



2022 SUSREG ANNUAL REPORT

AN ASSESSMENT OF SUSTAINABLE FINANCIAL
REGULATIONS AND CENTRAL BANK ACTIVITIES

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WWF is one of the world's most respected and experienced conservation organisations, with over 5 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 via innovative collaborations that seek to integrate 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 as well as insurance regulators on the need to fully integrate climate, environmental and social risks into mandates and operations. The GFRI tracks regularly how central banks and supervisors are making progress via its SUSREG tool. It also undertakes research, capitalising on in-house expertise and external partners, and offers targeted assistance, trainings, and workshops to individual financial supervisors, central banks, and policymakers using scientifically based data, tools, and methodologies. For more information visit our website at panda.org/gfr or contact our secretariat through gfr@wwf.ch

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“ FOREWORD



ELIZABETH MARUMA MREMA
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“WE OWE IT TO OURSELVES AND TO THE NEXT GENERATION TO CONSERVE THE ENVIRONMENT SO THAT WE CAN BEQUEATH OUR CHILDREN A SUSTAINABLE WORLD THAT BENEFITS ALL.”

PROF WANGARI MAATHAI | NOBEL PEACE PRIZE WINNER

Finance ministers, central bank governors and financial supervisors are also custodians of our future. After all, their mandates include regulating the financial system to ensure that the economy both meets the needs of people and society and secures a sustainable future for us all.

Nature is declining faster than at any time in human history. If businesses, investors and policymakers don’t take account of nature loss now, the risks will grow more extreme.

There is recent and rapidly growing recognition amongst financial policymakers, that nature-related risks associated with today’s unprecedented rate of nature erosion, and the reliance of the global economy on nature, threatens financial and monetary stability.

We must transform our relationship with nature and secure a future where humans live “in harmony with nature”. This is the vision statement of the draft Global Biodiversity Framework (GBF) which has been further negotiated and adopted under the auspices of the Convention on Biological Diversity (CBD) at COP15 in December 2022. In this vision, investment will not only incentivise activities and businesses that minimize risks and impacts, and generate positive

outcomes for nature, but also those that enhance ecosystems and support the resilience of our planet and global society.

This year, at COP 15, the stakes are higher than ever — we have a once-in-a-lifetime chance to transform our relationship with nature. We must make the most of this moment to safeguard our future. Just as the Paris Agreement of 2015 created a global framework for climate action, the GBF must trigger a wave of awareness and action for nature positive outcomes on a global scale.

For financial institutions and businesses, the GBF will mark a turning-point in the regulatory landscape, emphasizing the importance of policymaking in mainstreaming biodiversity in investment decision-making, and the transformation of market incentives towards the alignment of financial flows. This will also set the stage for disclosure requirements by organisations on their exposure to nature-related risks and impacts.

Taking decisive action to bend the curve on nature loss, is also the source of potentially very significant new green economy opportunities for business and finance. Shifting to nature-positive business models will generate more

than US\$10 trillion in additional opportunities each year and support some 350 million jobs by 2030.¹

The Taskforce on Nature-related Disclosures (TNFD) is a market-led, science based, voluntary initiative, working to bring clarity and methodological guidance for assessing nature-related dependencies and impacts, risks and opportunities and disclosing against these to ensure transparency and accountability for change.

The TNFD’s mission is to develop and deliver a risk management and disclosure framework for organisations to report and act on evolving nature-related risks and opportunities, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes. Having released the third iteration of its draft framework in November 2022, the TNFD will continue its iterative approach based on market testing to help to maximise the relevance, usability and effectiveness for the TNFD’s final recommendations which will be published in September 2023. The pilot testing underway will ensure the framework is practical, adaptable and implementable across all organisations and financial institutions, north or south, large or small.

The two crises of climate change and nature loss are tightly interconnected. Businesses must pursue and accelerate their action on climate. They must also bring nature into the equation. The world’s race towards net zero emissions will only succeed if they race equally fast towards nature-positivity. The climate crisis cannot be stopped without addressing the degradation and loss of nature and biodiversity and nature offers critical tools in both mitigation and adaption of climate change impacts.

Policymakers, financial supervisors, businesses and financial organisations must work together to support the market shift needed to address the nature crisis.

WWF’s Sustainable Financial Regulations and Central Bank Activities (SUSREG) tracker and report come at a crucial time, when policymakers and financial supervisory entities need to build policies, set new requirements, and track progress across their main mandates and activities, to address the single twin crisis of climate change and nature loss. For this to happen, they should embrace the future and transform the financial system, towards a nature-positive economy.

“



FOREWORD

DR. MA JUN
CO-CHAIR OF THE NGFS/INSPIRE STUDY GROUP ON BIODIVERSITY,
PRESIDENT OF INSTITUTE OF FINANCE AND SUSTAINABILITY

Mother Earth provides an abundance of natural resources and ecosystem services that allow us to live and thrive. Globally, US\$ 44 trillion of GDP comes from sectors that are highly and moderately dependent on nature, accounting for more than 50% of the world's total GDP. However, in the last ten years, the risk of biodiversity loss has been growing at an alarming pace, as is the climate crisis, and it has growing implications for the stability of the global economy and financial system. Financial institutions are particularly exposed to both risks and opportunities in the transition to a nature-positive and zero-carbon future and are uniquely positioned to steer the direction of financial resource allocation that would shape the sustainability of the global economy.

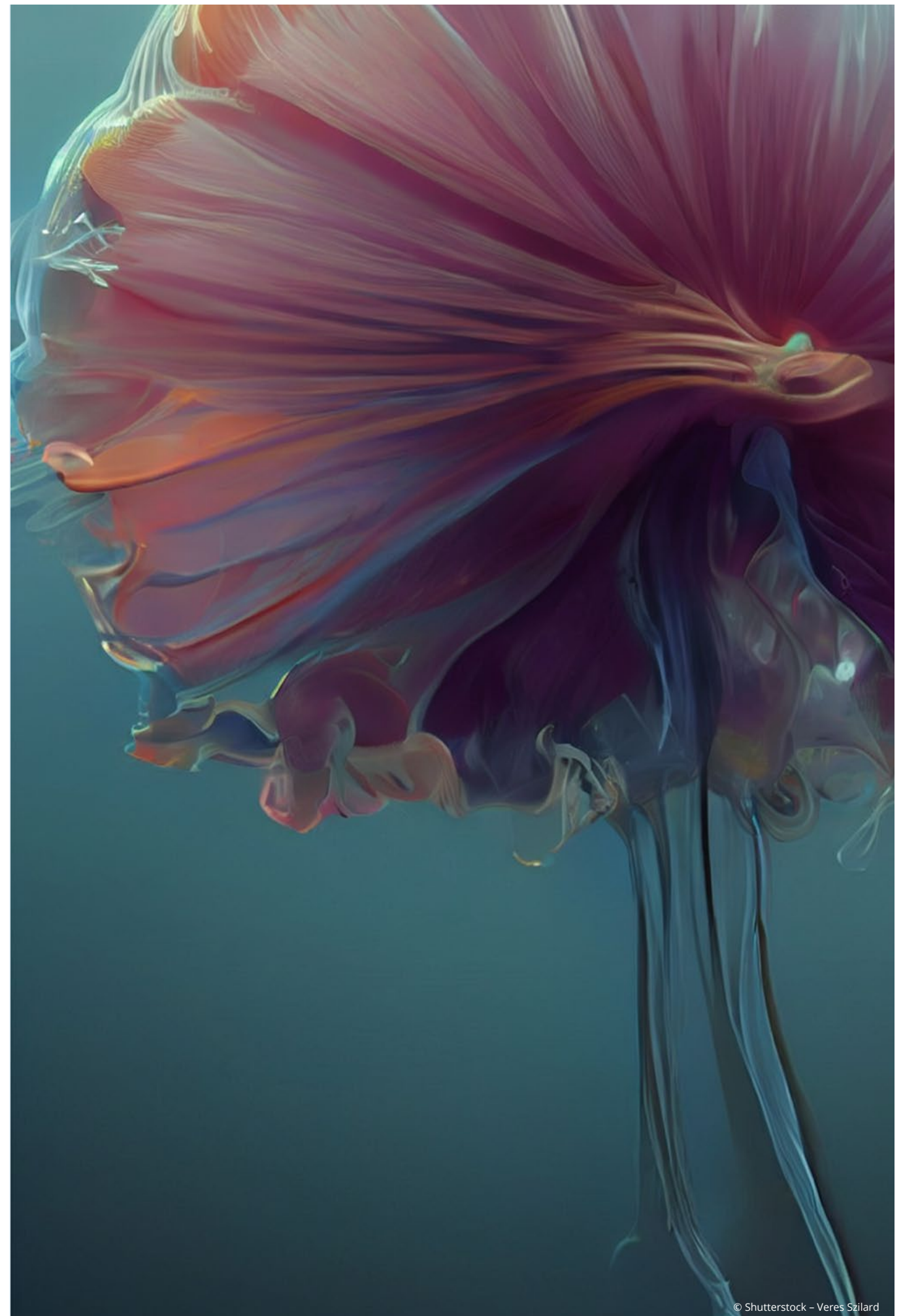
In March of 2022, the joint study group of Biodiversity and Financial Stability initiated by the NGFS and INSPIRE, co-chaired by Nick Robin of LSE and myself, concluded that “biodiversity loss is a source of financial risk and addressing this risk is part of central banks’ and regulators’ mandate.” This message is now becoming a global consensus as it is endorsed by the NGFS, which represents over 100 central banks and financial supervisors. This is the first time that central banks and supervisory authorities have recognized the potential for biodiversity loss to threaten financial stability. I believe that in the coming few years, many central banks and supervisors will begin to assess the impact of biodiversity loss on financial stability, require financial institutions to disclose the impact of their investments on nature and biodiversity, include nature-positive activities into “green finance taxonomies”, and provide incentives for nature-positive investments.

As with climate change, there has been increasing policy focus on the role of the financial system in contributing to protect nature and biodiversity. The Kunming Declaration, delivered at the first phase of CBD COP15, referred to the need to “transform economic and financial systems” and “align all financial flows in support of the conservation and sustainable use of biodiversity”. The G20 Sustainable Finance Roadmap also highlighted several priorities, including the integration of nature and biodiversity in future work of sustainable finance.

I am pleased that the 2022 SUSREG annual report shows that many central banks, financial regulators, and supervisors around the world are beginning to take action to address financial risks arising from biodiversity loss. Most importantly, it helps us provide a good overview on good practices, current gaps and further actions expected through examining the measures and policy progress taken by respective countries covering 44 jurisdictions globally.

The launch of the 2022 SUSREG comes at a particularly important time leading up to the second phase of COP15 in December where 196 countries will introduce a new global biodiversity framework for the protection of nature. To respond to the new goals through 2030, central banks, financial regulators, and financial institutions should keep track of these developments, assess their implications for financial systems in their jurisdictions, engage with the corresponding multilateral initiatives, and speed up their own actions.

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THIRTEEN RECOMMENDATIONS TO CONSIDER IN THE SHORT TERM

(MINIMUM REQUIREMENT FOR CENTRAL BANKS AND FINANCIAL SUPERVISORS)

INTEGRATION OF ENVIRONMENTAL AND SOCIAL RISKS AND OPPORTUNITIES IN THE OVERALL STRATEGY AND ROADMAP

01.

Publish transition plans to a low-carbon, nature-positive economy: Central banks and financial supervisors must lead by example and provide necessary clarity and forward guidance to financial markets actors by publishing their own clear and detailed transition plan (with clear quantifiable climate and biodiversity goals for 2025, 2030, and 2050 covering all central banking, financial regulation, and supervision activities). This should be reinforced with measures for contributing to a net-zero and nature-positive financial sector in line with its mandate. Central banks and financial supervisors must request all regulated financial institutions to publish yearly, detailed net-zero and nature-related transition plans regarding all their investment, lending, and underwriting practices.
02.

Officially set science-based, climate- and environmental-related nominal anchor: Central banks should officially define a 1.5°C or well below 2°C nominal anchor as part of their objectives, underpinned by a plan of reaching net-zero CO₂ emissions of the economy by 2050. Central banks should also define a ‘full biodiversity recovery by 2050’ nominal anchor as part of their objectives which is underpinned by a plan to reach a nature-positive economy by 2030.
03.

Integrate nature-related risks and opportunities: Central banks should consider climate and nature as a single twin crisis and ensure their monetary policy implementation does not contribute to climate change and nature loss. Financial supervisors should stop the financial contribution to climate change and nature loss using all available tools at micro- and macro-levels. Loss of trees and other vegetation is a cause of various phenomena exacerbating climate change and nature loss (loss of habitats, increased greenhouse gas emissions (GHG), disruption of the water cycle, and soil erosion) but also putting our economies and health at risk. Central banks and financial supervisors should take the necessary steps to stop deforestation, ensuring they are not participating in it and asking financial institutions whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies, with minimum requirements. Financial institutions should not be associated, at the very least, with any type of business relationship with illegal deforestation, conversion of Key Biodiversity Areas, Protected Areas, and World Heritage Sites. Central banks and supervisors should further develop a risk-based classification framework for sectors and assets exposed to biodiversity loss, which may enhance the data required for stress-testing and scenario analyses and reallocate capital flows from biodiversity-negative to -positive projects. Lastly, supervisors should mandate financial institutions to report their management of nature-related risk and opportunity based on the Taskforce on Nature-related Financial Disclosures (TNFD) framework.

SUPERVISION (BANKING AND INSURANCE)

04.

Set clear and minimum supervisory E&S expectations and reflect them in supervisory requirements: Financial supervisors should plan, set, and publicly declare minimum expectations to send the necessary signals to financial markets. Supervisors and regulators should set minimum capital requirements or capital add-ons (and liquidity ratios for banks) for financial institutions to incorporate E&S considerations, through a differentiated risk-based approach. Supervisors should use all supervisory tools (concentration limits, calibration of capital, liquidity requirements, etc.) to reflect the risks embedded in banks’ lending to and insurers’ underwriting of companies included in the ‘always environmentally harmful filter list’.²
05.

Make full use of macro-prudential tools to prevent systemic risks triggered by climate change and nature loss: Supervisors should issue prudential rules to limit the exposure of financial institutions for certain activities, to prevent and protect against the build-up of systemic risk related to E&S. Specific capital requirements for banks and insurers to incorporate a macro-prudential buffer for systemic E&S risks should be considered to foster long-term financial stability.

SUPERVISION (BANKING AND INSURANCE)

06.

Promote robust and mandatory disclosure of climate- and nature-related risks and opportunities: Supervisors should require financial institutions to include information about their E&S strategy and its implementation in their annual report, in both quantitative and qualitative terms, either directly or by referencing other separate publications. The reporting on the strategy’s progress needs to include information on potential non-achievement of related targets and planned activities to realign, set, and/or adapt their strategy. In addition, supervisors should actively support initiatives to address E&S data availability and quality issues, including promoting open-source solutions. This must be supported by concrete recommendations or actions from the supervisors and not remain just a general statement of encouragement. Mandatory disclosure and robust assurance based on internationally-recognised frameworks, such as the Task Force on Climate-Related Financial Disclosures (TCFD) and TNFD, would enhance data quality and availability.
07.

Set targets and taxonomy alignment: Supervisors should expect financial institutions to set climate science-based targets and keep up to date with the latest climate science, to align their portfolios with the objectives of the Paris Agreement, as well as set science-based targets at the portfolio level to mitigate negative environmental impacts beyond climate. Banks should be expected to publicly disclose the share of their total lending portfolio (and insurers their total underwriting portfolio) that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).
08.

Apply scenario analysis and assess tipping points: Financial institutions should continually assess and manage their exposure to material E&S risks, by using science-based, forward-looking scenario analysis and stress testing, over the short-, medium- and long-term. Such scenarios should also integrate likely or probable physical tipping points, such as the melting of the Greenland ice cap or the disintegration of the West Antarctic ice sheet.

SUPERVISION (INSURANCE-SPECIFIC ISSUES)

09.

Apply consistency between assets and liabilities: In many cases, insurance supervision concerning E&S issues is more developed for the investment activities of insurance companies than for their traditional insurance activities. Consistent supervisory expectations should be developed and enforced for both sides of insurers’ balance sheets to ensure, for example, that insurers do not keep underwriting risks for harmful activities that they have started phasing out of their asset portfolios.
10.

Reduce the protection gap: As climate change, biodiversity collapse, or A.I.-enabled underwriting develop, entire sections of the general population (often the most vulnerable) may lose access to insurance as premiums increase or covers are withdrawn. Governments and insurance supervisors should decisively act to reduce this protection gap through a combination of Public-Private Partnerships, insurance mandates, product innovation, and capital or tax incentives.
11.

Understand the role of the reinsurance system: The equivalent for insurers of central banks is the mostly private and decentralised network of reinsurance companies. These reinsurers are often the ultimate underwriters of several E&S risks (such as natural catastrophes). Insurance supervisors should examine this specific role of the reinsurance system when it comes to E&S issues and, where relevant, leverage reinsurers’ expert knowledge of these risks.

CENTRAL BANKING AND MONETARY POLICY

12.

Integrate E&S in central bank’s collateral framework and subsidised loans: Central banks need to make full use of their monetary policy toolkit, both to reflect the risks derived from environmental and social issues as well as to ensure that their actions promote the transition to a low-carbon and more sustainable economy. Central banks’ collateral framework should take E&S considerations into account by integrating historical- and forward-looking, quantitative, and qualitative climate- and nature-related (e.g., deforestation and habitat conversion risk) metrics and social considerations. Central banks should also offer subsidised loans or preferential targeted refinancing lines based on E&S considerations.

ENABLING ENVIRONMENT

13.

Use tools such as science-based taxonomies covering both sustainable and unsustainable activities and efficient carbon pricing: When designed and implemented consistently, these can prove to be powerful levers to complement and reinforce other regulatory actions. Financial and non-financial regulators and policymakers should define and publish disclosure principles and templates for E&S risks and impacts, and make disclosure mandatory for corporations. They should request annual disclosure of GHG emissions as well as nature-related and social impacts by corporations and encourage the disclosure of supply chain data.



INTRODUCTION

Our sustenance comes from nature. Half of our global GDP comes from sectors reliant on nature (e.g., food, raw materials, pollination, etc.)³ – our economies are embedded in it,⁴ yet we continue to neglect this connection with irresponsible development that results in climate and ecosystem breakdown. The repercussions are massive, not just on the environment but also to economic, financial, and social stability with the pandemic giving us a small taste of things to come if we continue at this rate.

At our current pace, the world has only a 50% chance of achieving the 1.5°C target in the Paris Agreement.⁵

According to a major study by the Potsdam Institute for Climate Impact Research,⁶ the climate catastrophe has brought the globe dangerously close to many “disastrous” tipping points. It demonstrates that five tipping points may have already been crossed as a result of the 1.1°C global warming brought on by human activity to date. A recent United Nations Environment Programme (UNEP) report mentioned that progress since COP26 in Glasgow has been tragically insufficient, despite a call for strengthened Nationally Determined Contributions (NDCs) by 2030.⁷ Over the next eight years, the world must cut emissions by unprecedented levels if it is to stay on course to fulfil the Paris Agreement objective.

Forests play a fundamental role in regulating the climate, yet in the last 100 years alone, nearly 50% of the world’s habitable land has been destroyed. Pakistan’s recent floods were a climate-induced disaster with one-third of the country under water, displacing over 33 million people and costing US\$ 40 billion in damages. The California drought has resulted in losses of almost US\$ 2 billion and 14,000 jobs. Globally, up to US\$ 24 trillion worth of assets could be at risk from 2.5°C warming and with dwindling food security, 3 billion people do not have access to a healthy and nutritious diet. These are not mere numbers; these are human and biodiverse lives ravaged, homes destroyed, futures ruined.

There is overwhelming evidence that nature loss and climate change are closely related to financial and economic instability⁸ and low-income countries that are more reliant on nature’s goods and services stand to lose the most. Melting glaciers and a warmer Earth have led to sea levels rising at an unprecedented rate, destroying agricultural land and animal habitats, resulting in more dangerous typhoons and hurricanes, and displacing portions of the population.⁹

As stewards of the financial system, central banks, and financial supervisors (CBFS) must take the same brave stand of economic intervention as they did in the pandemic and previous financial crises to treat the single twin crisis of nature loss and climate change as a financial crisis. This is imperative to assert their mandate of ensuring financial and price stability, as studies have outlined the connection between environmental and social (E&S)¹⁰ risks and monetary policy.¹¹ Central banks and financial supervisors must play a leading role and ensure that other financial institutions follow suit.

With US\$ 468.7 trillion in global financial assets,¹² the financial sector is critical in ensuring the transition towards a low-carbon economy. It is also in the interest of financial institutions (FIs) to manage climate and nature-related risks as these risks are financially material to their business. According to the European Central Bank’s (ECB) economy-wide climate-stress test, which examined the impact of climate change on more than 4 million firms worldwide and 1,600 euro-area banks, the portfolios most sensitive to climate risk are 30% more likely to default in 2050 than they are in 2020 under the ‘hot house world’ scenario, in which no regulation or policy aimed at limiting climate change is introduced.¹³ The ECB also recently supported the European Commission’s proposal to update the Capital Requirements Directive to include climate risk, which will compel financial institutions to urgently manage their environmental risks.¹⁴

A study at the Sustainable Finance Lab at Utrecht University found that just four central bank policies supporting the ecological transformation could lead to a global reduction of greenhouse gas (GHG) emissions of 5-12%.¹⁵ Whilst green investment is still three to six times lower than levels needed by 2030 to maintain global temperature increase to below 2°C, sufficient capital and liquidity exist globally to close that gap and it requires action by governments and communities to align public sector finance and policies.¹⁶

Despite increasing financial disclosures, analyses, and guidelines relevant to the environmental, social, and governance (ESG) sphere, we need to collectively act sooner and go beyond disclosure by using a precautionary approach to prevent future risks. The precautionary approach, as WWF defines it, is a crisis management framework and mindset for central banks and financial supervisors which focuses on taking pre-emptive measures to fight climate change and nature loss proactively and effectively as two sides of the same coin. It requires that CBFSs apply all necessary instruments of monetary policy and financial regulation at their disposal, and base their decision-making on the worst-case scenarios.¹⁷ The priority should be to focus on tilting away from the most environmentally harmful businesses and sectors, as those represent the greatest risk. For example, financial institutions

exposed to oil and gas are expected to lose US\$ 1.7 trillion from transition-related market and credit risk even in the case of an early transition, rising to US\$ 2.5 trillion if action is delayed.¹⁸

It is late, but not too late. Acting today, pre-emptively and with full force, will help central banks, regulators, and supervisors safeguard their ability to fulfil their primary mandates into the future. WWF calls on decision-makers at central banks and financial supervisors to act fast, be responsible, bold, creative, audacious, and not to hold back. A sustainable and just transition can provide new economic opportunities and a lack of it is drastic – the World Bank predicts that the loss of important ecosystem services could cost the global economy \$2.7 trillion annually by 2030.¹⁹ It is financially wiser to take preventive measures now than to recover later.

To build on this positive momentum and further accelerate the strengthening and harmonisation of sustainable financial regulations and central bank activities in key financial markets worldwide, WWF launched the Greening Financial Regulation Initiative (GFRI). Through this initiative, WWF deepens its collaboration with policymakers, central banks, and financial supervisors, advocating for the urgent need to fully integrate climate, environmental, and social risks into their mandates and operations—mainly through financial regulation and supervision as well as monetary policy.

This notably entails the provision of targeted support, research, and capacity building to equip institutions with the necessary tools and knowledge. One pillar of the GFRI consists in showing the status quo and progress made in the integration of climate, environmental, and social aspects into central banks’ activities. Building on current good practices and ongoing developments in the central banking and supervisory landscape, WWF GFRI launched the SUSREG framework in 2021. This year, the SUSREG framework expanded to cover regulations pertaining to the insurance industry. This framework capitalises on WWF’s experience working with financial sector stakeholders worldwide and benefits from its perspective as a science-based organisation. This report is accompanied by an online platform or ‘tracker’ (www.susreg.org), that will display the results of an assessment against the framework of relevant country-specific sustainable finance regulations and supervisory expectations for banking and for insurance as well (find out more in our [SUSREG launch report for insurance](#)), as well as central banking activities.

THE SUSREG FRAMEWORK AND THE ASSESSMENT RESULTS CAN BE USED BY:

Central banks, financial regulators and supervisors:

- To strengthen regulatory and supervisory practices by integrating E&S considerations into financial regulations (for banking and insurance), guidelines, and monetary policy operations;
- To benchmark themselves against peers in key markets worldwide and align with best practices.

International financial standard-setters and initiatives:

- To benefit from independent, regularly updated assessments and annual reporting on progress;
- To build on the framework to establish roadmaps for integrating E&S considerations into global financial regulations and central bank activities;
- To benefit from the science-based perspective of WWF on best practices regarding the integration of climate-related and E&S risks.

Commercial banks and insurance companies:

- To understand the differences in the regulatory and monetary policy frameworks between the countries in which they operate (and those affecting the financial institutions in their portfolios);
- To formulate their ESG strategy by taking into consideration other countries’ best practices in banking and insurance regulations;
- To support and inform their engagement with government entities and policymakers.

Academics, think-tanks and other non-governmental organizations:

- To better understand the differences in the financial regulations in key countries worldwide;
- To assess the degree of integration of various E&S issues in financial regulation and central bank activities, and track progress.

THE SUSREG FRAMEWORK

The Sustainable Financial Regulations and Central Bank Activities (SUSREG) framework and tracker aims to assess the integration of E&S considerations in financial regulations, supervisory expectations, and monetary policy. It also aims to provide practical guidance to central banks, financial regulators and supervisors, contributing to the transition to a net-zero,ⁱ nature-positive,ⁱⁱ inclusive, resilient and sustainable economy. This year, the framework covers a wider range of sustainable finance topics pertaining to the banking and insurance industry.

The SUSREG framework was first launched in April 2021, assessing banking regulations and supervision, central banking activities, and aspects contributing to an enabling environment for sustainable finance (see Figure 1). The SUSREG assessment has been extended this year to cover regulations pertaining to the insurance industry, enabling the assessment of progress made by insurance regulators and supervisors. In this second iteration, a total of 87 indicators were deployed to assess the banking industry, organised around three key pillars (banking supervision, central banking, and enabling environment) in addition to 83 indicators for the insurance industry, detailed in two key pillars (insurance supervision and enabling environment).²⁰

Based on an extensive annual global assessment, this second SUSREG annual report highlights the extent of environmental and social (E&S) measures that are being implemented by central banks and financial supervisors, identifies gaps in implementation, and where resolute and ambitious action is required. It also highlights good practices from selected front-running jurisdictions which will serve as useful references for central banks, supervisors, and regulators to accelerate their progress towards more comprehensive and harmonised practices.



i. Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple greenhouse gases are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, and others, as well as the chosen time horizon). See <https://www.ipcc.ch/sr15/chapter/glossary/#:~:text=The%20process%20by%20which%20countries,with%20electricity%2C%20industry%20and%20transport>

ii. Nature-positive refers to the WWF and WEF definitions, indicating that there needs to be more nature in 2030 than in 2020, that at least 30 % of land and oceans are protected, the footprint of our production and consumption is halved by 2030, and that there cannot be any offsetting

THE THREE KEY PILLARS OF THE ASSESSMENT ARE:

BANKING AND INSURANCE SUPERVISION

This section assesses the maturity of supervisory expectation in using various tools and measures to ensure both the safety and soundness of individual banks, (re)insurance companies and the financial system stability, with regards to climate, environmental, and social risks. It also includes measures that regulators and supervisors themselves can take to show leadership and better understand these risks and their implications for the financial sector.

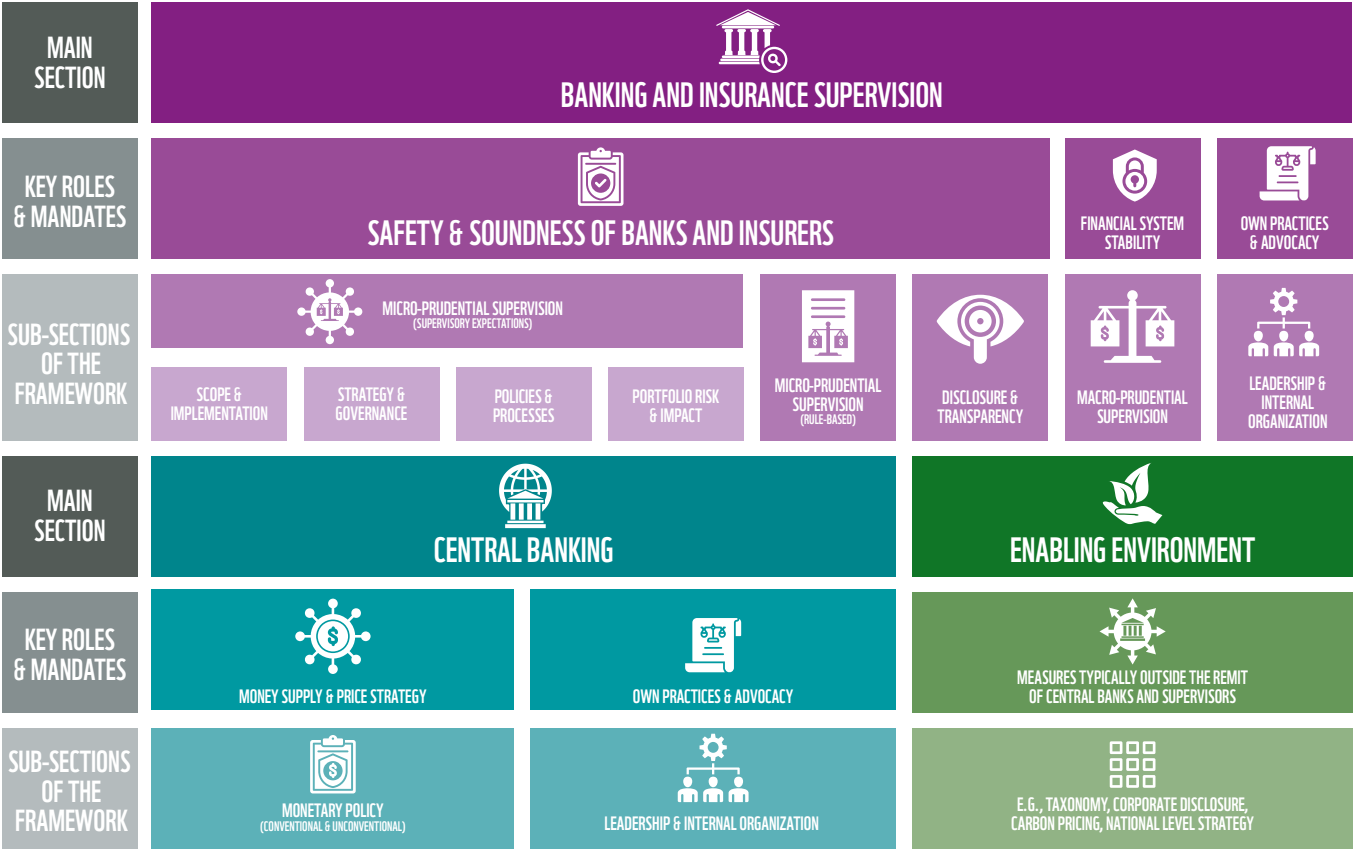
CENTRAL BANKING

This section assesses various measures that central banks can take to address climate, environmental, and social risks, in keeping with their key mandates of ensuring money supply and price stability. It also includes measures that central banks can take to show leadership and better understand these risks and their implications.

ENABLING ENVIRONMENT

This section assesses the maturity of the environment required that would be key for the financial sector to fully support the transition to a low-carbon, resilient and sustainable economy. Some of these measures may be outside the remit of central banks or financial supervisors.

FIGURE 1:SUSREG TRACKER FRAMEWORK



Relative to last year, 17 additional indicators were added to the banking assessment, including more robust assessment criteria, additional topics and more concrete expectations. These additions include, among others, double materiality assessments, E&S considerations in the appointment of board members, the integration of deforestation and wider habitat conversion in decision-making, the integration of E&S risk and impact data in IT infrastructure, the disclosure

of time-bound and science-based transitions plans with associated measures for contributing to a net-zero and nature-positive financial sector and science-based, climate and environmental-related nominal anchors as objectives beyond conventional ones (e.g., price stability, full employment, etc). See Figures 2 to 4 for the overview of indicators applied in the assessment. The indicator numbers are referenced throughout the report.

FIGURE 2: OVERVIEW OF BANKING SUPERVISION FRAMEWORK

BANKING SUPERVISION							
BANK PRACTICES						SUPERVISOR PRACTICES	
1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8
SCOPE & IMPLEMENTATION	STRATEGY & GOVERNANCE	POLICIES & PROCESSES	PORTFOLIO RISK & IMPACT	MICRO-PRUDENTIAL	DISCLOSURE & TRANSPARENCY	MACRO-PRUDENTIAL	LEADERSHIP & INTERNAL ORGANISATION
Regulations or supervisory expectations	Business & risk strategy	Sector policies	Manage portfolio E&S risk	Integrating E&S into ICAAP	E&S in business policies & processes	Supervisor's stress testing	NGFS membership for supervisors
E&S topical scope	Risk appetite	Standards & certification	Scenario analysis & stress testing	Minimum capital requirements	Time-bound transition plan	Stress testing method	Supervisor's E&S strategy
Double materiality assessment	Long-term consideration	Client support	Management of negative E&S impacts	Liquidity risk management	Internationally recognised reporting frameworks	Stress testing publication	Internal organisation & resources (FS)
Scope of regulations	Board communication	Supervisor risk checklists	Climate target setting	Liquidity ratios	Disclosure in annual report	Risk exposure indicators	Study on banking's exposure
Supervisor assessment	Remuneration policy	Integration in policies & processes	Science-based target for nature		Industry credit exposure	Exposure limit	SDG alignment
Public consultation	Staff & resources	Integration of nature-related risks	Manage reputation & litigation risk		Disclosure against taxonomy	Systemic E&S risks in capital requirements	Staff training
	Board appointments	Internal controls	Validate third parties' analysis		Portfolio exposure & mitigation		Study on transmission channels
	Board responsibilities	Non-compliance mitigation			Material negative E&S impact		Data quality initiatives
	Executive management responsibilities	E&S credit clauses			External assurance for disclosures		
	Core functions	Active client engagement					
	Training	Data & IT infrastructure					
	Stakeholder involvement						
	Sustainability considerations in policies						

FIGURE 3: OVERVIEW OF CENTRAL BANKING AND ENABLING ENVIRONMENT FRAMEWORK

CENTRAL BANKING		ENABLING ENVIRONMENT
CENTRAL BANK PRACTICES		MARKET
2.1	2.2	3.1
MONETARY POLICY	LEADERSHIP & INTERNAL ORGANISATION	OUTSIDE SUPERVISOR / CENTRAL BANK MANDATE
Corporate asset purchase programs	NGFS membership for central banks	Multi-stakeholder initiative
Collateral framework	Nominal anchors	Capacity building efforts
Foreign exchange reserves	Central bank's E&S strategy	Green taxonomy
Subsidised & targeted loans	TCFD disclosure	Brown taxonomy
Reserve requirements	Internal organisation & resources (CB)	Corporations sustainability reporting
	CB portfolio risk exposure	Corporations transition plan
	Asset management	Carbon pricing
	Taxonomy alignment	National-level sustainability strategy
		Regulations on sustainable products
		Transition targets & incentives

FIGURE 4: OVERVIEW OF INSURANCE SUPERVISION AND ENABLING ENVIRONMENT FRAMEWORK

INSURANCE SUPERVISION								ENABLING ENVIRONMENT
BANK PRACTICES						SUPERVISOR PRACTICES		MARKET
1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	3.1
SCOPE & IMPLEMENTATION	STRATEGY & GOVERNANCE	POLICIES & PROCESSES	PORTFOLIO RISK & IMPACT	MICRO-PRUDENTIAL	DISCLOSURE & TRANSPARENCY	MACRO-PRUDENTIAL	LEADERSHIP & INTERNAL	OUTSIDE SUPERVISOR / CENTRAL BANK MANDATE
Regulations or supervisory expectations	Business & risk strategy	Sector policies	Manage portfolio E&S risk	Enterprise Risk Management framework*	E&S in business policies & processes	Supervisor's stress testing	NGFS membership for supervisors	Multi-stakeholder initiative
E&S topical scope	Risk appetite	Standards & certification	Scenario analysis & stress testing	Solvency capital requirements*	Time-bound transition plan	Stress testing method	Supervisor's E&S strategy	Capacity building efforts
Double materiality assessment	Long-term consideration	Client support	Management of negative E&S impacts	Expectations of reinsurers*	Internationally recognised reporting framerks	Stress testing publication	Internal organisation & resources (FS)	Green taxonomy
Supervisor assessment	Board communication	Supervisor risk checklists	Climate target setting	Product development*	Disclosure in annual report	Risk exposure indicators	Study on banking's exposure	Brown taxonomy
Public consultation	Remuneration policy	Integration in policies & processes	Science-based target for nature		Industry credit exposure	Exposure limit	SDG alignment	Corporations sustainability reporting
	Staff & resources	Integration of nature-related risks	Risk concentration & ALM*		Disclosure against taxonomy	Obligatory Insurance mandates*	Staff training	Corporations transition plan
	Board appointments	Internal controls	Natural catastrophe claims*		Portfolio exposure & mitigation	Integrated financial groups supervision*	Study on transmission channels	Carbon pricing
	Board responsibilities	Non-compliance mitigation	Manage reputation & litigation risk		Material negative E&S impact	Systemic E&S risks in capital requirements	Data quality initiatives	National-level sustainability strategy
	Executive management responsibilities	Active client engagement	Validate third parties' analysis		Greenwashing risks*		Engagement with reinsurers*	Regulations on sustainable products
	Core functions	Data & IT infrastructure	Risk concentration management*		External assurance for disclosures			Incentives for product development
	Training		E&S risk in pricing*					Public-private partnerships*
	Stakeholder involvement		Pricing incentives*					Disaster risk reduction facilities*
	Sustainability considerations in policies							

* Insurance specific



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KEY ELEMENTS OF THE SUSREG TRACKER

- **Independence:** The SUSREG tracker is an independent assessment rather than a member-driven assessment. Importantly, SUSREG does not rank countries/central banks/supervisors but focuses on providing a comparative analysis of relevant policies against the framework and against each other.
- **Maturity:** Even though the SUSREG indicators are not weighted (see the box on methodological limitations below) given the importance of each indicator for various phases of implementation by central banks and financial supervisors, the assessment enables the identification of areas where significant progress still needs to be made, while tracking changes over time.
- **Thematic scope:** It covers climate, environmental, and social risks given the significance of the intertwined climate and nature crisis and its impact on humanity.
- **Indicators:** The SUSREG tracker encompasses a broad spectrum of indicators relevant to greening the financial system including rule-based micro-prudential supervision, macro-prudential supervision, central banking (monetary policy, portfolio management), the existence of strategy/internal organisation of the supervisor/central bank, and enablers such as science-based taxonomies, and the existence of a multi-stakeholder sustainable finance initiative.
- **Relevance:** The framework also considers recent concepts and developments such as double materiality assessments, the integration of liquidity risk and capital adequacy, transition plans, and net zero roadmaps.
- **Transparency:** Each indicator and assessment are documented with relevant policies, guidelines, frameworks, roadmaps, etc. (which will be reflected in the online tracker).
- **Standardisation:** The evaluation considers if the country has “fully met”, “partially met” or “not met” an indicator (or N/A in certain cases) based on a detailed assessment guide.
- **Sector scope:** The tracker now covers both banking and insurance sectors, which are key components of the financial system.

