brazil, Australia, Türkiye	ASEAN, China, Colombia, Indonesia, Singapore, South Africa, the Republic of Korea, Thailand, Bangladesh, China, Costa Rica
Nature objectives integrated only through the DNSH		Kenya	Malaysia,[7] the Philippines, Mexico
Nature is not included, or listed as future objective, or limited details available	Canada, United Kingdom, India, Chile, the United Arab Emirates, New Zealand		Hong Kong

Source: WWF, 2024d

7 This is referring to The Climate Change Principle-based Taxonomy (CCPT)

Corporate disclosures and due diligence

Corporate disclosure requirements provide frameworks for improving the transparency and comparability of nature-related reporting. Corporate disclosures help financial institutions assess nature-related risks and opportunities, ensuring that companies provide transparency on their nature impact. Broadly speaking, there exist two approaches to corporate disclosure frameworks, voluntary and mandatory (Box 5). Corporate sustainability reporting standards vary, with regions such as Europe showing significant progress while other regions are still in the early stages of implementing robust disclosure requirements (Figure XI). The Corporate Sustainability Reporting Directive (CSRD) in the European Union provides a standardised framework for large corporations to report on their sustainability activities, including biodiversity, water, marine, and pollution. The CSRD is currently the only comprehensive mandatory disclosure requirement that mandates a double materiality perspective. However, several jurisdictions within the European Union have yet to transpose the directive into national law (European Commission, 2024).

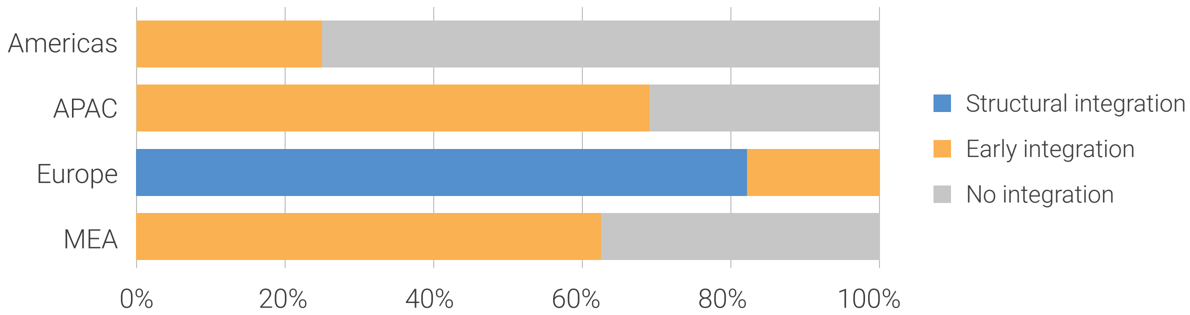


Figure XI: The level of nature-related integration across corporate disclosures

Source: adaptation from SUSREG (WWF, 2024d).

Note: The X-axis represents the share of indicators across the respective jurisdictions within each region (see Appendix for methodology). Corporate due diligence obligations are not in scope of SUSREG.

Corporate due diligence frameworks require companies, along with their upstream and downstream partners, to mitigate adverse impacts on the environment. These impacts include issues such as exploitation, biodiversity loss, pollution, and the destruction of natural heritage. While the CSRD focuses on the reporting of risks and impacts, the Corporate Sustainability Due Diligence Directive (CSDDD) requires companies to conduct due diligence measures. The CSRD and CSDDD are interconnected and part of a larger legal framework within the European Union (see Figure XII).

Several countries have adopted similar due diligence frameworks inspired by the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct (OECD, 2023), such as the French Corporate Duty of Vigilance Law, German Supply Chain Due Diligence Act, and the Swiss Supply Chain Act. As these due diligence obligations evolve, financial institutions increasingly face litigation risks stemming from non-compliance with such regulatory requirements, further highlighting the importance of including nature-related risks in corporate sustainability strategies. The NGFS's report on nature-related litigation further highlights cases filed against companies and financial institutions related to due diligence legislation, including two cases in France related to due diligence plans and human rights impacts in the Amazon (NGFS, 2024).

