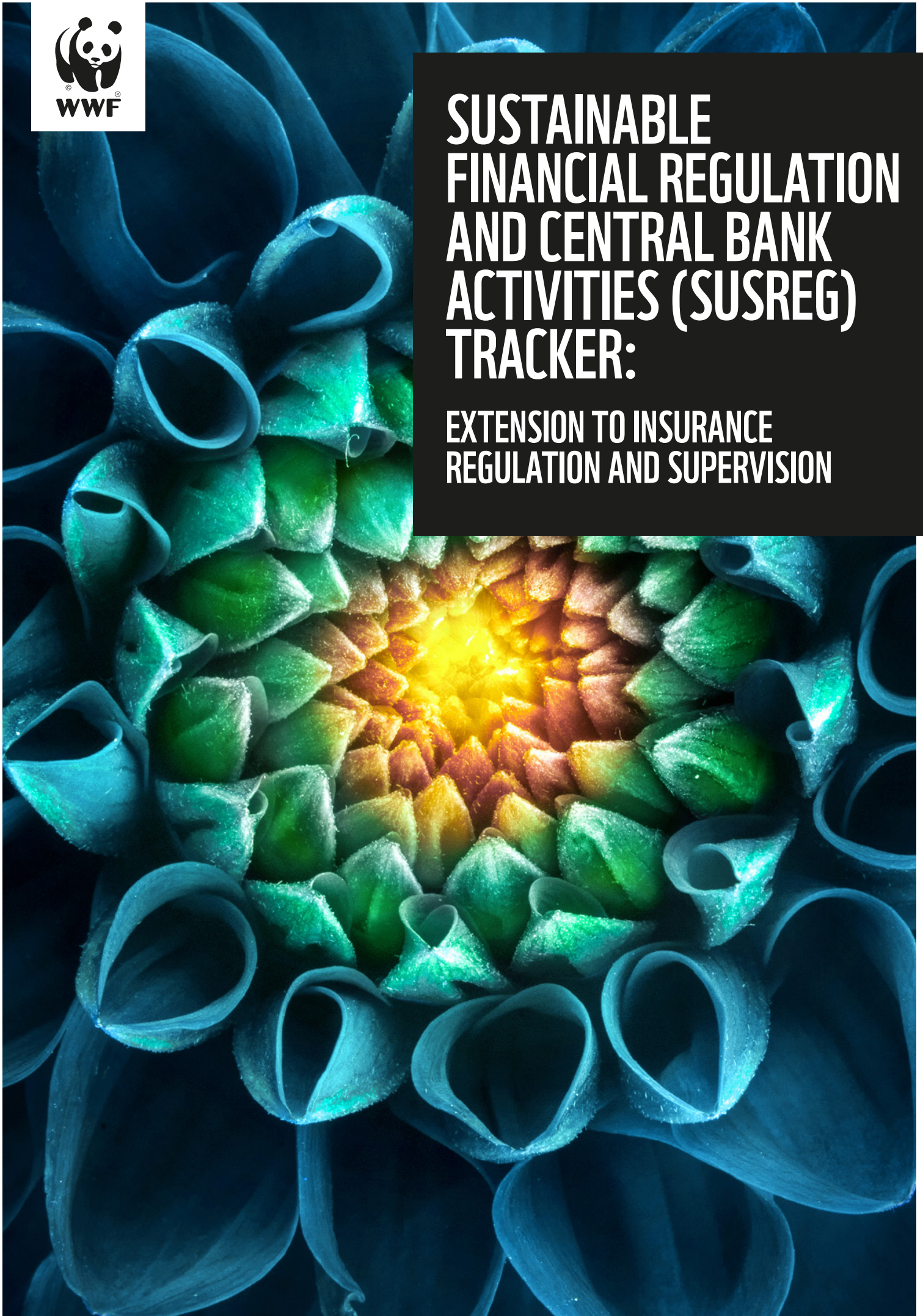




# **SUSTAINABLE FINANCIAL REGULATION AND CENTRAL BANK ACTIVITIES (SUSREG) TRACKER:**

**EXTENSION TO INSURANCE  
REGULATION AND SUPERVISION**



**Authors:** Maud Abdelli, Siti Kholifatul Rizkiah, Pina Saphira, Adam Ng

The development of the SUSREG framework has been a collaborative effort, in particular, the authors would like to thank Deloitte Switzerland's sustainable finance team (Jérôme Crugnola-Humbert and Antoine Wannier) for their support in writing parts of this report.

WWF is also very grateful to the following external individuals and organizations for sharing their valuable insights and suggestions during a consultation exercise carried out in 2022: Sylvain Augoyard, Edward Samson (De Nederlandsche Bank), Sarah Zaidi (Sustainable Insurance Forum), Ben Carr (Aviva), Rade Musulin (Chair of the Actuaries Institute Australia's Climate Risk Working Group), Pablo Koch-Medina (University of Zurich), Angela Zeiler-Röschmann (Zurich University of Applied Science), Anne-Lise Bontemps-Chanel (Autorité de Contrôle Prudentiel et de Résolution), Julia Symon (Finance Watch), Linda Hedqvist (Deloitte UK), Daniel Wang, Jeanne Stampe (Monetary Authority of Singapore), and those who wished to remain anonymous.

**This report is part of:**

WWF's Greening Financial Regulation Initiative ([www.panda.org/djdiscover/our\\_focus/finance/greening\\_financial\\_regulation/](http://www.panda.org/djdiscover/our_focus/finance/greening_financial_regulation/))

Asia Sustainable Finance Initiative ([www.asfi.asia](http://www.asfi.asia))

**Production and design:**

Sweeta Patel ([www.thecornershop.me](http://www.thecornershop.me))

Co-published in October 2022 by WWF - World Wide Fund for Nature, Singapore and WWF - World Wide Fund for Nature, Switzerland.

Any reproduction in full or part must mention the title and credit the above-mentioned publisher as the copyright owners.

**Cover image:** © Shutterstock - Triff

WWF is one of the world's largest and most experienced conservation organizations, 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 environmental and social risks and opportunities into mainstream finance, to redirect financial flows to support the global sustainable development agenda. Our approach to sustainable finance leverages WWF's conservation expertise as well as our partnerships with companies on key issues such as water, energy, climate and food to drive sustainability. Find out more at [panda.org/finance](http://panda.org/finance).

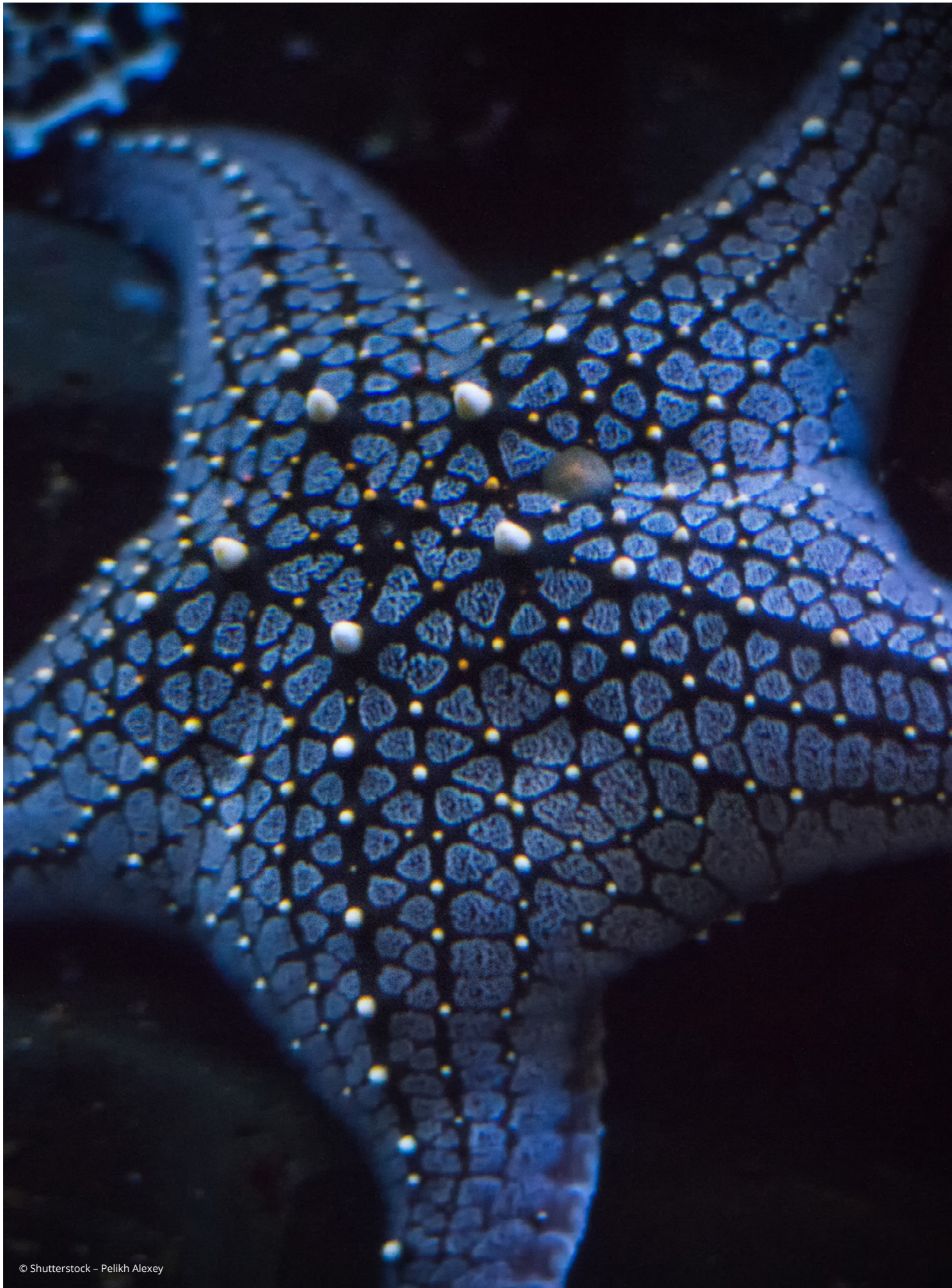
Copyright © 2022 WWF-World Wide Fund For Nature (Singapore) Limited and WWF-Switzerland



© Shutterstock - Super Prin

# CONTENTS

FOREWORD DANIEL WANG	3
FOREWORD BUTCH BUCANI	4
INTRODUCTION	6
THE ROLE OF INSURANCE SUPERVISORS	10
A GROWING MOMENTUM	14
THE SUSREG FRAMEWORK	16
INSURANCE SUPERVISION	18
REFERENCES	25



© Shutterstock – Pelikh Alexey

“



## FOREWORD DANIEL WANG

EXECUTIVE DIRECTOR (INSURANCE), MONETARY AUTHORITY OF SINGAPORE AND CHAIR, IAIS CLIMATE RISK STEERING GROUP (CRSG)

We must no longer ignore the climate crisis and nature loss. Current rates of nature loss will cost the global economy US\$ 2.7 trillion annually by 2030<sup>1</sup> and the globe is on the pathway to warm by 2 to 3 degrees Celsius. This environmental emergency dwarfs all challenges the world has encountered to date, and without a global and decisive response, the consequences can be catastrophic and possibly irreversible. To limit global warming to 1.5 degrees Celsius and achieve net-zero by 2050, we urgently need credible transition strategies.