ASSESSMENT METHODOLOGY

In performing the assessments, WWF has considered the following sources (non-exhaustive list):

- **Financial regulators or supervisors:** Regulations, supervisory expectations, or guidelines.
- **Central banks:** Measures and activities implemented by central banks (in particular those related to monetary policy), in line with their mandate.
- **Industry associations:** Relevant guidelines issued by the national banking and insurance association or other industry-led bodies, where available.
- **Securities commissions or stock exchanges:** Relevant listing rules or sustainability reporting guidelines, in the absence of regulations or guidelines issued by the regulator, supervisors, or associations.
- **Others:** Measures taken by central banks, banking and insurance regulators or supervisors, governments, and other policymakers, to create an enabling environment conducive to the development of sustainable finance.

Two layers of assessment were pursued: regulation enforceability level and coverage. In the first stage, WWF assesses the **enforceability** to determine whether a certain expectation towards supervised entities is mandatory and enforced. The second stage assesses whether the scope of the source of information **encompasses all supervised entities** or only specific segments of supervised entities.

In the absence of regulations or guidelines issued by the financial regulator on sustainable banking and insurance, WWF considered relevant guidelines issued by either the securities commissions or stock exchanges, national banking/insurance associations, or other industry-led bodies, where available. Although regulations issued by the stock exchange or securities commissions and guidelines issued by the national banking association or other industry-led bodies are considered important drivers of change, in our view **the issuance of stringent and mandatory regulations is the most conducive solution to the uniform integration of environmental and social considerations** within the banking and insurance sector, and therefore should be actively pursued.

While certain supervisory expectations are only applicable to financial institutions of a certain size, SUSREG assessment does not differentiate this distinction and assesses the substance of the supervisory expectations regardless of their coverage in terms of size of financial institutions.



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ASSESSMENT OF THE EUROPEAN UNION (EU)



Given the specific conduct of banking and insurance supervision and monetary policy in the EU, the results of our assessment of individual European countries should be considered in parallel to the results of our assessment of the EU.

The Eurosystem comprises the ECB and the national central banks of the EU Member States whose currency is the euro. Under the Eurosystem, the ECB is in charge of defining the monetary policy while national central banks should implement it. Therefore, the assessment results for monetary policy measures in individual EU countries that have adopted the euro is marked as “N/A”, and it is necessary to refer to the assessment performed at the EU level. The only exception to this rule is the management of foreign exchange reserves, over which national central banks have full autonomy.

All the EU-level regulations in force will be applied to EU country-level assessments. In the case of the EU directives (e.g., Corporate Sustainability Reporting Directive) that have not yet taken effect in the EU-regulated markets, we consider them as “partially met” at the country level. Similarly, we include proposed and draft EU regulations²¹ and directives at the country level, with a maximum score of “partially met”. In principle, we do not use guidelines such as those issued by EBA/ECB/EIOPA in the country-level assessment,²² unless the financial supervisor specifically mentioned that it will be applying the guidelines as part of its supervision.

ASSESSMENT OF THE UNITED STATES OF AMERICA (USA)



This year we include two states (California and New York) in addition to the national (federal) assessment for the USA. State jurisdictions can have their own regulation and supervisory agencies (such as the New York Department of Financial Services or the California Department of Insurance), although they do not have fully-fledged central banks (in the semi-decentralised Federal Reserve Bank system, regional Federal Banks such as New York and San Francisco follow the federal monetary policy and act as delegated supervisors). Since federal regulation in the USA assessment applies to all its states, individual states such as California and New York may only have SUSREG assessments equal to or higher than the USA assessment (when local initiatives go further than national policy).

Please note that for insurance regulation and supervision, the situation in the USA is fragmented and relatively complex. In principle, the national insurance supervisor is the Treasury Department’s Federal Insurance Office (FIO). In practice though, the FIO plays a limited role, such as identifying any gaps in the state-based regulatory system. Actual insurance regulation and supervision are applied state-by-state, sometimes with wide discrepancies in the rules and practices observed between individual states. The NAIC (National Association of Insurance Commissioners) is an important national forum that can make recommendations and promulgate model regulations and laws on occasion, which then form the basis of many states’ supervisory rules and procedures. USA states can choose to adopt NAIC proposals, in some cases automatically.

Principle-based regulation may not always explicitly address all the areas covered by the detailed SUSREG indicators. To assess the fulfilment of the indicators, as well as the vagueness of the expectations, interpretation was necessary. In some instances, the mere discussion of issues without concrete actions and expectations by financial supervisors may not meet the full criteria of certain assessment indicators.

WWF has used its best efforts to share preliminary assessment results with the relevant institutions in each country. The resulting dialogue has often led to a better understanding of the institutions’ practices and feedback has been incorporated where relevant. It should however be noted that feedback from an institution should not be construed as an official endorsement of the SUSREG methodology or results. While specific situations and differing interpretations were discussed during feedback sessions, it is important to note that the final judgement was made by WWF.

Although the results distinguish between the level of stringency of applicable regulations or guidelines, the extent to which such measures are adequately and effectively implemented

is beyond the scope of the current exercise. Only publicly available information has been taken into account at the time of the assessment which was performed between July-September 2022.

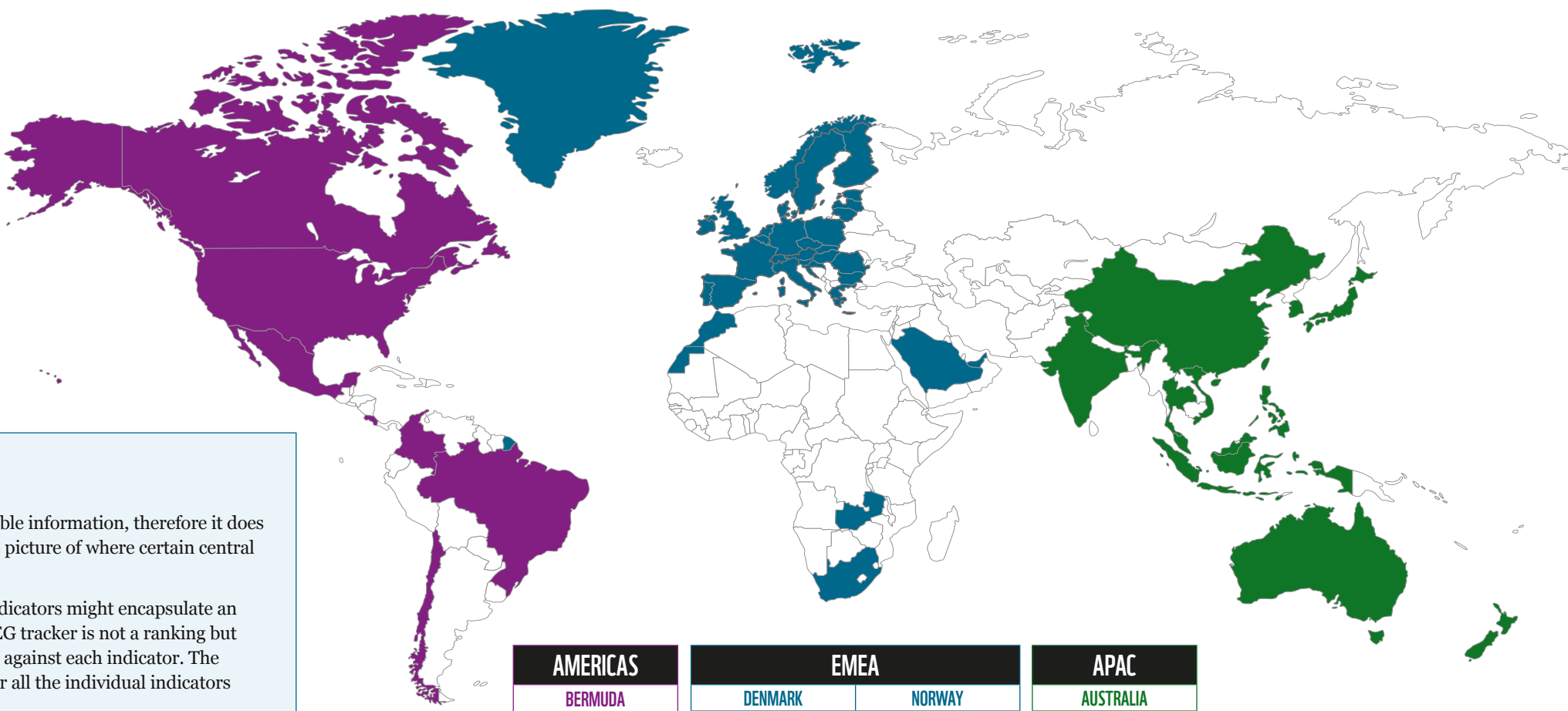
When official documents were not available in English, unofficial translations were relied upon to facilitate comparison and accessibility. For more details on the assessment methodology, please refer to the [2021 ‘Introducing SUSREG’ launch report](#) and our [2022 SUSREG launch report for insurance](#).

GEOGRAPHICAL SCOPE

The assessment has expanded from 38 jurisdictions in 2021 to 44 jurisdictions in 2022 across the Americas, EMEA (Europe, Middle East, and Africa), and APAC (Asia Pacific). These jurisdictions cover more than 88% of the global GDP²³ and 72% of global GHG emissions,²⁴ and 11 of the 17 most biodiversity-rich jurisdictions²⁵ in the world. Most of the jurisdictions are members and observers of the Basel Committee on Banking Supervision (BCBS), the International Association of Insurance Supervisors (IAIS), and the Network of Central Banks and

Supervisors for Greening the Financial System (NGFS). Forty-two jurisdictions have been assessed for both banking and insurance, and out of the 44 jurisdictions, two (Saudi Arabia and Zambia) have been assessed only for banking and another two (Bermuda and Taiwan) only for insurance.

Please refer to Annex 2 for the detailed list of the central banks, banking/insurance regulators, and supervisors covered by this assessment.



METHODOLOGICAL LIMITATIONS

- **Publicly available information:** The SUSREG tracker only considers publicly available information, therefore it does not account for any internal and ongoing developments which may give a more accurate picture of where certain central banks and financial supervisors are standing.
- **No weighting of indicators:** The indicators are not weighted, even though certain indicators might encapsulate an arguably more impactful action than others. The rationale behind this is that the SUSREG tracker is not a ranking but rather a benchmarking exercise of each central bank and financial supervisor’s activities against each indicator. The purpose of the SUSREG tracker is to foster best practice sharing across jurisdictions over all the individual indicators and sections.
- **Existence, not effectiveness:** Although the aim is effective mitigation by central banks and financial supervisors of present and future risks relating to climate change and nature loss, the SUSREG tracker focuses on the pursuit of certain practices and the existence of certain policies, therefore, it does not necessarily draw any conclusion on their effective impact.
- **Environmental focus:** The scope of the SUSREG tracker, on most indicators, is equally split across «C» climate, «E» environment, and «S» social, as WWF welcomes holistic sustainable finance regulation that covers environmental and social aspects in conjunction. However, the most stringent focus has been put on the «E» and «C» across the indicators, in line with our expertise in the respective fields.

AMERICAS		EMEA		APAC
BERMUDA		DENMARK	NORWAY	AUSTRALIA
BRAZIL		EUROPEAN UNION	PORTUGAL	CHINA
CALIFORNIA (US STATE)		FRANCE	SAUDI ARABIA	HONG KONG
CANADA		GERMANY	SOUTH AFRICA	INDIA
CHILE		GREECE	SPAIN	INDONESIA
COLOMBIA		HUNGARY	SWEDEN	JAPAN
COSTA RICA		ITALY	SWITZERLAND	MALAYSIA
MEXICO		KENYA	UAE	NEW ZEALAND
NEW YORK (US STATE)		LUXEMBOURG	UK	PHILIPPINES
USA		MOROCCO	ZAMBIA	SINGAPORE
		NETHERLANDS		SOUTH KOREA
				TAIWAN
				THAILAND

A GUIDE TO THIS REPORT



This report describes the results of WWF’s analysis of a selection of key indicators, grouped in sections that follow the SUSREG framework structure. References to the relevant SUSREG indicators are provided throughout the text. The report also provides our key findings and recommendations, as well as interviews with central banks and banking and insurance supervisors and regulators.

Key insights are represented by this pictogram:	
Good practices from central banks and financial supervisors are represented by this pictogram:	

The indicators comprehensively span across the macro, micro, and external environmental aspects of the finance sector. Despite certain limitations, the findings serve to inform the stakeholders of their current overall standing globally, to provide insights and key takeaways from our analysis, and to study as well as share good practices across jurisdictions over indicators and sections. These may contribute to future policy-making and/or environmental and social strategy implementations through better understanding along with comparisons to helpful benchmarks.

In each section, graphs present aggregated results which are generally broken down by regions, namely the Americas, EMEA, and APAC. The assessment covers 10 countries in the Americas, 21 EMEA countries, and 13 APAC countries.

Results are also often broken down according to the following three distinct themes:

CLIMATE Such as greenhouse gas emissions, physical and transition climate-related risks as well as broader climate-related impacts	
ENVIRONMENT Such as biodiversity loss, habitat destruction, deforestation, depletion of natural resources, and water, air and soil pollution, as well as physical and transition risks related to nature loss	
SOCIAL Such as human rights violations and adverse impacts, labour issues (including occupational health & safety), and adverse impacts on indigenous and local communities	

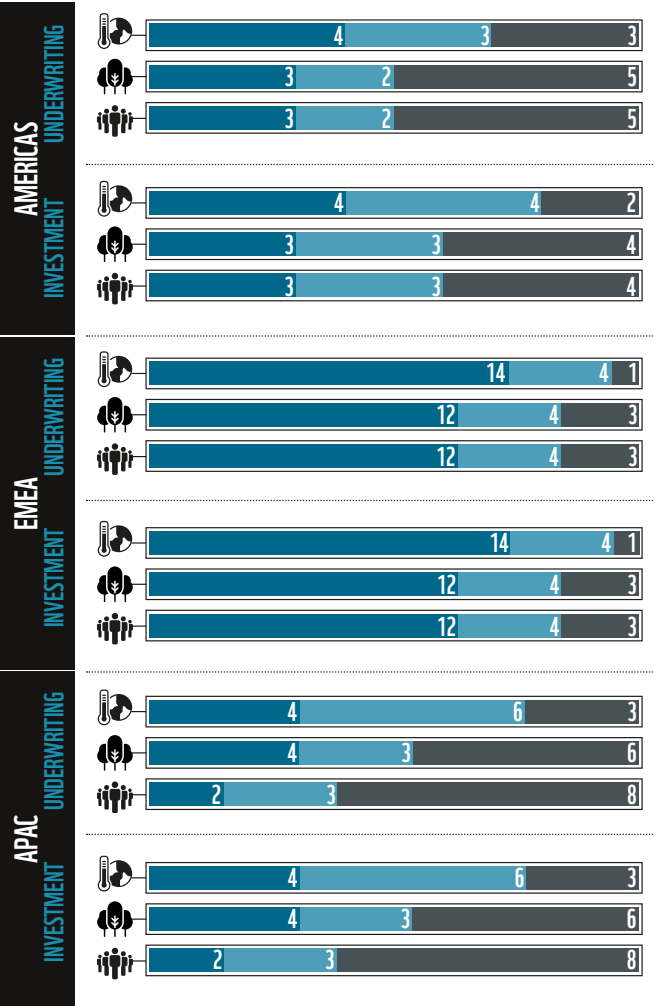
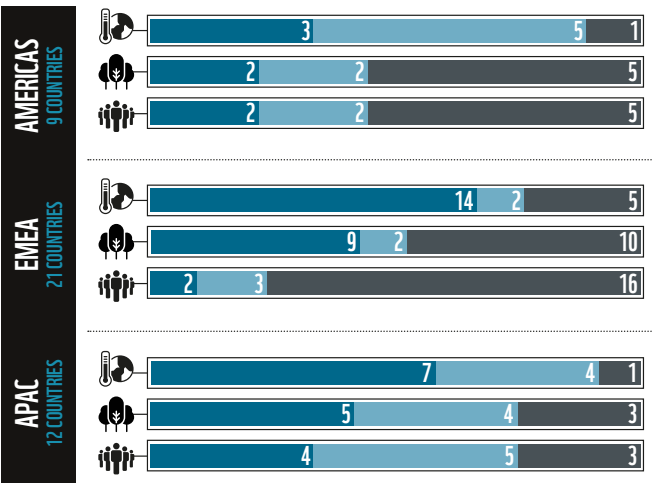
The different colours on the graph represent the scoring provided based on the assessment of the indicators as follows:

Number of countries where there are expectations ²⁶ in place and they fully satisfy the indicator criteria (“Fully met”).	
Number of countries where there are expectations in place, but they only partially satisfy the indicator criteria (“Partially met”). This can be due to parts of the indicator not being addressed, or an overall lower level of expectation. More details on the assessment methodology are provided in the SUSREG Assessment Guide.	
Number of countries where there are expectations in place, but they do not satisfy the indicator (“Not met”).	
Number of countries where the assessment is not applicable or outside the legal mandate of the central banks and/or financial supervisors.	

In the case of insurance, for certain indicators, the assessment results are split into investment and underwriting in order to clearly display the scope of the associated measure(s).

INDICATOR 1.2.1
Insurers are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.

BUSINESS AND RISK STRATEGY (1.2.1)
Banks are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.





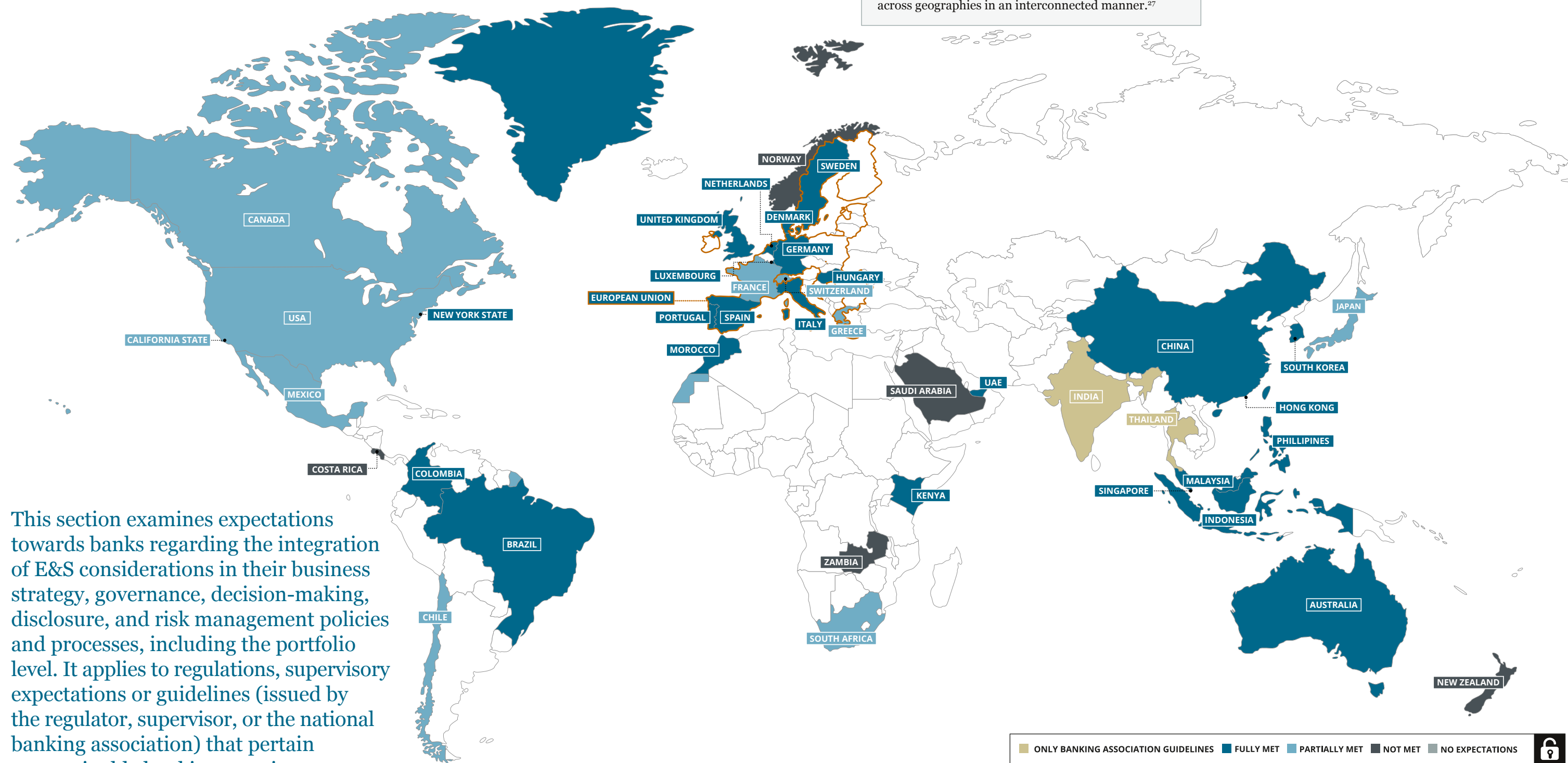
BANKING FINDINGS

BANKING SUPERVISION



MICRO-PRUDENTIAL SUPERVISION

(SUPERVISORY EXPECTATIONS)



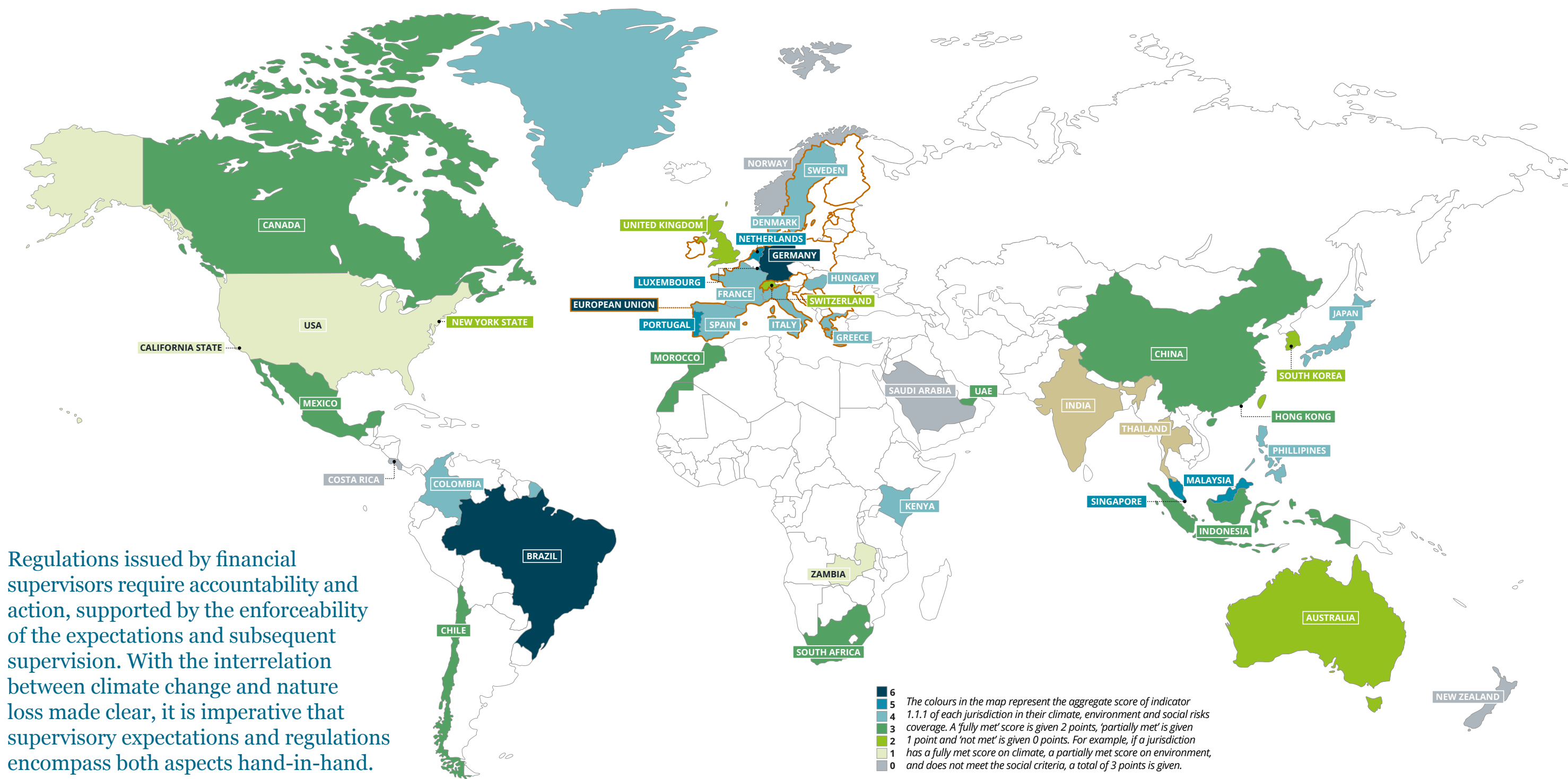


SCOPE & IMPLEMENTATION

E&S TOPICAL SCOPE (1.1.1)

The regulations or supervisory expectations cover a broad range of environmental and social (E&S) issues.

Supervisory expectations for climate are fully (69%) or partially (19%) covered in the jurisdictions assessed. Other environmental issues are fully covered in about 43% of the jurisdictions, and social issues are covered in about 28%.



INSIGHTS



- **Geographical differences:** Financial regulatory efforts are greater in the geographies more remote from the “globally systemically important natural assets”. Whilst large parts of the Global South are where intact biodiversity resources are situated, action by financial regulators has so far emerged most rapidly from the Global North.²⁸ Although this is an important development, the recently launched NGFS task force on biodiversity loss and nature-related risk shows commitment among the central banks and financial supervisors in tackling this issue.²⁹
- **Double materiality:** Materiality evolves and over time, financially immaterial information could become material in the future, i.e., relevant for investors.³⁰ Although not yet endorsed by the ISSB, their recent public consultation responses show wide support within the financial sector and civil society groups for double materiality (impact materiality) and not just for focus on enterprise value.³¹
- **Materiality and systemic risk:** The double materiality perspective becomes more important when considering macroprudential objectives driven by financial sector externalities. The impact of one bank’s activities may increase the risk of another bank, increasing the aggregate impact of the financial services that contribute to climate change.³²

GOOD PRACTICES



- 1.1.1: **Banco Central do Brasil’s new regulation on risk management and social, environmental, and climate responsibility** covers key issues including (a) transition and physical risks under climate risks, (b) natural degradation, deforestation, biodiversity loss, pollution, and natural resources exploitation under environmental risks, and (c) human rights and labour standards under social risks.
- 1.1.2: **The EU Non-Financial Reporting Directive (NFRD)**³³ has a double materiality perspective. Climate-related information should be reported if it affects the value of a company. Companies should also report on climate risks impact that they created as a company’s impact on its surroundings is of interest to a wide range of stakeholders. In 2023, the NFRD will morph into the Corporate Sustainability Reporting Directive (CSRD).
- 1.1.3: **Bank Negara Malaysia’s Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF)** outlines the framework to facilitate the establishment of an effective risk management system for financing and related advisory services and investment activities that integrate the E&S consideration.

DOUBLE MATERIALITY ASSESSMENT (1.1.2)

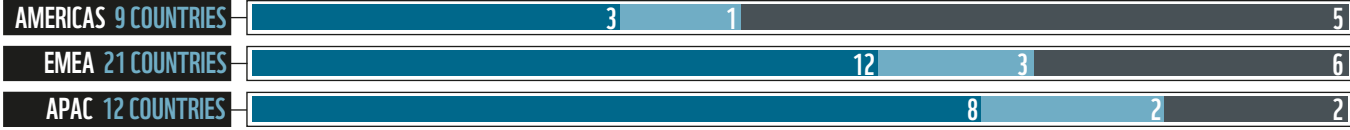
The regulations or supervisory expectations reflect both the expected impact of E&S issues on the bank’s risks and value creation, and the impacts of the bank’s activities on E&S issues (‘double materiality assessment’).



Supervisory expectations on double materiality are only fully reflected in 17% of the jurisdictions. Including partial expectations, 71% of the jurisdictions’ supervisors are reflecting some double materiality considerations.

SCOPE OF REGULATIONS (1.1.3)

The regulations or supervisory expectations extend beyond lending to cover other financial products & services provided by banks.



Supervisory expectations on E&S issues do not extend beyond lending in 13 jurisdictions. Looking beyond lending to cover other banking activities is particularly uncommon in the Americas, where only four out of nine assessed jurisdictions are doing so.



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STRATEGY & GOVERNANCE

Banks should be expected to consider how E&S risks and opportunities impact their activities, and to integrate these considerations into their overall business strategy and governance, factoring in the long-term nature of these risks. In this section, ‘E&S strategy’ refers to a bank’s business strategy incorporating E&S considerations in providing financial products and services to clients.

INSIGHTS

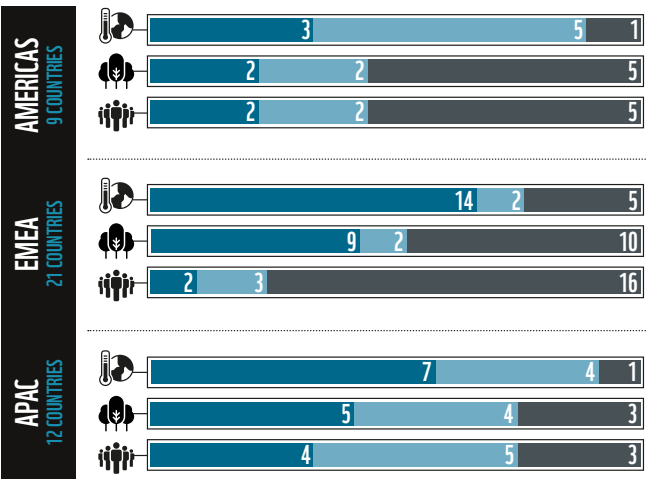
- **Corporate governance:** The NGFS highlights that one of the instrumental ways to manage E&S risks is through effective corporate governance.³⁴ Supervisors should expect financial institutions to clearly define and assign responsibilities within existing governance arrangements. E&S factors should be embedded in board-level commitments, fit and proper tests for the appointment of boards, remuneration policies, current organisational structures, risk profiles, and through the provision of adequate resources and expertise to manage E&S risks in the organisation.
- **Time horizon:** CBFS’ time horizons must be extended to 10-30 years to ensure that short-term financial flows that may have significant long-term consequences for losses and instability are treated as higher risk.³⁵ Longer terms allow for wider planning across banks’ scopes and stakeholders that can result in a holistic change.
- **Qualitative information:** The Taskforce on Nature-related Financial Disclosures (TNFD) Financial Markets Readiness Assessment 2022 recognises the usefulness of qualitative information, particularly concerning the framework’s Strategy and Governance pillars. Qualitative information, so long as it is verifiable and of high quality, can be considered as a way to report on a portfolio’s impacts on nature and various dimensions of sustainability.³⁶
- **Climate risk management principles:** The Basel Committee on Banking Supervision issued a set of principles for the management and supervision of climate-related financial risks. The principles cover governance, internal controls, capital and liquidity adequacy, risk management processes, reporting and monitoring as well as credit, markets, liquidity, and operational risks. The supervision principles can also be adapted to include biodiversity considerations.³⁷

GOOD PRACTICES

- 1.2.1: In the **Circular CSSF 21/773 on the Management of Climate-related and Environmental Risk, the Commission de Surveillance du Secteur Financier (CSSF) of Luxembourg** mentioned that institutions are expected to integrate materially significant climate-related and environmental risks in their business strategy in the short-, medium-, or long-term. Institutions should also factor such risks into their internal communication when implementing their strategy.
- 1.2.3: **Banco Central do Brasil, in their new regulation on E&S risk disclosures**, requires identification of E&S risks that could potentially cause relevant losses as well as identification of business opportunities that could potentially generate revenues to the institution in short-, medium-, and long-term.
- 1.2.4: In their **Guidance on Climate-Related Risk Management, the Central Bank of Kenya** stipulated that to facilitate effective oversight, the board should regularly be provided with relevant management information, as well as updates on major policy initiatives and developments concerning climate-related issues.
- 1.2.13: **The Task Force on Climate-related Financial Disclosures (TCFD) guide for Malaysian financial institutions** recommends disclosing how the institutions have integrated climate-related risks into existing risk framework(s) and/or directly into credit and investment decision-making (e.g., lending policies, underwriting standards, risk ratings, pricing models).

BUSINESS AND RISK STRATEGY (1.2.1)

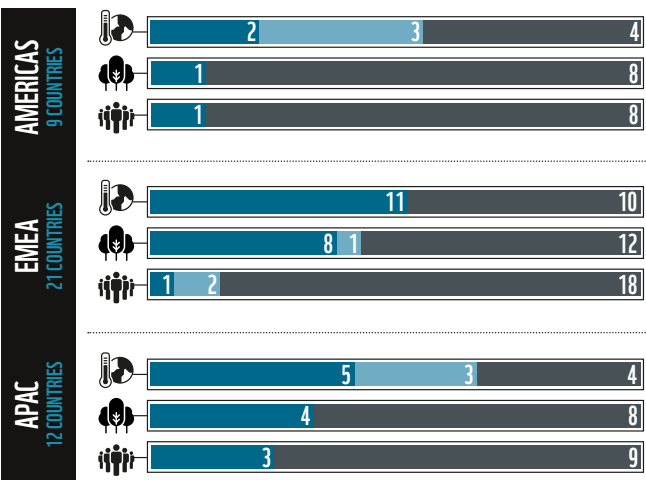
Banks are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.



The supervisory expectations of integrating climate considerations into banks’ business and risk strategies are fully and partially applicable in over 83% of the jurisdictions assessed (57% for full score). For environmental and social matters, expectations are lower and only found in 57% (38% for full score) and 43% (19% for full score) jurisdictions respectively.

BOARD COMMUNICATION (1.2.4)

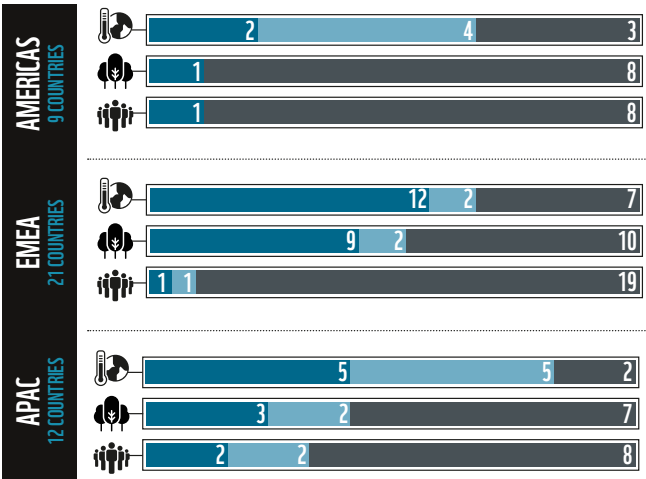
Banks are expected to regularly provide their board with relevant information related to the implementation of their E&S strategy.



This expectation is fully or partially applicable in about half the jurisdictions assessed with climate as the topic with the clearest supervisory expectations. Environmental and social information is only fully applicable in 21% of the jurisdictions.