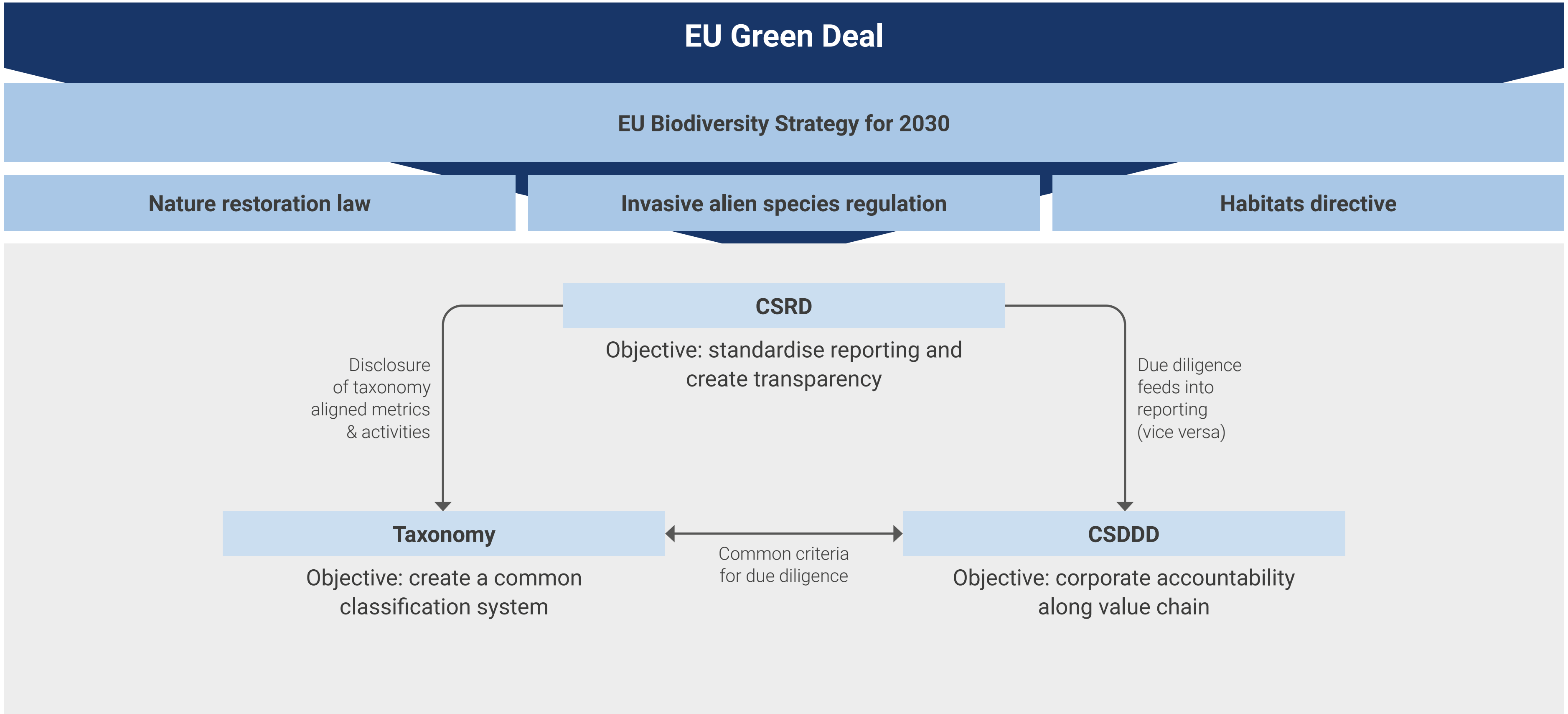


Figure XII: The European Union framework for corporate disclosures, due diligence and taxonomies
Source: own work

Other regions including Asia-Pacific, the Americas, and the Middle East and Africa (MEA) are in earlier stages of implementing such disclosure standards. Some countries have already imposed mandatory reporting by business on nature-related risks. For example, by 2012 the Securities and Exchange Board of India (SEBI) had mandated the top 100 listed entities by market capitalisation to file Business Responsibility Reports (BRR), which also include environmental criteria as water and waste (UNDP, 2022a, 2022b). Most countries, which are primarily following the ISSB sustainability standards, have yet to incorporate nature-related disclosures requirements beyond climate. More than 20 jurisdictions, accounting for nearly 55 per cent of global GDP, have either adopted or are preparing to integrate these standards (IFRS, 2024).

Although nature-specific disclosures are not yet explicitly covered by the ISSB, broader sustainability reporting is included under IFRS S1. Within this framework, companies can disclose the nature-related risks and opportunities arising from the interactions between the entity and the natural environment throughout the entity's value chain. However, the standard is broad and does not specify nature-related disclosures in detail. This means companies are only required to report material information that is expected to affect the companies' future prospects, making it easier for them to potentially overlook nature risks. Moreover, ISSB follows a single materiality approach, focusing on the impact of sustainability issues on the company, rather than the company's impact and dependency on the environment. The ISSB released its 2024–2026 work plan that includes a new research project about risks and opportunities related to biodiversity, ecosystems, and ecosystem services.

Box 5: Voluntary and mandatory corporate disclosures

Corporate sustainability disclosures can be either voluntary or mandatory, each with distinct characteristics. Voluntary disclosures allow companies the flexibility to report on sustainability practices that are most relevant to their operations and stakeholders, while mandatory disclosures require companies to adhere to standardised reporting frameworks.

Taskforce on Nature-related Financial Disclosures (TNFD)
TNFD is a global, market-led, science-based, government-supported voluntary initiative that aims to encourage and enable corporates and financial institutions to assess, report and act on evolving nature-related dependencies, impacts, risks and opportunities (nature-related issues). It builds on the approach of the Task Force on Climate-related Financial Disclosures (TCFD) to cover to nature beyond just climate. TNFD provides recommendations for corporates and financial institutions to disclose their nature-related issues and guidance to integrate nature-related considerations into their strategic planning, risk management, and capital allocation decisions. Since its launch, TNFD has seen rapid early adoption, with more than 500 organisations across various sectors and regions committing to disclose in accordance with its recommendations. This swift uptake reflects a growing recognition of the importance of nature-related issues and the need for transparent, standardised reporting to drive sustainable business practices.

Corporate Sustainability Reporting Directive (CSRD)
This European Union legislation mandates large companies and listed small- and medium-sized enterprises (SMEs) to disclose detailed information on their ESG impacts. It requires companies that consider biodiversity and ecosystem material to their business to disclose their impacts, dependencies, risks and opportunities, integrating nature into their business strategies. Under the European Sustainability Reporting Standard (ESRS), companies must report how these factors originate from and trigger adaptation of their strategy and business model. This includes dependencies on ecosystem services and impacts on biodiversity, such as habitat loss and species extinction. As mandated by CSRD, the ESRS requires companies to disclose according to a double materiality approach. A key element is encouraging the disclosure of transition plans related to biodiversity and ecosystem (though this is not mandatory). The CSRD will also affect non-European-Union companies with significant operations in the European Union that fall within the scope of the directives.

Brazil's Securities and Exchange Commission (CVM) reporting requirements
In some cases, jurisdictions are moving from voluntary to mandatory sustainability reporting guidelines. According to the Comissão de Valores Mobiliários (CVM), public companies and investment funds can voluntarily begin sustainability reporting in 2024, following the ISSB standards, with mandatory reporting for public companies set to begin in 2026 (IFRS, 2023).