Given the integration of financial systems across the world, the global financial industry can be a powerful enabler of such strategies. Asia in particular is key to the world's transition to net-zero as it accounts for half of global carbon emissions and more can be done by the financial industry to provide support for Asia's transition. Central banks and financial supervisors play a key role in the fight against climate change, from working with the financial institutions to strengthening their resilience to environmental risks, to mobilising mainstream finance to support the transition toward a sustainable economy.

The insurance sector, with its risk management expertise, longstanding capabilities in providing risk and insurance solutions for weather events, and the ability to make long term investments in support of sustainability goals and aid transition finance, play critical roles as underwriters and investors in dealing with climate change and nature loss. As the global standard-setting body of the insurance sector, the International Association of Insurance Supervisors (IAIS) is helping to promote a consistent global approach to tackling issues arising from climate change and to support IAIS Members to better assess and address risks from climate change. The IAIS convened the Climate Risk Steering Group (CRSG) in 2021 to drive climate work in three areas, review of the Insurance Core Principles and supervisory practices, scenario analysis, and data collection and analysis. The Sustainable Insurance Forum (SIF), which is a network

of insurance supervisors working together on sustainability challenges facing the insurance sector, is also exploring how biodiversity loss can translate into financial risks for the insurance sector.

Singapore is firmly committed to doing its part in the global effort to support the transition toward a sustainable economy. The Singapore Green Plan, launched in 2021, sets out a road map towards sustainable development, a green economy, and net zero emissions. The Monetary Authority of Singapore (MAS) has been taking progressive steps to implement the Green Finance Action Plan it introduced in 2019, to build resilience against climate and environmental risks, support a sustainable Singapore and facilitate Asia's transition to a sustainable future.

As efforts to combat climate change and nature loss step up regionally and globally, it is important for insurers and other financial institutions to actively engage real economy players and the sustainable finance ecosystem to support the green economy, develop credible transition strategies and provide purposeful transition finance. It will be a challenging journey towards net zero and tackling the environmental emergency. But a necessary one to bring about a cleaner, greener, better world.

Building on the success of the Sustainable Financial Regulations and Central Bank Activities ('SUSREG') framework for banking in 2021, this report and launch of the SUSREG insurance framework by the WWF is timely as a useful guide for central banks and financial supervisors. The SUSREG insurance framework embodies best practices that can promote peer learning and monitoring of development across jurisdictions. I encourage insurance supervisors to see the launch of the SUSREG insurance framework as an opportunity to strengthen the resilience of an important risk sharing component of the financial system to environmental risks and reinforce global regulatory and supervisory actions that will support a sustainable future.

”

“



## FOREWORD

# BUTCH BACANI

PROGRAMME LEADER, UN ENVIRONMENT PROGRAMME'S  
PRINCIPLES FOR SUSTAINABLE INSURANCE INITIATIVE

Ten years ago, the UN Principles for Sustainable Insurance (PSI) were launched at the 2012 UN Conference on Sustainable Development as a global framework and collaborative initiative to address environmental, social and governance (ESG) risks and opportunities in the insurance industry's risk management, insurance and investment activities. Today, more than 220 organisations worldwide—including insurers representing about one-third of world premium and US\$ 15 trillion in assets under management—have embraced the PSI.

While the PSI was developed primarily for insurers, reinsurers, brokers and other market participants, it is worthwhile to note that insurance regulators and supervisors—from Australia, the Philippines and Egypt to Brazil, Costa Rica and the US—have also joined the PSI as supporting institutions. This brings to life Principle 3 of the PSI: “We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues.”

Insurance regulators and supervisors took part in the UN-convened global consultation process in 2011 to develop the PSI. Even before the PSI was launched, in early 2012, I had the opportunity to present the draft Principles at a meeting of the International Association of Insurance Supervisors

(IAIS) and at the spring meetings of the US National Association of Insurance Commissioners (NAIC).

This is why the PSI, together with UN Environment Programme's (UNEP) Inquiry into the Design of a Sustainable Financial System and insurance regulators and supervisors, created the Sustainable Insurance Forum (SIF), which was launched in December 2016. The SIF journey began with a first-ever international consultation on insurance regulation and supervision and sustainable development from 2014 to 2015, concluding with the “Insurance 2030 Roundtable” which UNEP and Swiss Re co-hosted in 2015. The Roundtable led to UNEP's global report, *Insurance 2030: Harnessing insurance for sustainable development*, which I launched at the UN headquarters in 2015 during the International Insurance Society's Global Insurance Forum, which was addressed by then UN Secretary-General Ban Ki-moon. Key recommendations of this agenda-setting report include creating the SIF and aligning insurance business with the UN Sustainable Development Goals (SDGs).

Today, with nearly 40 insurance regulatory and supervisory authorities collectively overseeing jurisdictions representing more than 90% of world premium, it is good to see the SIF move from strength to strength. But so much more remains

to be done as sustainable insurance thinking and practice continues to evolve rapidly.

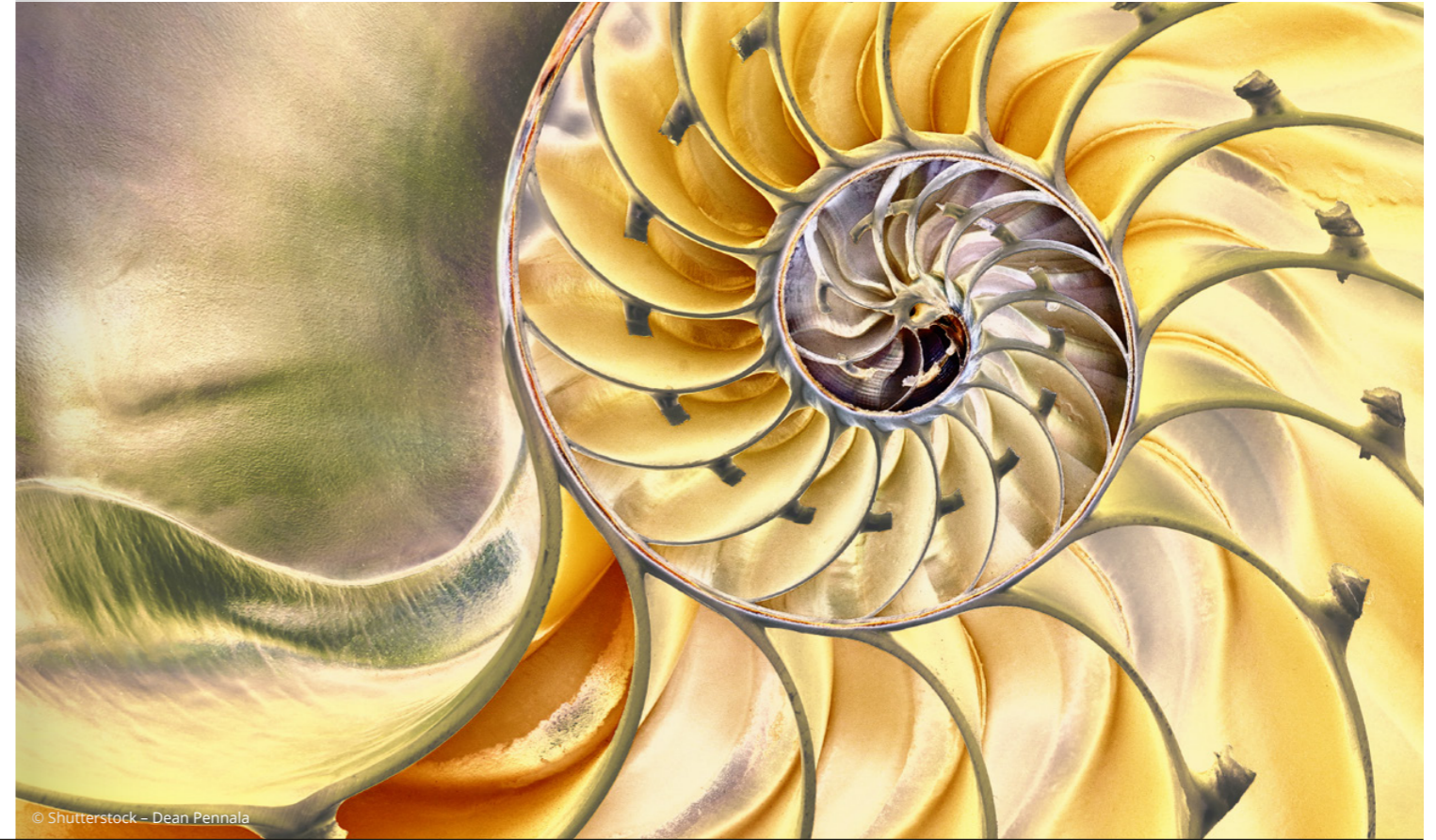
For example, in 2020, the PSI launched the first global ESG guide for non-life insurance business, followed by the launch of the first global ESG guide for life & health insurance business this year. In 2021, as part of a multiyear effort involving 22 leading insurers and reinsurers, the PSI published a pioneering report on state-of-the-art approaches—particularly the use of climate change scenarios—to better assess climate-related physical, transition, and litigation risks in the insurance business. Furthermore, at the G20 Climate Summit last year, the PSI launched the Net-Zero Insurance Alliance (NZIA) to transition underwriting portfolios to net-zero greenhouse gas (GHG) emissions by 2050, in line with the aims of the Paris Agreement. The NZIA builds on the leadership of insurers as investors via the Net-Zero Asset Owner Alliance (NZAOA) and promotes a “total balance sheet” approach to net zero. The NZIA's collaboration with the Partnership for Carbon Accounting Financials (PCAF) will lead to the first global standard to measure and disclose GHG emissions associated to underwriting portfolios, which is expected to be launched by the end of 2022. In addition, the NZIA's collaboration with the Science Based Targets Initiative (SBTi) will lead to an NZIA Target-Setting Protocol for underwriting portfolios, which is expected to be launched in 2023. Equally, the

PSI has been championing the concept of nature-positive insurance over recent years, articulating the need for insurers to address risks and opportunities associated with biodiversity and natural ecosystems. This is particularly important as we prepare for the upcoming adoption of the Post-2020 Global Biodiversity Framework.