LONG-TERM CONSIDERATION (1.2.3)

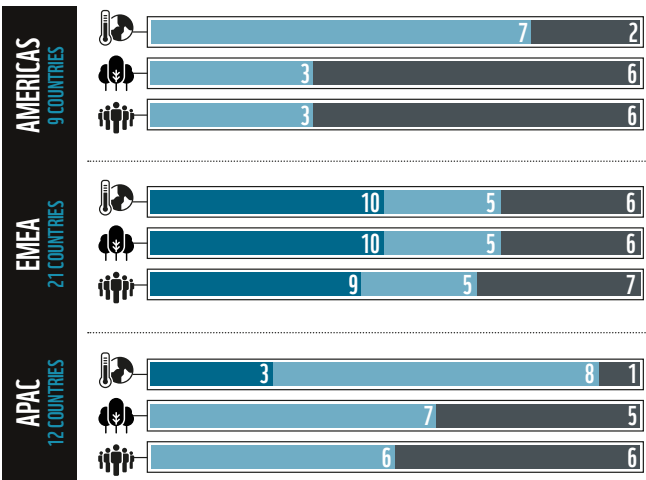
Banks are expected to extend E&S consideration beyond the short term (1 to 5 years) to the medium (5 to 10 years) and longer-term (10 to 30 years) in their business and risk management.



There are higher expectations towards including long-term considerations in APAC and EMEA than in the Americas, and higher for climate than for other issues. Social aspects have the lowest score with 35 out of 42 jurisdictions not having supervisory expectations towards long-term planning of social considerations.

SUSTAINABILITY CONSIDERATIONS IN POLICIES (1.2.13)

The supervisor expects banks to embed sustainability considerations in their existing code of conduct and investment, lending, and risk guidelines (rather than only as separate documents).



These expectations are relatively common in EMEA, with 71% of EMEA jurisdictions scoring full or partial (46% for full score in EMEA). They are not fully clear for any of the environmental and social matters in the Americas and APAC, with only three APAC jurisdictions having clear expectations on climate matters.





POLICIES & PROCESSES

Banks should develop sector-specific policies outlining minimum expectations towards their clients to adequately identify, assess, and mitigate the E&S risks and impacts that they are exposed to through their business relationships. They should also develop capabilities to understand the impact of E&S risk drivers on all financial risks and to incorporate these considerations in the banks’ overall decision-making as well as risk management and control processes.

INSIGHTS

- **Integrating deforestation into policy:** The University of Cambridge Institute for Sustainability Leadership (CISL) has published a new report detailing how the banking industry can contribute to halting and reversing deforestation. The Action Plan maps out banks’ role in advancing policy alignment and traceability, scaling sustainable supply, setting measurable targets and accountability, as well as enhancing the value of leading banks’ evolving expertise in transitioning clients by advocating for government action on halting and reversing deforestation.³⁸
- **Nature-related risk:** In 2022, the NGFS acknowledged that nature-related risks could have significant macroeconomic and financial implications. Banks should build capacity to address nature-related financial risks, request physical asset location data from their counterparties, enhance supply chain traceability, and develop innovative finance instruments for nature-positive activities.³⁹
- **Data governance:** The Bank for International Settlements (BIS) recommends that banks actively engage clients and counterparties in collecting additional data to better understand their transition strategies and risk profiles. Where reliable or comparable climate-related data is unavailable, banks may consider using reasonable proxies and assumptions as alternatives in their internal reporting as an intermediate step.⁴⁰
- **Nature-related data:** TNFD launched the Nature-related Data Catalyst in July 2022, which brings together a range of actors from across the nature-related data landscape to identify shortcomings in current nature-related data and analytics and recommend ways to accelerate the development of and access to nature-related data, analytics, and tools.⁴¹

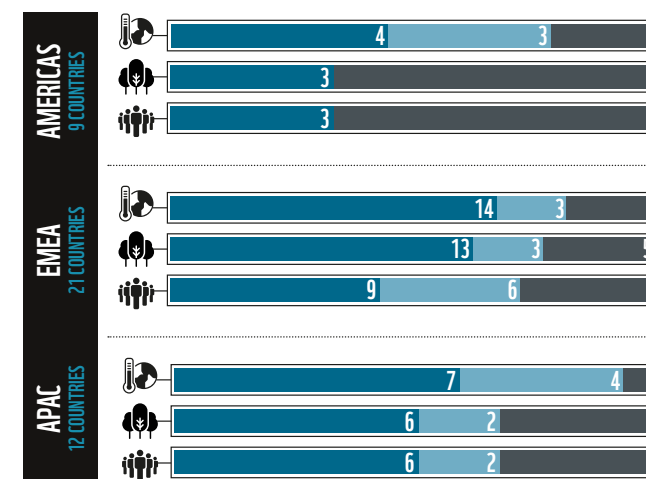
GOOD PRACTICES

- 1.3.5: **Mexico’s Sustainability Protocol** requires financial institutions to establish a risk analysis system that incorporates E&S risks into credit and investment policies. This is to enable them to evaluate, prior to granting financing, the credit, collateral, and image risks associated with the negative impacts that the activities may generate.
- 1.3.6: In **Malaysia, the Value-based Intermediation Financing and Investment Impact Assessment Framework (VBIAF)**^{*} mentions biodiversity loss and deforestation, UNESCO World Heritage Sites, wetlands on the Ramsar list, protected areas as per the International Union for Conservation of Nature’s (IUCN) categories I to IV, and Key Biodiversity Areas in its exclusion list.
- 1.3.7: In the **Guidance Notice on Dealing with Sustainability Risks, the Federal Financial Supervisory Authority of Germany (BaFin)** recommends that internal audits should also address the appropriate handling of sustainability risks. In particular, this should include an assessment of the appropriateness of the revised rules for the organisational and operational structure, risk management and the specific functions as defined by BaFin’s MaRisk (Minimum Requirements for Risk Management).
- 1.3.11: The **Banca d’Italia describes in its supervisory expectations on climate and environmental risks** that intermediaries should put in place actions to provide high-quality information in a system to support the development of metrics for climate and environmental risk assessments. Intermediaries are required to commit to the data collection and storage, and to establish a constructive dialogue with counterparties.

^{*} VBIAF serves as a reference for financial institutions (including insurers) intending to incorporate environmental, social and governance (ESG) risk considerations in their own risk management system.

INTEGRATION IN POLICIES AND PROCESSES (1.3.5)

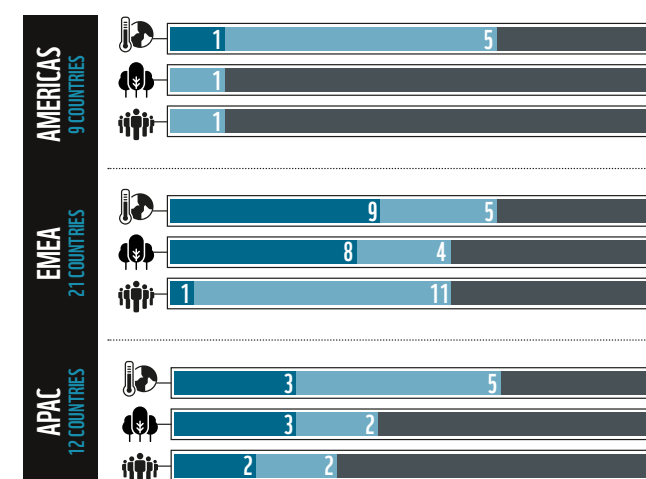
Banks are expected to integrate E&S considerations in their decision-making and risk management processes and policies.



About 83% of all assessed supervisors are providing clear or partially clear expectations for banks to integrate climate in their decision-making, risk management processes and policies (59% for full score). On environmental issues and social matters, similar expectations are present in more than half of the assessed jurisdictions in EMEA and APAC but they are less common in the Americas.

INTERNAL CONTROLS (1.3.7)

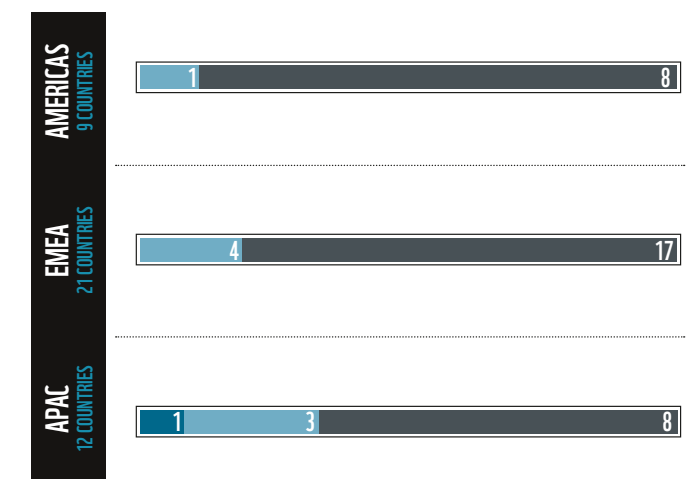
Banks are expected to put in place internal controls to manage E&S risks, in accordance with the three lines of defence approach.



Expectations towards climate risks are partially applicable in 15 jurisdictions and fully applicable in 13 jurisdictions. For environmental and social matters, expectations are fully or partially applicable in 18 and 17 jurisdictions, respectively.

INTEGRATION OF NATURE-RELATED RISKS (1.3.6)

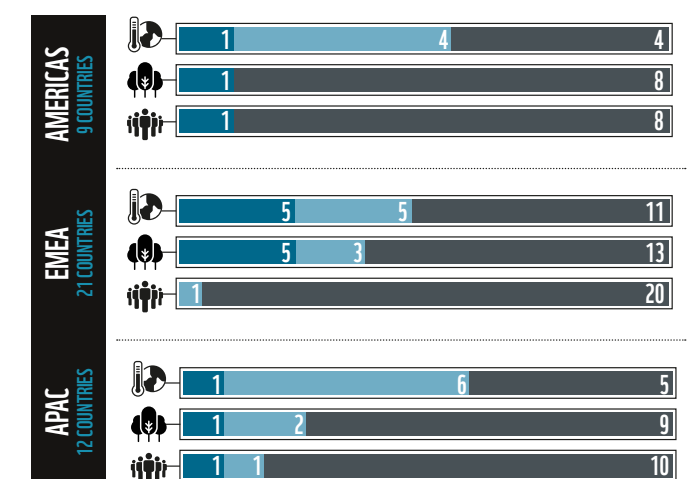
The supervisor asks banks whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies.



While about 20% of the jurisdictions have nature-related issues listed among a list of general considerations, 80% of them do not have any supervisory considerations. Only one APAC jurisdiction has a clear ask towards banks regarding their inclusion of deforestation issues in decision-making.

DATA AND IT INFRASTRUCTURE (1.3.11)

The supervisor expects banks to develop systems that are integrated into the banking group’s broader data governance and IT infrastructure to collect and aggregate E&S risk and impact data effectively.



Expectations towards integrated data and IT systems covering climate and environmental risks are clear or partially clear for about 40% of the countries surveyed (only 13% for full score).

FULLY MET PARTIALLY MET NOT MET NO EXPECTATIONS

CLIMATE ENVIRONMENT SOCIAL





PORTFOLIO RISKS & IMPACTS

Beyond the management of E&S risks and impacts at the client and transaction level, banks are expected to develop a robust understanding of their portfolio-level exposure to these risks and the extent of their negative impacts. Banks are expected to set science-based targets on climate and environmental aspects in line with what latest environmental science deems necessary to meet the Paris Agreement and broader global environment goals.

INSIGHTS

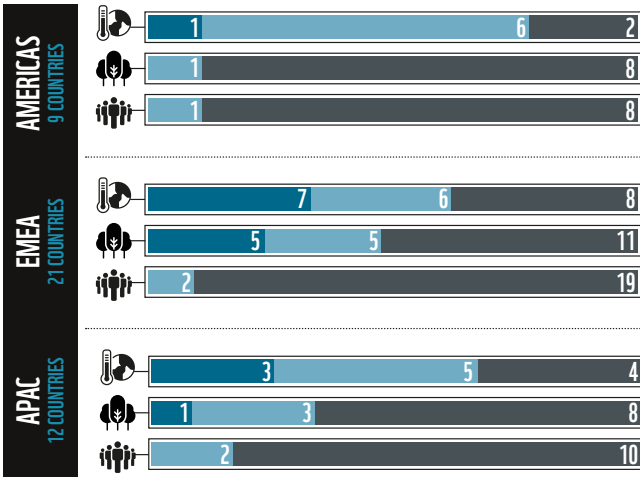
- **European banks’ review:** The ECB’s thematic review in 2022 shows that almost all banks (96%) have blind spots in identifying climate and environmental risks. Banks do not set interim targets or limits to their risk-taking with a view to fulfilling their long-term strategic commitments, or set them in such a way that the immediate impact on the bank’s business is negligible. As a first step, the ECB expects banks to adequately categorise climate and environmental risks and to conduct a full assessment of their impact on the banks’ activities by March 2023 at the latest.⁴²
- **Climate target setting:** The Guidelines for Climate Target Setting for Banks by UNEP FI outline four principles for target-setting: (a) disclose long-term and intermediate targets, (b) establish an emissions baseline and annually measure and report the emissions profile of their lending portfolios and investment activities, (c) use widely accepted science-based decarbonisation scenarios to set both long-term and intermediate targets, and (d) regularly review targets to ensure consistency with current climate science.⁴³
- **Nature target setting:** Targets, at a minimum, should include achieving nature-positive (more biodiversity than in 2020) by 2030 and full recovery and restoration of biodiversity by 2050.* TNFD released the latest beta framework including draft guidance on target-setting developed with the Science Based Targets Network (SBTN) and additional guidance on risk and opportunity assessment and the metrics proposed to support that analysis.⁴⁴

GOOD PRACTICES

- 1.4.2: **The Superintendencia Financiera de Colombia in their guidance**⁴⁵ mentions that credit institutions should consider various exploratory climate scenarios with different levels of impact and time horizons in its business models and that they also should recognize the geographical and sectoral exposures in their portfolios, including both physical and transition risks.
- 1.4.3: **The Magyar Nemzeti Bank (MNB) of Hungary in its Recommendation No 5/2021** expects credit institutions to conduct climate and environmental risk due diligence on their clients. For loans with higher ESG risks, a more intensive analysis of the borrower is required, including a review of current and projected GHG emissions, the market environment, the ESG regulatory requirements, and its impact on the borrower’s financial position.
- 1.4.4: **Denmark’s action plan for the financial sector’s climate partnership** mentions financial institutions shall designate concrete targets for reducing the carbon footprint of the activities they finance and report on it with the aim of requiring the financial sector to reduce their carbon emissions by 70%.
- 1.4.5: **The Code Monétaire et Financier L533-16-1 of France**, expects credit institutions and investment firms to publish a strategy for alignment with the long-term biodiversity objectives set for 2030, then every five years, on: (a) compliance with the Convention on Biological Diversity 1992 objectives, (b) contribution to the reduction of the main pressures and impacts on biodiversity identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), and (c) support for a biodiversity footprint indicator and the way to measure compliance with international objectives related to biodiversity.

SCENARIO ANALYSIS AND STRESS TESTING (1.4.2)

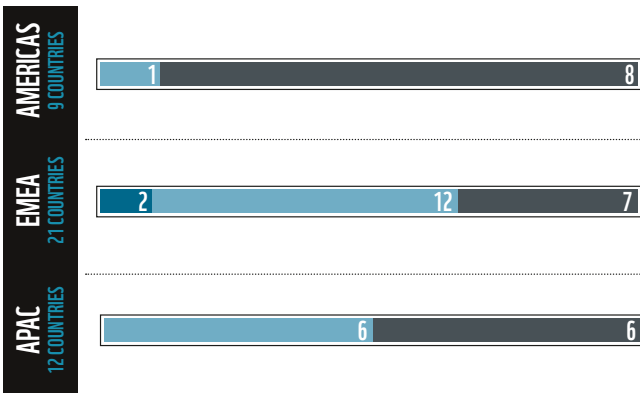
Banks are expected to continually assess, manage and mitigate their portfolio-level exposure to material E&S risks, by using science-based, forward-looking scenario analysis and stress testing over the short- (1 to 5 years), medium- (5 to 10 years) and long-term (10 to 30 years).



Expectations towards applying climate scenario analysis and stress testing are fully (26%) or partially (40%) included in the jurisdictions assessed.

CLIMATE TARGET SETTING (1.4.4)

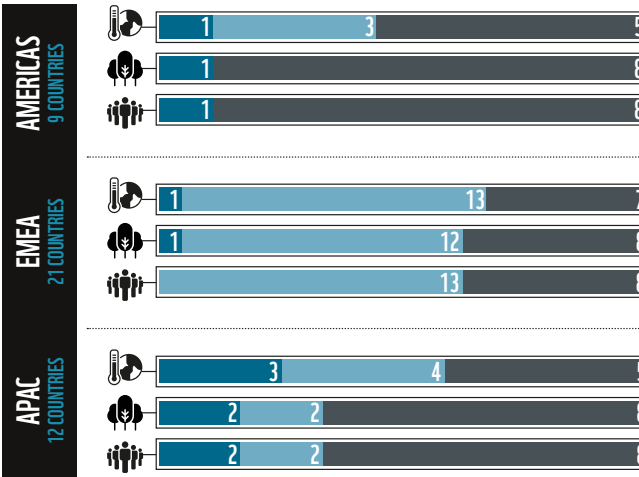
Banks are expected to set climate science-based targets and keep up to date with the latest climate science, to align their portfolios with the objectives of the Paris Agreement.



Expectations are clearly set in only two jurisdictions in EMEA. Otherwise, partial expectations are included in one country in the Americas, six jurisdictions in APAC and a further 12 jurisdictions in EMEA.

MANAGEMENT OF NEGATIVE E&S IMPACTS (1.4.3)

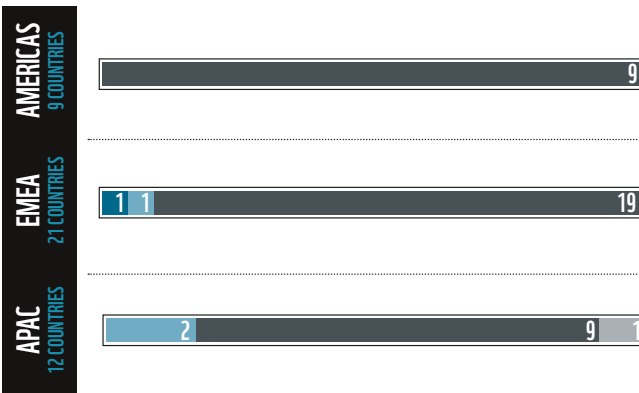
Banks are expected to continually assess, manage and mitigate the material negative E&S impacts associated with their business relationships at the portfolio level.



Supervisory expectations are included in over half of the assessed jurisdictions. In particular, two thirds of the EMEA jurisdictions in scope include some sort of partial expectation. However, full expectations are only included in five jurisdictions.

SCIENCE-BASED TARGET FOR NATURE (1.4.5)

Banks are expected to set science-based targets to mitigate negative environmental impacts beyond climate, at the portfolio level.



Banks are expected to set targets fully or partially in only four jurisdictions worldwide.

* If there is no overarching goal, targets that are rooted in sub-themes that stem from material environmental change drivers (land/water/sea-use change, resource exploitation, climate change, pollution, invasive species and others), at the portfolio level, may be used. It is key to move from risk management to alignment with science-based climate targets as risk management alone in line with TCFD does not guarantee emission reductions.



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INTERVIEW: DANMARKS NATIONALBANK



DANMARKS
NATIONALBANK

Q1 Could you tell us about Danmarks Nationalbank's current plans to foster a more sustainable, green and resilient financial system in your jurisdiction?

Martin Oksbjerg, Climate Task Force Lead: We take a holistic view of our activities within sustainability and climate. Climate change and its impacts thus constitute one of the analytical agendas across all our activities. We currently have colleagues building analytical capacity on the impact of climate risks on the financial system and monetary stability, bridging data gaps and ensuring sustainable portfolio management.⁴⁶ Danmarks Nationalbank assessed credit institutions' exposure to flood risks based on RCP 4.5 (baseline) and RCP 8.5 (worst-case) scenarios. The result shows that the share of exposures at risk varies from three percent for the least exposed institution to nine percent for the most exposed institution.⁴⁷

Q2 More specifically, how is Danmarks Nationalbank planning to integrate climate, environmental and/or social considerations in its activities and mandates?

Marcus Mølbak Ingholt, Senior Lead Climate Economist: Economists work on climate-related economic and financial impact assessment, responsible investment and bridging data gaps. As a case in point, we introduced additional responsible investment criteria into our foreign exchange reserve in 2022.⁴⁸ We now only invest in exchange traded funds that comply with the EU's minimum requirements for Paris Aligned Benchmarks. We continue our work on ensuring that our financial portfolios comply with the Paris Agreement, while still being able to fulfil their mandates. In January 2022, Danmarks Nationalbank introduced its Green Bond

Framework, as a debt manager on behalf of the Danish Ministry of Finance. The framework uses a twin bond concept.⁴⁹ To date, the framework has raised over US\$ 1.5 billion to help fund Denmark's green transition.

Q3 What are the main challenges that Danmarks Nationalbank is facing in the definition and implementation of its plan particularly in addressing nature loss and climate change risk? What would be needed to overcome these?

Marcus Mølbak Ingholt, Senior Lead Climate Economist: The greatest friction we encounter is the lack of information about climate change and the green transition. These transformations have no precedent. Therefore, there is no historical data for how they will proceed. In addition, companies lack knowledge about their value chains' reliance on carbon emissions. These information frictions make it difficult for central banks and financial regulators to assess any negative consequences for corporate profitability of non-transition. Disclosure requirements are an important tool to alleviate the information frictions.

Q4 Has Danmarks Nationalbank formed or plan to form any external partnership to support the implementation of this plan?

Martin Oksbjerg, Climate Task Force Lead: We see our work as contributing to the agenda at an international level and are engaged in the NGFS and other international working groups. We also seek to engage national experts in specific projects and have worked with the Technical University of Denmark, on long-term risk of flooding due to climate change.⁵⁰

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MICRO-PRUDENTIAL SUPERVISION (RULE-BASED)

The integration of risk-based E&S considerations in the prudential rules for banks such as capital and liquidity requirements, could contribute to strengthening their risk management systems and ultimately their resilience to climate-related or environmental shocks. The indicators related to the rule-based micro-prudential supervision have scored the lowest in the entire assessment. Within this area, supervisors have a great opportunity to improve and to set precedent for taking E&S risks into consideration in capital and liquidity management. The results clearly show that the financial implications of E&S risks are not adequately understood and embedded.

INSIGHTS

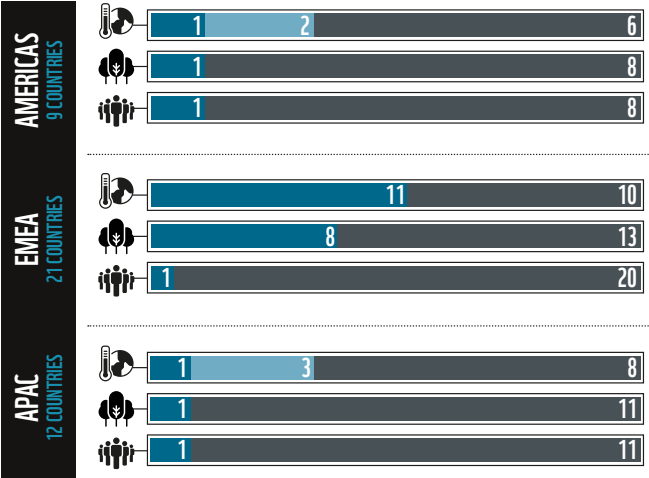
- **ICAAP:** By the end of 2024 banks are expected by the ECB to meet all remaining supervisory expectations on climate and environmental risks outlined in 2020, including full integration in the Internal Capital Adequacy Assessment Process (ICAAP) and stress testing.⁵¹
- **Binding qualitative requirement:** Through the annual Supervisory Review and Evaluation Process (SREP), the ECB imposed binding qualitative requirements on more than 30 banks. The outcome of the 2022 supervisory exercises on climate and environmental risks had an impact on the SREP scores for some banks, thereby impacting their Pillar 2 (supervisory review process) capital requirements.⁵²
- **Disaster and liquidity:** Some evidence suggests that post-disaster lending has a significant and negative effect on liquidity buffers. Severe natural disasters, like the Great East Japan Earthquake or Elbe River flood, can trigger a sharp increase in precautionary demand for liquidity by financial institutions, households and corporates, and the central banks may have to intervene in order to preserve financial stability.⁵³
- **Liquidity modelling:** For modelling potential bank liquidity impacts due to climate risk, data reflecting the rollover, withdrawal, or pricing behaviours (among others) of funding providers (e.g., depositors, bondholders, wholesale funds) in response to climate risk drivers would be needed (see BIS Climate-related Financial Risks – measurement methodologies).⁵⁴

GOOD PRACTICES

- 1.5.1: **The Bangko Sentral ng Pilipinas (BSP) in their Circular No 1128** requires the board of directors (or equivalent management committee in the case of foreign bank branches) to ensure that material E&S risks are considered in the ICAAP or internal capital planning process.
- 1.5.2: **Banco Central do Brasil (BCB), in their new regulation on risk management and social, environmental and climate responsibility**, requires the assessment and measurement of the capital requirement to cover relevant risks to which the institution is exposed, considers at least social-environmental risk.
- 1.5.3: **Banca d'Italia states in their Aspects of Surveillance of Climatic and Environmental Risks**⁵⁵ that intermediaries should integrate climate and environmental risks in measuring and managing liquidity risk.
- 1.5.4: **The Bank Negara Malaysia's Climate Risk Management and Scenario Analysis** guide mentions that financial institutions shall periodically assess the impact that climate-related risks have on the stability of funding, potential outflows, and adequacy of liquidity buffers by considering the possibility of the materialisation of climate-related risks. Where material, they should incorporate these impacts into the calibration of liquidity buffers.

INTEGRATING E&S INTO ICAAP (1.5.1)

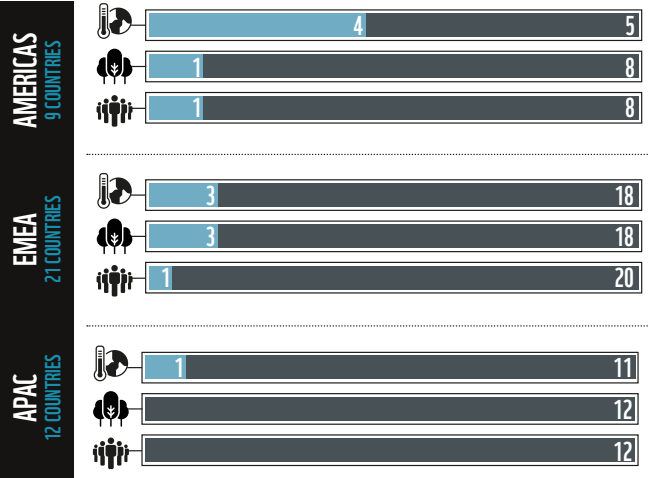
Banks are expected to integrate E&S considerations in their Internal Capital Adequacy Assessment Process (ICAAP).



Banks are expected to integrate E&S considerations in their ICAAP in 11 jurisdictions in EMEA (mostly for climate and the environment). In the Americas and APAC, the expectations are less frequent for climate and most are partial.

MINIMUM CAPITAL REQUIREMENTS (INDICATOR 1.5.2)

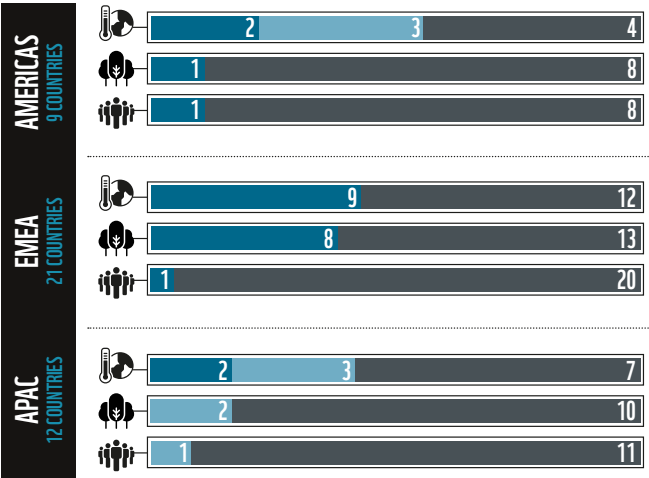
Minimum capital requirements or capital add-ons for banks incorporate E&S considerations, through a differentiated risk-based approach.



The incorporation of E&S considerations in minimum capital requirements is still a work-in-progress globally, with no surveyed jurisdiction having set fully-formed expectations. There are only partial expectations for eight jurisdictions on climate, four jurisdictions on other environmental issues, and two jurisdictions on social matters.

LIQUIDITY RISK MANAGEMENT (1.5.3)

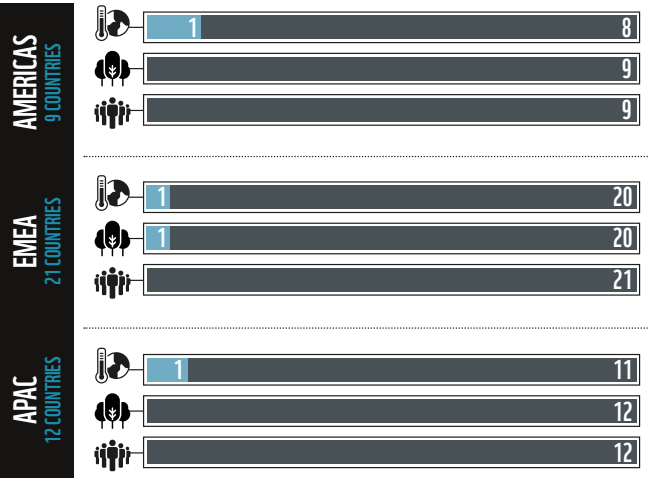
Banks are expected to integrate E&S considerations in their liquidity risk management process.



Banks are expected to integrate full or partial climate considerations in their liquidity risk management in 45% of the jurisdictions assessed (mostly in EMEA), but for other environmental and social matters only in 26% and 7% of all jurisdictions respectively.

LIQUIDITY RATIOS (INDICATOR 1.5.4)

Liquidity ratios are adjusted to take E&S considerations into account, through a differentiated risk-based approach.



No supervisors have communicated clear expectations on taking E&S considerations into account in liquidity ratios. Only four jurisdictions have defined partial expectations.



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INTERVIEW: BANCO CENTRAL DO BRASIL (BCB)



Q1 What are BCB's plans to foster a more sustainable, green and resilient financial system in Brazil?

Since 2014, financial institutions in Brazil are required to implement socio-environmental responsibility policies, and since 2017, to integrate socio-environmental risks in their risk management processes. In 2020, sustainability was officially included in the BCB's strategic agenda with concrete measures across five pillars: regulation, supervision, policy and instruments, partnerships, and internal actions. BCB joined the NGFS in March 2020 and was appointed to the NGFS' Steering Committee in 2022.

In 2021, BCB published new regulations on the management of Social, Environmental and Climate (SEC) risks applicable to FIs and a sustainability criterion in rural credit, prohibiting credit to agents with illegal SEC practices. BCB established the Green Bureau for Rural Credit, a system that will expand the verification of SEC criteria in financing rural producers. It acts as a second line of defence, strengthening SEC regulation compliance and enhancing post-contract supervision of these rural credit operations.

BCB opted for a phased implementation of the TCFD recommendations in the prudential framework of financial institutions: qualitative aspects focusing on governance, institutional strategy and risk management in 2021 (phase 1) and quantitative aspects on metrics, goals and measurement of climate risks by end of 2023 (phase 2).

On monetary policy, sustainability criteria were introduced in the selection process of counterparties and on the strategic asset allocation of international reserves. Sustainable bonds have been part of BCB's international reserves portfolio since 2012 with the addition of new green instruments.

BCB is also working to estimate the effects of socio-environmental risks in the economy and on the National Financial System. The first climate risk evaluation exercise was published in the Financial Stability Report (October 2022) which consists of mapping credit exposure to borrowers' transition risks and conducting sensitivity analysis based on climate scenarios.

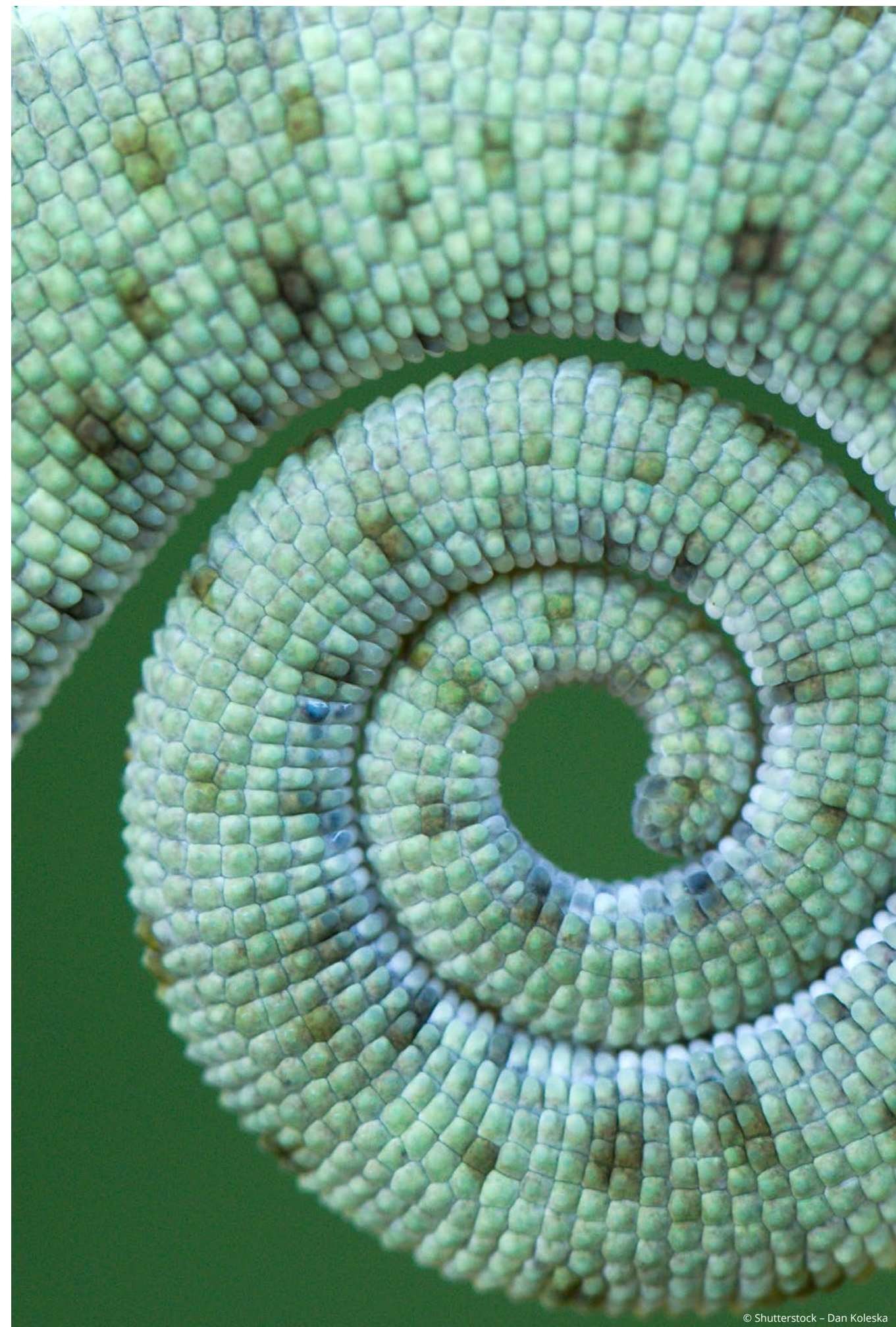
BCB is incorporating SEC variables into its decision-making processes. BCB's Report on SEC-Related Risks and Opportunities (RIS) addresses BCB's sustainability actions in an integrated way and strengthens the communication on the set of rules, practices and projects of BCB that aim to improve the management of SEC risks.

Q2 How is BCB deepening engagement with financial institutions on deforestation and nature loss? Does BCB intend to require financial institutions to publish transition plans integrating nature and climate change?

All initiatives on BCB's Sustainability Agenda were a result of an open dialogue with FIs and the society, mainly through public consultations. According to Brazilian regulation, FIs are required to establish their own SEC Responsibility Policy (PRSAC), which are principles and guidelines on SEC issues to be observed by the FIs on their business, activities, and relationship with stakeholders. The PRSAC and its implementation must be disclosed in line with the TCFD recommendations.

Resolution BCB 140 also prohibits granting rural credit to activities on preservation areas, properties with environmentally embargoed areas, indigenous and "quilombola"⁵⁶ lands. BCB plans to incorporate transition plans into the prudential regulation when international standards are developed.

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DISCLOSURE & TRANSPARENCY

Public disclosure of material information on E&S risks and impacts by financial and non-financial corporations is critical in helping to correct market failures and enhance market discipline. It also contributes to better risk management and facilitates the identification of sustainable finance opportunities.