2.4 Environmental policies

Environmental policies can guide the productive structure of the economy to align with the Global Biodiversity Framework by addressing environmental externalities. As previously noted, the primary responsibility for dealing with environmental externalities lies with political authorities, as opposed to prudential authorities (EBA, 2023). Policymakers have a variety of environmental policy approaches at their disposal (Dasgupta, 2021). In certain cases, they can deploy pricing instruments to internalise environmental costs. At other times, it can be more effective to resort to quantity restrictions. Recognising true environmental costs in pricing and allocation mechanisms will directly impact companies and households, which in turn will be reflected in prudential risks given the current framework.

There has been exponential growth in the number of environmental policies adopted by jurisdictions over the last decades. The OECD's Policy Instruments for the Environment (PINE) database covering 146 countries shows the pace of growth since the Rio Conventions in 1992 (see Figure XIII). Europe accounts for more than half of the environmental policies adopted today. Most policies are adopted at the national level. These policies address a variety of environmental themes, ranging from water pollution and deforestation to noise pollution and biodiversity loss. Climate change mitigation is the most common theme being addressed, followed by biodiversity loss and pollution.

A large variety of policy instruments have been used to address these environmental causes, including but not limited to:

- Taxes and fees, which increase the cost of polluting products or activities and discourage their consumption and production
- Subsidies, which are environmentally beneficial if they reduce directly or indirectly the relative price of a clean product or activity (e.g. grants, payments for ecosystem services)
- Tradable permits and offsets, which provide an allowance or permission to engage in an activity (e.g. quantitative emission or resource exploitation rights)
- Deposit-refund schemes, which place a surcharge on the price of potentially polluting products to induce pollution avoidance.

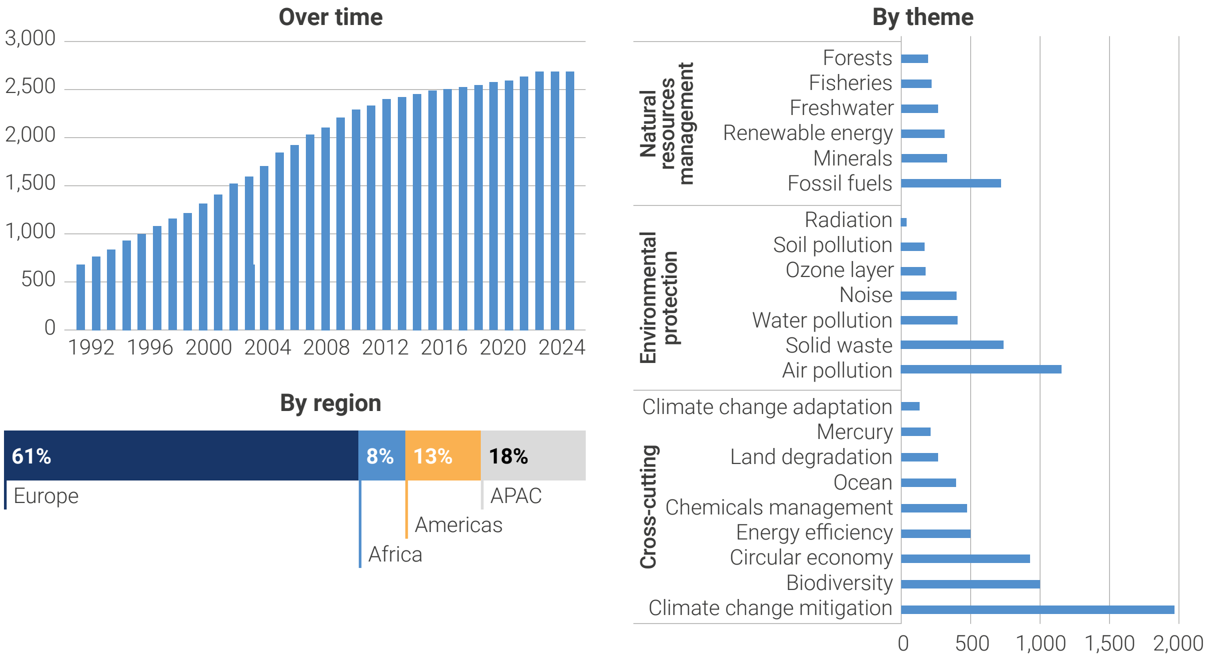


Figure XIII: Number of environmental policies over time, by region and by theme

Source: OECD Policy Instruments for the Environment, PINE Database (146 countries).

Note: By region and by theme represents the year 2024.

Jurisdictions around the world are developing policies to help correct market failures and ensure that the true value of ecosystem services is recognised. Environmental policies like Brazil's Forest Code and the Australian Nature Repair Act play a crucial role in addressing market failures related to environmental externalities (see Table 5). These policies aim to address environmental costs and benefits, which are often overlooked in traditional market transactions. The Forest Code, for example, establishes general rules for land use and conservation to enhance biodiversity. The Australian Nature Repair Act encourages private investment in biodiversity projects through a voluntary market, fostering public-private partnerships to repair and protect natural habitats.

Table 5: A selection of relevant environmental policies by ECOFACT

Jurisdiction	Regulation	Nature topics	Legal status	Scope
European Union	**Nature Restoration Law**	Biodiversity; land use; freshwater	Binding	Sets legally binding targets and obligations for European Union member states on the restoration and non-deterioration of ecosystems.
China	**Guidelines for Ecological Protection**	Biodiversity; pollution	Non-binding	Provides guidance on how Chinese companies operating abroad are to follow best practice for environmental protection.
Australia	**Nature Repair Act**	Biodiversity	Non-binding	Establishes a voluntary biodiversity certificate market to incentivise land management practices that protect the environment. Any person may apply for a biodiversity project to be registered on the Biodiversity Market Register, providing it meets certain requirements.
Brazil	**Forest Code**	Biodiversity; deforestation	Binding	Establishes general rules for land use and conservation, primarily affecting rural landowners, property managers and occupants, agricultural businesses, small rural properties, and corporate entities using land for industrial or agricultural purposes.
South Africa	**National Water Resources Strategy**	Freshwater	Binding	The legal instrument for operationalising the National Water Act (Act 36 of 1998). It is the primary mechanism to manage water across all sectors towards achieving national government's development objectives.
United States of America	**FOREST Act [proposal]**	Deforestation	Binding	Prohibits importation of commodities such as palm oil, soy, cocoa, cattle, and rubber linked to illegal deforestation.