All these key developments are changing, and will continue to change, fundamental insurance thinking and practice which, in turn, will impact fundamental insurance regulatory and supervisory thinking and practice.

This is why expanding WWF's Sustainable Financial Regulations and Central Bank Activities (SUSREG) Tracker to the insurance industry is timely and important. For insurance regulation and supervision to be fit for purpose in the context of addressing global sustainability issues, then Own Risk Solvency Assessment (ORSA) must also be viewed as Own Risk Sustainability Assessment, Enterprise Risk Management (ERM) as Sustainability Risk Management, and financial stability as financial sustainability.

In short, to help break the “Tragedy of the Horizon” associated with long-term sustainability issues, then sustainability must urgently become embedded in routine, day-to-day insurance regulatory and supervisory decisions today.



© Shutterstock – Dean Pennala

”



# INTRODUCTION

For some, 2022 will be a new dawn, with COVID-19 becoming endemic, and our lives and perspectives changing in varied ways. Looking back, the world demonstrated resilience and resolve throughout the pandemic crisis and the recent geopolitical headwinds notwithstanding a disrupted global recovery. But humanity is still under threat and the worst might still be ahead.

The COVID-19 pandemic has led to widespread human and economic losses, and has shown how vulnerable the world is to global threats. While the pandemic is expected to cost the global economy over US\$ 13.8 trillion through 2024, another threat is looming: a single twin crisis of biodiversity loss and climate change could be worse and irreversible.<sup>2</sup> Four global warming impacts alone—hurricane damage, real estate losses, energy costs, and water costs US\$ 1.9 trillion annually by 2100<sup>3</sup> and current rates of nature loss could cost the global economy US\$ 2.7 trillion annually by 2030.<sup>4</sup> These costs, when materialised, could hurt the global economy much more severely than the current global pandemic.

**The concurrent crises (COVID-19 pandemic, biodiversity loss and climate change) are all connected.** Human pressures on climate and nature, such as deforestation and wildlife exploitation, increase the risk of infectious diseases as it brings people in closer proximity to pathogen-carrying wildlife, disrupting the ecological

process that keeps diseases in check.<sup>5</sup> The economic stimulus packages and recovery plans that governments have or are putting in place have the potential to create a green, resilient and inclusive recovery. Unfortunately, in the current extraordinary policy measures taken to recover from the global pandemic, we are falling short in accounting for climate and nature. This leaves climate and environmental risks unaccounted for and continues to pose as an existential threat to the natural world and human society.

We are already experiencing such catastrophic impacts with no bending of the curve in sight. Climate change has been toppling problematic new records around the world in 2021.<sup>6</sup> According to the World Meteorological Organization (WMO), the global mean temperature in 2021 was about 1.11°C above the pre-industrial industrial levels.<sup>7</sup> Looking ahead, there is a 50:50 probability that the global temperatures could exceed 1.5°C in the next 5 years.<sup>8</sup> Global mean sea level reached a new record high in 2021, rising 4.5 mm annually on average between 2013 and 2021.

The ozone hole over the Antarctic in 2021 was unusually larger and deeper than 70% of the ozone holes measured since 1979. The Greenland ice is melting seven times faster now than it was in the 1990s, reaching 234 billion tons of ice melts per year.

Meanwhile, we also face a crisis of biodiversity. While the world’s human population represents only 0.01% of all living things by weight, humans have already caused the loss of 83% of all wild mammals and half of all plants.<sup>9</sup> Today, over 1 million animal and plant species are threatened with extinction and many of the world’s ecosystems are at risk of collapse.<sup>10</sup> A study conducted by the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES) projected that 3–14% of species assessed in their report will likely face a very high risk of extinction at 1.5°C warming in terrestrial ecosystems, and the rate of extinction rises with the increase in temperature (reaching up to 3–48% at 5°C).<sup>11</sup>

## THESE ENVIRONMENTAL THREATS COME WITH SIGNIFICANT SOCIAL AND ECONOMIC COSTS

Climate change is expected to cost the global economy up to 18% of GDP by 2050 if no action is taken, according to a stress-test analysis conducted by the Swiss Re Institute.<sup>12</sup> Asia’s economies, in particular, would be the hardest hit, with China losing nearly a quarter of its GDP in a worst-case scenario.<sup>13</sup> In 2021, storms, floods, wildfires, and earthquakes destroyed US\$ 280 billion worth of assets, of which only US\$ 120 billion of it was insured.<sup>14</sup>

The sixth Intergovernmental Panel on Climate Change (IPCC) report notes that regions highly vulnerable to climate risks

have 15 times higher human mortality from extreme weather events.<sup>15</sup> Using a large panel dataset of more than 3.3 million non-financial enterprises from 24 developing countries from 1997 to 2019, an IMF working paper found that non-financial enterprises in countries that are more vulnerable to climate change have more difficulty obtaining debt financing, even at higher interest rates, and are less productive and profitable than firms in countries that are less vulnerable to climate change.<sup>16</sup>

Biodiversity and ecological services loss is also a major concern that will result in significant cost to the economy. A number of key sectors rely on either direct resource extraction from nature or the provision of ecosystem services such as healthy soils, clean water, pollination, and a stable climate. According to the World Economic Forum, US\$ 44 trillion of economic value generation, accounting to more than half of global GDP, is moderately or heavily reliant on nature and its services, putting it at risk from environmental degradation.<sup>17</sup>

Since 1970, food crop production has increased by 300% to feed the world’s population, with more than 75% of worldwide food crop varieties relying on animal pollination. Pollinator decline puts a US\$ 235–577 billion annual value of global crop output in jeopardy.<sup>18</sup> Given our dependence on nature, a collapse of ecosystem service is estimated to cost US\$ 2.7 trillion or 2.3% of global GDP annually by 2030, according to the World Bank.<sup>19</sup> By 2030, a more severe drop in GDP (up to 10–20%) will be experienced by 51 countries due to the collapse of vital ecosystems. Some of the world’s poorest nations including the Democratic Republic of Congo, Angola, Madagascar, Ethiopia, Bangladesh, and Pakistan would be severely affected. The loss of coastal habitat preservation may potentially put 100–300 million people in coastal areas at risk.<sup>20</sup>



WHILE THE PANDEMIC IS EXPECTED TO COST THE GLOBAL ECONOMY OVER US\$ 13.8 TRILLION THROUGH 2024, ANOTHER THREAT IS LOOMING: A SINGLE TWIN CRISIS OF BIODIVERSITY LOSS AND CLIMATE CHANGE COULD BE WORSE AND IRREVERSIBLE.

© Shutterstock – Woottinun Punthasen

## THE PATHWAY TO A CLIMATE-SAFE ACTION AND NATURE-POSITIVE ECONOMY HAS PROFOUND BENEFITS

Global crises can educate our response to the next one. If we learn from the lessons of COVID-19, we can approach climate change more informed concerning the impacts of inaction, and more prepared to face the “emergency mode”<sup>21</sup> and to prevent the worst possible outcome of the twin crises of biodiversity loss and climate change. Indeed, **climate action and biodiversity recovery and restoration can generate a number of co-benefits from cleaner air, green job creation to public health benefits, and biodiversity improvement through the expansion of green space.**<sup>22</sup> By 2030, annual clean energy investment needs to be more than tripled to roughly US\$ 4 trillion to achieve net zero emissions ambition by 2050. This can further spur the creation of millions of new jobs, boost global economic growth, and expand universal access to power and clean cooking by the end of the decade.<sup>23</sup>

Since 2010, the cost of transitioning to low carbon technology has reduced significantly, with solar and wind energy, as well as batteries having consistent cost reductions of up to 85%.<sup>24</sup> According to the IPCC’s sixth report, mitigation methods costing less than US\$ 100 tCO<sub>2</sub>-eq<sup>25</sup> could cut world GHG emissions in half of 2019 level by 2030. Most studies revealed that the global economic benefit of keeping warming below 2°C outweighs the cost of mitigation.<sup>26</sup>

Biodiversity and ecosystem services protection is also proven to have profound benefits. Nature-based solutions implementation allows developing countries to save at least US\$ 104 billion by 2030 and US\$ 393 billion by 2050, by minimising the severity of climate change and weather-related hazards by at least 26%.<sup>27</sup> With a 5.6 gigatons gross sequestration of carbon per year, marine and terrestrial ecosystems are major sinks for 60% of global anthropogenic carbon emissions.<sup>28</sup> Apart from climate regulation, nature provides an abundance of resources with a high economic value. The livestock and fisheries markets are valued at nearly US\$ 1.3 trillion, genetic resources are used to produce 25–50% of pharmaceutical products, approximately 70% of cancer treatments drugs are natural or synthetic products inspired by nature, and protected area tourism is anticipated to bring in US\$ 600 billion each year.<sup>29</sup>

## THE FINANCIAL SECTOR AS THE KEY FORCE FOR CHANGE

**With US\$ 468.7 trillion in global financial assets,<sup>30</sup> the financial sector plays a critical role in facilitating the transition. It is also in the interest of financial institutions to manage climate and nature-related risks as it is found to be 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, 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.<sup>31</sup>

In the sphere of central banking and financial supervision, the Network for Greening the Financial System (NGFS) has grown significantly from only eight founding members to 116 members and 19 observers —as of June 2022.<sup>32</sup> The European Central Bank (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.<sup>33</sup>

New alliances and pledges on climate and nature finance are also progressing since last year. The Glasgow Financial Alliance for Net Zero (GFANZ) was launched in April 2021 with 450 signatories of financial institutions responsible for assets of over US\$ 130 trillion,<sup>34</sup> the G20 Sustainable Finance Working Group (G20 SFWG) mandated the development of a climate-focused G20 sustainable finance roadmap in 2021,<sup>35</sup> and Finance for Biodiversity Pledge was signed by 98 financial institutions representing 19 countries and over € 13.9 trillion in 2022.<sup>36</sup>

In order to build on this positive momentum and further accelerate the strengthening and harmonisation of financial regulations and central bank activities in key financial markets worldwide, WWF launched the Greening Financial Regulation Initiative (GFRI). Through this initiative, WWF will deepen its work 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 will notably entail the provision of targeted support, research, and capacity building to equip institutions with the necessary tools and knowledge.