INSIGHTS

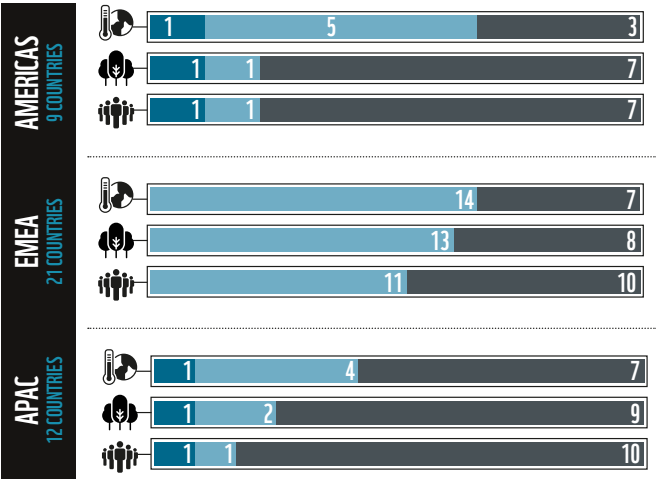
- **Transition plan:** In 2021, the Carbon Disclosure Project (CDP)'s Climate Change Questionnaire received over 13,000 responses across 13 industries and 117 countries and found that only a third reported developing a low-carbon transition plan which fell short in comprehensiveness when compared to CDP.⁵⁷
- **Climate transition plan assessment:** The CDP and French Environment and Energy Management Agency (ADEME) founded the Assessing Low-Carbon Transition (ACT) initiative to provide an independent assessment for climate transition plans by enabling benchmarking against advanced, science-based metrics.⁵⁸
- **Pillar 3 reporting:** The NGFS report on “Capturing risk differentials from climate-related risks” states that considering climate-related and environmental risks as part of Pillar 3 (disclosure requirements) could be beneficial given the general use of disclosures in facilitating measurement and monitoring of these risks.⁵⁹
- **Disclosures:** Currently, the sustainability disclosure requirements by the EU, the SEC and the International Financial Reporting Standards (IFRS) are under review. Once published, these requirements will increase the disclosure and assurance requirements and thus further highlight the accountability of companies to identify, manage, and report their E&S risk management procedures and transition plans.

GOOD PRACTICES

- 1.6.2: **The Financial Service Authority of Indonesia (OJK) in their No.51/POJK.03/2017** requires banks to have Sustainable Finance Action Plan which includes one year and five-year timelines, and it must be submitted once every five years. The plan should at least outline the priority activity target for five years, success indicator of each activity, and the allocation of resources (funding, human, and cooperation partner) for the implementation.
- 1.6.4: In their **Sustainable Finance Framework, the Bangko Sentral ng Pilipinas (BSP)** communicates their expectations that banks should disclose their sustainability strategy objectives, risk appetite, and risk management system in the annual report.
- 1.6.6: According to the **European Commission regulation C (2021) 4987**, credit institutions should disclose their green asset ratio (GAR). The GAR shall show the proportion of the credit institution's assets financing and invested in taxonomy-aligned economic activities as a proportion of total covered assets.
- 1.6.9: The **Financial Service Authority of Indonesia (OJK) through POJK Number 51/POJK.03/2017** recommends having a verification process or assurance to improve the quality of information presented in the sustainability reports. This assurance process is carried out by examining documentary evidence and interviews to clarify information conveyed in the report through a sample focused on material information.

TIME-BOUND TRANSITION PLAN (1.6.2)

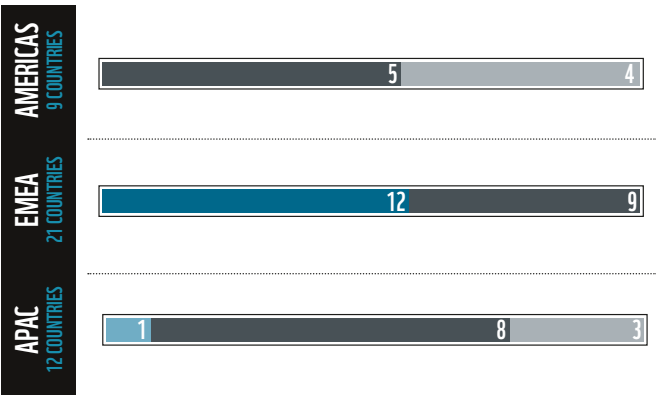
Banks are expected to publicly disclose their time-bound transition plans to reach set strategies and objectives pertaining to E&S issues.



Expectations related to the disclosure of E&S transition plans are included in 46% of all assessed jurisdictions, mostly as partial expectations. It is more common for climate issues (60% of jurisdictions have at least partial expectations) than for social and environmental matters (43% of jurisdictions).

DISCLOSURE AGAINST TAXONOMY (INDICATOR 1.6.6)

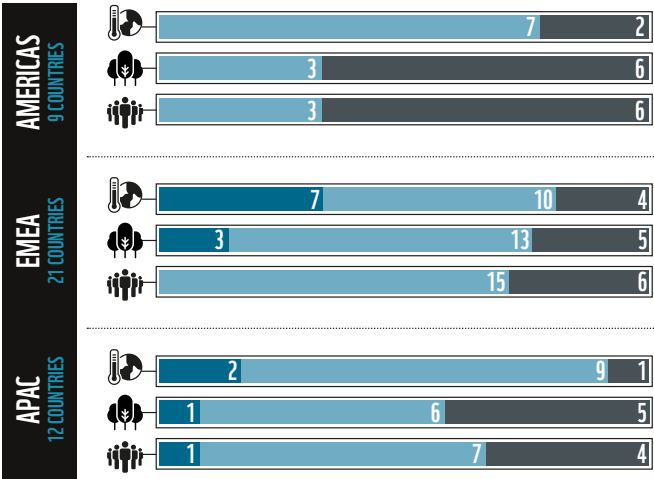
Banks are expected to publicly disclose the share of their total lending portfolio that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).



Banks are expected to publicly disclose the share of their total lending portfolio that is aligned with existing taxonomies in 57% of jurisdictions in EMEA, particularly in the EU region. There are almost no such expectations in other jurisdictions.

DISCLOSURE IN ANNUAL REPORT (1.6.4)

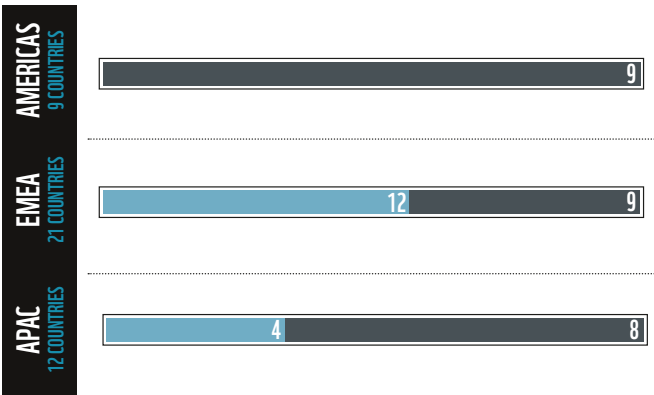
Banks are expected to include information on their E&S strategy and its implementation in their annual report, including non-achieved targets and taken measures.



While 70% of all assessed jurisdictions include at least a partial expectation around climate, environment and/or social matters (only 11% for full score), there is limited disclosure on non-achieved targets and taken measures. Such expectations are more mature for APAC and EMEA than for the Americas (where no country scored a full expectation).

EXTERNAL ASSURANCE FOR DISCLOSURES (1.6.9)

Banks are expected to seek external assurance for their E&S public reporting and disclosures.



Expectations are not yet defined or communicated in the Americas but in Europe, 12 assessed jurisdictions have announced either partial assurance requirements or recommendations, and the same applies to four jurisdictions in APAC.





MACRO-PRUDENTIAL SUPERVISION

Focusing on the stability of the financial system as a whole, macro-prudential supervision is critical in identifying system-wide imbalances in order to regulate and mitigate these risks. Prudential regulations focus on preventive measures as it is more efficient and less costly to mitigate issues than it is to deal with damage control later, particularly in the case of climate change and nature loss.

INSIGHTS

- **Nature-related scenarios:** The TNFD in cooperation with the NGFS and other strategic partners, has published a draft framework for nature-related scenario analysis. The TNFD proposes constructing scenario analysis as a default around the following two critical uncertainties: (a) nature loss and ability of the company to adapt and (b) alignment of market and non-market driving forces.⁶⁰
- **Climate stress testing capacity:** UNEP FI’s Comprehensive Good Practice Guide to Climate Stress Testing lists seven recommendations for regulators to assist financial institutions: build institutional expertise, require mandatory disclosures, implement policies on disclosing required data in standardised formats, provide free open-source data, modify current system used to run models, design scenarios for supervisory climate stress tests relevant to financial institutions’ scope and business model, and initiate communication between financial institutions and experts.⁶¹
- **Concentration limit:** Quantitative portfolio concentration limits, either absolute or relative, are one of the potential instruments to address concentration risks from climate and environmental risks. This limit would be subject to supervisory reporting, disclosure or an additional capital buffer. In the event of a breach of the limit, a range of supervisory measures could be considered, such as a mandatory notification in accordance with the Large Exposures framework or a deduction of the excess part of the concentrated position from the bank’s capital.⁶²



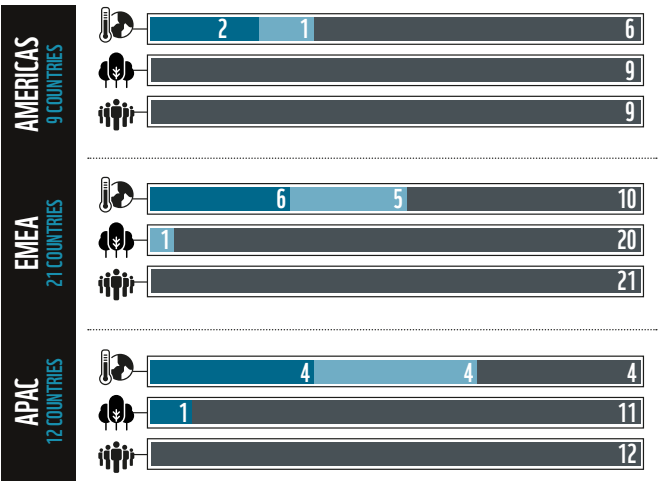
GOOD PRACTICES

- 1.7.1: **Bank Negara Malaysia (BNM) published a study titled “An Exploration of Nature-Related Financial Risks in Malaysia”** assessing the exposure of Malaysian banks to sectors and regions that are highly vulnerable to nature-related risks. Of the commercial loans portfolio analysed, 54% are exposed to sectors that depend to a high extent on ecosystem services.
- 1.7.3: **The European Central Bank (ECB) in their 2022 climate risk stress test** found that on average, more than 60% of the financial institutions’ interest income was derived from business with non-financial corporate customers belonging to the 22 carbon-intensive sectors. Custodians and asset managers, along with global systemically important banks (G-SIBs), were rather less reliant on income from GHG-emitting sectors, while development banks/promotional lenders and small domestic retail lenders were the most reliant.
- 1.7.5: **Banco do Brasil, in their new regulation**⁶³ requires monitoring of concentrations and, when appropriate, establishment of limits for significant exposures to economic sectors or geographical regions that are most susceptible to suffering or causing social, environmental and climate-related damage.
- 1.7.6: In their updated **supervisory ICAAP-ILAAP-BMA Handbook, the Magyar Nemzeti Bank (MNB) of Hungary** stipulates the conditions for the application of the green preferential capital requirement, in which the total may not exceed 1.5% of the credit institution’s total risk exposure amount (TREA) during the ICAAP reviews initiated in or after 2022.



SUPERVISOR’S STRESS TESTING (1.7.1)

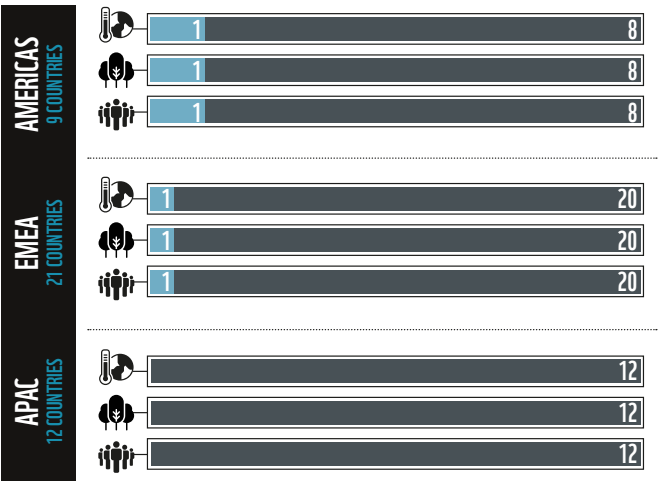
The supervisor has assessed the exposure of banks to material E&S risks and the implications for financial system stability, based on forward-looking scenario analysis and stress testing.



Twenty two climate exposure assessments and two assessments for environmental considerations have been performed by supervisors around the world. No supervisory assessments of banks’ exposure to material social risks have been conducted anywhere in the assessed jurisdictions yet.

EXPOSURE LIMIT (INDICATOR 1.7.5)

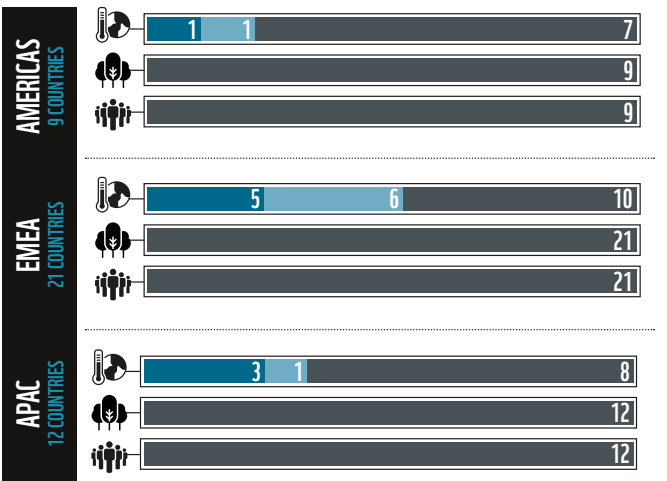
The supervisor has issued prudential rules to limit the exposure of banks to certain activities, in order to prevent and protect against the build-up of systemic risk, based on E&S considerations.



None of the assessed supervisors have issued prudential rules related to limiting exposure to specific environmentally harmful activities. Only two jurisdictions partially meet the indicator criteria, where initiatives have been announced but are yet to come into force.

STRESS TESTING PUBLICATION (1.7.3)

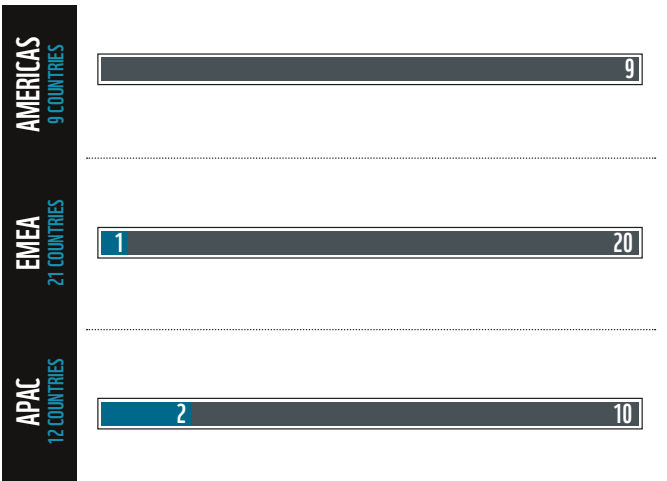
The supervisor has published the aggregated results of its stress testing exercise on material E&S risks, as well as its recommendations.



The results of 17 climate-related stress tests have been published by banking supervisors globally, with nine of them also including recommendations. However, no supervisors assessed have published stress testing results for social and environmental considerations as yet.

SYSTEMIC E&S RISKS IN CAPITAL REQUIREMENTS (INDICATOR 1.7.6)

Specific capital requirements for banks incorporate a macro-prudential buffer for systemic E&S risks.



Capital requirements for banks seldom incorporate a specific macro-prudential buffer for systemic E&S risks with only three assessed jurisdictions worldwide fully doing so.



LEADERSHIP & INTERNAL ORGANISATION

The transition to a low-carbon, resilient and more equitable economy requires ambitious action and leadership from banking regulators, supervisors, and central banks. In order to properly integrate E&S considerations into their activities, these institutions also need to develop internal capacity and expertise on these topics.

INSIGHTS

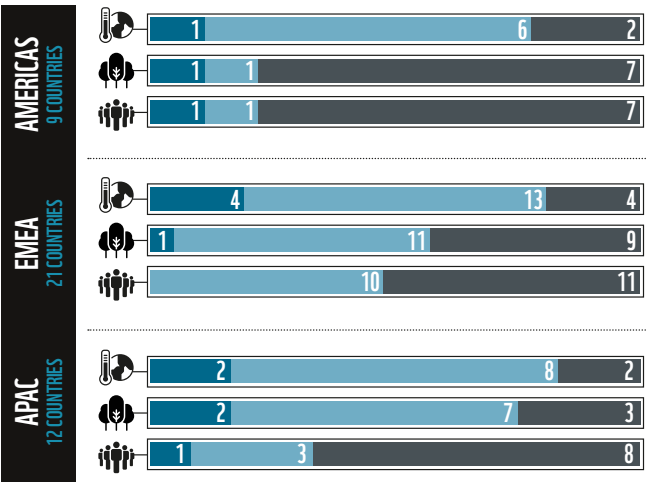
- **Nature impact assessment:** Central banks and supervisors are encouraged to conduct impact and dependency assessments on nature as well as biodiversity-related scenario analysis and stress tests at the micro, the financial system, and regional levels, as well as identify priority drivers of biodiversity-related financial risk. Further analysis and quantification of physical and transition risks arising from biodiversity losses and creating a dashboard of biodiversity metrics to monitor the state of biodiversity risks are also recommended.⁶⁴
- **Reliance on nature:** A growing number of central banks and supervisors have started to grasp the reliance of their financial institutions on nature, with over 40% of assets often highlighted. Others have started to signal that supervisory expectations regarding environmental risk management extend to biodiversity.⁶⁵
- **Climate risk impact assessment:** Existing analyses focus on how specific climate risk drivers can impact narrowly defined sectors of particular economies, individual markets, or top-down assessments of the macroeconomy as a whole. Most studies do not model the efficacy of mitigants or the propagation and potential amplification of the impacts that climate risk drivers may have across the financial system.⁶⁶
- **Open-data:** The Climate Data Steering Committee unveiled recommendations on the design of a new open-data utility, the Net-Zero Data Public Utility (NZDPU). The Utility will include company and financial institution-level emission data, net-zero targets and actions, and openly accessible statistical classification information.⁶⁷ Financial institutions can also collaborate with their local statistical bureaus to increase the quality of climate and environment data available such as the case in Norway.⁶⁸

GOOD PRACTICES

- 1.8.2: In **Indonesia**, the **Financial Service Authority (OJK) published the Sustainable Finance Roadmap Phase II 2021 – 2025**, containing a detailed timeline up to 2025. It consists of 7 components: policy, product, market infrastructure, coordination among ministries/institutions, non-government support, human resources, and awareness.
- 1.8.4: **The Australian Prudential Regulation Authority (APRA) conducted a climate change survey** of 38 large entities. The survey found that a majority of regulated entities were taking steps to increase their understanding of climate risks and integrate it into their risk management frameworks, one third viewed climate risks as material, and more sophisticated financial analysis of scenarios is gaining traction.
- 1.8.7: In 2021, the **French Prudential Supervision and Resolution Authority (ACPR) published an initial assessment of the financial risks caused by climate change**. The paper describes a pilot exercise with the objective to quantify the complex transition or physical risk scenarios, and to measure the risks and vulnerabilities to which French financial institutions are exposed.
- 1.8.8: **The Centre for Green and Sustainable Finance (GSF Centre) in Hong Kong launched the Data Source Repository** in June 2022. The repository contains various government data sources relevant to the physical risks assessment, including historical data on catastrophe damages, district-level microclimate conditions (such as tropical cyclones, flooding, and landslides), as well as geographic data and a coordinates transformation tool. A free and publicly accessible greenhouse gas emissions estimation tool that companies can use as an alternative source of information is on the way.

SUPERVISOR’S E&S STRATEGY (1.8.2)

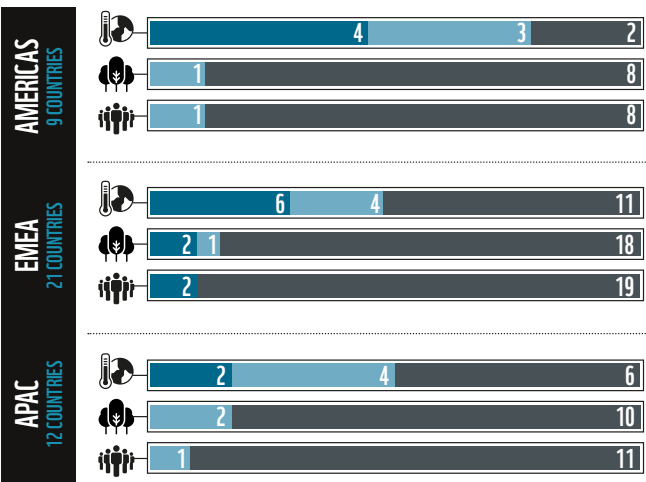
The supervisor has published an official E&S strategy or roadmap outlining a science-based transition plan with associated measures for contributing to a net-zero and nature-positive financial centre to address E&S risks and opportunities in the financial sector, in line with its mandate.



Only 17% of supervisors in all jurisdictions have published an official climate strategy or roadmap. About 55% of the supervisors have issued a full or partial environmental strategy, and 38% have issued a social strategy.

STUDY ON TRANSMISSION CHANNELS (1.8.7)

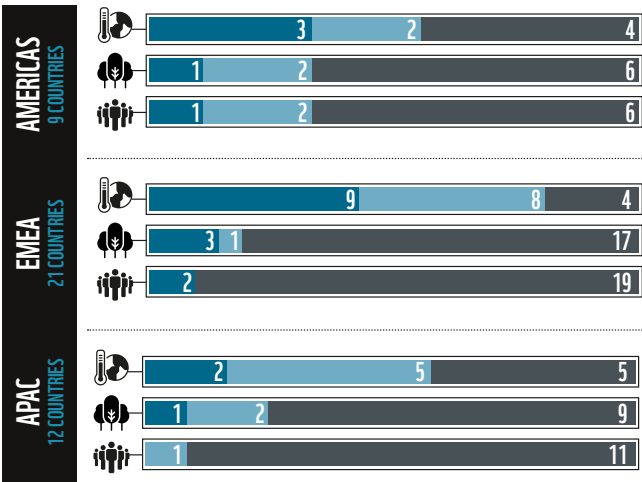
The supervisor has conducted and published studies to analyse the transmission channels between E&S risks and the economy and the financial system.



Twelve jurisdictions have published transmission channel studies related to climate risks, and another 11 jurisdictions have either mentioned climate risk transmission channels or announced the intention to perform such a study. Two supervisors have published similar studies related to the environment and two supervisors on social matters.

STUDY ON BANKING’S EXPOSURE (1.8.4)

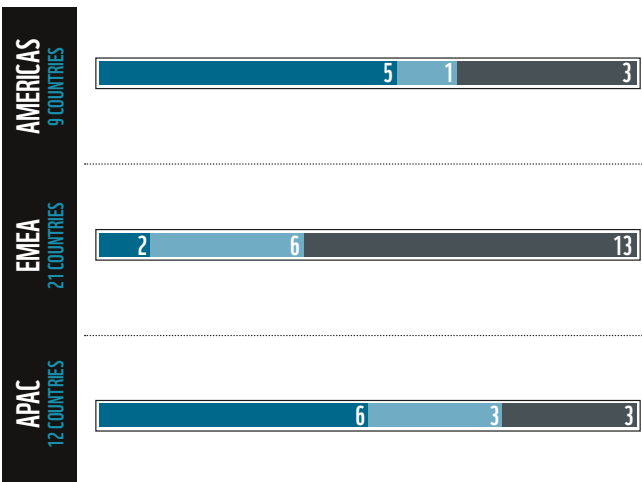
The supervisor has conducted studies to assess the banking sector’s exposure to and management of E&S risks, and published its conclusions and recommendations.



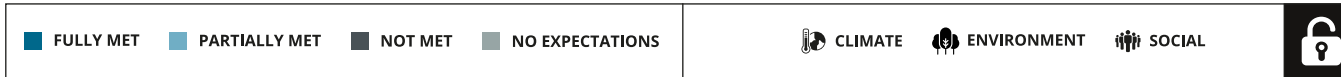
Supervisory studies of the banking sector’s exposure to climate risks have been conducted in 29 jurisdictions, half of which are only partial studies that do not cover banks’ management of such risks. Fewer studies have been conducted on other environmental issues (10 jurisdictions) and social matters (six jurisdictions).

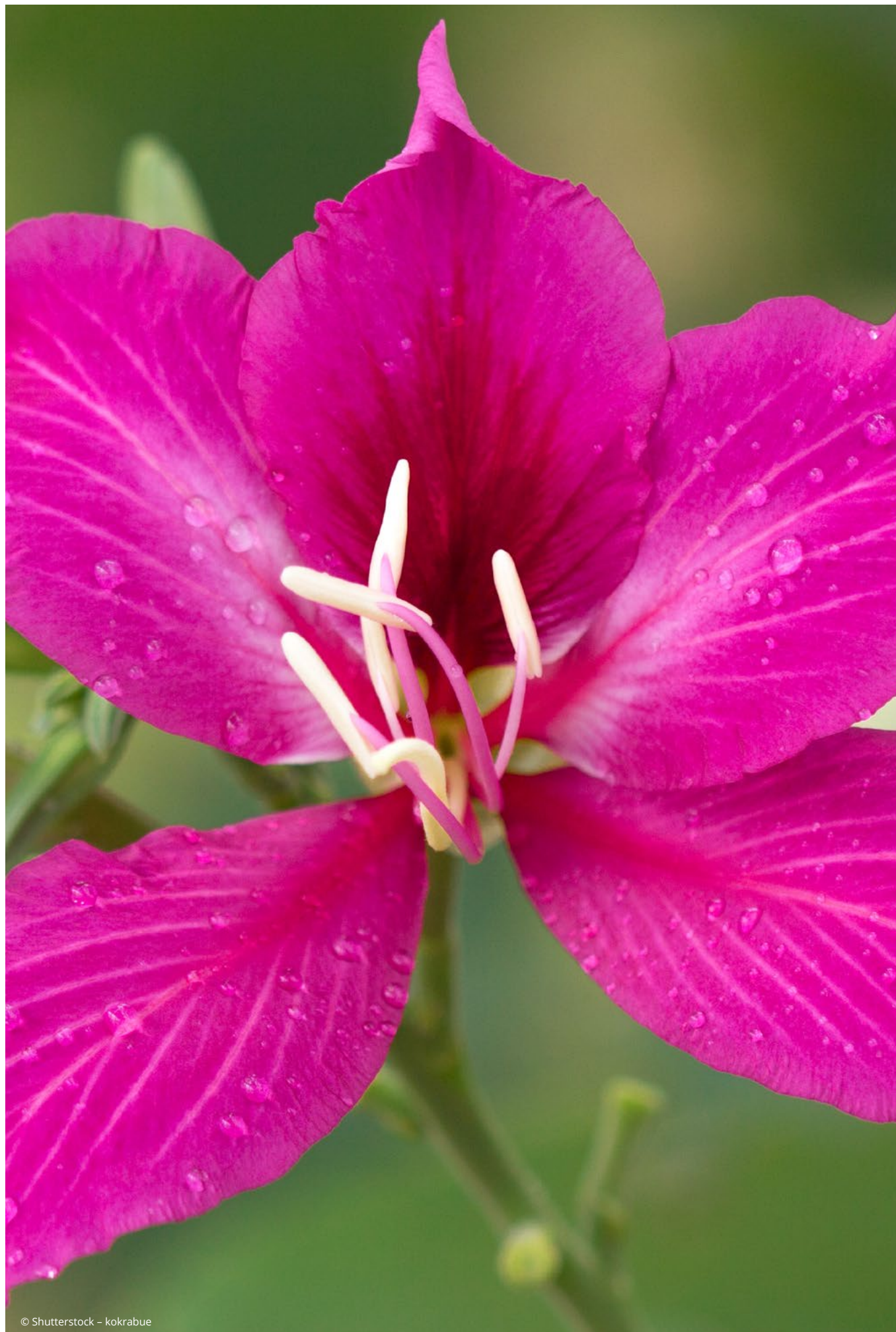
DATA QUALITY INITIATIVES (1.8.8)

The supervisor actively supports initiatives to address E&S data availability and quality issues, including through the promotion of open-source solutions.



Thirteen banking supervisors are supporting E&S data quality improvement initiatives and providing concrete recommendations and proposed actions, mostly in the Americas and APAC. Another 10 jurisdictions have declared themselves supportive, but have yet to provide any concrete plans or recommendations.





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INTERVIEW: HONG KONG MONETARY AUTHORITY (HKMA)



HONG KONG MONETARY AUTHORITY
香港金融管理局

Q1 How is HKMA planning to integrate climate, environmental and social considerations in its activities and mandates?

HKMA intends to continue its focus on three broad areas:

- **Banking supervisor** – strengthen resilience of the sector against climate risks and accelerate efforts in supporting transition. After finalising the supervisory guidance in 2021, HKMA announced in June 2022 its two-year plan to integrate climate risk into banking supervisory processes. HKMA is committed to implementing TCFD recommendations in the sector by 2025.
- **Market facilitator** – enhance Hong Kong’s ecosystem and role as a regional sustainable finance hub. Since the release of Green and Sustainable Finance Cross-Agency Steering Group (CASG)’s strategic plan in 2020, HKMA has been working on capacity building, data, taxonomy, climate-related disclosures, sustainability reporting, and carbon market opportunities. HKMA is also assisting the Government in issuing green bonds.
- **Manager of exchange fund** – ensure ESG considerations are an integral part of the investment process through integration, active ownership and collaboration. HKMA’s responsible investment journey commenced in 2016 and was accelerated by ESG integration from 2017. HKMA will continue adhering to the guiding principle to give priority to ESG investments with comparable long-term risk-adjusted returns, and endeavours to align disclosures with TCFD recommendations no later than 2025.

Q2 How is HKMA deepening engagement with financial institutions on deforestation and nature loss? Does HKMA intend to require financial institutions to publish a transition plan integrating nature and climate change?

HKMA monitors banks’ readiness in managing climate and environmental risks and efforts in supporting transition.

The “greenness assessment” in 2020 assessed certain aspects of the management of environmental risks. The supervisory guidance in 2021 outlines the expectations regarding environmental and sustainability-related issues, as well as potential downside of misalignment with transition. HKMA has also shared sound practices of leading banks to support transition.

HKMA will place a greater focus on nature-related risks and transition in reviewing its “greenness assessment” framework and is considering using the Supervisory Review Process to incentivize banks to enhance their framework to address risks related to climate change and transition to carbon neutrality.

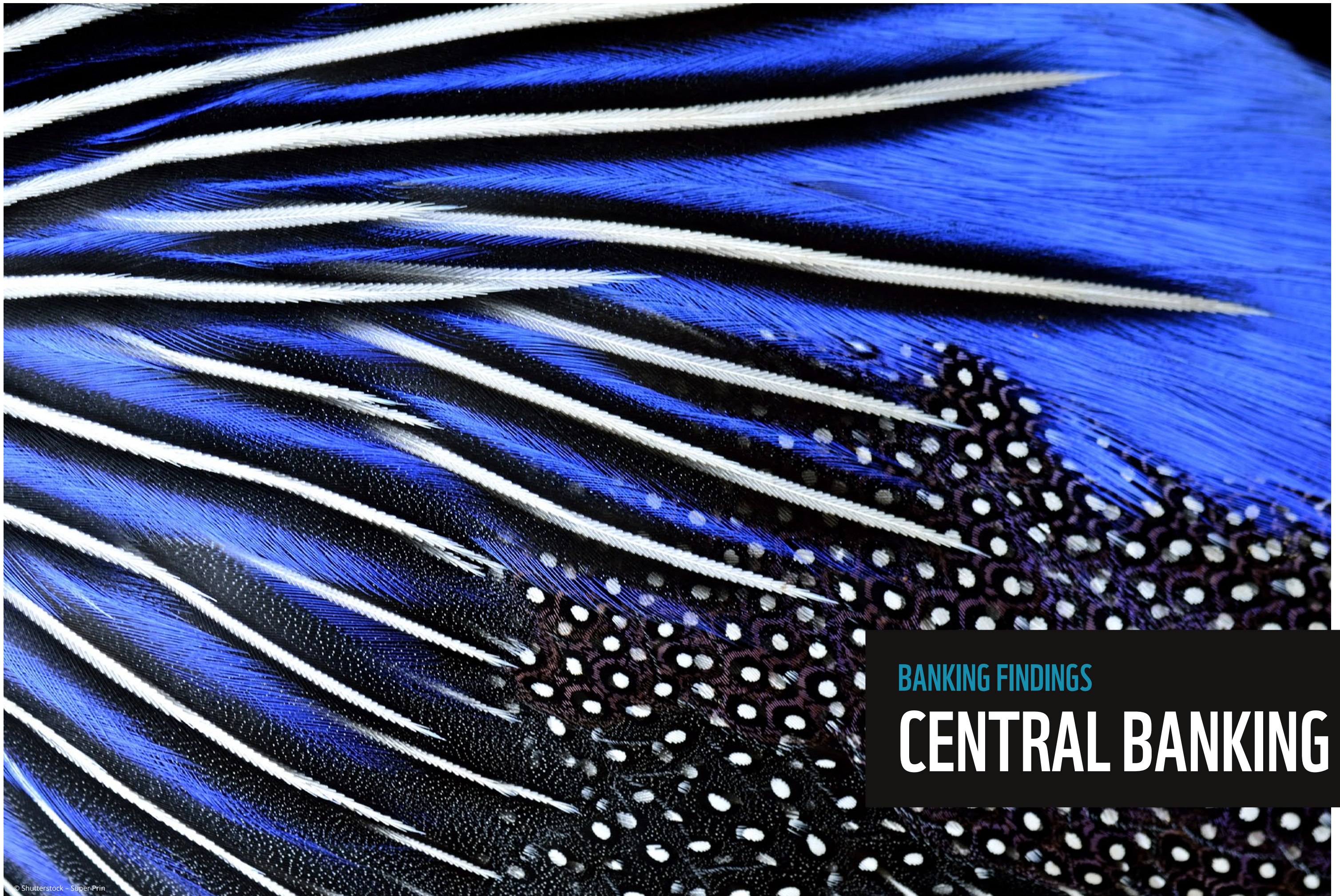
Q3 What are the main challenges that HKMA is facing in the definition and implementation of its roadmap particularly in addressing nature loss and climate change risk? What would be needed to overcome these?

To address data and talent limitations, the CASG’s Centre for Green and Sustainable Finance Centre (GSF Centre) launched three repositories on data sources, training information and internship opportunities to facilitate access to useful data and learning resources. Other measures include planned launch of a training subsidy scheme, developing banking qualification for sustainable finance, working with government departments and the industry to make available physical risk data, etc.

Q4 Has HKMA formed or plan to form any external partnership to support the implementation of this roadmap?

Apart from the work in international forums, the CASG and GSF Centre, HKMA launched the Alliance for Green Commercial Banks with the IFC to bring together the green finance community, act as a knowledge hub and one-stop learning platform, facilitate investment for green business opportunities and deploy advisory support for green transformation.

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BANKING FINDINGS

CENTRAL BANKING



MONETARY POLICY

There is emerging discussion on the link between E&S risks and monetary policy. Physical risk incidents such as extreme weather events result in supply shocks, increased prices and lower outputs which lead to inflation that worsens long-term macroeconomic volatility. Further domino effects could lead to demand shocks and weakening the overall influence or effect of monetary policy.⁶⁹

INSIGHTS

- **Monetary policy:** The NGFS presents some options that central banks can utilise to include E&S considerations in monetary policy such as negative and positive screening, tilting purchases (asset purchases to be tilted towards better-performing issuers or assets on E&S), adjusting haircuts, and aligning collateral pools to E&S oriented objectives.⁷⁰
- **Collateral framework:** In the Eurosystem, national central banks’ In-house Credit Assessment System (ICAS) is highly suitable for climate and environmental (C&E) risk integration. The ICAS assessment is a potentially less biased and more consistent source than that by the private-sector ESG providers. In particular, the ICAS assessment could serve as a credible, neutral, and free resource of C&E risk assessment for a large number of small and medium enterprises.⁷¹
- **Greening corporate portfolio:** Civil societies issue criteria for greening central bank corporate portfolio: exclude most climate-harmful assets, rapid and visible change in sectoral weightings along with measurable reduction in carbon footprint (prioritise climate neutrality over market neutrality), targets and performance of participating companies must align with the 1.5°C target and backed with science-based plans, and make climate-related disclosures a mandatory requirement for corporate purchase programmes aligned with the prospective Corporate Sustainability Reporting Directive.⁷²
- **Targeted credit policy:** To promote a green targeted credit policy, central banks may green their term funding scheme through pilot programmes such as energy-efficient building retrofits in the UK and other green projects.⁷³



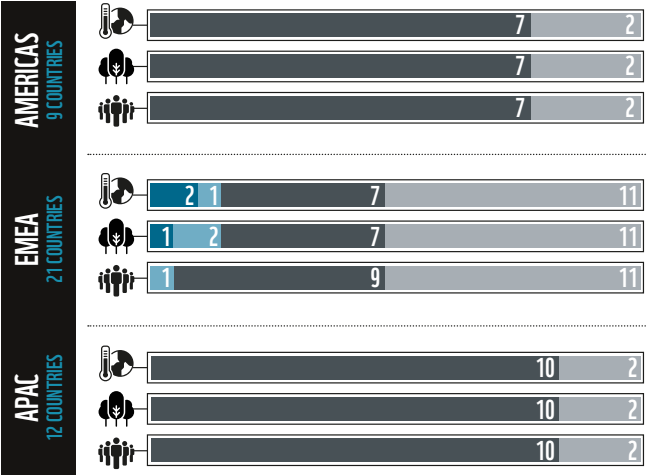
GOOD PRACTICES



- 2.1.1: In a **press release by the European Central Bank (ECB)** in July 2022,⁷⁴ the Bank communicated that the Eurosystem aims to gradually decarbonise its corporate bond holdings amounting to EUR 344 billion, on a path aligned with the goals of the Paris Agreement. To that end, the Eurosystem will tilt these holdings towards issuers with better climate performance. Better climate performance will be measured with reference to lower GHG emissions, more ambitious carbon reduction targets, and better climate-related disclosures.
- 2.1.2: Through “case-by-case and in-depth examinations” of the quantitatively assessed companies, **Banque de France** evaluates the creditworthiness of corporations as part of their collateral framework. This qualitative assessment provides information that flows into the second stage of the evaluation, such as insights into the company’s social and environmental impact.⁷⁵
- 2.1.3: **De Nederlandsche Bank as a signatory of the Principles for Responsible Investment (PRI)** applies the PRI pillars and integrates ESG considerations in managing its own funds and foreign reserves portfolios.
- 2.1.4: **Bank Negara Malaysia recently launched the Low Carbon Transition Facility (LCTF)**, an RM1 billion financing facility which encourages SMEs to enhance business resilience through adopting sustainable practices whereby participating financial institutions will match the LCTF with RM1 billion of their own funds.⁷⁶ This includes improving energy efficiency, increasing the use of sustainable material for production and obtaining sustainability certification.