Source: ECOFACT Policy Outlook

National biodiversity strategies and action plans (NBSAPs) can help to increase coherence and coordination of environmental policies nationally and globally. Due to the multidimensionality of nature loss and the complex interplay of different policy objectives, policymakers are increasingly developing coordinated policy approaches. The GBF introduced NBSAPs as a way for policymakers to outline national strategies to embed biodiversity conservation into policies across economic sectors. Countries such as France, Suriname, Japan, and China have made considerable progress on this front (WWF, 2024b). As part of these NBSAPs, some countries are developing cross-sectoral initiatives and nature-positive pathways to turn national strategies into sector-specific strategies (see Box 6). A national biodiversity finance plan (BFP) can enable the achievement of national biodiversity goals and targets by closing the funding gap. BFPs are made up of a suite of 'finance solutions' that seek to achieve long-lasting positive changes to the environmental, social, and economic systems dependent upon nature. BFPs will support the financing and achievement of NBSAPs. Nature-based solutions (NBS), in turn, can provide practical, on-the-ground actions to achieve specific targets.

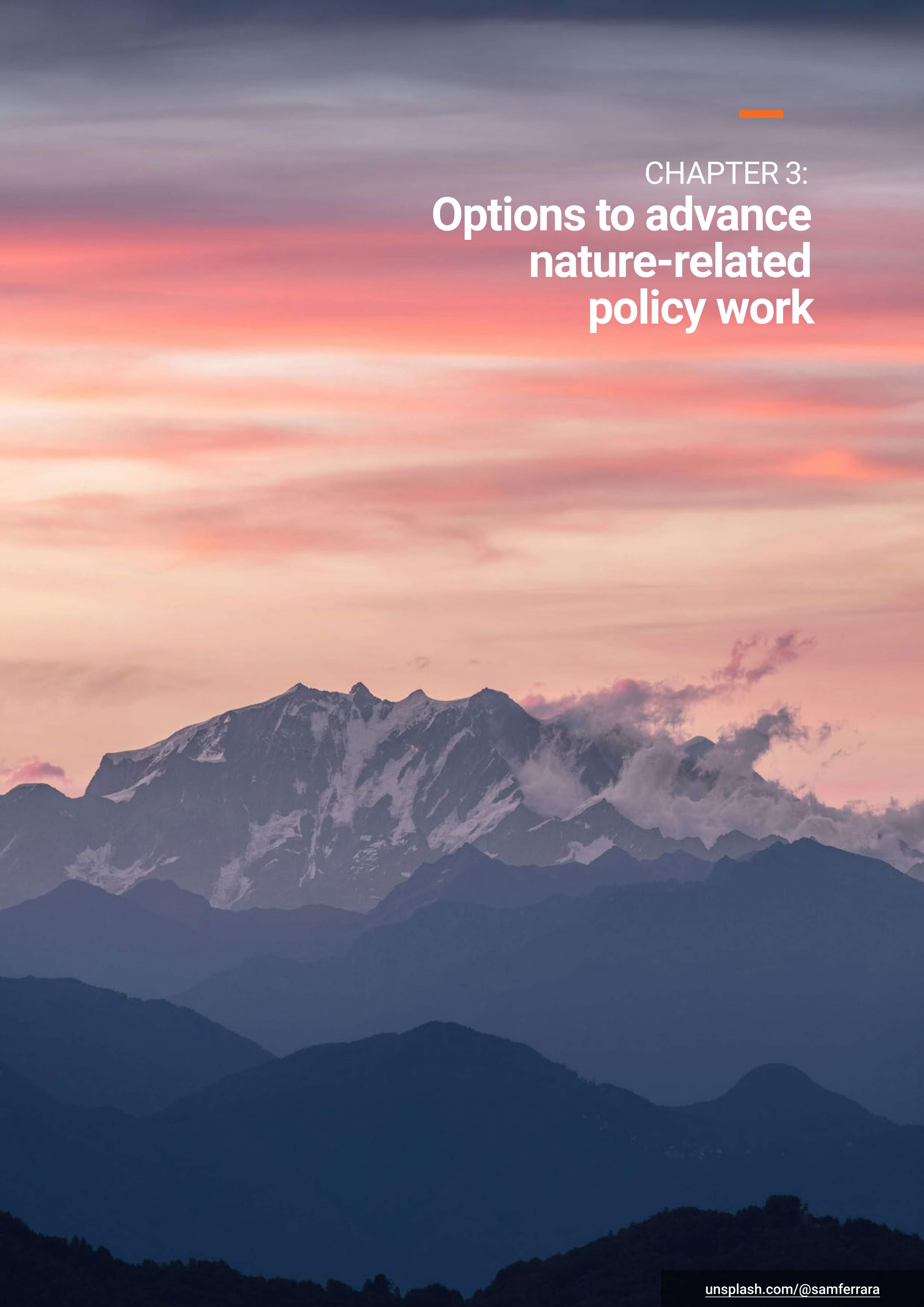
Box 6: Zambia's Green Finance Mainstreaming Working Group

As Zambia seeks to align its financial sector with global sustainability standards, the UNDP Biodiversity Finance Initiative (BIOFIN) Zambia has been instrumental in driving this agenda forward by supporting the establishment of the Green Finance Mainstreaming Working Group. Formed under the framework of a tripartite memorandum of understanding among the country's three key financial regulators, this working group plays a crucial role in navigating the policy landscape to enhance financing for Zambia's national biodiversity strategy and action plan (NBSAP).