Building on current best practices and ongoing developments in the central banking and supervisory landscape, the framework capitalises on WWF’s experience in working with financial sector stakeholders worldwide and benefits from its perspective as a science-based organization. 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 regulations and supervisory expectations, as well as central banking activities.

## EXPANDING SUSREG TO THE INSURANCE INDUSTRY

As risk sharing and investment managers, insurers play an instrumental role in enhancing climate resilience in communities and in accelerating the transition to a net-zero, nature-positive global economy. With US\$ 30 trillion in assets under management and US\$ 5 trillion in world premium volume, the insurance industry holds around a third of global economic assets and liabilities on their



**THE SUSREG FRAMEWORK WAS FIRSTLY DESIGNED AROUND BANKING REGULATION AND SUPERVISION, CENTRAL BANKING ACTIVITIES, AND ASPECTS CONTRIBUTING TO AN ENABLING ENVIRONMENT FOR SUSTAINABLE FINANCE. THIS YEAR, THE SUSREG FRAMEWORK IS EXPANDED TO COVER REGULATIONS PERTAINING TO THE INSURANCE INDUSTRY.**

balance sheets.<sup>37</sup> This sheer size positions insurers as a significant component of a sustainable financial system. Essentially, insurance enables the corporate economy and society to manage risk and become a catalyst for solutions that promote social and environmental sustainability.

Several key sustainable insurance initiatives have emerged in recent years. This includes the Principles for Sustainable Insurance (PSI) by UNEP FI with signatories representing about one-third of world premium volume and US\$ 15 trillion in assets under management.<sup>38</sup> Launched in December 2016, the Sustainable Insurance Forum (SIF), a global network of insurance supervisors and regulators addressing sustainability challenges in the insurance sector, has grown to 40 members within four years, constituting more than US\$ 5 trillion insurance premiums and 92% global insurance market share.<sup>39</sup> Since the launch of the InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance Solutions in 2017, more than 80 diverse partners have signed the Joint Statement and became members of the Global Partnership. The partnership promotes the expansion of risk finance and insurance solutions to support vulnerable countries and the livelihoods of poor and vulnerable people against the impacts of climate-related shocks. It convenes representatives from G20 and V20 countries, as well as civil society, international organisations, the private sector, and academia.<sup>40</sup>

The SUSREG framework was firstly designed around banking regulation and supervision, central banking activities, and aspects contributing to an enabling environment for sustainable finance. This year, the SUSREG framework is expanded to cover regulations pertaining to the insurance industry.

## THE SUSREG FRAMEWORK, AND THE UPCOMING ASSESSMENT RESULTS, CAN BE USED BY:

### Central banks, financial supervisors and policymakers:

- To strengthen regulatory and supervisory practices by integrating environmental and social (E&S)<sup>41</sup>

considerations in financial and insurance regulations, guidelines and monetary policy operations;

- To benchmark themselves against peers in key markets worldwide and align with good 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 in global financial regulations and central bank activities;
- To benefit from the science-based perspective of WWF on best practices regarding the integration of E&S risks.

### Insurance companies:

- To understand the differences in the insurance regulations in 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 insurance regulations;
- To support and inform their engagement with government entities and policymakers (and with banks in their portfolios).

### Academics, think-tanks and other non-governmental organisations:

- To better understand the differences in the insurance regulations related to E&S risks 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.

With this tool, WWF aims to facilitate knowledge sharing between institutions, offering a practical way to build on existing good practices and improve understanding of how E&S risks can be integrated into central banks’ and financial supervisors’ activities. It is our hope that the SUSREG framework and tracker will contribute to the strengthening, convergence, and harmonisation of sustainability practices among central banks, financial regulators and supervisors, and policymakers worldwide.



# THE ROLE OF INSURANCE SUPERVISORS

Environmental and social risks are a source of financial risks and a threat to financial stability. Even if insurance regulators and supervisors have a mandate to supervise and mitigate all material risks for insurers, this translation of environmental and social risks into financial risks triggers an intense debate among insurance regulators and supervisors about their current roles and mandates and about how to best design and implement measures to address these risks.

Similarly, an increasing body of research is being developed to further explore complex transmission channels, to better quantify the financial implications of climate-related and environmental risks and inform the design of regulations as well as supervisory measures.

Climate-related risks are generally categorised as physical and transition risks, a distinction that can be extended to environmental risks as well. Physical risks result from changes to long-term climate patterns (causing, for instance, sea level rise, or chronic heat waves) or from increased severity and/or frequency of extreme weather events (such as hurricanes or floods). Transition risks arise from the policy, market, behavioural and technological changes that accompany the transition to a low-carbon and climate resilient economy. Companies that do not anticipate this evolution and adapt their business models are exposed to these risks, which also include reputational, liability, and litigation risks.

It is increasingly recognised that climate-related and environmental risks are not a separate risk category, but rather drivers of existing prudential risk categories for insurers (i.e., credit, market, underwriting, and operational risks). This was made clear by the International Association of Insurance Supervisors (IAIS),<sup>42</sup> the European Insurance and Occupational Pensions Authority (EIOPA),<sup>43</sup> and the NGFS.<sup>44</sup>

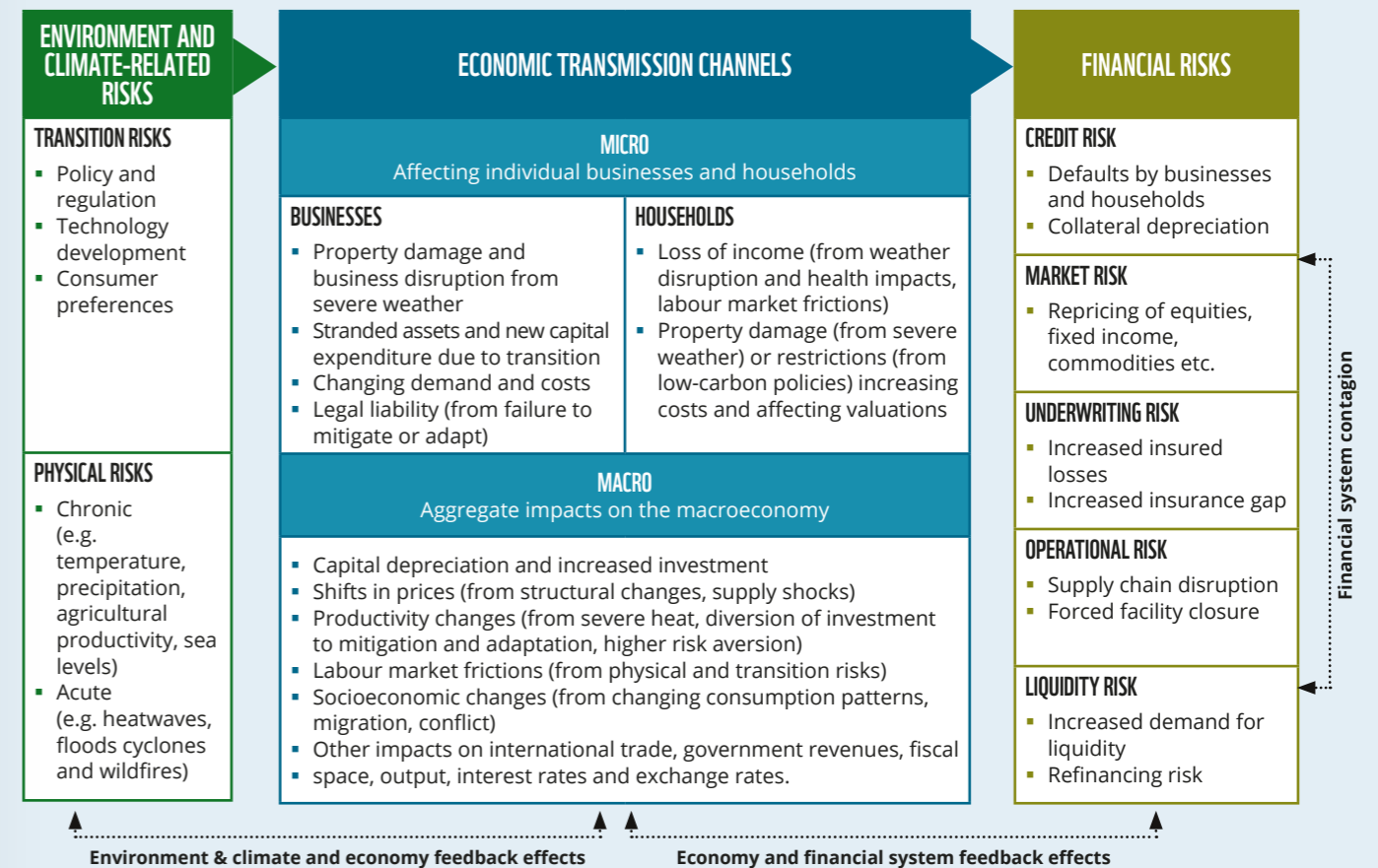
To further illustrate, the figure below from a 2020 NGFS report provides a good summary of the transmission channels between climate-related and environmental risks and the existing categories of financial risks.

A growing number of regulators and supervisors have issued new or strengthened regulations or supervisory expectations to ensure that the entire range of E&S risks are better considered by insurers. The joint Application Paper on the Supervision of Climate-Related Risks in the Insurance Sector published in May 2021 by the IAIS and the Sustainable Insurance Forum (SIF)<sup>45</sup> provides a good overview of practices and recommendations on how to develop and implement such expectations regarding climate risk, notably with regards to governance, risk management processes, investments, as well as disclosure practices.

**Ultimately, the integration of E&S risks in the prudential regulations set by national financial supervisors would ensure a robust and systematic approach by the global supervisory and insurance community.** We recognise, however, that this would require further quantitative work, consensus building, and international cooperation.

In particular, in order to be able to monitor and measure E&S risks for insurers (and potentially incorporate these risks in capital requirements), methodologies to better identify the transmission channels and quantify their financial implications will need to be further developed and refined. An increasing amount of research is being carried out and collaborative platforms being set up, particularly on climate-related and environmental risks, as reliable data becomes more readily available and methodologies mature.

However, the climate and environmental crises that we are facing require urgent action. The unprecedented scale and inherent uncertainty surrounding these have led an increasing number of voices to call for a precautionary



Source: Network for Greening the Financial System, Overview of Environmental Risk Analysis by Financial Institutions, September 2020A

approach to manage these risks. For insurance supervisors, this could for example include measures to encourage investment in and underwriting of sustainable activities and to discourage the financial support to clearly unsustainable activities (for instance those that lead to deforestation or support the continued exploitation of fossil fuels), or explicit measures to drive the alignment of the insurance sector with a net-zero transition pathway (both for investment<sup>46</sup> and for insurance<sup>47</sup> activities).