CORPORATE ASSET PURCHASE PROGRAMS (2.1.1)

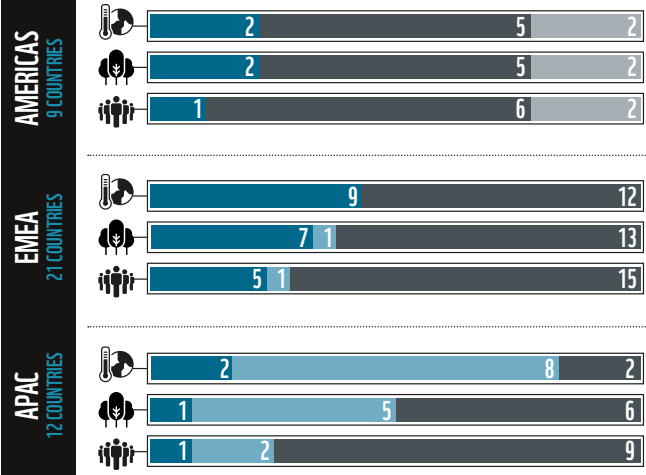
The central bank takes E&S considerations into account when implementing corporate asset purchase programs.



Overall, only three central banks (all in EMEA) are taking E&S matters into consideration in their corporate asset purchase programs. In 15 jurisdictions, there are no applicable expectations as their central bank does not have a corporate asset purchase program.

FOREIGN EXCHANGE RESERVES (2.1.3)

The central bank integrates E&S considerations in the management of its foreign exchange reserves portfolio.

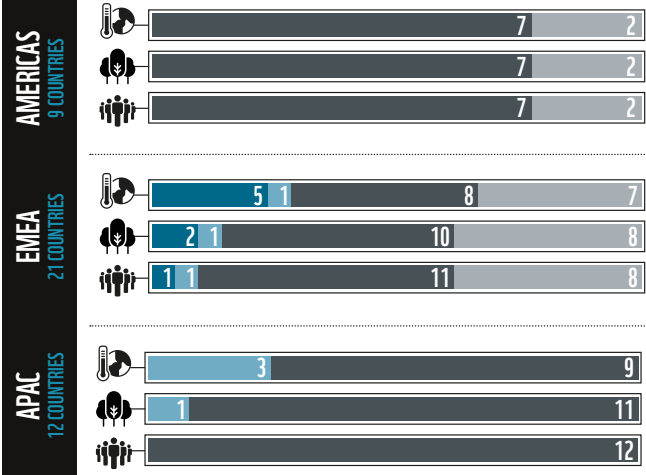


Around 31% assessed central banks have integrated climate considerations into the management of their foreign exchange reserves portfolio accompanied by specific criteria and/or standards used. Additionally, 19% of central banks also do so but with limited information on the criteria applied. For environmental and social matters, about 30% of central banks have disclosed a form of policy to integrate E&S considerations.



COLLATERAL FRAMEWORK (2.1.2)

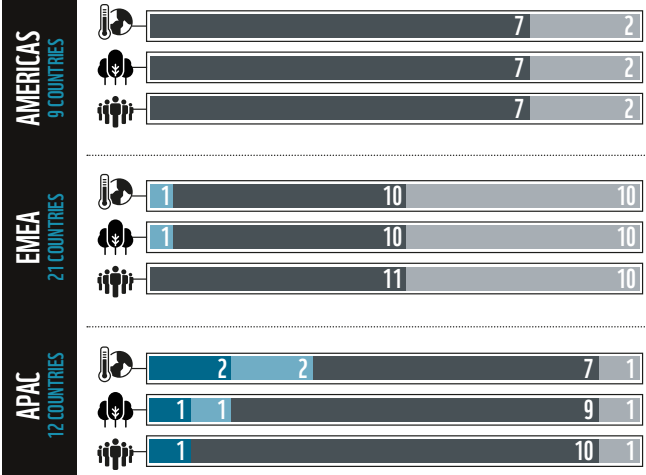
The central bank takes E&S considerations into account in its collateral framework.



Central bank collateral frameworks rarely include E&S considerations, and just nine central banks (all in EMEA and APAC) currently have some sort of expectation in this area.

SUBSIDISED AND TARGETED LOANS (2.1.4)

The central bank offers subsidised loans or preferential targeted refinancing lines based on E&S considerations.



Central banks offer subsidised loans based on climate considerations in two APAC jurisdictions. Three additional jurisdictions in APAC and EMEA have this mechanism in place but only for a limited number of underlying sectors/activities and/or with limited details on the criteria and standards used.



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INTERVIEW: DEUTSCHE BUNDESBANK



Q1 What are Bundesbank's current plans to foster a more sustainable, green and resilient financial system?

The implications of climate change and climate policy affect almost all Bundesbank's core tasks: price stability and financial stability, banking supervision, portfolio management as well as internal business operations. The Bundesbank is aware of its responsibility and it contributes to climate protection within the scope of its mandate and aims at playing a part in boosting market transparency around the financial implications and risks of climate change. We strive to act as a catalyst for a sustainable change in the financial system and are actively involved in implementing the Eurosystem's action plan to incorporate climate change considerations into its monetary policy framework.

Q2 How is the Bundesbank planning to integrate climate, environmental and/or social considerations in its activities and mandates?

The Bundesbank ensures that financial institutions adequately consider sustainability-related financial risks and it performs financial stability analyses to gauge the vulnerability of the German financial system. Climate-related economic research also features prominently in the Bundesbank's research programme. In order to fulfil sustainability-related data needs, the Bundesbank established the Sustainable Finance Data Hub. The Bundesbank successfully completed the procurement of climate-related data for the European System of Central Banks (ESCB), and contributed to establishing the NGFS climate data directory – a catalogue of currently over 700 available climate-related data sources for financial-sector stakeholders to use.

The Bundesbank is reducing its carbon footprint by cutting GHG emissions in its operations and considering climate aspects when investing its own portfolio. Since 2015, the Bundesbank has published an annual environmental report and recently published its first climate-related report based on the TCFD recommendations.

The Bundesbank has built up capacities in all relevant areas in recent years to continually and swiftly strengthen its work and its analytical capabilities on climate change and climate change policy. A Steering Committee for Green Finance was established to coordinate and guide the work program in this area within the Bank, in close dialogue with the Executive Board. A green finance expert group also facilitates regular expert-level interaction and dialogue across the Bank.

Q3 Has the Bundesbank formed or are planning to form any external partnership to support the implementation of this plan?

As a member of the Eurosystem, the Bundesbank is working with national central banks and the ECB to incorporate climate change considerations in the Eurosystem's monetary policy framework and to analyse financial stability issues. The Bundesbank is collaborating within the new BIS Innovation Hub for the Eurosystem to develop novel applications to analyse climate-related disclosures and is involved in the ongoing work of the Financial Stability Board (FSB) to address climate-related risks where Bundesbank Vice-President Prof Claudia Buch chairs an FSB working group on climate vulnerabilities and data.

The Bundesbank is a founding member of the NGFS and contributes to the various work streams. Our Executive Board Member Dr Sabine Mauderer currently serves as Vice-Chair of the NGFS and will become Chair in 2024, playing a key role in guiding the network's strategic focus.

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LEADERSHIP & INTERNAL ORGANISATION

The transition to a low-carbon, resilient, and more equitable economy requires ambitious action and leadership from central banks. To properly integrate environmental and social considerations into their activities, these institutions must also develop internal capacity and expertise on these topics.

INSIGHTS

- **Net-zero for central banks:** The NGFS workstream provides a collective forum for NGFS central banks to discuss issues and approaches related to (i) sustainable and responsible investment, (ii) central banks' own climate-related and environmental disclosure, as well as (iii) the greening of central banks' corporate operations.⁷⁷
- **Climate disclosure for central banks:** The NGFS Guide on Climate-related Disclosure for Central Banks has three broad recommendations: (i) disclose governance structures for monetary policy, asset management, financial stability, and internal operations; (ii) disclose strategies for identifying and assessing the inward and outward impacts of climate-related risks (including describing material risks, adaptation of areas and functions, changes to operational frameworks, and capacity building strategies); (iii) disclose climate-related risks, use of data, sources, limitations and target setting.⁷⁸
- **Reserve asset management:** The OMFIF Global Public Investor Survey 2021-22 found that the proportion of reserve managers who do not implement ESG criteria in their investment approach is falling, from over 50% in 2020 to 43% in 2022. However, more than 60% cite lack of data as a major issue, compared to less than 50% in 2022.⁷⁹



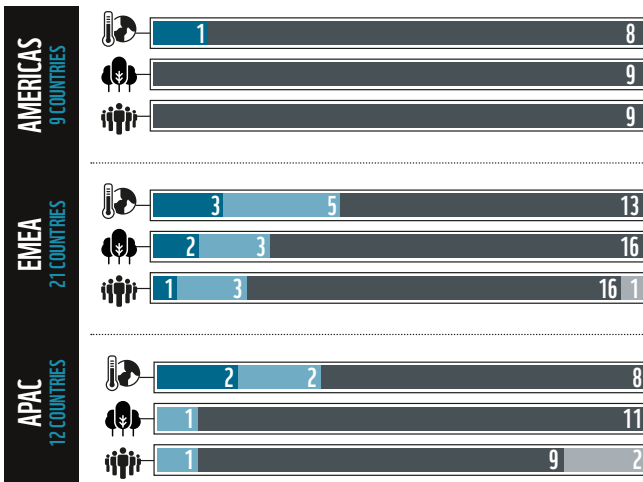
GOOD PRACTICES

- 2.2.2: **Banco de Portugal (BdP)** is not only committed to the dimensions of sustainability directly related to its specific role as central bank – macroeconomic and financial sustainability – but also to ESG sustainability. BdP commits to aligning its own activities with the Paris Agreement 1.5°C trajectory and the EU goals for climate neutrality.
- 2.2.3: Risks from climate change and the transition to a net-zero economy continue to be a strategic priority for the **Bank of England (BoE)**. The BoE addresses these challenges actively through ambitious climate work programs covering both external policy functions and its own internal operations. This includes the development of climate scenarios for use by central banks and supervisors and publishing a roadmap for mandatory climate disclosure requirements in the UK.
- 2.2.4: **The Banco Central do Brasil and the Bank of England** are among the central banks that already publish TCFD-aligned disclosures. The Eurosystem aims to start making annual climate-related disclosures mandatory within the next two years, using the recommendations of the TCFD as the initial framework and reporting, as a minimum, in the category of metrics and targets.
- 2.2.7: **Sveriges Riksbank of Sweden** only purchases assets that comply with international standards and norms for sustainability. The Riksbank also measures and reports the carbon footprint of their corporate bond portfolio to promote the measurement, compilation, and reporting of climate pollutant factors in general.



NOMINAL ANCHORS (2.2.2)

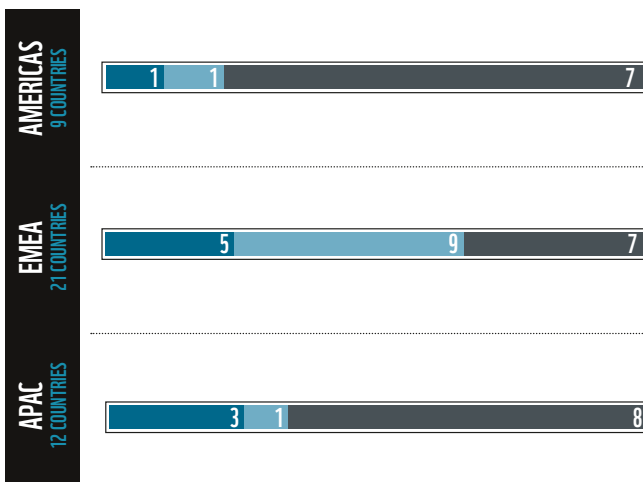
The central bank has defined science-based, climate and environmental-related nominal anchors as objectives beyond conventional ones (e.g., relating to price stability, full employment).



Central banks have defined nominal climate anchor as part of their objectives in 13 jurisdictions. Broader environmental objectives are set by only six central banks. Social considerations are included in the main objectives of only five central banks.

TCFD DISCLOSURE (2.2.4)

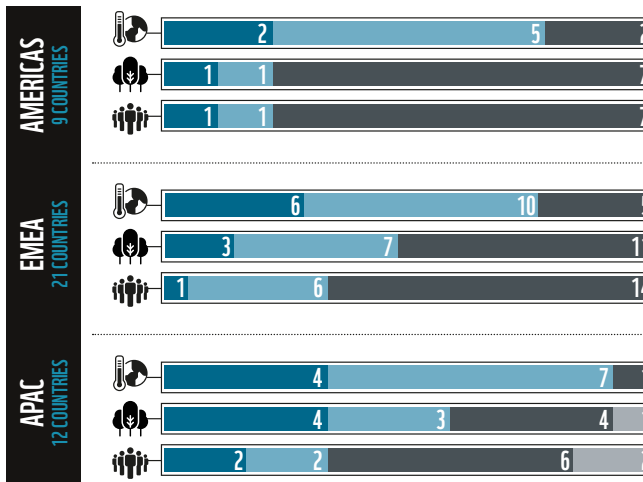
The central bank regularly reports publicly on its exposure to and management of climate-related risks and opportunities, along with the TCFD recommendations.



The central bank publishes regular TCFD reports in nine jurisdictions assessed. An additional 11 central banks have signalled their intention to initiate TCFD reporting soon. Twenty-two central banks have not yet announced any plans to follow TCFD recommendations.

CENTRAL BANK'S E&S STRATEGY (2.2.3)

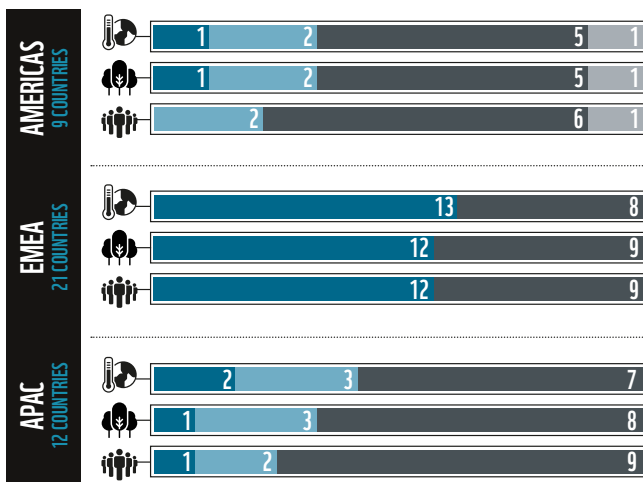
The central bank has published an official strategy or roadmap, a science-based transition plan with associated measures for designing a net-zero and nature-positive financial centre, in line with its mandate.



The central banks in 12 jurisdictions have published a clear official climate strategy for a net-zero financial centre. Eight jurisdictions published a clear environmental strategy and four jurisdictions have also published a clear social strategy.

ASSET MANAGEMENT (2.2.7)

The central bank integrates E&S considerations in its asset management practices (for its own, pension and third-party portfolios as applicable).



Around 16 central banks fully integrate climate considerations in its asset management practices. In EMEA, around 12 of the assessed central banks also include some social and environmental aspects in their asset management, whilst this is rarely the case in APAC and the Americas.





ENABLING ENVIRONMENT

This section covers measures that are not necessarily within the mandates of central banks and financial supervisors, such as multi-stakeholder initiatives, taxonomies, or carbon pricing mechanisms. These measures are key to facilitating the adoption of sustainable finance principles by banks and more generally to contribute to the alignment of financial flows with global sustainability goals. This enabling environment section is also applicable to insurance.

INSIGHTS

- **Taxonomy development:** Urgent action is needed to include nature-related aspects and critical supply chain considerations into existing and developing sustainable finance taxonomies. Governments should explicitly include forward-looking criteria within their sustainable finance taxonomy, thereby setting science-based targets at global, regional, country, ecosystems, sector, and company levels.⁸⁰
- **Data requirement in disclosure:** Disclosure frameworks such as the TNFD and ISSB should include recommendations for the minimum amount of data required, and steps to address risks in the absence of data, including use of global datasets or investing in data collation efforts.⁸¹
- **Carbon price:** To complement domestic policies, the International Monetary Fund (IMF) staff proposed for an international carbon price floor agreement that called for the world’s largest emitters to pay a minimum price of \$25-\$75 per ton of carbon depending on their national income level (\$25 for low-income countries, \$50 for middle-income countries, and \$75 for high-income countries).⁸²
- **Transition strategy:** The Glasgow Financial Alliance for Net Zero (GFANZ) issued a Call to Action to G20 governments to close the gap between their climate commitments and policies through their own transition planning and reform of the international financial architecture.⁸³



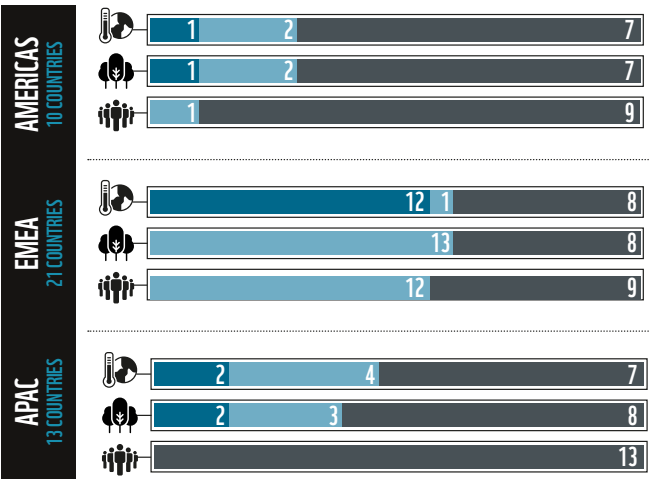
GOOD PRACTICES

- 3.1.3: The **EU taxonomy** provides companies, investors, and policymakers with definitions for which economic activities can be considered environmentally sustainable. The first delegated act on sustainable activities for climate change adaptation and mitigation objectives was published in the Official Journal in December 2021 and has been applicable since January 2022. A second delegated act for the remaining objectives will be published in 2022. EU Taxonomy needs to be science-based to minimise greenwashing and influence capital flows with the intended impact.
- 3.1.5: The **government of New Zealand** has passed legislation making climate-related disclosures mandatory for 200 organisations. The requirement will apply to large publicly listed companies, insurers, banks, non-bank deposit takers, and investment managers.
- 3.1.7: The **Korea Emission Trading Scheme (K-ETS)** began in January 2015 making Korea the second nation in Asia to introduce a nationwide cap-and-trade program. Through the scheme, the government aims to reduce greenhouse gas emissions by 37% below the BAU levels by 2030.
- 3.1.8: **Germany’s National Sustainable Development Strategy** is aligned with the UN SDGs and focuses more than previous strategies on sustainability as a global responsibility. The Sustainable Finance Strategy is focused on financial market policy and regulation where sustainability risks are also acknowledged as investment risks.



TAXONOMY (3.1.3)

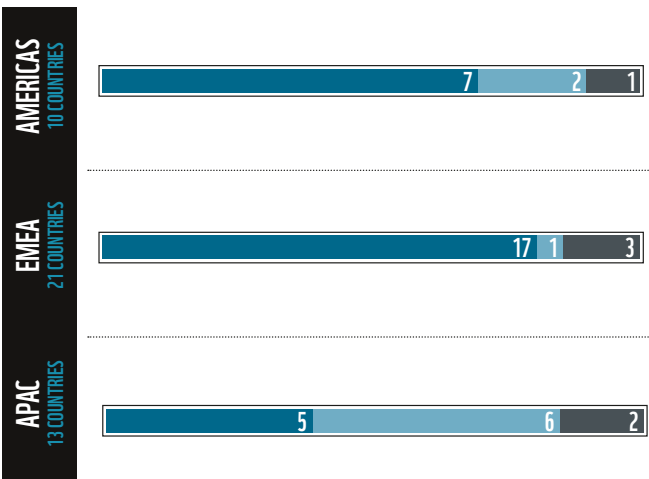
A classification system for sustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.



A taxonomy of sustainable activities in relation to climate is in place for all EU jurisdictions assessed due to the EU Taxonomy. It is also in place in two jurisdictions in APAC and one country in the Americas. There are draft or non-science-based taxonomies related to the environment in 18 jurisdictions, with the EU block represented in the ‘draft’ category due to the planned extensions of the EU Taxonomy to include environmental and social matters.

CARBON PRICING (3.1.7)

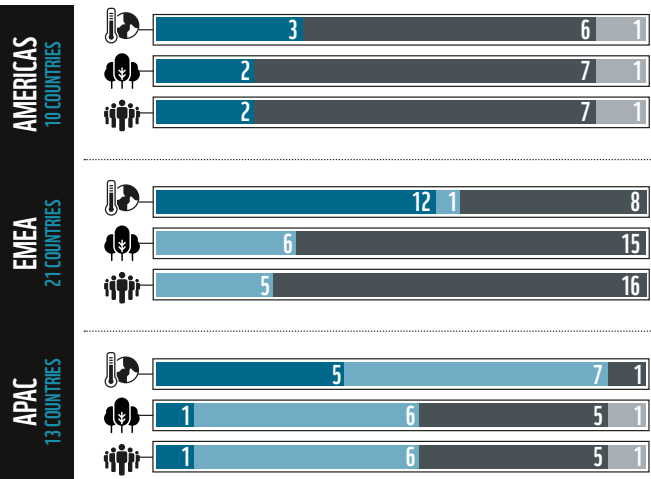
A carbon pricing mechanism is being implemented in the country.



A carbon pricing mechanism is implemented in 29 of the 44 assessed jurisdictions (66%). There is a voluntary carbon pricing system, a pilot system, or a limited system in place for an additional nine jurisdictions, leaving six jurisdictions in EMEA and APAC without any known plans to implement carbon pricing.

CORPORATIONS’ SUSTAINABILITY REPORTING (3.1.5)

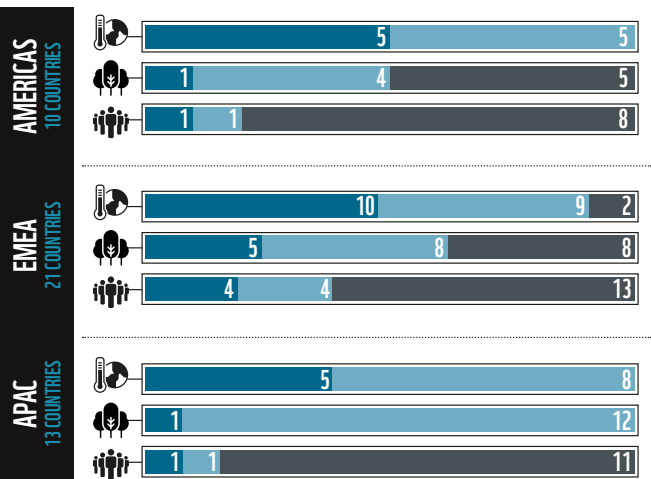
Non-financial corporations are required to report on current and planned activities according to internationally or nationally recognised sustainability reporting standards and definitions.



Non-financial climate reporting is required in all 12 EU jurisdictions (NFRD, to be replaced by more stringent CSRD), in three jurisdictions in the Americas (the US Securities and Exchange Commission’s proposed climate disclosures are currently under review in the USA) and in five jurisdictions in APAC. The requirements and expectations related to E&S reporting are lower.

NATIONAL-LEVEL SUSTAINABILITY STRATEGY (3.1.8)

There is a national-level sustainability strategy, and financial institutions are encouraged to make and adhere to net-zero transition plans.



Almost all jurisdictions have a national-level strategy related to climate, although only 20 explicitly include the financial sector in their climate strategy. Thirty-one jurisdictions have national environmental strategies and 12 have national strategies on social matters, but most jurisdictions do not specifically mandate financial institutions in their E&S strategies, and are hence given a partial score.



Note: This chapter is common for banking and insurance thus Bermuda and Taiwan are also included, totalling the jurisdictions assessed in this section to 44.

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INTERVIEW: RESERVE BANK OF INDIA (RBI)



भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA

Q1 What are RBI's plans to foster a more sustainable and resilient financial system in India?

The RBI is committed to foster a more sustainable and resilient financial system in India and has set up a Sustainable Finance Group (SFG) in May 2021 in the Department of Regulation to lead its initiatives in the area of climate risk and sustainable finance. The SFG is instrumental in suggesting strategies and evolving a regulatory framework, including climate-related financial disclosures, which will be prescribed for its regulated entities (REs) to propagate sustainable practices and mitigate climate-related risks.

Climate-related financial risks do have implications on the safety and soundness of individual REs as well as financial stability. Thus, there is a need for REs to develop and implement a sound process for understanding and assessing the potential impact of climate-related financial risks in their business strategy and operations. This will require, among other things, an appropriate governance structure and a strategic framework to effectively manage and address these risks. Accordingly, a Discussion Paper on Climate Risk and Sustainable Finance covering the above aspects was released on July 27, 2022 for comments from REs and other stakeholders. The results of a Survey on Climate Risk and Sustainable Finance undertaken in January 2022 to assess the approach, level of preparedness, and progress made by leading scheduled commercial banks in managing climate risk was also released on July 27, 2022. The feedback from this exercise will help in shaping the regulatory and supervisory approach of the RBI on climate risk and sustainable finance.

Q2 Following the publication of 'discussion paper (and survey) on climate risk and sustainable finance', what are RBI's immediate priorities to facilitate the uptake of sustainable finance in India?

The RBI's Discussion Paper and results of Survey on Climate Risk and Sustainable Finance have been received very positively across a cross-section of REs and stakeholders. We have also received very useful comments on the Discussion Paper. The same is being examined and we will be coming out with regulatory guidance/framework on climate risk and sustainable finance for the REs. While doing so we will also be taking into account the 'Principles for the Effective Management and Supervision of Climate-related Financial Risks' published by the BCBS in June 2022 which are aimed at improving both banks' risk management and supervisors' practices related to the above-mentioned risks.

Q3 With nature-related financial risks being increasingly recognized by central banks across the world, what are RBI's views and plans to address these risks within its mandate?

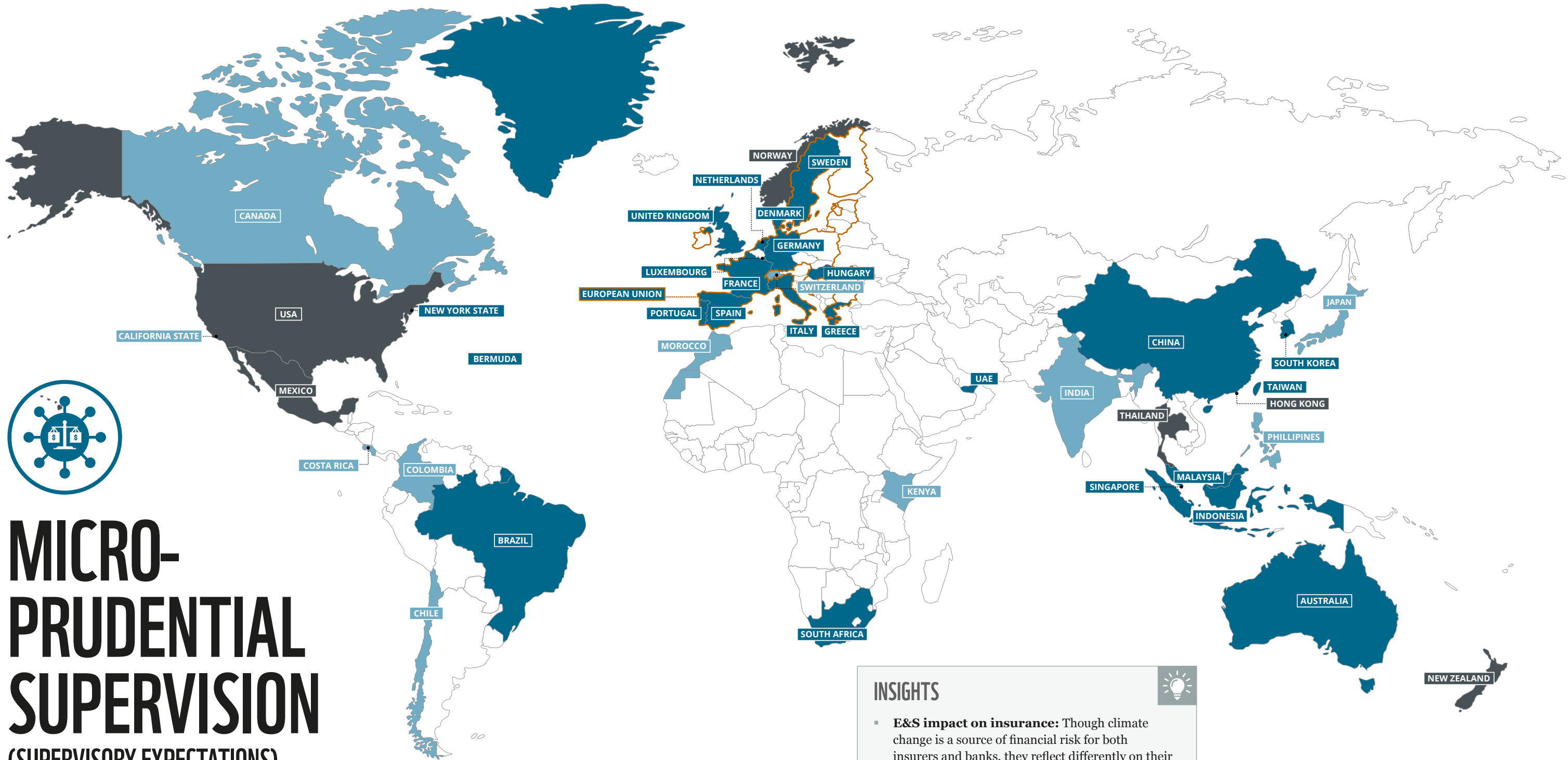
In March 2022 the NGFS published a Statement on Nature-related financial risks which acknowledges that nature-related risks, including those associated with biodiversity loss, has significant macroeconomic implications, and that failure to account for, mitigate, and adapt to these implications is a source of risk relevant for financial stability. The NGFS was also of the view that nature-related financial risks should be considered by central banks and supervisors for the fulfilment of their mandates and has created a task force to mainstream the consideration of these risks across its various work streams in the coming years. As a member of the NGFS, the Reserve Bank of India is also looking at improving its understanding of nature-related financial risks to foster a more sustainable and resilient financial system in India.

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A close-up photograph of a butterfly wing, showing a complex pattern of purple and green. The purple areas are interspersed with green, creating a marbled or mottled effect. The texture of the wing is visible, with fine lines and veins. The colors are vibrant and saturated.

INSURANCE FINDINGS

INSURANCE SUPERVISION



MICRO-PRUDENTIAL SUPERVISION

(SUPERVISORY EXPECTATIONS)

This section examines expectations towards insurers on the integration of E&S considerations in their business strategy, governance, decision-making, disclosure and risk management policies and processes. It refers to regulations, supervisory expectations or guidelines (issued either by the regulator, supervisor or by the national insurance association) that pertain to sustainable insurance practices.

INSIGHTS

- E&S impact on insurance:** Though climate change is a source of financial risk for both insurers and banks, they reflect differently on their respective balance sheets. Bank deposits (liabilities) are not a direct function of climate risk, and bank valuation is mainly determined by accounting. In contrast, the liabilities of insurers (their reserves) can be heavily impacted by climate change, in particular for non-life insurance, and regulators having a greater impact on valuation.⁸⁴
- Risk-based pricing signals:** As an assessor, manager, and carrier of risk and as a major institutional investor, the insurance sector plays a crucial part in the management of climate-related risks. Insurers are particularly qualified to understand the pricing of risks. Notably, insurers send important economic signals about the changing risk environment through their risk-based pricing.⁸⁵

REGULATIONS OR SUPERVISORY EXPECTATIONS (1.1.0)
 The principle-based regulations or supervisory expectations related to sustainable insurance which have been issued are applicable to all supervised insurers.

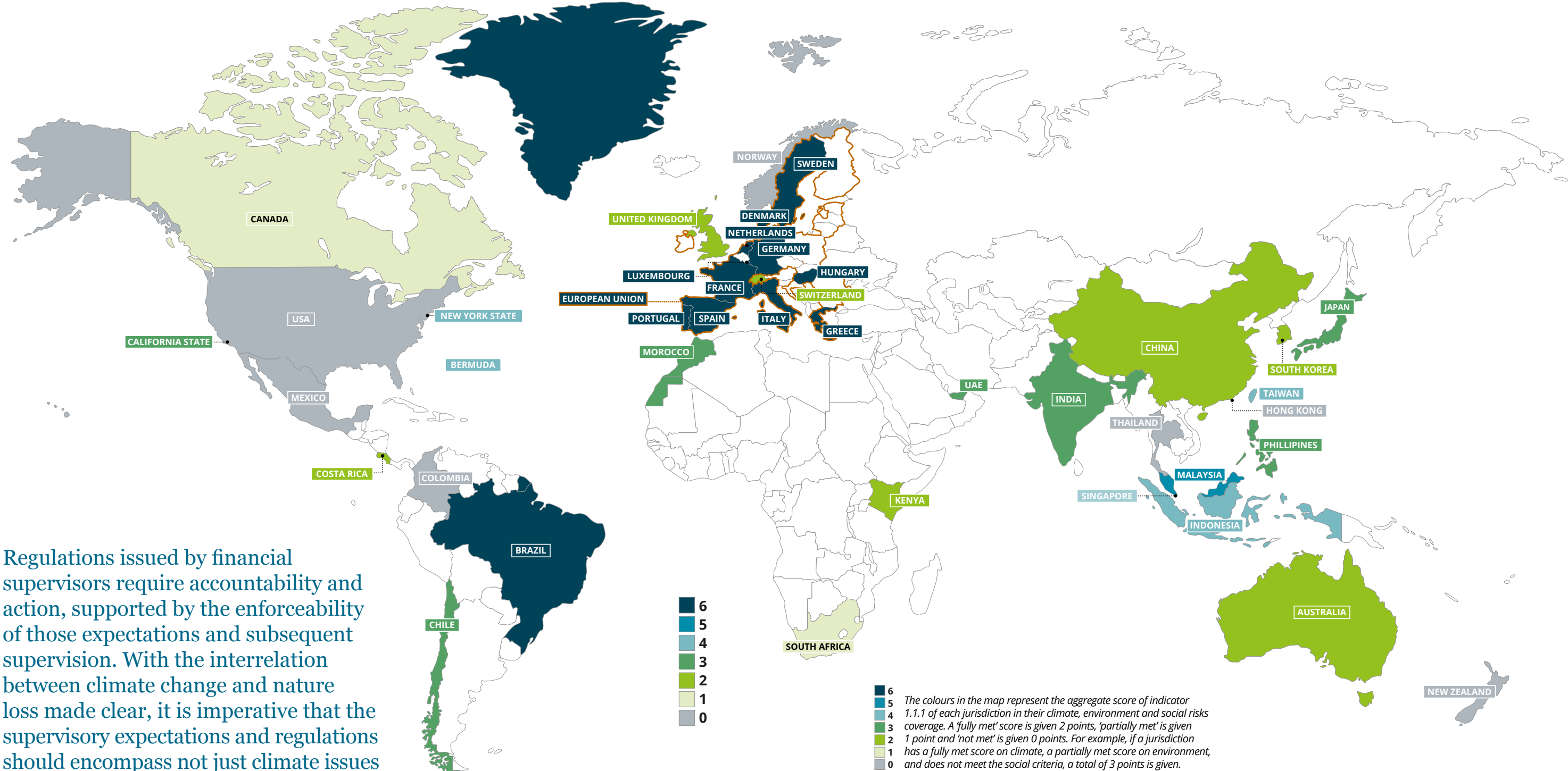
Regulations or expectations have been issued by 62% of the jurisdictions assessed. Seven jurisdictions do not have any supervisory expectations in place, and EMEA is the region with the highest coverage with 17 jurisdictions.



SCOPE & IMPLEMENTATION

E&S TOPICAL SCOPE (1.1.1)
The regulations or supervisory expectations cover a broad range of environmental and social (E&S) issues.

Out of the 42 assessed jurisdictions, 14 clearly include all three E&S topics (climate, environment and social issues) in their guidelines and expectations. The other jurisdictions are either not considering all three issues or are only partially addressing them.