The working group convenes regulatory authorities such as the Bank of Zambia, Pensions and Insurance Authority, and the Securities and Exchange Commission, alongside policymakers from the Ministry of Green Economy and Environment, Ministry of Lands and Natural Resources, and the Ministry of Finance and National Planning. Additionally, it engages non-governmental stakeholders such as the Zambian Institute of Chartered Accountants. By bridging regulatory frameworks with practical green finance principles, the working group is effectively charting a path for integrating nature-related financial regulations into the country's financial system. UNDP BIOFIN, as a member, provides ongoing technical support and serves as the secretariat, ensuring that this collaborative platform drives impactful change.

The group's efforts have already yielded substantial outcomes in mainstreaming green finance regulations. A key achievement was the adoption of fiscal incentives for green bond issuances, which has laid the foundation for developing Zambia's green bond market. In 2023, this progress was further bolstered by the Bank of Zambia's *Green Loan Guidelines*, formalised through Gazette Notice No. 1349 of 2023. These guidelines explicitly direct loans towards activities that promote biodiversity conservation and restoration, complementing the green bond guidelines established by the Securities and Exchange Commission. Such regulatory advancements demonstrate Zambia's proactive approach to aligning financial instruments with environmental goals.

By fostering stronger synergies between financial regulators and policy frameworks, the working group is navigating the intersection of financial stability and environmental sustainability. Its efforts are pivotal in reducing environmental risks while steering investments toward activities that are both economically beneficial and ecologically sustainable. In doing so, the working group is helping Zambia's financial sector not only comply with emerging nature-related regulations but also leverage them as opportunities for growth and resilience.



CHAPTER 3:

Options to advance nature-related policy work

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3.1 Whole-of-government approach

The main objectives of the nature-related policy landscape for banks are to help stop and reverse nature degradation and the loss of ecosystem services, and to ensure that the global financial system remains resilient in view of the financial risks arising from nature loss. The GBF framework highlighted a critical responsibility for the financial sector to reach the overall ambition to halt and reverse biodiversity loss by 2030 and live in harmony with nature by 2050. Target 15 of the GBF prescribes that financial institutions should regularly monitor and assess the risks arising from biodiversity loss. Target 14 prescribes the full integration of biodiversity and its multiple values into policies and regulations across all levels of government. As was seen at COP16 in Colombia in 2024, banks and the wider financial system have further incorporated nature and biodiversity into financial decision-making, including nature-related risk assessment and sustainable investment strategies (UNEP FI, 2024b).

While the financial sector has a unique role to support the economy in meeting these objectives, it is also dependent on a broad coalition of actions and responses across all layers of private and public sector (whole-of-government-and-society approach). This requires coherent, long-term policy commitments with proportionate measures and effective incentives across the policy landscape globally (World Bank, 2021 IMF, 2024b). An effective approach to integrating nature-related considerations will depend on how policies interact with the broader "policy landscape". Formulating such a coherent and coordinated policy framework can be approached from at least three dimensions:

1. **Public policy alignment:** While prudential regulation has a separate and independent (risk-based) mandate, it is part of a wider economic and financial policy framework that together create enabling conditions for economic transformation and risk mitigation. When designing prudential policy reform, the broader fiscal, regulatory and environmental tools should also be taken into account to identify how policies interact to achieve desired outcomes. It involves collaboration between the different public bodies that extends beyond their respective fields of competence with a view to providing the public with a combined response from a single body. This includes enabling policies such as taxonomies, corporate disclosures and due diligence obligations as well as environmental polices across specific industries that address negative externalities. NBSAPs and nature-positive pathways can be a useful approach for policymakers to lay out national strategies, plans, or programmes in this regard (PBL, 2022; WWF, 2023).

Case study: Brazil introduced environmental requirements linking access to rural credit in the Amazon biome (CMN Resolution No. 3545) to the Forest Code (Law No. 12.651). In 2021, these environmental requirements were consolidated by Resolution BCB No. 140, and subsequently expanded to all biomes as well as introducing the Rural Environmental Registry (*Cadastro Ambiental Rural*) (Resolution CMN No. 5081). Improved access to rural credit enables farmers, also relieving the pressures driving deforestation. Farmers need to submit the geodetic coordinates of the plot of land and have a standing registration in the Rural Environmental Registry to qualify for such rural credits. This has created a comprehensive database with granular asset-level data, which is functionally integrated across a number of government agencies ranging from Banco Central do Brasil (BCB) and the Brazilian Forestry Service to the Native People Foundation (FUNAI) and Ministry of Justice (MJSP). The BCB is setting up an (advanced) monitoring system to ensure compliance. This set of rules creates an enforceable link between environmental protection, rural credit and prudential standards. These are integrated into a single set of requirements for banks in the Central Bank's Rural Credit Manual.

2. **Global alignment:** The loss of nature and ecosystem services around the world requires local policy responses that are globally coordinated. Nature loss has systemic effects due to spillover and feedback effects across ecosystems (NGFS, 2024). This requires global cooperation across jurisdictions and multilateral institutions. Banks need globally consistent regulatory standards, guidance and definitions as undue divergences between jurisdictional requirements can affect comparability and interoperability of nature-related policies and regulations. Prudential frameworks need to better capture risk exposures from unsustainable economic activity with coherent approaches across jurisdictions. This requires global cooperation across jurisdictions by multilateral institutions, for example by the BCBS in the context of prudential standards. It is important those global standards explicitly address nature-related aspects, as has been the case for climate-related financial risks.

Case study: The Taskforce on Nature-related Financial Disclosures (TNFD) aims to provide a framework for organisations to report on nature-related dependencies, impacts and opportunities, similar to the Task Force on Climate-related Financial Disclosures (TCFD). By aligning with global sustainability standards and frameworks, such as the Global Reporting Initiative (GRI) and the International Sustainability Standards Board (ISSB), the TNFD ensures consistency and comparability in nature-related disclosures. This alignment helps organisations worldwide integrate biodiversity and ecosystem considerations into their reporting, supporting global efforts to preserve nature and achieve sustainability goals.