**Beyond the issuance of new regulations or supervisory expectations, insurance regulators and supervisors have a crucial role to play in advancing the public debate on E&S risks. They can, and should, use their prominent role to raise awareness, highlight the risks and seek to influence policymakers to create an enabling environment that accelerates the shift away from unsustainable and to more sustainable activities, and help ensure that the transition to a low-carbon and climate resilient economy occurs in an orderly manner. As guardians of financial stability, this is in their direct interest and mandate.**

Indeed, while financial regulation can correct some market failures, notably to ensure that access to, and cost of, capital is appropriately tied to the sustainability performance of companies, measures taken by insurance regulators or supervisors alone will not be sufficient. Governments have the responsibility to enact ambitious and robust sustainable development strategies backed by the necessary scientific, fiscal and regulatory measures, thereby sending clear and ideally long-term policy signals.

Overall, it is critical that insurance regulations, supervisory expectations, and other measures aimed at greening the financial system are harmonised and consistent across jurisdictions. The global nature of the E&S issues we are facing, as well as the interconnectedness of financial markets and supply chains, calls for concerted and coordinated action, which would greatly enhance the effectiveness of measures put in place.

For instance, as most insurance companies and some of their clients operate in multiple countries, being subject to varying regulations and supervisory expectations can unnecessarily increase costs, arbitrage and potentially create unwarranted competition from institutions subject to lower expectations. Different disclosure requirements and definitions of what constitute sustainable activities can create confusion and discourage sustainable investments.

In that sense, regional and international efforts to build capacity, share good practices, and create common rules are critical to harmonise practices while taking local characteristics into account. This is indeed in the direct interest of insurance companies and insurance supervisors alike and would address increasing concerns over regulatory uncertainty and complexity—key impediments to effective mobilisation of the insurance sector. Key international initiatives and platforms such as the NGFS for financial supervisors, the Sustainable Insurance Forum, as well as the United Nations Environment Programme Finance Initiative (UNEP FI) are all contributing to these objectives.

# II THE TWO PILLARS OF INSURANCE: INVESTMENT & UNDERWRITING

The insurance business model is based on a so-called inverted production cycle, whereby insurance customers (policyholders) pay a fixed amount upfront (the insurance premium) in order to cover as yet unknown future costs (claims and expenses), which are statistically forecasted using actuarial analysis and probability theory (notably the “Law of Large Numbers”). To generate investment return, the insurance premium is invested in the meantime, sometimes over very long periods (e.g., in the case of life insurance products such as deferred annuities).

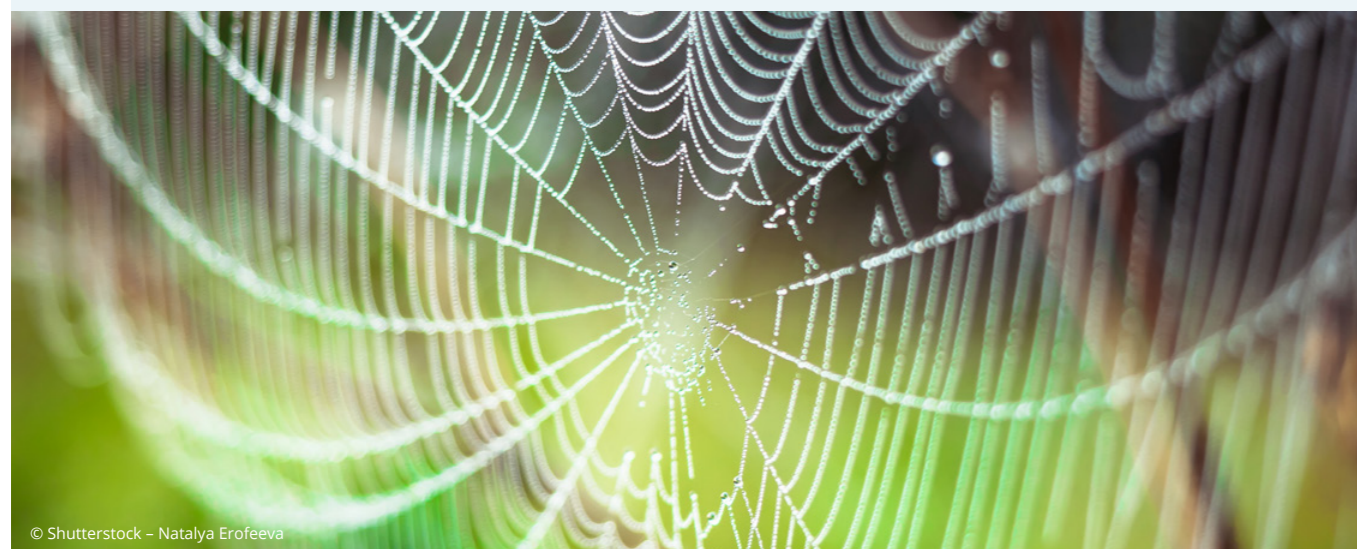
As a result, insurance companies play a double role in the financial system. They are on the one hand institutional investors (asset side of their balance sheet), and on the other hand risk carriers and risk managers for their customers (liability side of the balance sheet). These two activities are strongly linked through the need to manage and mitigate the risk of divergence between future asset and liability cash-flows, a practice known as Asset-Liability Management (ALM). This constitutes a priority for the long-term solvency of insurance companies, in addition to E&S considerations as insurers are uniquely exposed to E&S risks and opportunities on both sides of their balance sheets. For example, climate change could lead to higher volume of insurance claims due to physical risks as well as a simultaneous depreciation of investments due to transition risks.

Both of these roles are critical for society and for financial stability as a whole, and closely linked with E&S considerations. Insurance companies as well as pension funds are major long-term investors.<sup>48</sup> Insurers are also generally responsible for the choice of investments, with the partial exception of unit-linked life insurance products, where policyholders can choose the underlying investments

within a number of funds pre-selected by the insurer. Insurance companies should thus invest strategically in line with their agreed E&S transition plan, through a mix of investment in sustainable sectors and green infrastructure, divestment from unsustainable activities, and engagement with investee companies.

Through their more visible role as insurance providers, insurers also act as society’s risk managers, assessing, carrying, and diversifying the risks they underwrite for their clients. The provision of insurance is often a prerequisite for many primary economic activities to take place, and insurers can similarly influence the E&S transition through the risks they chose to underwrite or to exclude, and the conditions under which they agree to provide covers for their clients. They can, for example, require compliance with specific E&S standards, grant premium rebates in case policyholders take action to mitigate the underlying risks (a practice promoted by EIOPA under the name of ‘impact underwriting’<sup>49</sup>), and/or implement smart claim payments (‘build back better’, ‘green for old’).

Insurance protection gaps, i.e., uninsured damages, require specific attention and action from regulators and supervisors from an E&S perspective. Far from being limited to developing countries, these gaps can be surprisingly large in developed countries as well—for example, EIOPA estimated in December 2020 that only 35% of the total losses caused by extreme weather and climate-related events across Europe were insured.<sup>50</sup> Unless regulatory measures are taken to support the continued provision of insurance, protection gaps may keep growing (particularly in light of physical risk from climate change) and endanger the health of whole economies, while increasing social inequalities between those who have access to insurance protection and those who do not.



© Shutterstock – Natalya Erofeeva

## THE SPECIFIC ROLE OF THE REINSURANCE SYSTEM

Whereas banks can refinance themselves and obtain liquidities by borrowing from a national central bank who acts as lender of last resort, the role of ultimate ‘insurer of insurance companies’ is played by the decentralised and (mostly) private reinsurance system. As some risks such as natural catastrophe risks can cause large simultaneous claims and may be impossible to cover for any given individual insurer, they are typically ceded to specialised reinsurance companies, who redistribute these risks globally to achieve sufficient risk diversification.

Reinsurers typically fall under the general umbrella of insurance supervision. Due to the nature and complexity of the risks they assume, supervisors emphasise the need for reinsurers to demonstrate sophisticated internal capital models, elaborate risk management systems, and robust recovery plans in case of failure. Some supervisors also ask direct insurers to consider a scenario of default from reinsurers in their Own Risk and Solvency Assessment (ORSA).

Despite the global nature of reinsurance activities, there is no specific system of coordinated international supervision for reinsurers. However, as the reinsurance sector is very concentrated, it is worth noting the role played de facto by BAFin in Germany (home to two of the three largest reinsurers in the world), as well as by FINMA and the BMA (Switzerland and Bermuda being major reinsurance hubs).

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. For example, if major reinsurers stop covering thermal coal, this will make the provision of insurance for this sector rarer and more expensive. Similarly, if reinsurers offer performance warranties or liability covers this might help speed up the deployment of green technologies. Lastly, 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.

## THE REGULATORY AND SUPERVISORY LANDSCAPE

Regulation and supervision of financial services are in principle two distinct activities. Regulation is normative and involves the setting of rules and guidelines for the financial system. The role of supervision is to examine the financial condition of individual companies and to monitor their compliance with these laws and regulations. For example, in the European Union the regulator is the European Commission, and the European System of Financial Supervision consists of the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA) as well as the European Systemic Risk Board.

Insurance regulation and supervision present a fragmented international landscape, whereby different insurance activities may be supervised by various government agencies. In most countries, life insurance, non-life insurance (e.g., property and casualty) and reinsurance activities report to a common supervisory entity, which may be a separate insurance body, a financial supervisor also in charge of banking activities and/or a central bank.

Pension funds can be overseen by life insurance supervisors, by a separate agency, or by a mix of entities (as in Switzerland, where pensions can be supervised by the Financial Market Supervisory Authority (FINMA) or by the Federal Office for Social Insurance, depending on the legal form of the pension contract). Similarly, and depending on the country, health insurance oversight can be handled together with life insurance, with non-life insurance, as a separate insurance branch, or directly by a non-insurance-specific government body or ministry.

In some federal countries (such as the United States of America), regulation and supervision may vary widely between states, regions or provinces, with some local jurisdictions being far ahead of others for the integration of E&S risks, and with minimal national harmonisation of supervisory practices. On the contrary, some group of countries which do not form a national entity have established a degree of coordination regarding common insurance oversight (such as the European Union with EIOPA).

In this report, WWF has chosen to focus on the main insurance regulators and supervisors around the world, also allowing for insurance and E&S specificities. For example, compared to the banking framework, Bermuda has been included due to its role as a major reinsurance hub. In the USA, state insurance supervisors in California and New York have also been added due to their pioneering role in including climate risk in their expectations.