INSIGHTS



- **Double role:** The insurance sector plays a double role in the financial system as an institutional investor on the asset side and the risk carrier/manager for their customers on the liability side. This puts the insurance sector under higher exposure to E&S risk from both sides (e.g., higher volume of insurance claims due to climate change and concurrent depreciation of investments), underscoring the need for integrating E&S risks in its asset-liability management.
- **Pricing biodiversity:** The G20 Sustainable Finance Roadmap emphasised the importance of incorporating nature and biodiversity into ongoing sustainable finance efforts. Underestimating or incorrectly pricing biodiversity-related risks could pose a threat to the solvency of the insurance industry and lead to an increase in uninsurable risks. Combining the outcomes of catastrophe and climate risk models is key to risk management, but more work needs to be done to include biodiversity risk. Incorporating ecological action with financial protection makes the most economic and financial sense and aids in resolving pricing issues in related risks such as wildfires.⁸⁶

GOOD PRACTICES



- 1.1.2: From August 2022 and in line with the updated **EU Directive 138/2009/EC (Solvency II Directive)**, insurers in the EU are required to also consider how their asset portfolios affect the climate. For insurers’ underwriting activities, impact considerations are indirectly encouraged through the EU Taxonomy Regulation (which sets stringent criteria for underwriting activities to be considered aligned with the Taxonomy’s climate adaptation objectives) and through the concept of ‘impact underwriting’, which has been promoted by European Insurance and Occupational Pensions Authority (EIOPA) for insurers to apply on a voluntary basis.
- 1.1.2: **Bermuda Monetary Authority (BMA)’s proposed Guidance Notes on Management of Climate Change Risks for Commercial Insurers** focused on how climate change impacts risks that are transferred to insurers and expect insurers to consider their own external impact on climate change (‘double materiality’) as it may also revert back and affect in short, mid, or long-term their own financial performance, reputation and operations and, by extension, the financial soundness of the sector as a whole.

DOUBLE MATERIALITY ASSESSMENT (1.1.2)

The regulations or supervisory expectations reflect both the expected impact of E&S issues on the insurer’s risks and value creation, and the impacts of the insurer’s activities on E&S issues (‘double materiality assessment’).



Supervisory expectations on double materiality (i.e., covering both risks for the company and impacts for society) are fully reflected in 17 jurisdictions (i.e., 40% of all countries assessed, with most of them in EMEA). Including partial expectations, 74% of the jurisdictions’ supervisors reflect some double materiality considerations.



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STRATEGY & GOVERNANCE

Insurers should be expected to consider how E&S risks and opportunities impact their activities, and to integrate these considerations in their overall business strategy and governance, factoring in the long-term nature of many of these risks. In this section, ‘E&S strategy’ refers to an insurer’s integration of E&S considerations with provision of financial products and services to clients as well as their investment activities.

INSIGHTS

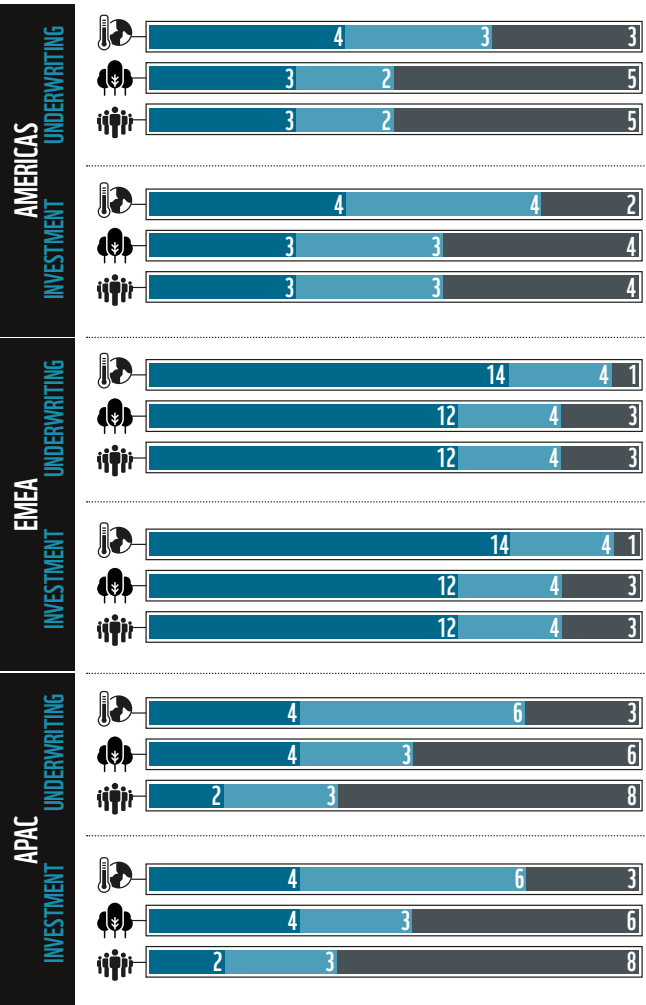
- **Customer priority:** In a survey, 36% of global insurers mentioned that customers are their top priority when they are formulating their ESG strategy, followed by regulators (26%) and shareholders.⁸⁷
- **Integrating underwriting and investment assessments:** Under the auspices of the UNEP Principles for Sustainable Insurance Initiative, leading insurers and reinsurers have been piloting methodologies to implement TCFD recommendations. The UNEP FI report recognises that the insurance industry needs to assess climate change risks in an integrated manner, not only at an underwriting level but also in terms of its investments.⁸⁸
- **Scenario-based frameworks:** A major opportunity going forward is to deepen the connection between scenario-based climate risk assessment frameworks and tools and the design of insurance products, including insurance policy terms and conditions.⁸⁹
- **Physical, transition and litigation risks:** Other key opportunities going forward include (a) more detailed scenario-based assessments of downside risks and upside opportunities across insurance lines and geographies, (b) a deeper, quantitative assessment of litigation risks, (c) further explorations aimed at integrating physical, transition and litigation risks into one climate risk assessment framework for insurance portfolios, and (d) assessing the potential impact of climate-related risks and opportunities—including net-zero emission targets—on both insurance and investment portfolios.⁹⁰
- **Metrics:** Insurers’ chief sustainability officers need to be empowered and will need more tangible metrics, particularly relating to risk-adjusted return on investment when climate risk is adequately addressed, to gain support among functional and business line leaders.⁹¹

GOOD PRACTICES

- 1.2.1: In the US State of New York, the **Department of Financial Services (DFS)’ Guidance for New York Domestic Insurers on Managing the Financial Risks from Climate Change** requires each insurer to take a proportionate approach to managing climate risks that reflects its exposure to climate risks and the nature, scale, and complexity of its business. All insurers, regardless of size, are expected to analyse their climate risks on both the underwriting and investment sides of their balance sheets.
- 1.2.1: In their **Guidance Notes on Management of Climate Change Risks for Commercial Insurers** published for consultation in August 2022, the **Bermuda Monetary Authority** states that the board should have clearly documented responsibilities for managing climate change risks and that an insurer’s approach to strategy setting, governance and oversight should expressly consider the transversal character and the long-term nature of climate risk and address all relevant risk areas.
- 1.2.4: In **Australia, APRA’s Prudential Practice Guide CPG 229 Climate Change Financial Risk** requires financial institutions (including insurers) to establish procedures to routinely provide relevant information on their material climate risk exposures, including monitoring and mitigation actions, to the board and senior management.

BUSINESS AND RISK STRATEGY (1.2.1)

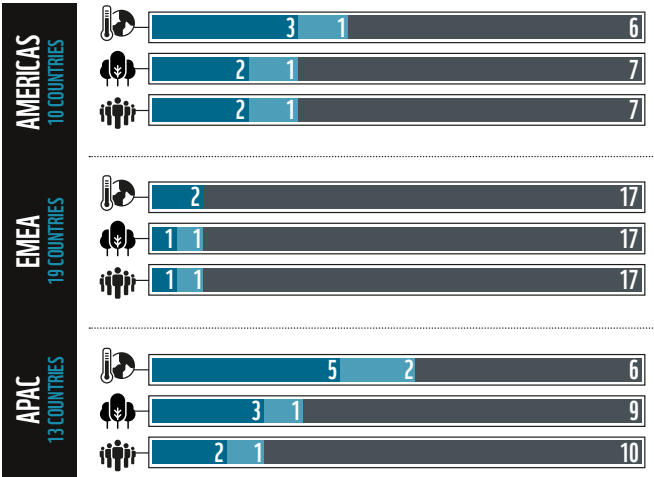
Insurers are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.



Supervisory expectations towards integrating climate considerations into insurers’ risk strategies are fully (46%) or partially (26%) applicable in the jurisdictions assessed. When it comes to environmental and social matters, two third of jurisdictions assessed have some supervisory expectations in place.

BOARD COMMUNICATION (1.2.4)

Insurers are expected to regularly provide their board with relevant information related to the implementation of their E&S strategy.



The expectation for insurers to provide information to their boards on the implementation of their E&S strategy implementation is fully applicable in only about 17% of the jurisdictions assessed. A majority of the jurisdictions have no explicit supervisory expectations in this area.



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INTERVIEW: AUSTRALIAN PRUDENTIAL REGULATION AUTHORITY (APRA)



APRA

Q1 Could you tell us about APRA's current plans to foster a more sustainable, green, and resilient financial system in your jurisdiction?

APRA sees climate risk as a business-as-usual component of governance and risk management activities across banking, insurance, and superannuation sectors. In 2021, APRA published a Prudential Practice Guide on Climate Change Financial Risks to assist financial institutions to manage the risks and opportunities of climate change by ensuring that decisions are well-informed.⁹² A self-assessment survey was subsequently conducted to assess the alignment of practices of 64 entities with the Guide.⁹³

Another initiative is the Climate Vulnerability Assessment (CVA) covering both physical and transition risks (e.g., mortgages, commercial and agricultural financing) of Australia's five largest banks which constitute around 80% of market share.⁹⁴ The assessment was built on the NGFS scenarios, and supplemented by macroeconomic models.⁹⁵ The aggregated results are expected to be published at the end of 2022.

Q2 More specifically, how is APRA planning to integrate climate, environmental and/or social considerations in its activities and mandates?

APRA's existing governance and risk management standards that cover both conventional and emerging risks provides a robust foundation to integrate material climate, environmental and social considerations as appropriate to each institution. For climate risk, APRA's guidance together with the findings from the CVA and survey builds on this foundation, providing insights to facilitate further embedding of climate risk considerations within prudential supervisory activities. APRA is also assessing

the implications of sustainability and climate disclosure requirements set by the likes of ISSB, and will continue its role as an observer to support the Australian Sustainable Finance Institute (ASFI)'s development of an industry-led sustainable finance taxonomy.

Q3 How is your institution deepening engagement with financial institutions on deforestation and nature loss? Does your institution intend to require financial institutions to publish a transition plan integrating nature and climate change?

The engagement with financial institutions is anchored on financial stability. APRA's mandate is to ensure that financial institutions understand and manage the risks and opportunities as part of their decision-making processes. A well-informed transition plan is seen as a valuable climate risk management practice, as reflected in our guidance. There are also growing expectations relating to nature-related risk management and disclosures, such as the TNFD, that may impact financial institutions in future.

Q4 What are the main challenges that APRA is facing in the definition and implementation of its plan particularly in addressing nature loss and climate change risk? What would be needed to overcome these?

There is a trade-off between breadth and depth of climate assessments. For example, the CVA is a major project that will provide a detailed view of climate risk for five entities in one industry: by comparison, the self-assessment survey was conducted over four months with broader coverage across industries (banking, insurance, and superannuation). We consider there to be value in both of these approaches, and the information that it provides to ourselves, the entities that we regulate, and the broader market.

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POLICIES & PROCESSES

Insurers should develop sector-specific policies outlining minimum expectations towards their clients to adequately identify, assess, and mitigate the E&S risks and impacts that they are exposed to through their business relationships. They should also develop capabilities to understand the impact of E&S risk drivers on all financial risks, and incorporate these considerations in the insurers’ overall decision-making as well as risk management and control processes.

INSIGHTS

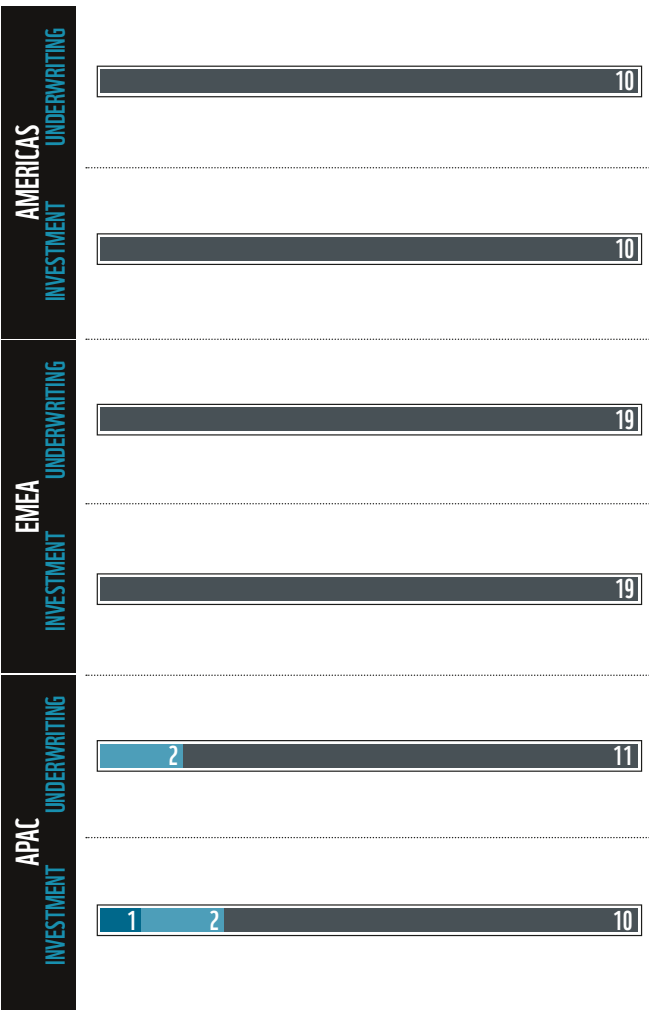
- **Deforestation risk:** At COP26, more than 30 significant financial institutions representing US\$ 8.7 trillion in assets—including sizable insurance companies—promised to stop funding agricultural commodity-driven activities associated with deforestation by 2025. Financial institutions committed to disclosing the deforestation risk and mitigation measures in their portfolios by the end of 2023, including in their due diligence and engagement. By 2025, they will publicly report on progress towards eliminating forest-risk agricultural commodity-driven deforestation in their investment/lending portfolios and only finance clients who meet risk-reduction requirements.⁹⁶
- **Nature-related risks:** A recent global survey of the insurance industry conducted by the UNDP Sustainable Insurance Forum (SIF) found that the current level of understanding of nature-related risks is lower than related risks such as climate change and natural hazard risks.⁹⁷
- **Economic disruption:** The SIF analysis suggests that seven economic sectors, accounting for about 10% of global property and casualty insurance premiums, could be exposed to significant disruption as nature-related risks become more severe.⁹⁸
- **Risk appetites:** Front-running insurance companies are re-evaluating their investment decisions, creating risk appetites based on net zero, and implementing carbon reduction plans. They are also aiding counterparties in going net zero by providing input during the due diligence phase.⁹⁹

GOOD PRACTICES

- 1.3.6: (INVESTMENT): In Malaysia, the VBIAF guidance mentions biodiversity loss and deforestation, UNESCO World Heritage Sites, wetlands on the Ramsar list, Protected Areas as per the International Union for Conservation of Nature’s (IUCN) categories I to IV, and Key Biodiversity Areas in its example activities on exclusion list.
- 1.3.8: Where the financial institution considers that engagement will not result in adequate risk management, **Australia’s Prudential Practice Guide CPG 229 Climate Change Financial Risks** mentions the financial institution may need to consider the following options: (a) reflect the cost of risk through risk-based pricing measures, (b) apply limits on its exposure to such an entity or sector, or (c) where the risks cannot be adequately addressed through other measures, consider the institution’s ability to continue the relationship.
- 1.3.8: **Germany’s Federal Financial Supervisory Authority (BaFin) Guidance Notice on Dealing with Sustainability Risks** stipulates that the back office should review the front office assessment and monitor compliance with relevant sustainability-related limits or exclusions. The examination should result in a risk classification for the counterparty or investment targets. It is key to (a) identify measures to manage risks and impacts, culminating in a comprehensive action plan to eliminate the risks, (b) improve the sustainability rating or comply with sustainability standards, (c) have a legally binding agreement on progress with a mandatory time horizon and reporting duties, and (d) reject transaction when it meets a specific exposure limit.

INTEGRATION OF NATURE-RELATED RISKS (1.3.6)

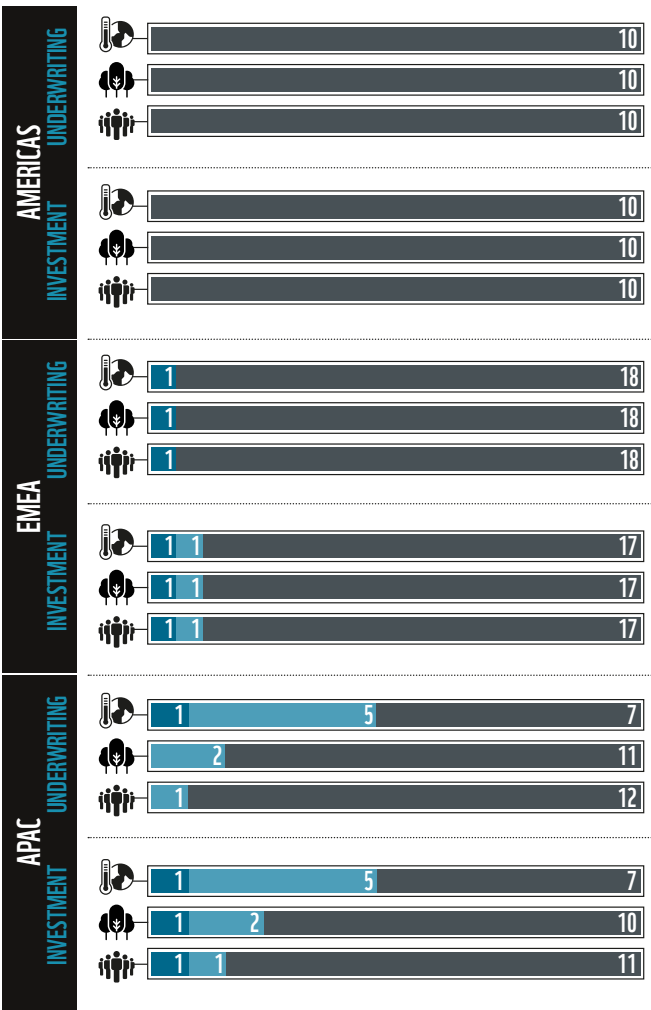
The supervisor asks insurers whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies.



Globally, supervisory expectations for insurers to include deforestation in their decision-making, risk management processes and policies are still uncommon. Only three jurisdictions (all in APAC) have expressed some expectations in this area.

NON-COMPLIANCE MITIGATION (1.3.8)

Insurers are expected to put in place an internal process to monitor and address situations where their insurance clients or investee companies are not compliant with the insurer’s E&S sector policies that are based on applicable laws and regulations, or with internationally recognised science-based scenarios and findings (e.g., IEA 2050 scenario outlining the immediate stop of fossil fuel exploration and expansion projects).



There are few concrete examples of supervisors requiring insurance companies to monitor their insurance clients’ or investee companies’ E&S sector policy compliance. Only about 12% of all assessed jurisdictions have some expectation in this area, and these examples are generally found in APAC.



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“ INTERVIEW: BANK NEGARA MALAYSIA (BNM)



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Q1 What are BNM's plans to foster a more sustainable, green and resilient financial system in Malaysia?

BNM's Financial Sector Blueprint 2022-2026 sets out the strategies to support an orderly and just transition of the economy:

- To integrate climate and environmental-related risks in how we regulate and supervise financial institutions (FIs)
- To develop an enabling ecosystem and scale up green finance solutions for FIs to support their clients via financial solutions and/or shared expertise and best practices.
- To embed climate and environmental-related risks across all functions within BNM, including our operations and investments.

Expectations on climate risk management are incorporated in supervisory engagements and letters, beginning 2020. This is supplemented by BNM's regulatory expectations surrounding climate risk management – adoption of the Climate Change and Principles-based Taxonomy (CCPT); Climate Risk Management and Scenario Analysis Policy Document; and Climate Risk Stress Test Discussion Paper. CCPT is complemented by the Value-Based Intermediation Financing and Investment Impact Assessment Framework sectoral guides to guide FIs in incorporating environmental, social and governance risk considerations. BNM also co-chairs the Joint Committee on Climate Change (JC3) along with the Securities Commission Malaysia, which collaborates with the industry in building climate resilience of the sector.

BNM has launched specialised funds for small and medium enterprises to transition to low carbon or adopt high-tech green solutions via the Low Carbon Transition Facility and High Tech and Green Facility.

A Sustainability Unit was established in 2021 to drive and coordinate BNM's response to climate change and to provide expertise to line departments in pursuing climate initiatives. Capacity building is an ongoing priority, with structured training being rolled out to targeted staff involved in climate work.

Q2 How is BNM deepening the engagement with FIs on deforestation and nature loss?

BNM has engaged the financial sector to share findings of the study on 'An Exploration of Nature-related Financial Risks in Malaysia' done in collaboration with the World Bank Group. The intention is to create awareness and understanding on the interlinkages between climate and nature-related risks. This would prepare the industry for any specific expectations BNM may consider imposing on FIs in the future.

Q3 What are the main challenges that BNM/Malaysia is facing in the implementation of its roadmap particularly in addressing nature loss and climate change risk?

Critical climate-related data continues to lack in availability, accessibility, affordability, reliability, and comparability. The JC3 is working to bridge these gaps by first publishing a data catalogue by end-2022. Engagements are ongoing with relevant government agencies to enable access to available existing data.

While many of the critical ecosystem drivers at the national level are still being developed e.g., climate-related legislation, long-term net-zero transition pathways, and carbon pricing frameworks, Malaysia continues to face challenges from broad-brush policies and actions of advanced economies and the lack of access to affordable, emerging technologies.

”



PORTFOLIO RISKS & IMPACTS

Beyond the identification and management of E&S risks and its impacts at the client or transaction level, insurers should be expected to develop a robust understanding of their portfolio-level exposure to these risks and the extent of their negative impacts. Insurers are expected to set science-based targets on climate and environmental aspects for their underwriting and investment portfolio, aligning with what the latest environmental science deems necessary to meet the Paris Agreement and broader global environmental goals.

INSIGHTS

- **Counterparty climate risk:** The Global Insurance Market Report by IAIS found that more than 35% of insurers' investment assets are significantly exposed to climate risks with the majority relating to counterparties in the housing and energy-intensive sectors.¹⁰⁰
- **Pricing elements:** Some key elements in the non-life insurance pricing process which will likely be influenced by climate change, such as the frequency and severity of extreme weather-related events, exposure, information needed for risk assessment, location, insured loss, reinsurance availability, competitive considerations, etc.¹⁰¹
- **Counterparties' transition plans:** Supervisors should consider developing supervisory expectations towards insurers to consider counterparties' transition plans in their analysis of exposures to and management of transition E&S risks.¹⁰²



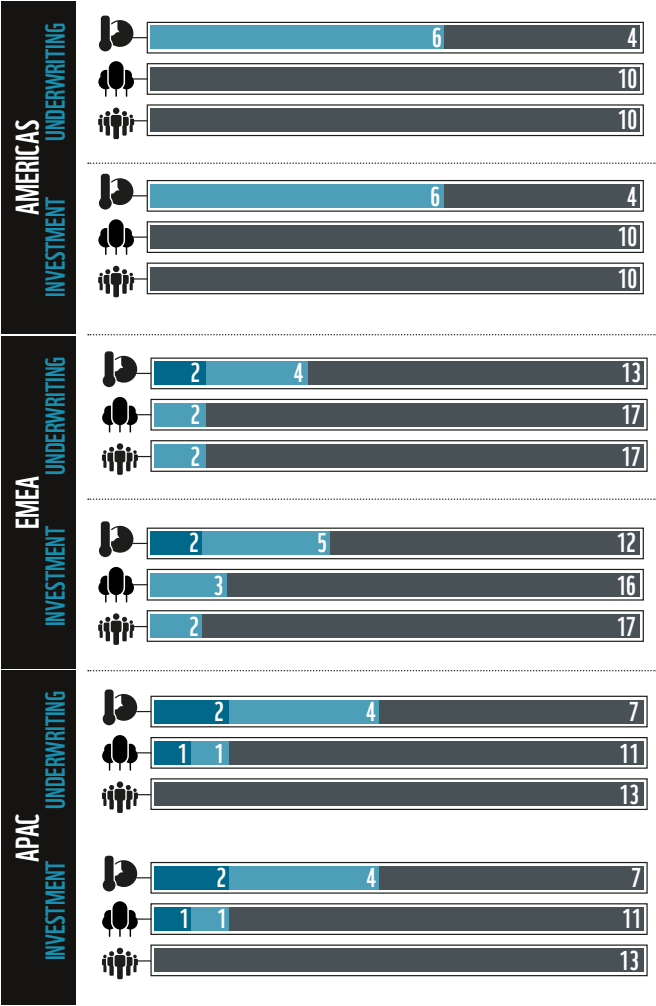
GOOD PRACTICES



- 1.4.2: In the European Union, **EIOPA's Opinion on Climate Change Risk Scenarios in ORSA**¹⁰³ states that insurers should subject their material climate change risks to at least two long-term climate scenarios: (1) scenario where the global temperature increase remains below 2°C, preferably no more than 1.5°C, in line with the EU commitments; and (2) scenario where the global temperature increase exceeds 2°C.
- 1.4.4 (INVESTMENT): **France's Code Monétaire et Financier L533-16-1** requires insurers to publish their strategy for alignment with the long-term objectives of Articles 2 and 4 of the Paris Agreement relating to the mitigation of greenhouse gas emissions and, where applicable, its national low-carbon strategy mentioned in article L222-1 B of the environment code for the financial products in which the underlying investments are entirely made on French territory.
- 1.4.7: In the **Monetary Authority of Singapore (MAS)'s Guidelines on Environmental Risk Management for Insurers**, insurers are required to identify environmental risk in their Enterprise Risk Management (ERM) framework. The ERM requires their policies and procedures to outline their options for responding to trigger events such as catastrophes that can result in a high level of claims, collateral calls or policy terminations, leading to serious liquidity issues.
- 1.4.12: The **Bermuda Monetary Authority (BMA)**, in its proposed revisions to the Insurance Code of Conduct, states that insurers should derive risk management actions depending on risk appetite and type of risk, which for climate could include engagement with policyholders for risk mitigation and reduction, change of policy conditions and pricing approach, or the decision to limit or determine to underwrite certain businesses.

SCENARIO ANALYSIS AND STRESS TESTING (1.4.2)

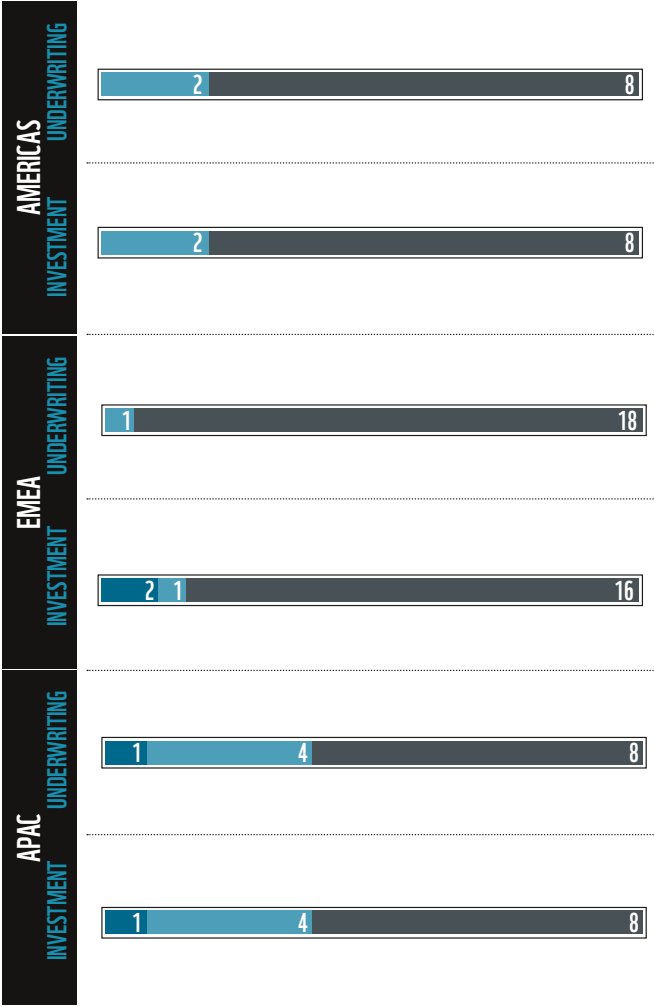
Insurers are expected to continuously assess and manage their exposure to material E&S risks, by using science-based forward-looking scenario analysis and stress testing, over both the short- (1 to 5 years) medium- (5 to 10 years) and the long-term (10 to 30 years).



Expectations towards applying long-term, science-based, forward-looking climate scenario analysis and stress testing are fully (10%) or partially applied (34%) by the assessed jurisdictions.

CLIMATE TARGET SETTING (1.4.4)

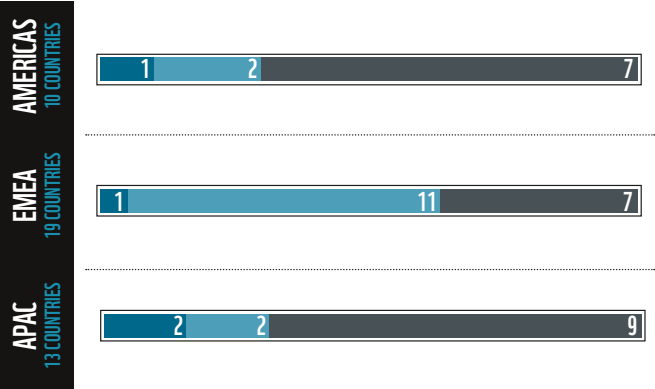
Insurers are expected to set science-based climate targets and keep up to date with the latest climate science to align their portfolios with the objectives of the Paris Agreement.



It is still uncommon for insurance supervisors to include science-based climate targets in their expectations (only 19% of the assessed jurisdictions do so for underwriting and 14% for investment activities of insurers). Notably, a few EMEA jurisdictions put higher expectations on setting climate targets in investment activities.

NATURAL CATASTROPHE CLAIMS (1.4.7)

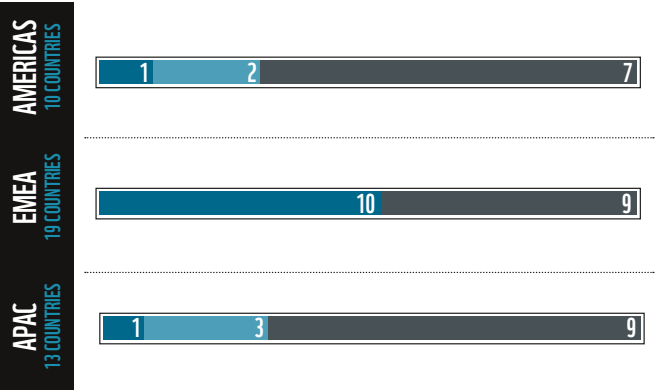
Insurers are expected to have specific response plans for managing significant additional claims associated with natural catastrophes.



Clear expectations towards insurers to have specific response plans for additional claims associated with natural catastrophes are only found in four assessed jurisdictions. One of the EU Taxonomy regulation criteria also indirectly encourages this, so as a result, the EU jurisdictions in scope are partially meeting this indicator.

PRICING INCENTIVES (1.4.12)

Insurers are encouraged to include in their underwriting and pricing practices incentives for their clients to enhance their resilience to E&S risks.



17 jurisdictions (including 10 in EMEA) are encouraging insurers to include underwriting and pricing incentives for their clients to mitigate E&S risks. The number of EMEA jurisdictions is boosted by EU regulation EIOPA’s proposed ‘impact underwriting’ concept, whereby when a policyholder has invested in adaptation measures, lower premiums may be considered as a risk-based reward for preventive adaptation actions taken by policyholders.



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MICRO-PRUDENTIAL SUPERVISION (RULE-BASED)

The integration of risk-based E&S considerations in the prudential rules for insurance companies, such as through solvency capital requirements, would contribute to strengthening their risk management systems and ultimately their resilience to climate-related and environmental shocks. While further research and data are needed to adequately quantify these risks and to design associated risk-based prudential rules, individual insurers can start by identifying the type of risks they are exposed to and evaluate their resilience.

INSIGHTS

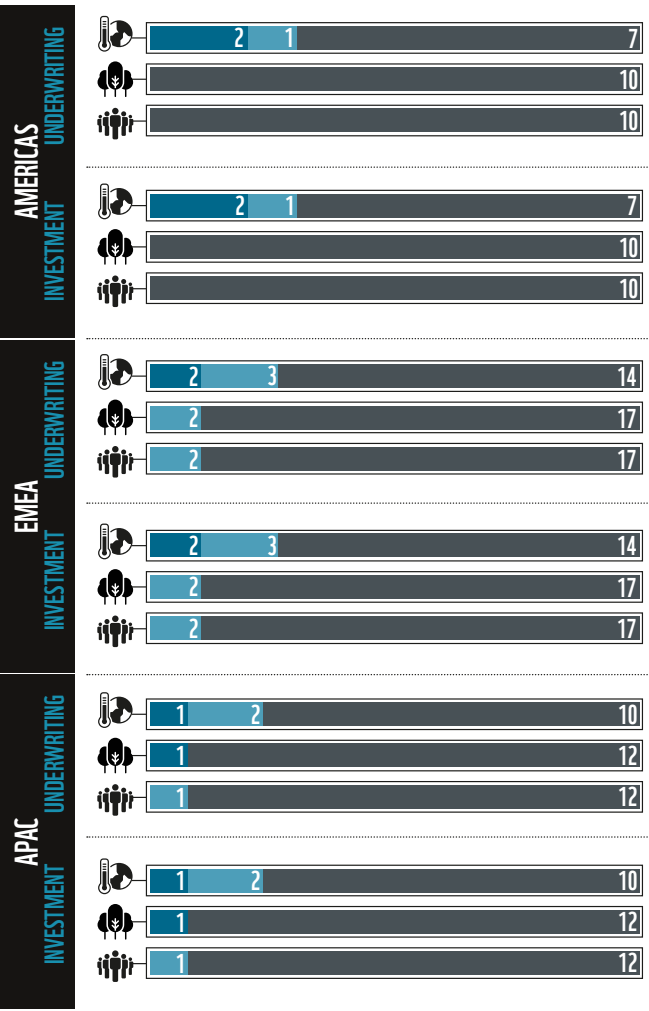
- **Climate risk in ORSA:** EIOPA’s survey found that climate risk analysis was absent in many insurers’ Own Risk and Solvency Assessments (ORSAs) and, where it features, the analysis did not consider the specific impact on the insurer’s business or is limited to short-term horizons. General insurers have typically focused on short-term physical risks and the impact of more severe and frequent natural catastrophes, while life insurers have tended to focus on impacts on investment portfolios.¹⁰⁴
- **Materiality analysis:** Going forward, insurers should conduct a materiality analysis of their exposures to climate risk and, if relevant, detail in their ORSAs how they are managing and accounting for these risks in their solvency assessments.¹⁰⁵
- **Reinsurers influence:** As the ultimate carriers of several risks linked to climate change and sustainability (e.g., flooding), reinsurers have a special interest in ESG issues to make sure that their claims do not skyrocket and that risks remain (re)insurable in the future. What reinsurers accept to cover, and under which terms, has in turn an impact on what direct insurers and insurance clients do. Reinsurers can impose conditions in doing business with them – for example, facultative reinsurance could be provided to an industrial complex only if certain environmental safety standards are met.¹⁰⁶
- **Catastrophe bonds:** A growing number of institutional investors are investing in catastrophe bonds designed around parametric triggers (e.g., parametric coral reef insurance in Quintana Roo, Mexico). Double triggers (e.g., solar panel warranty insurance) and usage-based mechanisms (e.g., by duration of drone flying time rather than on an annual basis) can lower the cost of capital for green technology projects.¹⁰⁷

GOOD PRACTICES

- 1.5.1: In the **Guidance for New York Domestic Insurers on Managing the Financial Risks from Climate Change**, the **New York State Department of Financial Services (DFS)** expects the ORSA to describe how the insurer identifies, manages, and monitors climate risks, as well as the insurer’s climate assessment tools and methods of incorporating new climate risk information to monitor and respond to changes in the insurer’s risk profile. Insurers should address material climate risks in their ORSA with a focus on near-term solvency and how the insurers’ current strategies and risk appetites are affected by long-term climate concerns.
- 1.5.3: **Monetary Authority of Singapore (MAS)’s Information Paper on Environmental Risk Management** mentions reinsurers’ special role in decision making stating, “they (reinsurers) predominantly engage the ceding insurers to encourage them to develop underwriting policies that consider environmental risks. This is especially so for the treaty reinsurance business. For facultative reinsurance business, reinsurers will have more information of the underlying insured and its risks. This allows the reinsurers to perform more in-depth due diligence for such insurance policies.”
- 1.5.4: Part of **Brazil’s Superintendência de Seguros Privados (SUSEP) mandate** to promote the effectiveness of the sustainability policy in the insurance industry is requiring the supervised body to implement, based on the principles and guidelines contained in the guide, related actions towards the development and offer of insurance products or services with E&S considerations.

ENTERPRISE RISK MANAGEMENT FRAMEWORK (1.5.1)

Insurers are expected to integrate both short- and long-term E&S considerations in their Enterprise Risk Management framework (e.g., in their Own Risk Solvency Assessment or ORSA).