3. **Climate-nature alignment:** As nature loss and climate change are inextricably linked, there is a need to evaluate how policy responses can amplify synergies and minimise trade-offs between the two threats. This requires an understanding of how both threats interact from an ecological, risk management and institutional point of view. Only by considering them as parts of the same complex problem can solutions be developed that avoid maladaptation and maximise the beneficial outcomes (IPCC-IPBES, 2021). An important way to achieve this is for jurisdictions to identify synergies between national climate plans (NDCs) and biodiversity plans (NBSAPs) (WWF, 2023). In the realm of prudential framework, there are number of regulatory and supervisory authorities that have implemented guidelines incorporating both climate change and nature loss or ESG more broadly (see Chapter 2.2).

> **Case study:** The Monetary Authority of Singapore developed *Guidelines on Environmental Risk Management for Banks* (2020). These guidelines aim to enhance the banking sector's resilience to and management of environmental risk through setting out sound risk management practices. Environmental issues that are of concern include climate change, loss of biodiversity, pollution and changes in land use.

3.2 Enablers and synergies

To support a whole-of-government approach, this publication identifies three key enablers to promote coherence and synergies between prudential regulation and the wider policy landscape for banks. The nature-related policy landscape for banks is a complex network of connections that interact both locally and globally. Some of these linkages may lead to synergies, while others may lead to inefficiencies. In preparing this publication, literature research and interviews with key stakeholders were conducted (see Appendix). The findings suggest at least three main enablers (Table 6) that can be the focus of nature-related policy interventions to help strengthen synergies within the policy landscape.

Enablers	Rationale for potential synergies
Data availability	▪ Reliable, standardised and decision-useful data on health of ecosystems as well as on corporate location and supply chains are required to enable banks to identify, manage and disclose their risks, dependencies and impacts on nature.
Risk measurement	▪ Advanced risk measurement, modelling techniques and scientific pathways are required to enable banks to account for the complex characteristics of nature-related physical and transition risk.
Environmental externalities	▪ Environmental externalities should be accounted for in pricing mechanisms and/or by quantity restrictions to enable prudential risk management frameworks to reflect the impact of nature loss.

Targeting policy approaches on these specific enablers helps to increase effectiveness by amplifying synergies and minimising trade-offs across the policy landscape. The considerations that follow are intended for government policymakers and discuss pathways for jurisdictions across all levels of regulatory maturity to continue integrating the risks and impacts arising from nature loss. **Government policymakers are defined as** government authorities, in particular finance and economic ministries, treasuries and environmental agencies, who have a mandate to propose and implement prudential, financial, industrial and environmental regulations that either directly or indirectly impact banks and their clients. In some jurisdictions, prudential standard setting also falls (in part) under the remit of central banks and supervisors, while in others their mandate is confined to the supervision and enforcement of prudential standards set by a separate prudential regulatory authority.

Data availability

Enabler	Overall policy consideration
Data availability	▪ Support the establishment of a **global data architecture** that makes already available data **readily and freely accessible** to all relevant stakeholders and sets underlying conditions needed to increase availability **of reliable, comparable and decision-useful** nature data.

Government policy makers can support mechanisms that make existing nature-related data sources readily available to all relevant stakeholders. Many stakeholders, ranging from government, multilateral, conservation, and scientific organisations to financial corporates, have been collecting nature-related data for a long time. There is already a lot of data available on the state of nature across ecosystems around the world. The challenge lies in aggregating these data sources and making them available in a standardised and decision-useful format to downstream end users, such as banks and financial institutions. For example, data on changes in forest cover, water resources, and other environmental indicators are often collected by government institutions responsible for natural resource management. However, this data is not always readily accessible to market players. The TNFD (2024) has a developed a roadmap to establish a nature data public facility to create open access to a baseline amount of nature data relevant to corporates and financial institutions for their corporate reporting, target setting and transition planning. Government policymakers can support national and international mechanisms to improve the effectiveness of the nature-related data value chain. They can, for example, support by mobilising resources, forming strategic collaborative partnerships and guaranteeing public access to reduce compliance costs.

Case study: The European Single Access Point (ESAP) is an initiative by the European Union to centralise access to financial and sustainability-related information. By providing a single, streamlined platform, ESAP makes it easier for stakeholders, including investors, regulators, and the public, to access important data. This centralised access supports transparency, reduces compliance costs and informs decision-making, aligning with directives such as the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS).

Government policymakers can address the underlying constraints that create gaps in data availability, in particular those related to corporate asset location and supply chains, which are needed to identify the risks of and impact on nature loss. While a lot of nature-related data exists, gaps remain, in part because data coverage differs greatly across regions, species and ecosystems. Data coverage is often more limited in highly biodiverse countries with lower levels of socioeconomic development (WWF, 2024b). As nature is spatially explicit, any risk assessment of nature loss should also be granular and location specific. This creates a need for corporate asset location and supply chain data, which is often not available, highly fragmented or is confidential for competitive reasons (TNFD, 2024; World Bank, 2021). Government policymakers can support mechanisms to fix these constraints, for example by mobilising long-term strategic funding for nature data collectors and aggregators such as International Union for Conservation of Nature (IUCN), Global Biodiversity Information Facility (GBI) and the Group on Earth Observations Biodiversity Observation Network (GEO BON), or reducing data collection costs for corporates and protecting their confidentiality concerns. They can also leverage their policy toolbox to mainstream the need for corporates to perform due diligence along their value chain, process information along common taxonomy classifications and disclose that information publicly. Both international soft law as well as mandatory national and international standards can also play a critical role in this convergence.