# A GROWING MOMENTUM

Over the past years, there has been a noticeable acceleration in the number of sustainability-related measures taken by financial regulators and insurance supervisors worldwide. We outline below some of the main initiatives that the insurance sector saw in 2021, most of them focused on climate change.

Increasingly, financial supervisors are recognising publicly that climate change, nature loss, and social issues are sources of financial risk and therefore threats to financial stability. They are starting to take concrete measures to address these risks. Further studies are being conducted to better understand and quantify such risks, as well as to inform the design of proposed measures.

The European Union has been at the forefront of such efforts, notably with its sustainable finance taxonomy.<sup>51</sup> The EU Taxonomy<sup>52</sup> is a classification system establishing a list of environmentally sustainable economic activities against six objectives: 1) climate change mitigation, 2) climate change adaptation, 3) the sustainable use and protection of water and marine resources, 4) the transition to a circular economy, 5) pollution prevention and control, and 6) the protection and restoration of biodiversity and ecosystems. In July 2021, the Delegated Act supplementing Article 8 of the Taxonomy Regulation was adopted by the EU Commission, specifying the content, methodology and presentation of information to be disclosed by large financial and non-financial companies. Under Article 8, insurers will have to disclose a green asset ratio for their investments, as well as a green premium ratio (for non-life insurers and reinsurance) for their underwriting activities contributing to climate adaptation.

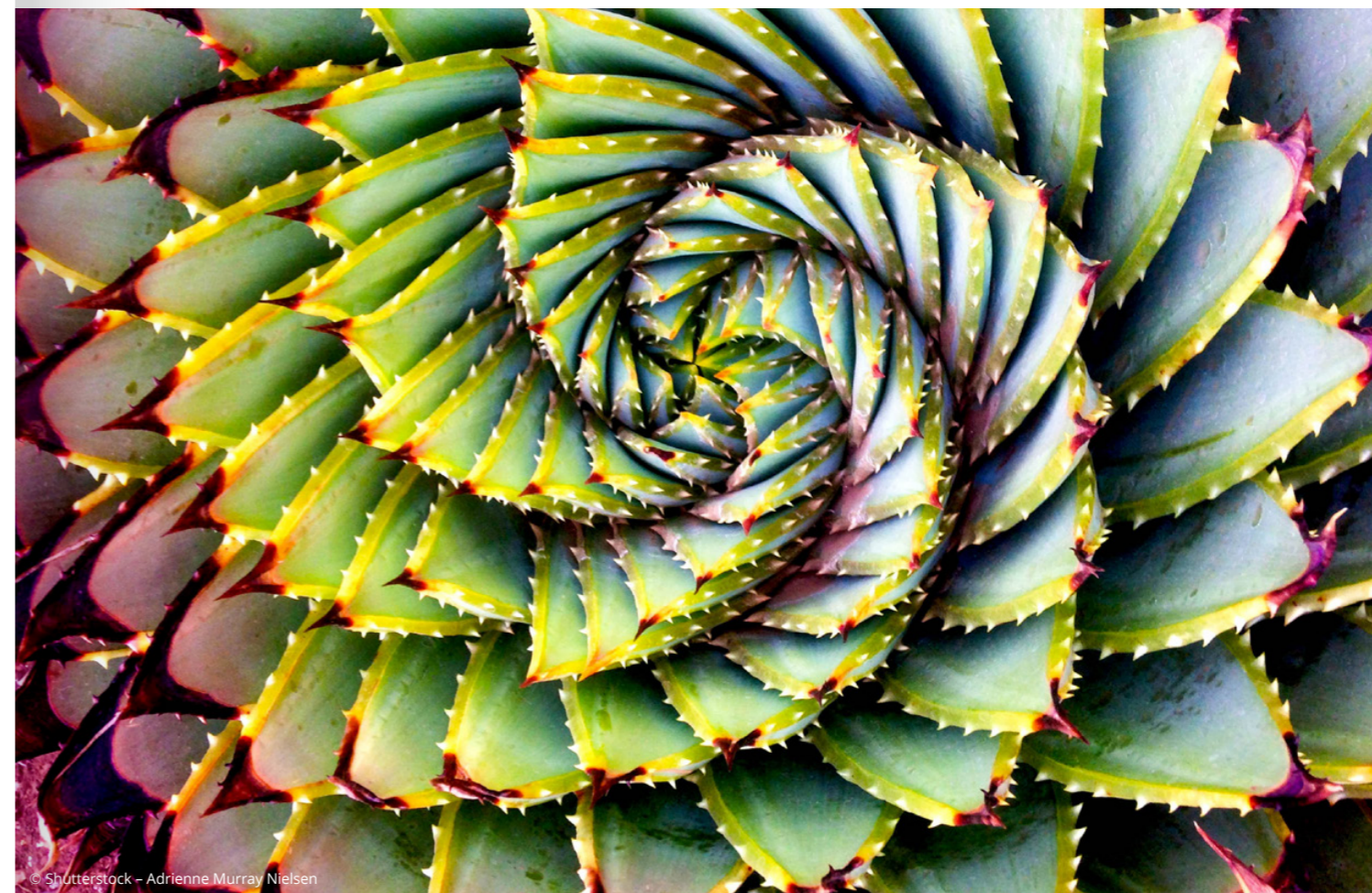
In August 2021, the EU Commission also adopted delegated regulations aimed at insurers, on the integration of sustainability risks in the governance of insurance and reinsurance companies (2021/1256), as well as on the integration of sustainability factors, risks, and customer preferences into the product oversight and governance requirements for insurance companies and insurance distributors and into the rules on conduct of business and investment advice for insurance-based investment products (2021/1257).

Due to its potential to adversely impact both sides of an insurer's balance sheet, climate risk is a particular focus of these supervisory developments. The International Association of Insurance Supervisors (IAIS<sup>53</sup>) notably

published in May 2021 an Application Paper on the Supervision of Climate-related Risks in the Insurance Sector.

In November 2021, the New York State's Department of Financial Services (DFS) published its final Guidance for New York Domestic Insurers on Managing the Financial Risks from Climate Change,<sup>54</sup> a far-reaching document setting out DFS's expectations that all New York insurers start integrating financial risks from climate change into their governance frameworks, business strategies, risk management processes and scenario analysis, and developing their approach to climate-related financial disclosure. In the same month, the Australian Prudential Regulatory Authority (APRA) also released its final prudential practice guide on climate change financial risks,<sup>55</sup> following a consultation on the draft Prudential Practice Guide for Climate Change Financial Risks (CPG 229) from April 2021. This guide from APRA is designed to assist banks, insurers, and pension funds in managing the financial risks of climate change.

In the context of increasing climate risk, several insurance supervisors are now asking insurance companies to compute long-term climate scenarios, covering a broad range of physical and transition risks. In April 2021, the European Insurance and Occupational Pensions Authority (EIOPA) released its Opinion on the supervision of the use of climate change risk scenarios in the Own Risk and Solvency Assessment (ORSA), addressed to national EU insurance supervisors and advising them to expect all insurers to integrate climate change risks in their system of governance, risk management system, and ORSA.<sup>56</sup> Following another approach, the Bank of England published in June 2021 its Climate Biennial Exploratory Scenario (CBES) to assess the nature and severity of risks faced by the UK financial system as a result of climate change. This stress test will be the UK's first such system-wide and cross-sectoral assessment of these risks.<sup>57</sup> Participation to CBES is mandatory for the seven largest UK banks, the 10 largest insurers, and 10 companies of the Lloyd's re/insurance market.



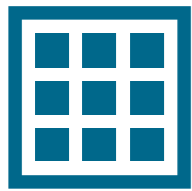
Climate-related disclosures are also requested from insurers in an increasing number of jurisdictions around the world, often based on the recommendations from the Task Force for Climate Related Financial Disclosures (TCFD), which has been established by the Financial Stability Board to develop recommendations for climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions. The International Sustainability Standard board (ISSB), established at COP26 to develop a baseline of sustainability disclosure for capital market, recently launched two proposals in response to a request from the G20 leaders. The first one is on general sustainability-related disclosure requirements and the second specifies climate related disclosure requirements.

In April 2021, the Central Bank of Brazil (BCB) issued a public consultation on rules for disclosure of social, environmental, and climate-related risk management by institutions of the National Financial System, and in September 2021 BCB announced mandatory TCFD-aligned disclosure requirements, with an initial focus on qualitative aspects. In May 2021, the Swiss Financial Market Supervisory Authority (FINMA) amended its circulars to include the mandatory disclosure of climate-related financial risks for its largest banks and insurers, based on the TCFD recommendations. In June 2021, the UK's FCA published proposals to extend TCFD-aligned disclosure requirements and introduce TCFD-aligned disclosure requirements for asset managers, life insurers, and FCA-regulated pension providers. In October 2021, legislation to require

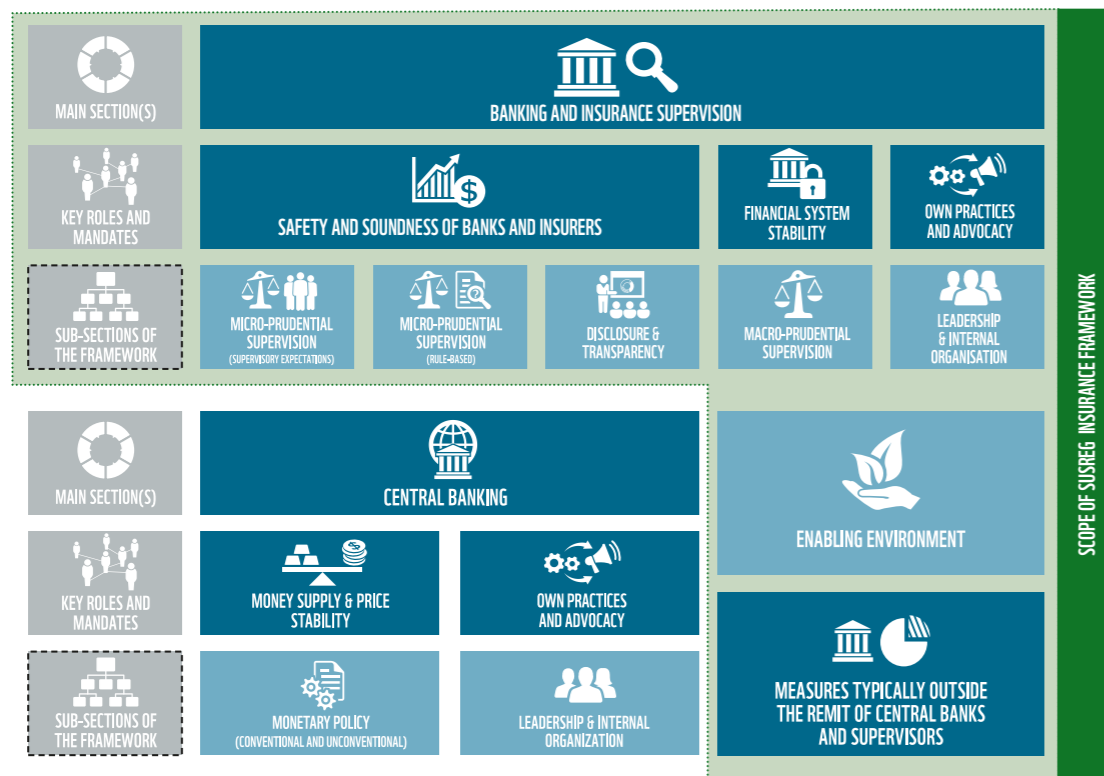
the financial sector to report on climate risks was also passed by the New Zealand government. The companies required to disclose include large banks, insurance companies, and investment funds, and the disclosure standards will be based on the TCFD recommendations. In March 2022, the U.S. Securities Exchange Commission (SEC) also announced a proposal for mandatory climate reporting rules for listed companies,<sup>58</sup> with similarities to TCFD.