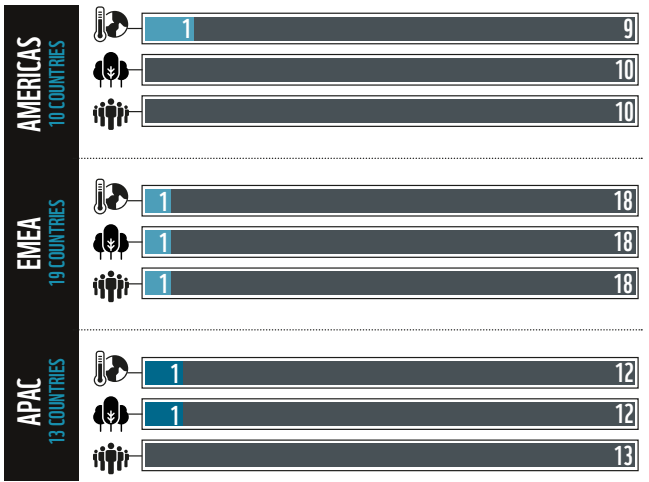


Out of the 42 assessed insurance jurisdictions, only 11 of them (26%) expect insurers to integrate E&S considerations in their Enterprise Risk Management framework (e.g., ORSA).



EXPECTATIONS OF REINSURERS (1.5.3)

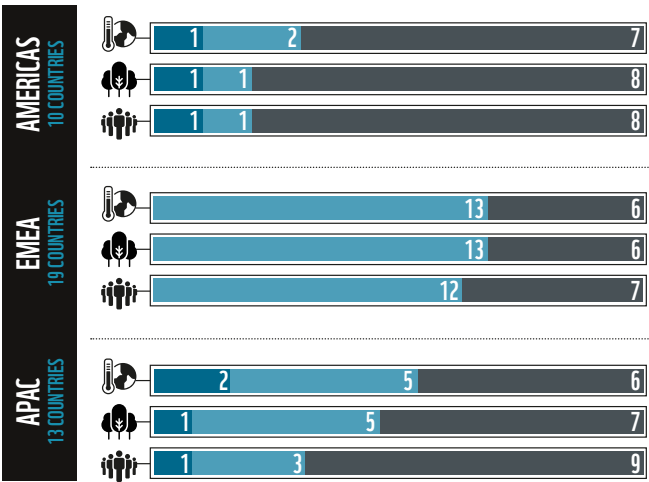
Where applicable, the supervisor has specific expectations for reinsurers, reflecting their role as ultimate carriers of a number of systemic E&S risks.



Globally, only three supervisors have mentioned expectations reflecting reinsurers’ specific role as ultimate carriers of several systemic E&S risks. The other 39 jurisdictions surveyed have not addressed the links between E&S risks and the reinsurance system.

PRODUCT DEVELOPMENT (1.5.4)

Insurers are expected to integrate E&S considerations and consumers’ E&S preferences when developing and distributing new products.



About 50% of the assessed jurisdiction supervisors have set some expectations for insurers to include E&S considerations and consumers’ sustainability preferences when developing and distributing new products (only 6% with a full score). These expectations are more common in EMEA, generally partially applicable, and often focused only on investment products vehicles (such as in the EU with the Sustainable Finance Disclosure Regulation (SFDR)) and not traditional insurance policies.



DISCLOSURE & TRANSPARENCY

Public disclosure of decision-useful information on environmental & social risks and impacts by financial and non-financial corporations is critical in helping correct market failures and enhance market discipline. It also contributes to better risk management and facilitates the identification of sustainable finance opportunities.

INSIGHTS



- TCFD disclosure recommendations:** In a survey conducted by TCFD, 95% of respondents saw an increase in the availability of climate-related financial disclosures since the release of the TCFD recommendations. 88% of respondents cited improvements in the quality of disclosures, 90% of investors and other users incorporated climate-related financial disclosures in their financial decision-making, and 66% of them indicated that such disclosures factor into the way they price financial assets.¹⁰⁸
- Transition plans:** The Organisation for Economic Co-operation and Development (OECD) Guidance on Transition Finance sets out elements of credible corporate climate transition plans, emphasising greater transparency, comparability and granularity in corporate transition plans, and the need for adequate environmental and social safeguards.¹⁰⁹
- Net zero transition:** The Glasgow Financial Alliance for Net Zero (GFANZ) released its recommended pan-sector framework for Financial Institution Net-Zero Transition Planning, and guidance on measuring portfolio alignment, published updates on work to mobilise capital to emerging markets and developing economies (EMDEs) to support their net-zero transitions. The Net Zero Insurance Alliance (NZIA) published its first target setting protocol for consultation in October 2022.¹¹⁰ However, at this stage net-zero alliances remain only voluntary commitments by front-running companies, short of the systematic sector-wide effort which could be required by financial supervisors.
- Green taxonomies:** Green taxonomies may not result in immediate transformations, but their existence aids in the identification of greenwashing practices. As a result, the biggest polluters should be consequently banned from portraying their actions as “eco-friendly” because of this.

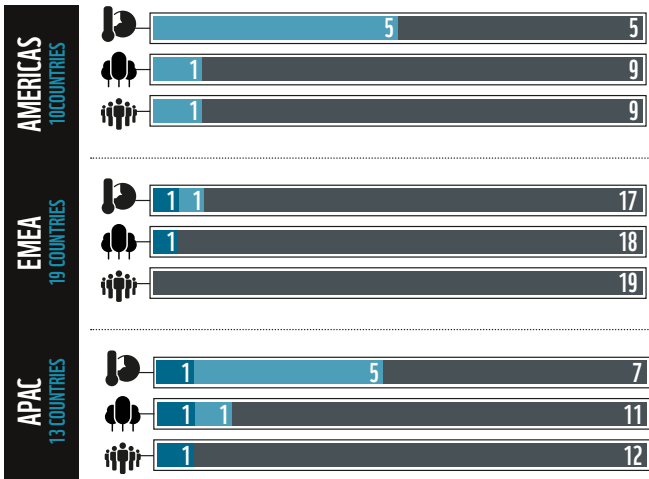
GOOD PRACTICES



- 1.6.2: The Code Monétaire et Financier L533-16-1 of France**, expects credit institutions and investment firms to publish a strategy for alignment with the long-term biodiversity objectives set for 2030, then every five years, on (a) compliance with the Convention on Biological Diversity 1992 objectives, (b) contribution to the reduction of the main pressures and impacts on biodiversity identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), (c) support for a biodiversity footprint indicator and the way to measure compliance with international objectives related to biodiversity.
- 1.6.6: In the EIOPA’s Technical Advice on EU Taxonomy**,¹¹¹ it is suggested to mandatorily disclose the ratio of the insurers or reinsurer’s investments out of their total investments and the ratio of the non-life gross premiums out of total non-life gross premiums written, that are associated with economic activities that qualify as environmentally sustainable in the EU Taxonomy.
- 1.6.9 (INVESTMENT): The Australian Securities & Investments Commission issued the information sheet (INFO 271)** on how to avoid greenwashing when offering or promoting sustainability-related products. It is also applicable to insurers offering investment products and outlines what greenwashing is, the current regulatory setting for communications about such products, and questions to consider when offering or promoting those products.

TIME-BOUND TRANSITION PLANS (1.6.2)

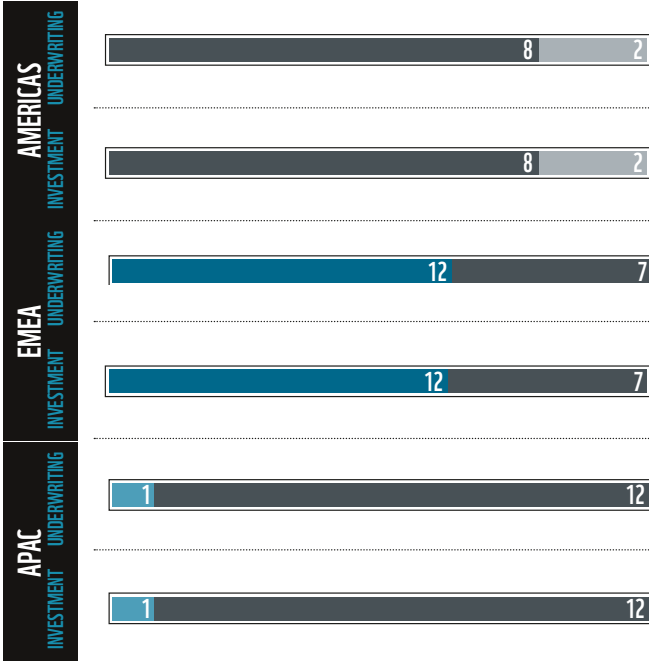
Insurers are expected to publicly disclose their time-bound transition plans to reach set strategies and objectives pertaining to E&S issues.



It is still very uncommon for supervisors and regulators to require insurers to disclose their transition plans related to environmental and social issues. However, for climate topics specifically, this is fully or partially considered (e.g., indirectly through TCFD adoption) in 13 jurisdictions.

DISCLOSURE AGAINST TAXONOMY (1.6.6)

Insurers are expected to publicly disclose the share of their total portfolio that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).

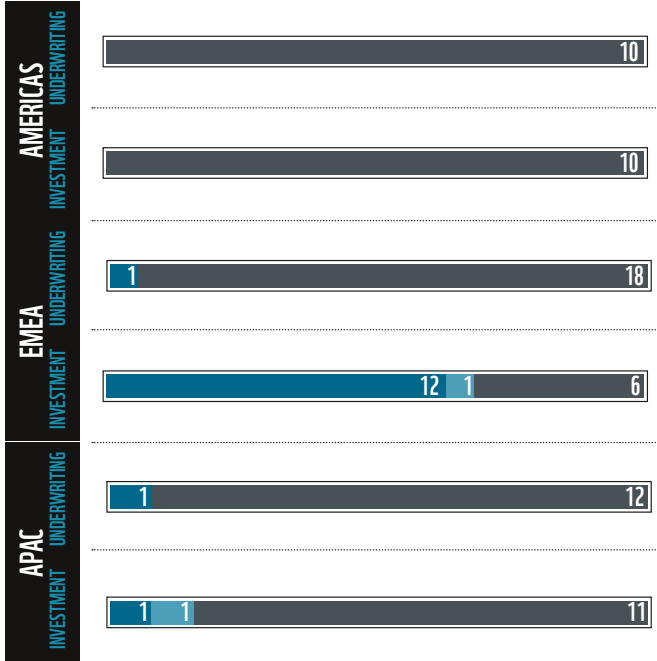


The EU Taxonomy is currently the leading global standard for green taxonomies, and supervisory expectations to report against such taxonomies are fully met for 12 of the jurisdictions in EMEA. Outside of EMEA, only one country in APAC has some taxonomy reporting expectations.



GREENWASHING RISKS (1.6.9)

The supervision of conduct risk for insurance products sold by insurers includes provisions related to addressing greenwashing risks.



Most EMEA jurisdictions address greenwashing issues in their expectations towards the investment products sold by insurers (notably due to EU regulation). However, this is usually not the case in the APAC and American jurisdictions assessed, and it is in general not the case for traditional (non-investment) insurance products.



MACRO-PRUDENTIAL SUPERVISION

Focusing on the stability of the financial system as a whole, macro-prudential supervision is critical in identifying system-wide imbalances in order to regulate and mitigate these risks. Prudential regulations focus on preventive measures as it is more efficient and less costly to mitigate issues than it is to deal with damage control later, particularly in the case with climate change and nature loss matters.

INSIGHTS

- **Climate assessment guide:** UNEP FI's Comprehensive Good Practice Guide to Climate Stress Testing lists seven recommendations for regulators to assist financial institutions: build institutional expertise, require mandatory disclosures, implement policies on disclosing required data in standardised formats, provide free open-source data, modify current systems used to run models, design scenarios for supervisory climate stress tests relevant to financial institutions' scope and business model, and initiate communication between financial institutions and experts.¹¹²
- **Secondary perils:** As "underwriters and managers of climate risk", the insurance sector has a competitive advantage over other financial services players (from banks to asset managers) in understanding and assessing the impact of climate risk on their financial resilience. However, due to inadequate consideration of secondary perils data (such as inland flooding following a hurricane), the industry's current loss projections are often insufficient.¹¹³
- **Climate data integration:** Insurance companies should start implementing climate-specific stress testing in addition to conventional catastrophe models to better understand the impact of climate-related risk on their portfolios. To influence pricing and portfolio changes, insurers should combine detailed climate data—down to the danger of a fire or flood for a specific address—with a study of the macroeconomic implications of climate change.¹¹⁴



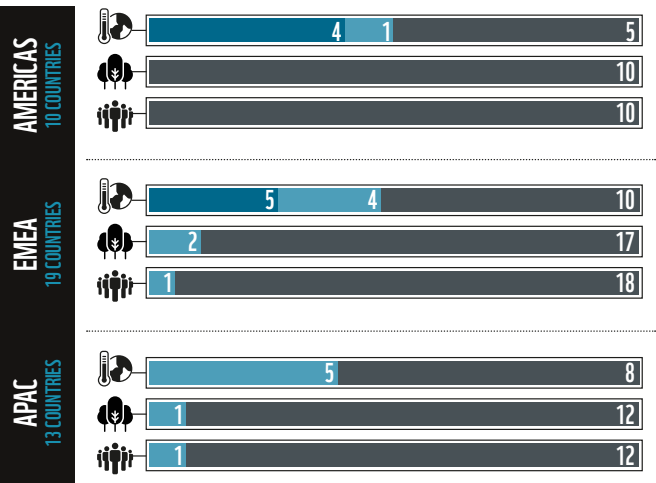
GOOD PRACTICES

- 1.7.1: **The Bank of England's latest Climate Biennial Exploratory Scenario (CBES)** exercise began in 2021, with results published in May 2022. Participants include the largest UK banking groups, life insurers and general insurers. CBES explores three scenarios building upon the NGFS climate scenarios. The scenarios include physical, transition and litigation risks over the period of 2021-2050.
- 1.7.5: In **Brazil, the Superintendência de Seguros Privados (SUSEP) issued Circular SUSEP Nº 666**, which states that the management of sustainability risks will be part of the general context of the Internal Controls System (SCI) and the Risk Management Structure (EGR), and that it must establish limits for the concentration of risks and/or restrictions for conducting business that consider the exposure of economic sectors, geographic regions, products or services to sustainability risks.
- 1.7.6: **The State of California has passed Senate Bill 824 (2018)**, an important consumer protection law which requires a mandatory one-year moratorium on insurance companies cancelling or non-renewing residential insurance policies in certain areas within or adjacent to a fire perimeter after a declared state of emergency is issued by the Governor.
- 1.7.7: **The Monetary Authority of Singapore (MAS)** acknowledges their function in ensuring institutions are supervised on an integrated (across industry) and consolidated (across geography) basis. The MAS evaluates them on a whole-of-group basis across their banking, insurance and securities activities and also supervises these financial groups on a consolidated basis, taking into account both their local and overseas operations.



SUPERVISOR'S STRESS TESTING (1.7.1)

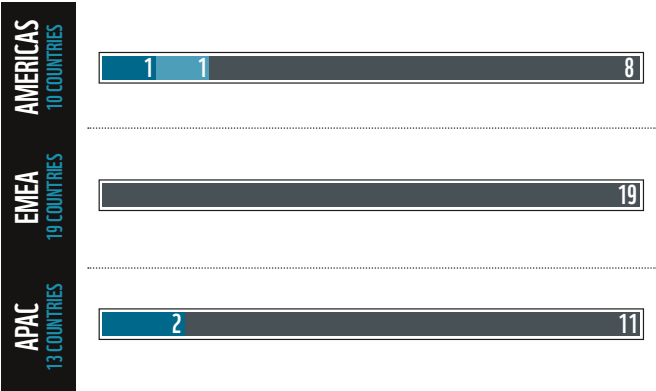
The supervisor has assessed the exposure of insurers to material E&S risks and the implications for financial system stability, by using forward-looking scenario analysis and stress testing.



About 45% of the assessed jurisdiction supervisors have assessed the exposure of insurers to material climate risks by using forward-looking scenario analysis or stress testing. However, about half of these were only partial, typically lacking a conclusion on potential implications of financial stability. Similar assessments for other environmental and social risks are much less common than for climate.

OBLIGATORY INSURANCE MANDATES (1.7.6)

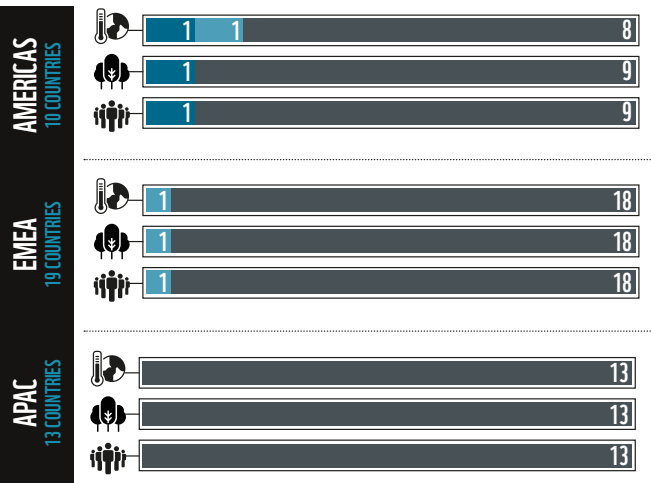
The supervisor has issued obligatory insurance mandates (or similar binding measures such as moratoriums on non-renewals) in relation to E&S risks.



Only four out of the 42 assessed jurisdictions issued some form of obligation for insurers to cover E&S related risks. Insurance mandates are still an uncommon policy instrument, despite the rise of climate-related natural catastrophes.

EXPOSURE LIMIT (1.7.5)

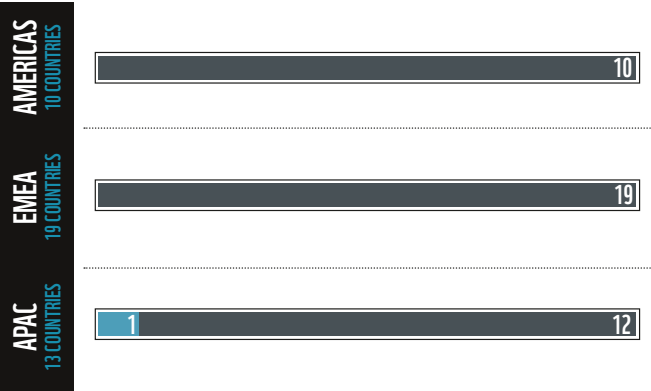
The supervisor has issued prudential rules to limit the exposure of insurers to certain activities, in order to prevent and protect against the build-up of systemic risk, based on E&S considerations.



Only three out of the 42 assessed jurisdictions have asked or required insurers to limit their exposure to certain activities (e.g., thermal coal) to prevent E&S related systemic risk.

INTEGRATED FINANCIAL GROUPS SUPERVISION (1.7.7)

The supervisor monitors the concentration of E&S risks between the various entities of integrated financial groups (e.g., bancassurance).



Specific expectations regarding the supervision of integrated bancassurance groups and the potential concentration of E&S risks between their banking and insurance activities are virtually non-existent in the sample of jurisdictions assessed. Only one country in APAC mentions the topic.



LEADERSHIP & INTERNAL ORGANISATION

Ambitious leadership by financial regulators is central to a successful transition. Developing internal capacity and expertise on E&S risks and considerations is crucial to properly integrate these into their guideline issuances and subsequently into the financial system.

INSIGHTS

- Nature-related assessments:** Financial supervisors are encouraged by the NGFS to conduct impact and dependency assessments on biodiversity as well as biodiversity-related scenario analysis and stress tests at the micro, the financial system, and regional levels, and identify priority drivers of biodiversity-related financial risk. Further analysis and quantification of physical and transition risks arising from biodiversity losses and creating a dashboard of biodiversity metrics to monitor the state of biodiversity risks are also recommended.¹¹⁵
- Climate hazard resilience:** Insurance supervisors can catalyse action for resilience to climate hazards in two ways: (i) by encouraging supply and demand for valuable and responsible climate insurance solutions; and (ii) by promoting the adoption of climate risk management concepts and practices both internally and among key stakeholders, including by actively utilising the role and expertise of the insurance industry as risk experts.¹¹⁶
- Protection gap dashboard:** The first dashboard which depicts the insurance protection gap for natural catastrophes in Europe is being piloted by EIOPA. The data shows that only 35% of the total losses caused by extreme weather and climate-related events across Europe are insured. The dashboard will help identify regions at risk, the drivers of a climate-related insurance protection gap, and define proactive prevention measures. It should allow for evidence-based decision-making on measures to improve society’s resilience against natural catastrophes.¹¹⁷



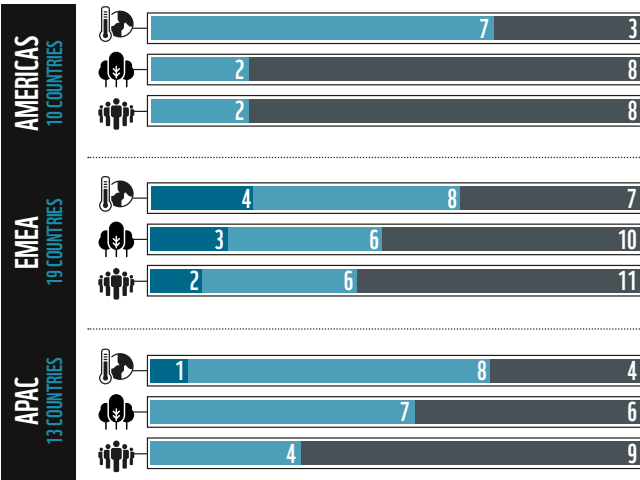
GOOD PRACTICES

- 1.8.2:** In the EU, EIOPA’s work program for Sustainable Finance Activities 2022-2024 outlines key areas of planned activities such as the integration of ESG risks in the prudential framework of insurers and pension funds, the promotion of sustainability disclosures and a sustainable framework for conduct of business, or the reduction of insurance protection gaps.
- 1.8.7:** De Nederlandsche Bank (DNB)’s “Values at risk: Sustainability risks and goals in the Dutch financial sector” in 2019 examined the scope of physical, transition, and reputation risks caused by water stress, biodiversity loss, raw material scarcity, and human rights controversies. The Dutch financial sector’s exposure to the most water-scarce regions totals EUR 97 billion, while exposure to the most critical raw materials is EUR 56 billion. Of the financial institutions DNB surveyed, 36% have set indicators and targets for their sustainability policies, while 20% evaluate the impact of their efforts on a regular basis.
- 1.8.8:** The Green Finance Action Plan 2.0 issued by the Financial Supervisory Commission of Taiwan includes in its objectives the construction and strengthening of ESG data integration platforms. It notably plans to integrate the Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP) and climate change and environment-related information gathered by the Environmental Protection Administration (EPA) and relevant ministries in the platform to be used by businesses and financial institutions in the assessment of potential risks and scenario analysis.



SUPERVISOR’S E&S STRATEGY (1.8.2)

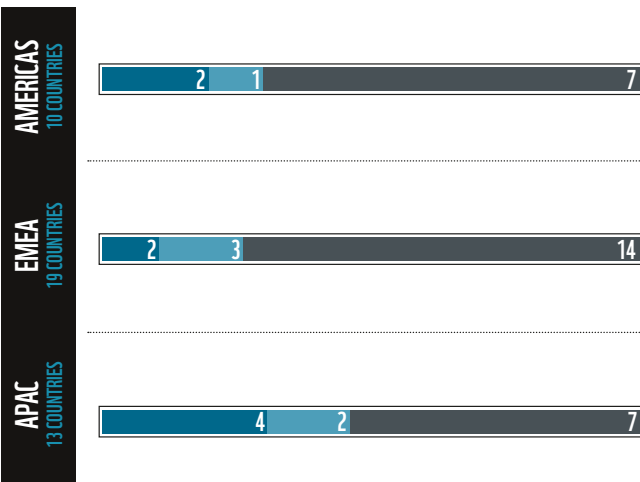
The supervisor has published an official E&S strategy or roadmap outlining a science-based transition plan with associated measures for contributing to a net-zero and nature-positive financial sector, in line with its mandate.



Most of the assessed country supervisors have published an official E&S strategy or roadmap (67% cover climate, 43% cover other environmental issues, and 33% social matters). However, these roadmaps are often incomplete as they may, for example, lack a proper science-based and time-bound transition plan.

DATA QUALITY INITIATIVES (1.8.8)

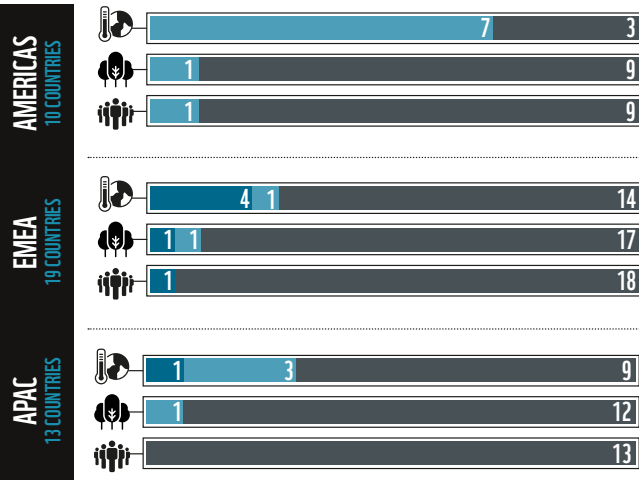
The supervisor actively supports initiatives to address E&S data availability and quality issues, including through the promotion of open-source solutions.



Eight jurisdiction supervisors actively support insurers through concrete initiatives to address E&S data availability and quality issues, and a further six jurisdictions do so to a more limited or less tangible extent. Such support is most common in APAC, where it can be found in almost half the APAC jurisdictions assessed.

STUDY ON TRANSMISSION CHANNELS (1.8.7)

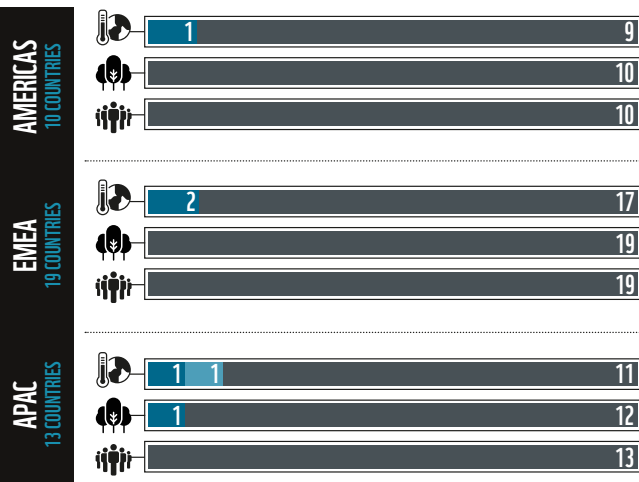
The supervisor has conducted and published studies to analyse the transmission channels between E&S risks and the economy and financial system.



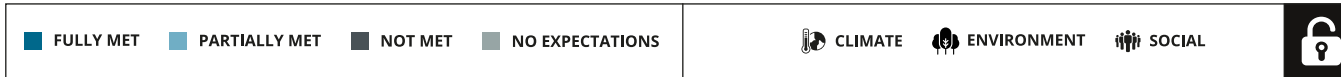
16 out of 42 jurisdiction supervisors have published analyses about the transmission channels between climate risks and the financial system. This number goes down to just four jurisdictions for other environmental risks, and to two jurisdictions for social matters.

ENGAGEMENT WITH REINSURERS (1.8.9)

The supervisor organises the exchange of information with reinsurers (e.g., through joint working groups) to leverage their specific E&S expertise.



Only five country supervisors formally collaborate with reinsurers (e.g., through joint working groups) to leverage their specific E&S expertise, usually in relation to climate risk. There might be other jurisdictions in which similar exchanges happen on an ad hoc or limited basis, but this could not be evidenced from publicly available information.



“

INTERVIEW: DE NEDERLANDSCHE BANK (DNB)



Q1 How is DNB planning to integrate climate, environmental and/or social considerations in its activities and mandates?

Sustainability is high on our agenda, and we aim to have sustainability fully integrated into all our tasks by 2025. In our Sustainable Finance Strategy, we translated our ambition into a set of targets, by each area of our mandate. We embed sustainability risks into our supervisory methodology and apply a forward-looking toolkit to identify macroprudential sustainability risks. Our economic research and policy advice, feeds and stimulates the public debate on sustainable prosperity. We make a positive contribution to global sustainability goals, inter alia via our reserve management and internal operations. We'd like to highlight two significant themes on which we made progress in the last year:

First, in our supervision. DNB has conducted several studies and stress tests on the financial risks of climate change and environmental degradation to raise awareness among FIs about the materiality of sustainability risks, for instance, a stress test on flood risk and a study measuring the carbon footprint of the Dutch financial sector. To give more concrete guidance to the sector, we published our guide on the management of C&E risks this year for pension funds, insurers, electronic money and payment institutions, and investment firms. For the banking sector, we applied the ECB guide on C&E risks. We will use this guide in our supervisory dialogue with institutions to encourage the sector to take concrete steps to improve their management practices. We are also working on further integrating these risks into our supervisory methodology and processes.

Second is biodiversity. In a joint study with the PBL Netherlands Environmental Assessment Agency in 2020, we investigated the exposure of Dutch FIs to risks from loss of biodiversity. We are currently investigating how biodiversity risks can be integrated into monitoring

financial stability in the Netherlands. Internationally, we are committed to integrate biodiversity loss and other environmental risks into supervision, as co-chair of the Taskforce for Nature-related Risks of the NGFS.

Q2 What are the main challenges that DNB is facing in the definition and implementation of its roadmap particularly in addressing nature loss and climate change risk? What would be needed to overcome these?

We would like to highlight two challenges relevant to the wider sustainable finance community:
1) The lack of reliable data and measurement methods. While these data constraints complicate analyses, we need to make use of already available data and not wait for the perfect data set; and 2) Ensuring that standards, including on disclosure, data, and metrics, are internationally harmonised. DNB proactively contributes to advancing the development of (inter)national data, statistics, and standards.

Q3 Has DNB formed or plan to form any external partnership to support the implementation of this roadmap?

We actively seek cooperation with a wide range of stakeholders. Internationally, we participate in the G20, IMF, BIS and NGFS, the latter of which we are one of the founding members, as well as with European organisations such as the ECB and EIOPA. Nationally, we work together with various private and public authorities for instance via the Dutch Sustainable Finance Platform established in 2016. This platform forges connections, encourages action and promotes partnerships on sustainable initiatives for the financial sector, supervisory authorities and government ministries. Dutch stakeholders are involved in developing and challenging our Sustainable Finance Strategy, and we annually seek input of a wide range of NGOs.

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ENABLING ENVIRONMENT

A pivotal factor to sustainable change is a conducive environment, such as incentives for the development of sustainable insurance products, public-private partnerships, and disaster risk reduction facilities. These factors enable the smoother adoption of sustainable finance principles by insurers and supervisors of the insurance sector in its internal practices, activities and financial flows. The enabling environment indicators presented for banking in the previous section are also applicable to insurance. In this section, we will only focus on additional, insurance-specific, enabling environment indicators.

INSIGHTS



- **Innovative products:** The Innovative Insurance Products for the Adaptation to Climate Change (IIPACC) project aims to equip the insurance industry with tools needed to create cutting-edge, market-driven, and financially viable insurance products to protect against the financial risks associated with extreme weather events. This served as the basis behind Ghana’s first agricultural insurance pool (GAIP). Three products of GAIP are currently available on the market: (1) a drought Weather Index Insurance (WII) product for smallholder farmers, (2) Multi-Peril Insurance for Poultry (MPIP) for commercial farmers, and (3) Multi-Peril Crop Insurance (MPCI) for commercial farmers.¹¹⁸
- **Risk disaster reduction facility and a public insurance pool:** Natural disasters could lead to significant fiscal risk and major budget instability. To mitigate this, there are several public insurance pool initiatives designed to reduce the financial losses caused by natural hazards. For instance, the Caribbean Catastrophe Risk Insurance Facility¹¹⁹ which consists of 19 Caribbean member governments offers parametric insurance policies for tropical cyclones, earthquakes, excess rainfall, the fisheries sector and the public utilities sector. It provides short-term liquidity when a policy is triggered, with a total of 54 pay-outs amounting to US\$ 245 million issued to date.

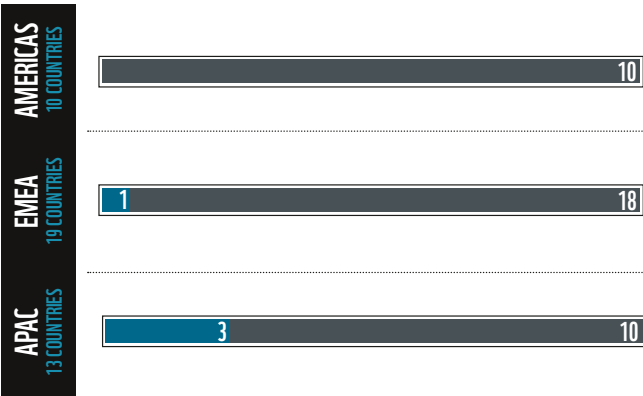
GOOD PRACTICES



- 3.1.10: **Financial Supervisory Commission of Taiwan’s Green Finance Action Plan 2.0** highlights that the country has made progress on achievements in the following areas: (1) relaxed rules and regulations on extension of credit and financing by financial institutions to make it easier for renewable energy companies to obtain credit (loans) from banks and insurance companies; (2) encouraged insurers to invest directly or indirectly in the green energy industry; and (3) promoted green stock index and green exchange-traded funds (ETFs) derived therefrom, green insurance, and other green financial products.
- 3.1.11: **The New Zealand Earthquake Commission’s EQCover scheme** provides natural disaster insurance for residential homes and land. EQCover is government-guaranteed, which provides assurance to customers that if there is a very large number of claims – for example, after a major natural disaster – then the government will pay the shortfall.
- 3.1.11: **The National Flood Insurance Program (NFIP) is a program created by the Congress of the United States** in 1968 through the National Flood Insurance Act of 1968 (P.L. 90-448). The NFIP has two purposes: to share the risk of flood losses through flood insurance and to reduce flood damages by restricting floodplain development. The program enables property owners in participating communities to purchase insurance protection, administered by the government, against losses from flooding.

INCENTIVES FOR PRODUCT DEVELOPMENT (3.1.10i)

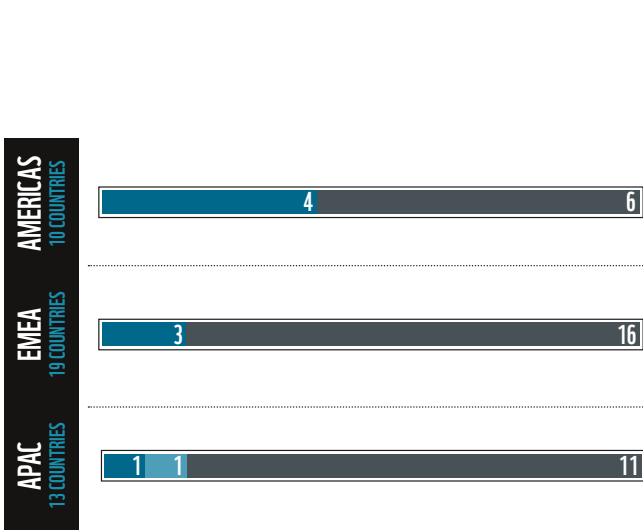
Tax, regulatory or other incentives are in place for insurers to finance or insure certain industry sectors or to develop new and innovative insurance products, based on E&S considerations (for example supporting long-term investments in illiquid assets such as sustainable infrastructure or providing performance warranty for renewable energy solutions).



Only three APAC jurisdictions and one country in EMEA have put in place concrete incentives for insurers to finance or insure certain industry sectors or to develop new and innovative insurance products.

PUBLIC-PRIVATE PARTNERSHIPS (3.1.11i)

National Public-Private Partnerships are in place to support the continued provision of insurance covering E&S risks (e.g., co-insurance pools).

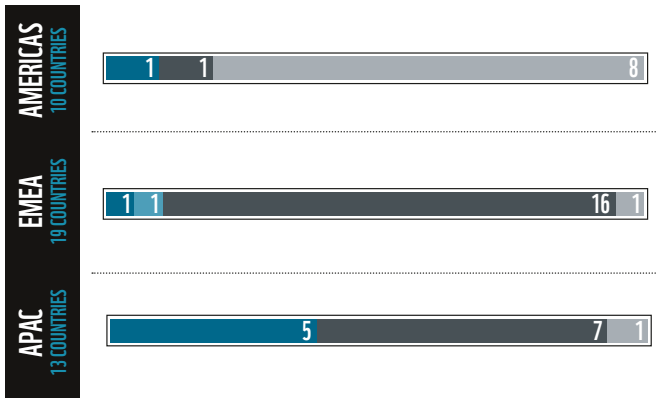


Nine jurisdictions out of 42 have implemented Public-Private Partnerships (PPP) to support the continued provision of insurance for E&S risks.



DISASTER RISK REDUCTION FACILITIES (3.1.12i)

The country is part of regional disaster risk reduction facilities.



Eight assessed jurisdictions in total are members of disaster risk reduction facilities, most of them in APAC through the Southeast Asia Disaster Risk and Insurance Facility (SEADRIF). Please note that Caribbean countries are not covered by SUSREG assessment.