Risk measurement

Enabler	Overall policy consideration
Risk measurement	▪ Promote the advancement of a **common framework** for measuring how nature-related risks are **material** for banks, for example by mobilising resources to advance modelling of **nature-climate-economy interactions**

Government policymakers can promote the advancement of the measuring and modelling of nature-climate-economy interactions, for example by considering it as a global public good. While it should be noted that modelling nature in itself may never fully be possible due to its complexity and multidimensionality (Chenet and others, 2021), nature-related financial risk assessment is still in its infancy. There is a strong strategic case for all stakeholders involved to invest in advancing climate-nature-economy modelling, analytics and scenarios as a public good (GFI, 2024; World Bank, 2021). In particular, there is a clear need to mobilise public and private resources towards innovative ways to model the interactions within ecosystems and drivers of nature loss. NGFS (2023) has identified a number of short-term (e.g. use of input-output tables and biophysical models) and longer term options (e.g. non-equilibrium approaches and modelling of tipping points) to focus nature risk modelling and improve it over time. Under Brazil's G20 presidency, Banco Central do Brasil (BCB) and BIS organised an international competition, the G20 Techsprint 2024, to explore cutting-edge ESG technological solutions (BIS, 2024).

A variety of other stakeholders are also contributing to this effort, including central banks (ECB, 2024b; BdF, 2021; DNB, 2024), academia (Green Finance Institute, 2024; Marsden and others, 2024), and the banks themselves (FfB, 2023). Ultimately, a more comprehensive, methodologically diversified, and transparent approach to modelling the complex interplay of nature-climate-economy interactions is needed. Government policymakers can for example strengthen opportunity for collaboration between financial institutions and the scientific community, while central banks can use their authority and mandate to convene a community of practices to bring together banks and other financial institutions.

Case study: In 2019 the United Kingdom of Great Britain and Northern Ireland, as part of its Green Finance Taskforce, established the Green Finance Institute (as a separate corporate entity) to respond to market barriers, for example, by developing advanced modelling approaches such as nature-related value-at-risk modelling and other scenario-based approaches and benchmarks. The 2024 report by GFI on *Assessing the Materiality of Nature-Related Financial Risks for the UK* together with the University of Reading and Oxford University is an important example of this.

Environmental externalities

Enabler	Overall policy consideration
Environmental externalities	▪ Prioritise policies that address environmental externalities, for example by recognising nature-related risks in **pricing mechanisms**, by imposing **quantity restrictions** and reducing **harmful subsidies**

Government policymakers can create policies to reduce environmentally harmful activities by relying on scientific knowledge and previous policy experiences to identify effective interventions. Market failures are at the root of the drivers of nature loss, such as land and sea use change, direct exploitation, climate change, pollution, and invasion of alien species. The primary responsibility for dealing with market failures, such as environmental externalities, lies within the remit of government policymakers. From a prudential perspective, environmental taxes may reduce the ability of companies and households with environmentally harmful activities to service their debt, increasing credit risks for banks. The existing prudential framework should capture these effects, as long as environmental externalities are being internalised through a broad set of policies addressing all parts of the economy. Policymakers should develop pricing and non-pricing policy incentives that address these market failures, that include taxes, fees, charges, tradeable permit schemes, and payments for ecosystem services (PES) programmes. This should align with scientific and policy research to determine the most effective interventions.

Multilateral organisations can support in monitoring the effectiveness of adopted environmental policies (see for example the OECD Policy Instruments for the Environment database or the recently launched Oxford Climate Policy Monitor). Long-term commitments and policy incentives that accelerate broad public support are required.

Case study: Colombia's national biodiversity plan is a strategic framework designed to mitigate the negative externalities of harmful environmental actions. By implementing measures to curb deforestation, control invasive species, and reduce pollution, the plan aims to protect and restore vital ecosystems. For example, the plan focuses on expanding the country's protected land from 24 to 34 per cent, and increasing its protected oceans by four per cent. Colombia also set up a mandatory biodiversity-credit market in which companies that are harming the environment are required by law to purchase credits (Antonelli and others, 2024). This could impact the cost base of affected companies, and could thus lead to higher credit risk and capital requirements for banks.

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Appendix

Research and interviews

The research for this publication was conducted in Q4 2024. In preparing this publication, we conducted a series of interviews with key stakeholders, including prudential regulators, central banks and multilateral organisations. This publication should not be considered to necessarily represent the views of these institutions.

- European Banking Authority (EBA)
- De Nederlandsche Bank (DNB)
- Network for Greening the Financial System (NGFS)
- Bank Negara Malaysia (BNM)
- Swiss Financial Market Supervisory Authority (FINMA)
- South African Reserve Bank (SARB)
- Banco Central do Brasil (BCB)
- Taskforce on Nature-Related Financial Disclosures (TNFD)
- United Nations Development Programme (UNDP)
- World Bank
- International Monetary Fund (IMF)

SUSREG methodology

The Sustainable Financial Regulations and Central Bank Activities (SUSREG) Tracker from WWF assesses regulatory and supervisory practices relating to sustainable banking, as well as central banks' policies and other financial sector-related measures contributing to the transition to a nature-positive, resilient and sustainable economy (WWF, 2024d). It covers 50 jurisdictions across all major regions globally for banking assessment.