Other initiatives also come from the insurance industry itself, with a number of companies starting to exclude some unsustainable activities from their investment and underwriting policies. In many cases, this is targeted at thermal coal (where some regulators, for example in California, have asked insurers to voluntarily divest<sup>59</sup>). Some leading insurers also started excluding non-conventional fossil fuels and greenfield oil and gas projects in vulnerable areas,<sup>60</sup> or activities linked to deforestation.<sup>61</sup> In addition, some of the world's largest insurance companies joined the net-zero alliances convened by the United Nations and pledged to decarbonise their own operations, investments and underwriting portfolios over the next decades.

**It is crucial that the current positive momentum and growing awareness about the scale of the climate and environmental crises are transformed into further concrete and ambitious actions,** leveraging the insurance sector's key roles as long-term investors, risk carriers and risk managers, and accelerate the transition towards a low-carbon, climate resilient and more equitable economy.



# THE SUSREG FRAMEWORK



## OVERVIEW

The Sustainable Regulations and Central Bank Activities ('SUSREG') framework provides practical guidance on the integration of environmental & social (E&S) considerations in financial regulations, supervisory expectations and monetary policy.

Its main objective is to strengthen and harmonise regulatory, supervisory and ultimately risk management and decision-making practices across key financial markets, in line with Sustainable Development Goals and international agreements.

The overall framework's development was informed by:

- WWF's active involvement in leading sustainable finance initiatives, e.g. through its representation on the European Commission's Technical Expert Working Group and its successor Platform on Sustainable Finance;
- WWF's ongoing work with central banks, financial regulators, supervisors and policymakers worldwide, that contributes to shaping the development of sustainable financial regulations and guidelines in key financial markets;
- WWF's perspective as a science-based organisation, rooted in conservation work that delivers positive impacts on the ground.

The SUSREG framework was launched in May 2021 with an initial focus on banking and central bank activities, leading to the publication of its first annual report in 2021. The SUSREG framework is now being extended to insurance activities in 2022, while a second annual report is also in preparation.

Going forward, the SUSREG framework will be expanded beyond banking and insurance to cover regulations pertaining to other key parts of the financial system such as capital markets and asset management.

The extension of the SUSREG framework to insurance has notably built on:

- Current best practices by insurance regulators and supervisors worldwide, as well as the recommendations and publications from the IAIS (International Association of Insurance Supervisors), the NGFS (Network for the Greening of the Financial System) and the SIF (Sustainable Insurance Forum);
- An extensive review of the literature produced by leading universities, think-tanks and non-governmental organisations on insurance regulatory and supervisory practices;
- Key frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD) and Task Force on Nature-related Financial Disclosures (TNFD).

This insurance framework also benefitted from comments and suggestions from various supervisors, think-tanks, universities, insurance companies, and other WWF partners which are mentioned in the Acknowledgements section of this report.

The SUSREG insurance framework is currently centered around two main sections, namely insurance regulation and supervision, and aspects contributing to an enabling environment for sustainable insurance.

The framework contains about 80 indicators, organised in subsections according to the overall structure below (individual sections are highlighted in green).

The assessment will initially cover around 40 key countries, focusing primarily on the IAIS member countries with the largest insurance and reinsurance gross written premium volumes, also including supra-national agencies such as EIOPA and a couple of major US states such as California and New York.

## ASSESSMENT METHODOLOGY

As a first step, the SUSREG insurance framework will be used to assess regulatory and supervisory practices pertaining to sustainable insurance, as well as other insurance sector-related measures contributing to the transition to a low-carbon, climate resilient and sustainable economy.

**In performing the assessments, WWF will take into consideration the following (non-exhaustive):**

- Regulations and guidelines issued by the financial regulators or supervisors, as they pertain to sustainable insurance practices;
- Measures taken by insurance regulators or supervisors, or other policymakers, to create an environment conducive to the development of sustainable insurance.

In the absence of sustainable insurance regulations or guidelines issued by the regulator, WWF may take into consideration relevant guidelines issued by the national insurance association, where available. When formally supported by the financial regulator or supervisor, the implementation of such guidelines can be an important driver of change among insurance companies.

However, the issuance of stringent and mandatory regulations is more conducive to the uniform integration of E&S considerations within the insurance sector, and therefore should be actively pursued.

**Below are key considerations that will guide the country-level assessments performed against the framework:**

- The assessment will only take into account information that is publicly available, through official websites or in relevant news articles and publications;
- For countries where English is not an official language, WWF will endeavor to use official documentation available in the national language. Alternatively, and in the absence of an official translation of the relevant documentation, an unofficial translation may be procured to facilitate the assessment;

- For each indicator, WWF will review the available country-specific evidence. The assessment will result in full, partial or no fulfillment, depending on whether relevant measures are in place and the extent to which they satisfy the indicator;
- For certain indicators, the assessment results will be split in order to clearly display the scope of the associated measure(s): either only applicable to the investments of insurers, to their underwriting practices, or to the entire range of their business activities.
- For certain indicators, the assessment results will also be split in order to clearly display the scope of the associated measure(s): either applicable to climate-related risks, to environmental-related risks, to social related risks, or to multiple risks.

**The detailed assessment results will be published on the SUSREG online platform ([www.susreg.org](http://www.susreg.org)), in a matrix format showing the country-level results for each indicator, together with the source of the information used.**

Before the publication of final results, WWF will share preliminary results with the relevant institutions (e.g., insurance regulators and supervisors) on a best effort basis, to seek feedback and ensure the information identified is complete and accurate.

It should be noted that individual indicators are not weighted, and the assessment will not result in a rating. No overall final score or ranking of respective countries will be provided. Rather, the tool enables users to quickly identify good practices and potential areas for improvement, and to understand how different national regulatory frameworks compare against specific indicators.

The SUSREG framework and assessment currently do not consider the extent to which specific regulations and measures are adequately and effectively implemented. Nevertheless, it is critical for insurance regulators and supervisors to build the internal capacity to fully implement officially issued measures.

The following section of the report provides the full list of indicators for the SUSREG insurance framework.



# INSURANCE SUPERVISION

## MICRO-PRUDENTIAL SUPERVISION (SUPERVISORY EXPECTATIONS)



This section is applicable to regulations or supervisory expectations as they pertain to sustainable insurance or, in their absence, to similar guidelines issued by the national insurance association. It looks at the scope of the relevant regulations, supervisory expectations, or guidelines, as well as how they are implemented. The assessment focuses on the specific expectations of insurance companies to integrate E&S considerations in their business strategy, governance, decision-making, and risk management policies and processes. A growing number of insurance regulators and supervisors are issuing such principle-based expectations, which are aligned with the measures already taken by a wide range of insurance companies globally. This was one of the key NGFS recommendations, first issued in the Call for Action report in April 2019 and further detailed in the Guide for Supervisors published in May 2020.



### SCOPE & IMPLEMENTATION

It is critical that regulations, supervisory expectations, or guidelines cover not only climate related aspects, but the whole range of E&S issues that can affect insurance companies, their clients and investee companies. Specifically, environmental issues include greenhouse gas emissions, deforestation, land use change, biodiversity loss, pollution of water, air and soil, and depletion of natural resources. Social issues include human rights violations, labour issues (including occupational health & safety), and adverse impacts on local communities (including indigenous people). Such expectations apply to the underwriting and investment activities of insurance companies. To reflect views from various stakeholders, it is good practice to conduct a round of public consultation before issuing the final set of regulations, supervisory expectations, or guidelines. The supervisor should regularly monitor the supervised insurers' compliance with the official regulations or expectations, based on information published or submitted by the insurance companies.

#### SCOPE & IMPLEMENTATION

<b>1.1.1</b>	The regulations or supervisory expectations cover a broad range of environmental and social (E&S) issues.
<b>1.1.2</b>	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').
<b>1.1.3</b>	The supervisor tracks insurance companies' progress against regulatory/supervisory E&S expectations and addresses a corresponding report to the companies.
<b>1.1.4</b>	Public consultation was carried out prior to the official issuance of E&S regulations or supervisory expectations.

#### MICRO-PRUDENTIAL SUPERVISION (SUPERVISORY EXPECTATIONS)

##### 1.1.0

Regulations or supervisory expectations related to sustainable insurance have been issued and are applicable to all supervised insurers.



### STRATEGY & GOVERNANCE

Insurance companies 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 business strategy incorporating E&S considerations, i.e., the management of the E&S risks, opportunities and impacts associated with its underwriting and investing activities. It does not cover corporate social responsibility (CSR) or philanthropic activities, or the management of an insurer's direct impacts (such as energy use and business travel). To ensure a successful implementation of a company's E&S

strategy, it is critical to create a conducive environment, starting with board oversight. Insurers should also be expected to put in place dedicated teams, allocate resources and attribute responsibilities across the organization over the implementation of such strategy including to their senior management. Relevant staff, including board and senior management, should not only be trained but incentivised through relevant criteria factored in their appraisal and remuneration review process. Last but not least, insurance companies should be expected to engage with external stakeholders, to benefit from a wider range of perspectives in the development and implementation of their E&S strategy.