CONCLUSION

CONCLUSION

Through its role as a provider of capital, credit, and insurance to the real economy, the financial system has a critical part to play in the transition to a low-carbon, nature-positive and fair economy. While a handful of leading financial institutions around the world may have taken the first steps to embark on this journey, **ad hoc, voluntary and uncoordinated action will fall short of the systematic effort needed to address the global challenges of global warming and biodiversity loss.** Climate change and the degradation of nature are drivers of financial risks. Specific and ambitious central bank policies, financial regulation, and supervisory guidance are needed to prompt and support adequate collective action from financial institutions. Without such an underpinning framework, the financial sector will only mobilise in a slow, partial, and fragmented manner, hindered on the one hand by the lack of ambition of some of its members and on the other hand by obstacles like anti-trust legislation which constrains the degree to which front-running companies may coordinate their action.

Some initial progress has been made in recent years. First analyses of the financial system's exposure to and its impact on nature have been conducted by the NGFS and in several jurisdictions, and efforts are on the way to addressing data and methodological challenges. Central banks and financial supervisors are increasingly publishing their own climate and sustainability strategies and roadmaps, although sometimes only partially addressing the underlying sustainability issues and their associated consequences. Several taxonomies of sustainable activities have been launched to combat greenwashing and help market actors identify financing and investments that meet climate and environmental objectives in a harmonised manner. However, neither science-based metrics to operationalise the classification system, nor 'brown' taxonomies as a necessary complement to the 'green' taxonomies, are fully in place. Overall, central banks and financial supervisors have yet to address sustainability risks in a holistic manner and make full use of their market-shaping role to limit the negative environmental impacts generated by regulated actors. This puts at risk not only the financial stability of the markets and the solvency of the institutions they supervise, but also the entire future well-being and prosperity of humanity.

In this context, WWF's Sustainable Financial Regulations and Central Bank Activities (SUSREG) tracker aims to contribute

to improving the understanding of how environmental and social risks can be integrated into the activities of central banks and financial supervisors.

As has been documented in this report, there are still many gaps. **Relevant policies, regulation, and supervisory guidance for the financial sector are being developed, but with a pace and a geographical and topical scope that is not commensurate with those of the ongoing climate and biodiversity crises.** Expectations around strategy, governance, and disclosures are being gradually introduced, but concrete incentives and prudential measures are still rare. Broader environmental and social expectations often lag narrower climate change-related issues. For the insurance sector specifically, there is more work to be done to ensure that both the investment and underwriting activities of insurers are subject to appropriate and consistent expectations. While the integration of risk and impact considerations in policies and processes has started in some leading jurisdictions, much remains to be done to create a global level-playing field and systematically incorporate the emerging good practices pointed out in this report. Interestingly, some central banks and financial supervisors in developing countries have demonstrated meaningful progress and stronger commitments in E&S safeguards vis-a-vis more developed countries, implying that lesser economic and technological advancement may not necessarily be a barrier to achieving sustainable development.

Given the urgency to act in the face of mounting climate and environmental crises, WWF expects central banks and financial supervisors to accelerate the full mobilisation of their monetary policy and regulatory and prudential tools to support a timely and orderly transition towards a more sustainable economy. WWF also expects supervisory expectations to extend beyond climate and cover broader environmental and social topics. In this critical decade of action, ambitious early intervention and international coordination will be the key to success. It is our hope that the SUSREG framework and tracker will contribute in strengthening and harmonising sustainability practices among central banks and financial regulators worldwide towards adopting nature-positive policies by 2030, limiting global warming to 1.5°C, and achieving net-zero emissions by 2050 or earlier.

NEXT STEPS

NEW ONLINE PLATFORM

The next and third SUSREG annual report will be published towards the end of 2023. In the meantime, the SUSREG journey will continue beyond this 2022 annual report with, and a new online platform will be made available in 2023. This free online platform will allow central banks, financial supervisors, finance professionals, researchers, insurers and the wider public to access the full set of indicators for the 44 jurisdictions included in this year's assessment (of which the findings in this report only constitute a selection and summary). Links to and references from any regulation, supervisory guidance and/or other relevant public documents used to derive the assessments will also be included on the website to allow for transparency and cross-referencing.

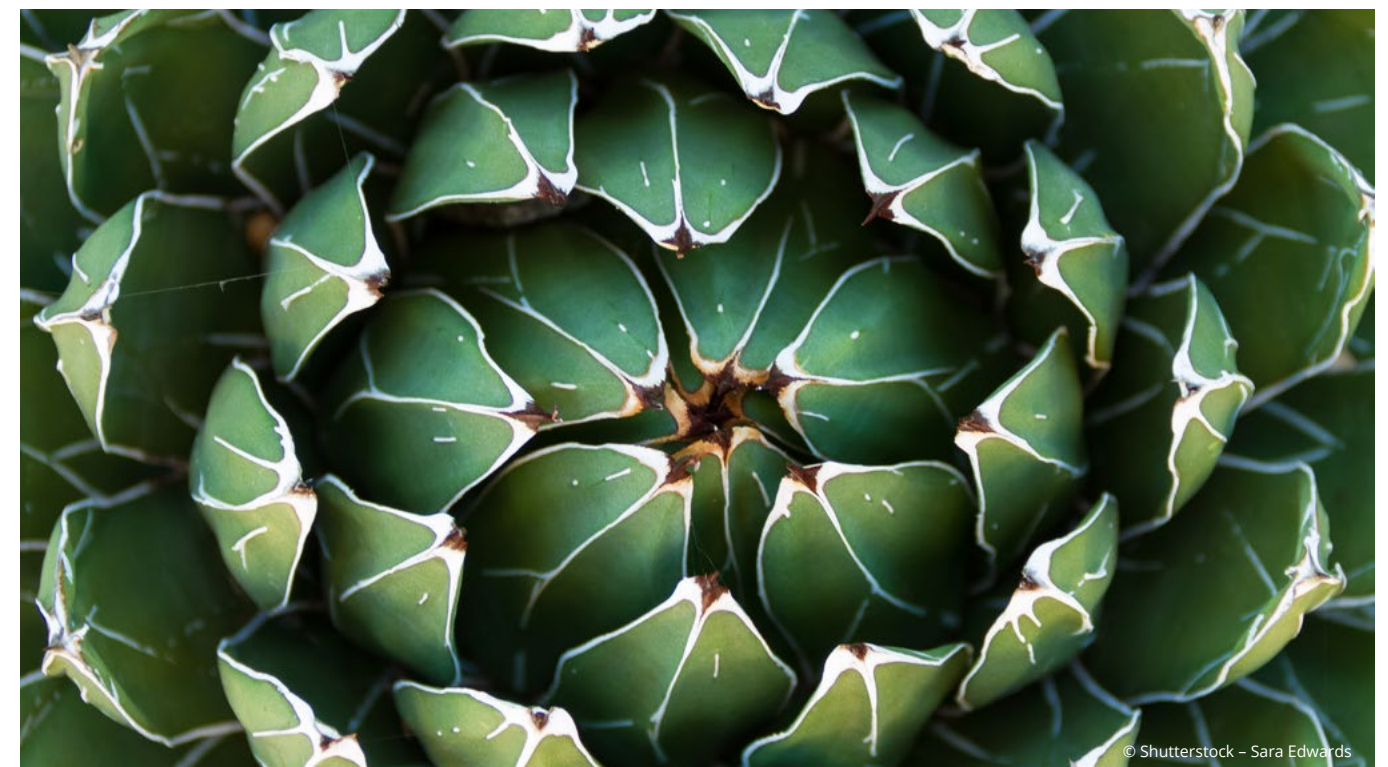
INCREASING SCOPE; BANKING, INSURANCE AND ASSET MANAGEMENT

The first SUSREG report in 2021 focused on central banks and banking supervisors, and insurance supervision was included for the first time this year. In future years, other financial sectors will be gradually integrated into the scope of these assessments, starting with asset management.

Similar to the extension from 38 to 44 jurisdictions between 2021 and 2022, more jurisdictions may also be integrated into the SUSREG scope of assessments in the future. As has happened this year, the selected indicators will also be fine-tuned to reflect the latest advances and areas of focus in sustainable finance regulation.

ENHANCING COLLABORATION AND ENABLING CAPACITY BUILDING

Over the last year, experience has shown a great interest in SUSREG from central banks and banking supervisors. WWF will continue its direct engagement with relevant parties (as well as with insurance supervisors going forward) through bilateral dialogue and workshops. The SUSREG framework and assessments can notably be leveraged to help central banks and banking supervisors benchmark their policies against emerging regional and global good practices. More generally, WWF will aim to enhance this collaboration to help highlight mainstream nature-related issues through capacity building, provision of specific guidance to integrate deforestation and freshwater risks into central banking and supervisory activities and offer targeted assistance on tools and methodologies.



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ANNEXES

ANNEX 1:

LIST OF ACRONYMS

ACPR	The French Prudential Supervision and Resolution Authority
APAC	Asia-Pacific
APRA	Australian Prudential Regulation Authority
BAFIN	The Federal Financial Supervisory Authority of Germany
BCB	Banco Central do Brasil
BCBS	Basel Committee on Banking Supervision
BDP	Banco de Portugal
BIS	Bank for International Settlements
BNM	The Central Bank of Malaysia
BOE	Bank of England
BSP	The Central Bank of Philippines
C&E	Climate and environmental
CASG	The Green and Sustainable Finance Cross-Agency Steering Group
CBFS	Central banks and financial supervisors
CDP	Carbon Disclosure Project
COP15	15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD)
COP27	27th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC)
CSRD	Corporate Sustainability Reporting Directive
CSSF	The Commission de Surveillance du Secteur Financier of Luxembourg
DNB	De Nederlandsche Bank
E&S	Environmental and Social
EBA	European Banking Authority
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
EMEA	Europe, Middle-East and Africa
ESG	Environmental, Social, and Governance
FI	Financial Institutions
FSB	Financial Stability Board
G20	The Group of Twenty (of the world's largest economies)
GDP	Gross Domestic Product
GFANZ	Glasgow Financial Alliance for Net Zero
GFRI	WWF's Greening Financial Regulation Initiative
GHG	Greenhouse gas

GSF	The Centre for Green and Sustainable Finance in Hong Kong
HKMA	Hong Kong Monetary Authority
IAIS	International Association of Insurance Supervisors
ICAAP	Internal Capital Adequacy Assessment Process
IEA	International Energy Agency
IFRS	International Financial Reporting Standards
IKI	International Climate Initiative
ILAAP	Internal Liquidity Adequacy Assessment Process
IMF	International Monetary Fund
INSPIRE	The International Network for Sustainable Financial Policy Insights, Research, and Exchange
ISSB	International Sustainability Standards Board
MAS	Monetary Authority of Singapore
MNB	The Central Bank of Hungary
NFRD	EU Non-Financial Reporting Directive
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NZDPU	Net-Zero Data Public Utility
OJK	The Financial Service Authority of Indonesia
OMFIF	Official Monetary and Financial Institutions Forum
ORSA	Own Risk and Solvency Assessment
PPP	Public-Private Partnerships
RBI	Reserve Bank of India
RE	Regulated entities
SEC	Social, Environmental and Climate
SIF	Sustainable Insurance Forum
SME	Small and medium-sized enterprises
SUSREG	Sustainable Financial Regulations and Central Bank Activities
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
UNEP	United Nations Environment Programme
VBIAF	Malaysia's Value-based Intermediation Financing and Investment Impact Assessment Framework

ANNEX 2:

COUNTRIES AND INSTITUTIONS COVERED

REGION / COUNTRY	INSURANCE SUPERVISOR	BANKING SUPERVISOR	CENTRAL BANK
AMERICAS			
BERMUDA	Bermuda Monetary Authority (BMA)	Not assessed	Not assessed
BRAZIL	Superintendência de Seguros Privados (SUSEP)	Banco Central do Brasil (BCB)	
CANADA	Office of the Superintendent of Financial Institutions (OSFI)		Bank of Canada (BoC)
CHILE	Comisión para el Mercado Financiero (CMF)		Banco Central de Chile
COLOMBIA	Superintendencia Financiera de Colombia (SFC)		Banco de la República (BANREP)
COSTA RICA	Superintendencia General de Seguros de Costa Rica (SUGESE)	Superintendencia General de Entidades Financieras (SUGEF)	Banco Central de Costa Rica (BCCR)
MEXICO	Comisión Nacional de Seguros y Fianzas (CNFS)	Comisión Nacional Bancaria y de Valores (CNBV)	Banco de México (Banxico)
UNITES STATES OF AMERICA	Federal Insurance Office (FIO)	Office of the Comptroller of the Currency (OCC)	The Federal Reserve (FED)
	Federal Deposit Insurance Corporation (FDIC)	The Federal Reserve (FED)	
NEW YORK	National Association of Insurance Commissioners	Federal Deposit Insurance Corporation (FDIC)	
NEW YORK	The New York State Department of Financial Services (DFS)	Office of the Comptroller of the Currency (OCC)	The Federal Reserve (FED)
		Federal Reserve Bank of New York	
CALIFORNIA	California Department of Financial Protection and Innovation (DFPI)	Office of the Comptroller of the Currency (OCC)	The Federal Reserve (FED)
		Federal Reserve Bank of San Francisco	
		California Department of Financial Protection and Innovation (DFPI)	
EMEA			
DENMARK	Danish Financial Supervisory Authority		Danmarks Nationalbank
EUROPEAN UNION	European Insurance and Occupational Pensions Authority (EIOPA)	European Banking Authority (EBA)	European Central Bank (ECB)
		European Central Bank (ECB)	
FRANCE	Autorité de contrôle prudentiel et de résolution (ACPR)		Banque de France (BDF)
GERMANY	Federal Financial Supervisory Authority (BaFin)		Deutsche Bundesbank
GREECE	Bank of Greece		
HUNGARY	Magyar Nemzeti Bank (MNB)		
ITALY	Institute for the Supervision of Insurance	Banca d'Italia	
KENYA	Insurance Regulatory Authority (IRA)	Central Bank of Kenya	
LUXEMBOURG	Commissariat aux Assurances (CAA)	Commission de Surveillance du Secteur Financier (CSSF)	Banque centrale du Luxembourg (BCL)
MOROCCO	The Supervisory Authority for Insurance and Social Welfare (ACAPS)	Bank Al-Maghrib	
NETHERLANDS	De Nederlandsche Bank (DNB)		
NORWAY	Finanstilsynet (Financial Supervisory Authority of Norway)		Norges Bank
PORTUGAL	Autoridade de Supervisão de Seguros e Fundos de Pensões	Banco de Portugal	
SAUDI ARABIA	Not assessed	Saudi Central Bank (SAMA)	
SOUTH AFRICA	South African Reserve Bank - Prudential Authority	South African Reserve Bank (SARB)	
SPAIN	Dirección General de Seguros y Fondos de Pensiones	Banco de España	
SWEDEN	Finansinspektionen (The Financial Supervisory Authority)		Sveriges Riksbank
SWITZERLAND	Swiss Financial Market Supervisory Authority (FINMA)		Swiss National Bank (SNB)
UNITED ARAB EMIRATES	Central Bank of the UAE, Dubai Financial Services Authority (DFSA) for the Dubai International Financial Centre (DIFC), Financial Services Regulatory Authority (FSRA) for Abu Dhabi Global Market (ADGM)		Central Bank of the UAE
UNITED KINGDOM	Prudential Regulation Authority (PRA)		Bank of England (BoE)
ZAMBIA	Not assessed	Bank of Zambia	
ASIA PACIFIC			
AUSTRALIA	Australian Prudential Regulation Authority (APRA)		Reserve Bank of Australia (RBA)
CHINA	China Banking and Insurance Regulatory Commission (CBIRC)		People's Bank of China (PBoC)
HONG KONG	Insurance Authority HK	Hong Kong Monetary Authority (HKMA)	
INDIA	Insurance Regulatory and Development Authority	Reserve Bank of India (RBI)	
INDONESIA	Otoritas Jasa Keuangan (OJK)		Bank Indonesia (BI)
JAPAN	Financial Services Agency (FSA)		Bank of Japan (BOJ)
MALAYSIA	Bank Negara Malaysia (BNM)		
NEW ZEALAND	Reserve Bank of New Zealand (RBNZ)		
PHILIPPINES	Insurance Commission	Bangko Sentral ng Pilipinas (BSP)	
SINGAPORE	Monetary Authority of Singapore (MAS)		
SOUTH KOREA	Financial Supervisory Service (FSS)		Bank of Korea (BOK)
TAIWAN	Financial Supervisory Commission	Not assessed	Not assessed
THAILAND	Office of Insurance Commission	Bank of Thailand (BOT)	

ANNEX 3:

SUSREG INDICATORS

BANKING INDICATORS	
MICRO-PRUDENTIAL SUPERVISION	
SCOPE & IMPLEMENTATION	
1.1.0	Principle-based regulations or supervisory expectations related to sustainable banking have been issued and are applicable to all supervised commercial banks.
1.1.1	The regulations or supervisory expectations cover a broad range of environmental and social (E&S) issues.
1.1.2	The regulations or supervisory expectations reflect both the expected impact of E&S issues on the bank's risks and value creation, and the impacts of the bank's activities on E&S issues ('double materiality assessment').
1.1.3	The regulations or supervisory expectations extend beyond lending to cover other financial products & services provided by banks.
1.1.4	The supervisor regularly tracks progress and assesses the banks' implementation of E&S regulations or supervisory expectations.
1.1.5	Public consultation was carried out prior to the official issuance of E&S regulations or supervisory expectations.
STRATEGY & GOVERNANCE	
1.2.1	Banks are expected to integrate E&S considerations in their business strategy, consistent with the size and nature of their operations.
1.2.2	Banks are expected to consider E&S risks when preparing their board-approved risk appetite statement, supported by quantitative limits and qualitative expectations.
1.2.3	Banks are expected to extend E&S consideration beyond short term (1 to 5 years) to medium (5 to 10 years) and longer term (10 to 30 years) in their business and risk management.
1.2.4	Banks are expected to regularly provide their board with relevant information related to the implementation of their E&S strategy.
1.2.5	Banks are expected to include criteria related to their E&S strategy implementation in their appraisal and remuneration policy.
1.2.6	Banks are expected to dedicate staff and resources to the definition, development and implementation of their E&S strategy.
1.2.7	The supervisor has included E&S considerations in the appointment of board members of banks.
1.2.8	Banks are expected to define the roles and responsibilities of the board involved in the oversight of the E&S strategy.
1.2.9	Banks are expected to define the roles and responsibilities of the executive management for the implementation of the E&S strategy.

1.2.10	Banks are expected to include E&S considerations in the roles and responsibilities of most core functions (incl. senior management) in areas such as lending, savings/deposits, investments and risk management.
1.2.11	Banks are expected to conduct regular training on relevant E&S issues for their board, senior management, business lines and functions, as well as broader staff.
1.2.12	Banks are expected to engage stakeholders (incl. civil society representatives) and consider their views on relevant E&S issues.
1.2.13	The supervisor expects banks to embed sustainability considerations in their existing code of conduct, investment guidelines, lending guidelines and risk guidelines (rather than only as separate documents).
POLICIES & PROCESSES	
1.3.1	Banks are expected to develop and implement sector policies outlining minimum E&S requirements for their clients, particularly in sectors with high E&S risks and impacts.
1.3.2	Banks are expected to refer to and apply internationally recognized sustainability standards and certification schemes in their E&S sector policies.
1.3.3	Banks are expected to engage with and support their clients on the adoption of best practices, based on internationally recognized sustainability standards and certification schemes.
1.3.4	Specific guidelines or checklists covering the banks' activities in sectors with high E&S risks and impacts have been issued by the supervisor.
1.3.5	Banks are expected to integrate E&S considerations in their decision-making and risk management processes and policies.
1.3.6	The supervisor asks banks whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies.
1.3.7	Banks are expected to put in place internal controls to manage E&S risks, in accordance with the three lines of defence approach.
1.3.8	Banks are expected to put in place an internal process to monitor and address situations where clients are not compliant with the banks' E&S policies that are based on applicable laws and regulations, or internationally recognized science-based scenarios and findings (e.g., IEA 2050 scenario outlining the immediate stop of fossil fuel exploration and expansion projects).
1.3.9	Banks are expected to seek the inclusion of clauses (e.g., covenants, representations & warranties) related to E&S issues in the loan documentation for bilateral and syndicated credit facilities.

1.3.10	Banks are expected to adopt and implement an active client engagement approach*, in relation to E&S considerations for lending and investment activities.
1.3.11	The supervisor expects banks to develop systems that are integrated in the banking group's broader data governance and IT infrastructure to effectively collect and aggregate E&S risk and impact data.
PORTFOLIO RISK & IMPACT	
1.4.1	Banks are expected to continually assess, manage and mitigate their portfolio-level exposure to material E&S risks.
1.4.2	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- (1 to 5 years) medium- (5 to 10 years) and the long-term (10 to 30 years).
1.4.3	Banks are expected to continually assess, manage and mitigate the material negative E&S impacts associated with their business relationships, at the portfolio level.
1.4.4	Banks are expected to set climate science-based targets and keep up to date with the latest climate science, to align their portfolios with the objectives of the Paris Agreement.
1.4.5	Banks are expected to set science-based targets to mitigate negative environmental impacts beyond climate, at the portfolio level.
1.4.6	Banks are expected to assess and mitigate reputation and litigation risks associated with E&S considerations.
1.4.7	Where banks outsource their E&S risk analysis to third parties, they are expected to retain/exercise ultimate oversight and control of these third parties. Banks are expected to validate the analysis by third parties and be fully accountable to any decisions influenced by or derived from the analysis.
MICRO-PRUDENTIAL SUPERVISION (RULE-BASED)	
1.5.1	Banks are expected to integrate E&S considerations in their Internal Capital Adequacy Assessment Process (ICAAP).
1.5.2	Minimum capital requirements or capital add-ons for banks incorporate E&S considerations, through a differentiated risk-based approach.
1.5.3	Banks are expected to integrate E&S considerations in their liquidity risk management process.
1.5.4	Liquidity ratios are adjusted to take E&S considerations into account, through a differentiated risk-based approach.
DISCLOSURE & TRANSPARENCY	
1.6.1	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	Banks are expected to publicly disclose their time-bound transition plans to reach set strategies and objectives pertaining to E&S issues.
1.6.3	Banks are expected to use internationally recognized sustainability reporting frameworks to guide their public disclosures.
1.6.4	Banks are expected to include information on their E&S strategy and its implementation in their annual report, including non-achieved targets and taken measures.
1.6.5	Banks are expected to publicly disclose their credit exposure by industry sub-sectors, based on international industry classification systems.
1.6.6	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	Banks are expected to report publicly on their portfolio-level exposure to material E&S risks and the associated mitigation measures.
1.6.8	Banks are expected to report publicly on the material negative E&S impacts associated with their business relationships, at the portfolio level.
1.6.9	Banks are expected to seek external assurance for their E&S public reporting and disclosures.
MACRO-PRUDENTIAL SUPERVISION	
1.7.1	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.
1.7.2	The supervisor has published its methodology for forward-looking scenario analysis and stress testing for public consultation.
1.7.3	The supervisor has published the aggregated results of its stress testing exercise on material E&S risks, as well as its recommendations.
1.7.4	The supervisor has developed specific risk indicators to monitor the exposure of banks to material E&S risks.
1.7.5	The supervisor has issued prudential rules to limit the exposure of banks to certain activities, in order to prevent and protect against the build-up of systemic risk, based on E&S considerations.
1.7.6	Specific capital requirements for banks incorporate a macro-prudential buffer for systemic E&S risks.
LEADERSHIP & INTERNAL ORGANISATION	
1.8.1	The supervisor is a member of the Network for Greening the Financial System (NGFS).
1.8.2	The supervisor has published an official E&S strategy or roadmap outlining a science-based transition plan with associated measures for contributing to a net-zero and nature-positive financial centre to address E&S risks and opportunities in the financial sector, in line with its mandate.

1.8.3	The supervisor has established an internal organisation and allocated resources to the implementation of its E&S strategy or roadmap.
1.8.4	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.
1.8.5	The supervisor goes beyond measuring conventional risk exposure to regularly assessing the alignment of the banking sector to global sustainability goals.
1.8.6	The supervisor provides training on E&S issues to key staff, notably for senior management and supervisory departments.
1.8.7	The supervisor has conducted and published studies to analyse the transmission channels between E&S risks and the economy and the financial system.
1.8.8	The supervisor actively supports initiatives to address E&S data availability and quality issues, including through the promotion of open-source solutions.
CENTRAL BANKING	
MONETARY POLICY	
2.1.1	The central bank takes E&S considerations into account when implementing corporate asset purchase programs.
2.1.2	The central bank takes E&S considerations into account in its collateral framework.
2.1.3	The central bank integrates E&S considerations in the management of its foreign exchange reserves portfolio.
2.1.4	The central bank offers subsidised loans or preferential targeted refinancing lines based on E&S considerations.
2.1.5	The central bank takes E&S considerations into account in determining reserve requirements for banks.
LEADERSHIP & INTERNAL ORGANISATION	
2.2.1	The central bank is a member of the Network for Greening the Financial System (NGFS).
2.2.2	The central bank has defined science-based, climate and environmental-related nominal anchors as objectives beyond conventional ones (e.g., relating to price stability, full employment).
2.2.3	The central bank has published an official strategy or roadmap of a science-based transition plan with associated measures for designing a net-zero and nature-positive financial centre, in line with its mandate.
2.2.4	The central bank regularly reports publicly on their exposure to and management of climate-related risks and opportunities, along with the TCFD recommendations.

2.2.5	The central bank has established an internal organisation and allocated resources to the implementation of its E&S strategy or roadmap.
2.2.6	The central bank assesses and discloses the exposure of its portfolios to E&S risks (for its policy, own, pension and third-party portfolios as applicable).
2.2.7	The central bank integrates E&S considerations in its asset management practices (for its own, pension and third-party portfolios as applicable).
2.2.8	The central bank publicly discloses the share of its own portfolio that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).
ENABLING ENVIRONMENT	
3.1.1	A multi-stakeholder sustainable finance initiative is in place, involving representatives from the financial industry, regulatory and supervisory authorities, as well as from civil society.
3.1.2	The central bank, supervisor or banking/insurance association is supporting capacity building efforts for the financial industry, on sustainable banking and insurance practices and related aspects.
3.1.3	A classification system for sustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.
3.1.4	A classification system for unsustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.
3.1.5	Non-financial corporates are required to report on current and planned activities according to internationally or nationally recognized sustainability reporting standards and definitions.
3.1.6	Non-financial corporates are required to publish science-based transition plans.
3.1.7	A carbon pricing mechanism is being implemented in the country.
3.1.8	There is a national-level sustainability strategy, and financial institutions encouraged to make and adhere to net-zero transition plans.
3.1.9	Regulations or guidelines covering the issuance or provision of sustainable financial products are in place and are based on standards developed following a science-based and multi-stakeholder process.
3.1.10	Targets or incentives are in place for banks to support the transition to a net-zero and nature-positive economy, by engaging with hard to abate sectors without substitutes, channelling capital into innovative technological and nature-based solutions, or into certain industry on the basis of sustainability considerations.

ANNEX 3:
SUSREG INDICATORS

Insurance Indicators													
Micro-prudential Supervision													
Scope & Implementation													
1.1.0	The principle-based regulations or supervisory expectations related to sustainable insurance which have been issued are applicable to all supervised insurers.	1.2.10	Insurers are expected to include E&S considerations in the roles and responsibilities of most core functions (incl. senior management) in areas such as actuarial, investment, underwriting, claims management and risk management.	1.3.9	Insurers are expected to adopt and implement an active client engagement approach, in relation to E&S considerations for their investment and underwriting activities.	Micro-prudential Supervision (Rule-based)		1.7.2	The supervisor has published for consultation its methodology for forward-looking scenario analysis and stress testing.	1.8.9	The supervisor organises the exchange of information with reinsurers (e.g., through joint working groups) to leverage their specific E&S expertise.		
1.1.1	The regulations or supervisory expectations cover a broad range of environmental and social (E&S) issues.		1.2.11		Insurers are expected to conduct regular training on relevant E&S issues for their board, senior management, business lines and functions, as well as broader staff.	1.3.10	The supervisor expects insurers to develop systems that are integrated in the insurance group's broader data governance and IT infrastructure to effectively collect and aggregate E&S risk and impact data.	1.5.1	Insurers are expected to integrate both short- and long-term E&S considerations in their Enterprise Risk Management framework (e.g., in their Own Risk Solvency Assessment or ORSA).		1.7.3	The supervisor has published the aggregated results of its stresstesting exercises on material E&S risks, as well as its recommendations.	Enabling Environment
1.1.2	The regulations or supervisory expectations reflect both the expected impact of E&S issues on the insurer's risks and value creation, and the impacts of the insurer's activities on E&S issues ('double materiality assessment').		1.2.12	Insurers are expected to conduct stakeholder engagement on relevant E&S issues, incl. with civil society representatives and consider their views on relevant E&S issues.	Portfolio Risks & Impacts		1.5.2	Solvency Capital Requirements for insurers incorporate E&S considerations, through a differentiated risk-based approach.	1.7.4	The supervisor has developed specific risk indicators and tools to monitor the exposure of the insurance sector to material E&S risks.	3.1.1	A multi-stakeholder sustainable finance initiative is in place, involving representatives from the financial industry, regulatory and supervisory authorities, as well as from civil society.	
1.1.3	The supervisor tracks insurance companies' progress against regulatory/supervisory E&S expectations and addresses a corresponding report to the companies.		1.2.13	The supervisor expects insurers to embed sustainability considerations in their existing code of conduct, investment guidelines, underwriting guidelines and risk guidelines (rather than only as separate documents).	1.4.1	Insurers are expected to continually assess, manage and mitigate the level of exposure of their portfolios to material E&S risks.	1.5.3	Where applicable, the supervisor has specific expectations for reinsurers, reflecting their role as ultimate carriers of a number of systemic E&S risks.	1.7.5	The supervisor has issued prudential rules to limit the exposure of insurers to certain activities, in order to prevent and protect against the build-up of systemic risk, based on E&S considerations.	3.1.2	The central bank, supervisor or banking/insurance association is supporting capacity building efforts for the financial industry, on sustainable banking and insurance practices and related aspects.	
1.1.4	Public consultation was carried out prior to the official issuance of E&S regulations or supervisory expectations.	Policies & Processes		1.4.2	Insurers are expected to continuously assess and manage their exposure to material E&S risks, by using science-based forward-looking scenario analysis and stress testing, over both the short- (1 to 5 years) medium- (5 to 10 years) and the long-term (10 to 30 years).	1.5.4	Insurers are expected to integrate E&S considerations and consumers' E&S preferences when developing and distributing new products.	1.7.6	The supervisor has issued obligatory insurance mandates (or similar binding measures such as moratoriums on non-renewals) in relation to E&S risks.	3.1.3	A classification system for sustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.		
Strategy & Governance		1.3.1	Insurers are expected to develop and implement sector policies outlining minimum E&S requirements for their insurance clients and investee companies, particularly in sectors with high E&S risks and impacts.	1.4.3	Insurers are expected to continually assess, manage and mitigate the material negative E&S impacts associated with their business relationships, at the portfolio level.	Disclosure & Transparency		1.7.7	The supervisor monitors the concentration of E&S risks between the various entities of integrated financial groups (e.g., bancassurance).	3.1.4	A classification system for unsustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.		
1.2.1	Insurers are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.		1.3.2	Insurers are expected to refer to and apply internationally recognized sustainability standards and certification schemes in their E&S sector policies.	1.4.4	Insurers are expected to set science-based climate targets and keep up to date with the latest climate science to align their portfolios with the objectives of the Paris Agreement.	1.6.1	Insurers are expected to publicly disclose how E&S considerations are integrated in their business strategy, governance (including remuneration), policies and risk management processes.	1.7.8	Solvency Capital Requirements for insurers incorporate a macro-prudential buffer for systemic E&S risks.	3.1.5	Non-financial corporates are required to report on current and planned activities according to internationally or nationally recognized sustainability reporting standards and definitions.	
1.2.2	Insurers are expected to consider E&S risks when preparing their Board-approved risk appetite statement, supported by quantitative limits and qualitative expectations.		1.3.3	Insurers are expected to engage with and support their insurance clients and investee companies in the adoption of best E&S practices, based on internationally recognized sustainability standards and certification schemes.	1.4.5	Insurers are expected to set science-based targets to mitigate negative environmental impacts beyond climate, at the portfolio level.	1.6.2	Insurers are expected to publicly disclose their time-bound transition plans to reach set strategies and objectives pertaining to E&S issues.	Leadership & Internal Organisation		3.1.6	Non-financial corporates are required to publish science-based transition plans.	
1.2.3	Insurers are expected to extend E&S consideration beyond the short term (1 to 5 years) to the medium (5 to 10 years) and the longer term (10 to 30 years) in their business and risk strategy.		1.3.4	Specific guidelines or checklists covering insurers' activities in sectors with high E&S risks and impacts have been issued by the supervisor.	1.4.6	Insurers are expected to analyse the impacts of E&S considerations on the concentration of risks between investment and underwriting activities, and to factor E&S risk in their asset-liability management (ALM).	1.6.3	Insurers are expected to use internationally recognized sustainability reporting frameworks to guide their public disclosures.	1.8.1	The supervisor is a member of the Network for Greening the Financial System (NGFS) and the Sustainable Insurance Forum (SIF).	3.1.7	A carbon pricing mechanism is being implemented in the country.	
1.2.4	Insurers are expected to regularly provide their board with relevant information related to the implementation of their E&S strategy.		1.3.5	Insurers are expected to integrate E&S impact considerations in their decision-making, risk management processes and policies.	1.4.7	Insurers are expected to have specific response plans for managing significant additional claims associated with natural catastrophes.	1.6.4	Insurers are expected to include information on their E&S strategy and its implementation in their annual report, including non-achieved targets and taken measures.	1.8.2	The supervisor has published an official E&S strategy or roadmap outlining a science-based transition plan with associated measures for contributing to a net-zero and nature-positive financial sector, in line with its mandate.	3.1.8	There is a national-level sustainability strategy, and financial institutions encouraged to make and adhere to net-zero transition plans.	
1.2.5	Insurers are expected to include criteria related to their E&S strategy implementation in their appraisal and remuneration policy.		1.3.6	The supervisor asks insurers whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies.	1.4.8	Insurers are expected to assess and mitigate reputation and litigation risks associated with E&S considerations.	1.6.5	Insurers are expected to publicly disclose their exposure by industry sub-sectors, based on international industry classification systems.	1.8.3	The supervisor has established an internal organisation and allocated resources to the implementation of its E&S strategy or roadmap.	3.1.9	Regulations or guidelines covering the issuance or provision of sustainable financial products are in place and are based on standards developed following a science-based and multi-stakeholder process.	
1.2.6	Insurers are expected to dedicate staff and resources to the definition, development and implementation of their E&S strategy.		1.3.7	Insurers are expected to put in place an internal control framework to manage E&S risks, in accordance with the three lines of defence approach.	1.4.9	Where insurers outsource their E&S risk analysis to third parties, they are expected to retain/exercise ultimate oversight and control of these third parties. Insurers are expected to validate the analysis by third parties and be fully accountable to any decisions influenced by or derived from the analysis.	1.6.6	Insurers are expected to publicly disclose the share of their total portfolio that is aligned with existing classification systems for sustainable or unsustainable activities (taxonomies).	1.8.4	The supervisor has conducted studies to assess insurers' exposure to and management of E&S risks, and published its conclusions and recommendations.		3.1.10	Tax, regulatory or other incentives are in place for insurers to finance or insure certain industry sectors or to develop new and innovative insurance products, based on E&S considerations (for example supporting long-term investments in illiquid assets such as sustainable infrastructure or providing performance warranty for renewable energy solutions).
1.2.7	The supervisor has included E&S considerations in appointment of board members of insurance companies.		1.3.8	Insurers are expected to put in place an internal process to monitor and address situations where their insurance clients or investee companies are not compliant with the insurer's E&S sector policies that are based on applicable laws and regulations, or with internationally recognized science-based scenarios and findings (e.g., IEA 2050 scenario outlining the immediate stop of fossil fuel exploration and expansion projects).	1.4.10	The supervisor expects insurers to analyse, and where necessary mitigate, the concentration of E&S risks in their portfolios	1.6.7	Insurers are expected to report publicly on their exposure to material E&S risks and the associated mitigation measures.	1.8.5	The supervisor goes beyond measuring conventional risk exposure to regularly assessing the alignment of the insurance sector to global sustainability goals.		3.1.11	National Public-Private Partnerships are in place to support the continued provision of insurance covering E&S risks (e.g., co-insurance pools).
1.2.8	Insurers are expected to define the roles and responsibilities of the board involved in the oversight of the E&S strategy.				1.4.11	The supervisor expects insurers to reflect E&S risks in their pricing.	1.6.8	Insurers are expected to report publicly on the material negative E&S impacts associated with their activities.	1.8.6	The supervisor provides training on E&S issues to key staff, notably for senior management and supervisory departments.			3.1.12
1.2.9	Insurers are expected to define the roles and responsibilities of the executive management for the implementation of the E&S strategy.				1.4.12	Insurers are encouraged to include in their underwriting and pricing practices incentives for their clients to enhance their resilience to E&S risks.	1.6.9	The supervision of conduct risk for insurance products sold by insurers includes provisions related to addressing greenwashing risks.	1.8.7	The supervisor has conducted and published studies to analyse the transmission channels between E&S risks and the economy and financial system.			
									1.6.10	Insurers are expected to seek external assurance for their E&S public reporting and disclosures.			
							Macro-prudential Supervision						
						1.7.1	The supervisor has assessed the exposure of insurers to material E&S risks and the implications for financial system stability, by using forward-looking scenario analysis and stress testing.	1.8.8	The supervisor actively supports initiatives to address E&S data availability and quality issues, including through the promotion of open-source solutions.				

ANNEX 4:

REFERENCES

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**OUR MISSION IS TO STOP
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