Regions	Jurisdiction in scope
Americas (11 jurisdictions)	Brazil, Canada, Chile, Colombia, Costa Rica, Mexico, Paraguay, Peru, the United States of America, California (US state), New York (US state)
Europe (17 jurisdictions)	Austria, the Kingdom of the Netherlands, Denmark, Norway, European Union, Portugal, France, Spain, Germany, Slovenia, Greece, Sweden, Hungary, Switzerland, Italy, the United Kingdom of Great Britain and Northern Ireland, Luxembourg
MEA (9 jurisdictions)	Kenya, Madagascar, Morocco, Saudi Arabia, South Africa, Türkiye, the United Arab Emirates, Uganda, Zambia
APAC (13 jurisdictions)	Australia, Bangladesh, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, the Republic of Korea, Thailand

For the purposes of this publication the scope of the SUSREG framework has been narrowed to 25 indicators that capture nature-related dimensions specifically. These indicators were mapped onto key components of the policy landscape, also distinguishing between the three pillars of the Basel prudential framework (see Table 10). Each indicator is scored as "no integration", "early integration" (e.g. the practice is applicable to only a subset of banks or addresses nature risk only implicitly or in a broad sense) or "structural integration" (e.g. the practice applies to all supervised banks and explicitly includes nature risks). This relates to SUSREG's assessment rubric of whether the indicator assessed does "not meet", "partially meets" or "fully meets" the indicator's criteria. To perform the assessments, WWF only considers information that is publicly available and from sources such as regulations, supervisory expectations, guidelines, measures and activities issued by the central bank, financial supervisor or regulator. For more information on methodology, see SUSREG's methodology document (WWF, 2024c).

Table 10: A selection of relevant SUSREG indicators for the purpose of this report

#	Indicator	Description
Pillar 1		
1.5.2	Minimum capital ratios	Minimum capital requirements or capital add-ons for banks to incorporate environmental considerations, through a differentiated risk-based approach.
1.5.4	Liquidity ratios	Liquidity ratios are adjusted to take environmental and social (E&S) considerations into account, through a differentiated risk-based approach.
Pillar 2		
1.1.1	Risks coverage	The regulations or supervisory expectations cover a broad range of E&S issues.
1.1.4	Supervisory monitoring	The supervisor regularly tracks progress and assesses the banks' implementation of E&S regulations or supervisory expectations.
1.2.1	Business and risk strategy	Banks are expected to integrate E&S considerations into business strategy, consistent with the size and nature of their operations.
1.3.5	Policies and processes	Banks are expected to integrate E&S considerations into their decision-making and risk management processes and policies.
1.3.6	Deforestation and conversion	The supervisor asks banks whether and how they integrate deforestation and wider habitat conversion issues into their decision-making, risk management processes and policies.
1.3.12	Freshwater risks	The supervisor asks banks whether and how they integrate freshwater risks in decision-making and risk management processes.
1.3.13	Oceans and marine life	The supervisor asks banks whether and how they integrate oceans and marine life related risks into their decision-making, risk management processes and policies.
1.4.1	Manage portfolio E&S risk	Banks are expected to continually assess, manage and mitigate their portfolio-level exposure to material E&S risks.

#	Indicator	Description
1.4.2	Scenario analysis and stress testing	Banks are expected to continually assess, manage and mitigate their portfolio-level exposure to material E&S risks, by using science-based, forward-looking scenario analysis and stress-testing over the short-, medium- and long-term.
1.4.5	Nature target setting	Banks are expected to set science-based targets to mitigate negative environmental impacts beyond climate, at portfolio level.
1.4.6	Reputation and litigation risk	Banks are expected to assess and mitigate reputation and litigation risks associated with E&S considerations.
1.5.1	Integrating E&S into ICAAP	Banks are expected to integrate E&S considerations in their internal capital adequacy assessment process (ICAAP).
Pillar 3		
1.6.1	Disclosure in business policies and processes	Banks are expected to publicly disclose how E&S considerations are integrated in their business strategy, governance (including remuneration), policies and risk management processes.
1.6.2	Transition plan disclosure	Banks are expected to publicly disclose their time-bound transition plans to reach set strategies pertaining to E&S issues.
1.6.6	Disclosure against taxonomy	Banks are expected to publicly disclose the share of their total lending portfolio that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).
1.6.7	Disclosure of portfolio exposure and mitigation	Banks are expected to report publicly on their portfolio-level exposure to material E&S risks and the mitigation measures.
Macroprudential framework		
1.7.1	Supervisor's scenario analysis and stress testing	The supervisor has assessed the exposure of banks to material E&S risks and the implications for financial system stability, based on forward-looking scenario analysis and stress-testing.
1.7.4	Risk indicator monitoring	The supervisor has developed specific risk indicators to monitor the exposure of banks to material E&S risks.
1.7.5	Exposure limit	The supervisor has issued prudential rules to limit the exposure of banks to certain activities to prevent and protect against the build-up of systemic risk, based on E&S considerations.
1.7.6	Systemic risk buffer capital	Specific capital requirements for banks incorporate a macroprudential buffer for systemic E&S risks.
1.8.4	Study on banking's exposure	The supervisor has conducted studies to assess the banking sector's exposure to, and management of, E&S risks, and published its conclusions and recommendations.
Taxonomies		
3.1.3	Green taxonomy	A classification system for sustainable activities (taxonomy) is in place, following a science-based and multi-stakeholder process.
Corporate disclosures		
3.1.5	Corporations' sustainability reporting	Non-financial corporates are required to report on current and planned activities according to internationally or nationally recognised sustainability reporting standards and definitions.

UN environment programme

finance initiative

UNEP Finance Initiative (UNEP FI) brings together a large network of banks, insurers and investors that catalyses action across the financial system to deliver more sustainable global economies.

For more than 30 years the Initiative has been connecting the UN with financial institutions from around the world to shape the sustainable finance agenda establishing the world's foremost sustainability frameworks that help the finance industry address global environmental, social and governance challenges.

Convened by a Geneva, Switzerland-based secretariat, more than 500 banks and insurers with assets exceeding USD 100 trillion are individually implementing UNEP FI's Principles for Responsible Banking and Principles for Sustainable Insurance. Financial institutions work with UNEP FI on a voluntary basis to apply the sustainability frameworks within their industries using practical guidance and tools to position their businesses for the transition to a sustainable and inclusive economy.

Founded in 1992, UNEP FI was the first initiative to engage the finance sector on sustainability. Today, the Initiative cultivates leadership and advances sustainable market practice while supporting the implementation of global programmes at a regional level across Africa & the Middle East, Asia Pacific, Europe, Latin America & the Caribbean and North America.

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