#### STRATEGY & GOVERNANCE

<b>1.2.1</b>	Insurers are expected to integrate E&S considerations in their business and risk strategy, consistent with the size and nature of their operations.	<b>1.2.8</b>	Insurers are expected to define the roles and responsibilities of the board involved in the oversight of the E&S strategy.
<b>1.2.2</b>	Insurers are expected to consider E&S risks when preparing their Board-approved risk appetite statement, supported by quantitative limits and qualitative expectations.	<b>1.2.9</b>	Insurers are expected to define the roles and responsibilities of the executive management for the implementation of the E&S strategy.
<b>1.2.3</b>	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.	<b>1.2.10</b>	Insurers are expected to include E&S considerations in the roles and responsibilities of most core functions (including senior management) in areas such as actuarial, investment, underwriting, claims management and risk management.
<b>1.2.4</b>	Insurers are expected to regularly provide their board with relevant information related to the implementation of their E&S strategy.	<b>1.2.11</b>	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.
<b>1.2.5</b>	Insurers are expected to include criteria related to their E&S strategy implementation in their appraisal and remuneration policy.	<b>1.2.12</b>	Insurers are expected to conduct stakeholder engagement on relevant E&S issues, including with civil society representatives and consider their views on relevant E&S issues.
<b>1.2.6</b>	Insurers are expected to dedicate staff and resources to the definition, development and implementation of their E&S strategy.	<b>1.2.13</b>	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).
<b>1.2.7</b>	The supervisor has included E&S considerations in appointment of board members of insurance companies.		

## POLICIES & PROCESSES

In order to adequately identify, assess and mitigate the E&S risks and impacts that they are exposed to through their business relationships, insurers should be expected to develop sector-specific policies outlining minimum E&S requirements for clients and investees. By outlining minimum E&S expectations for corporates belonging to their investment and underwriting portfolio, and through engagement and support, insurance companies can facilitate the adoption of best practices by corporates, in line with internationally recognised sustainability standards and certification schemes. As a first step, insurers can be expected to focus on sectors with high E&S risks and impacts. In some jurisdictions, the insurance regulator, supervisor, or other bodies such as

insurance associations can issue sector-specific checklists to guide insurers' approach in certain sectors. Internally, insurance companies should be expected to incorporate E&S considerations in their risk management and decision-making processes. In particular, to ensure that sector policies and related internal procedures are properly followed, a three lines of defense approach or a similar risk management strategy should be applied to the management of E&S risks. A process should be in place to monitor E&S performance of their insurance clients or investee companies and manage situations where they do not comply with applicable policies and regulations.

POLICIES & PROCESSES	
<b>1.3.1</b>	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.
<b>1.3.2</b>	Insurers are expected to refer to and apply internationally recognised sustainability standards and certification schemes in their E&S sector policies.
<b>1.3.3</b>	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 recognised sustainability standards and certification schemes.
<b>1.3.4</b>	Specific guidelines or checklists covering insurers' activities in sectors with high E&S risks and impacts have been issued by the supervisor.
<b>1.3.5</b>	Insurers are expected to integrate E&S risk and impact considerations in their decision-making, risk management processes and policies.
<b>1.3.6</b>	The supervisor asks insurers whether and how they integrate deforestation and wider habitat conversion issues in their decision-making, risk management processes and policies.
<b>1.3.7</b>	Insurers are expected to put in place an internal control framework to manage E&S risks, in accordance with the three lines of defense approach.
<b>1.3.8</b>	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).
<b>1.3.9</b>	Insurers are expected to adopt and implement an active client engagement approach*, in relation to E&S considerations for their investment and underwriting activities.
<b>1.3.10</b>	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.

## PORTFOLIO RISKS & IMPACTS

Beyond the identification and management of E&S risks and impacts at the client or transaction level, insurance companies should be expected to develop a robust understanding of their investing and underwriting portfolio-level exposure to these risks and the extent of their negative impacts. These two aspects, i.e., the exposure to E&S risks and the negative E&S impact induced by (in this case) the insurance company, are known as double materiality. Given the forward-looking nature of these risks, it is important that insurers use both long-term and short-term scenario analysis to test their risk exposure and resilience to various possible future outcomes. The use of multiple scenarios is critical. In relation to climate change, for instance, these would usually include one scenario with material physical risks and two scenarios reflecting an orderly

and disorderly transition to a low-carbon economy. Insurance companies should also pay particular attention to the concentration of E&S risks in their portfolio, especially where a single event or trend can have multiple impacts, both on the asset and liability side of the balance sheet. Insurers should be expected to set science-based targets to align their portfolio with the objectives of the Paris Agreement on climate change and for other E&S goals, taking advantage of the development and ongoing improvement of related methodologies. In doing so, it is important for insurers to identify, engage and support their clients in transitioning their business models towards more sustainable practices, thereby driving positive change in the real economy.

PORTFOLIO RISKS & IMPACTS	
<b>1.4.1</b>	Insurers are expected to continually assess, manage and mitigate the level of exposure of their portfolios to material E&S risks.
<b>1.4.2</b>	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).
<b>1.4.3</b>	Insurers are expected to continually assess, manage and mitigate the material negative E&S impacts associated with their business relationships, at the portfolio level.
<b>1.4.4</b>	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.
<b>1.4.5</b>	Insurers are expected to set science-based targets to mitigate negative environmental impacts beyond climate, at the portfolio level.
<b>1.4.6</b>	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).
<b>1.4.7</b>	Insurers are expected to have specific response plans for managing significant additional claims associated with natural catastrophes.
<b>1.4.8</b>	Insurers are expected to assess and mitigate reputation and litigation risks associated with E&S considerations.
<b>1.4.9</b>	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.
<b>1.4.10</b>	The supervisor expects insurers to analyse, and where necessary mitigate, the concentration of E&S risks in their portfolios
<b>1.4.11</b>	The supervisor expects insurers to reflect E&S risks in their pricing.
<b>1.4.12</b>	Insurers are encouraged to include in their underwriting and pricing practices incentives for their clients to enhance their resilience to E&S risks.

## MICRO-PRUDENTIAL SUPERVISION (RULE-BASED)



The integration of risk-based E&S considerations in the prudential rules for insurance companies such as solvency capital requirements could contribute to strengthening their risk management systems and ultimately their resilience to, for instance, climate-related or environmental shocks. While further research and data is 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.

MICRO-PRUDENTIAL SUPERVISION (RULE-BASED)	
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).
1.5.2	Solvency Capital Requirements for insurers incorporate E&S considerations, through a differentiated risk-based approach.
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.
1.5.4	Insurers are expected to integrate E&S considerations and consumers' E&S preferences when developing and distributing new products.

## DISCLOSURE & TRANSPARENCY



Public disclosure of decision-useful information on E&S risks and impacts by financial and non-financial corporates is key to help correct market failures and enhance market discipline. It also contributes to better risk management and facilitates the identification of sustainable finance opportunities. It is critical that insurance regulators and supervisors strengthen their disclosure requirements. Insurance companies should be expected to include all relevant and material information in their annual reports, thereby providing insurance clients, investors and all stakeholders with a comprehensive overview of their business strategy and risk management practices, including on E&S aspects. As much as possible, to promote harmonised and meaningful disclosures, internationally recognised sustainability reporting frameworks – such as the recommendations of the Taskforce for Climate-related Financial Disclosures (TCFD) should be used. Insurers should also be expected to provide their stakeholders with information on their exposure to and management of E&S risks, as well as on their negative impacts. Where they exist, taxonomies for sustainable (or unsustainable) activities should be used, to shed light on insurance companies' exposure to activities that are compatible with defined national or international goals.

DISCLOSURE & TRANSPARENCY	
1.6.1	Insurers are expected to publicly disclose how E&S considerations are integrated in their business strategy, governance), policies and risk management processes.
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.
1.6.3	Insurers are expected to use internationally recognised sustainability reporting frameworks to guide their public disclosures.
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.
1.6.5	Insurers are expected to publicly disclose their exposure by industry sub-sectors, based on international industry classification systems.
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).
1.6.7	Insurers are expected to report publicly on their exposure to material E&S risks and the associated mitigation measures.
1.6.8	Insurers are expected to report publicly on the material negative E&S impacts associated with their activities.
1.6.9	The supervision of conduct risk for insurance products sold by insurers includes provisions related to addressing greenwashing risks.
1.6.10	Insurers are expected to seek external assurance for their E&S public reporting and disclosures.

## MACRO-PRUDENTIAL SUPERVISION



Macro-prudential supervision has gained prominence in the aftermath of the 2008 global financial crisis, when it became clear that ensuring the stability of individual firms was no longer sufficient. To secure a stable financial system, macro-level tools had to be developed that could detect and address system-wide imbalances such as insurance protection gaps, asset price bubbles, or to test the system's ability to absorb large shocks. Specifically, scenario analysis and stress-testing are important to understand the specific implications of climate-related or environmental risks for the financial system's stability. As methodologies are being continually developed and refined, it is important for supervisors to seek expert feedback through public consultation. With the disclosure of key results from stress-testing exercises and associated recommendations, supervisors are able to more effectively contribute to advancing the understanding and implications of these risks. When specific E&S risk concentrations are identified, measures such as capital buffers can be used to mitigate the build-up of systemic risk and reinforce insurers' resilience. Other potential measures could include large exposure rules (both for investments and underwriting) or insurance mandates. Macro-prudential supervision tools can also be used for micro-supervision, as the two approaches inform each other.

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.
1.7.2	The supervisor has published for consultation its methodology for forward-looking scenario analysis and stress-testing.
1.7.3	The supervisor has published the aggregated results of its stress-testing exercises on material E&S risks, as well as its recommendations.
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.
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.
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.
1.7.7	The supervisor monitors the concentration of E&S risks between the various entities of integrated financial groups (e.g., bancassurance).
1.7.8.	Solvency Capital Requirements for insurers incorporate a macro-prudential buffer for systemic E&S risks.

## LEADERSHIP & INTERNAL ORGANISATION



Insurance regulators and supervisors themselves need to develop their internal capacity and expertise on E&S risks. By joining the NGFS and the SIF, supervisors not only signal their commitment to tackle these issues, they also benefit from a growing collective experience on the management of climate-related and E&S risks, by participating in various working groups that develop detailed and practical guidance. The development of a strategy or roadmap that is validated by the board and that outlines measures to foster a sustainable financial system is critical to give supervised institutions clarity over upcoming regulatory changes and expectations. Such a strategy should be in line with the supervisor's mandate and backed by an appropriate internal organisation and allocation of resources. In order to start quantifying the exposure of insurance companies to E&S risks and to understand how these can be better managed, the supervisor can conduct initial studies and publish results as well as associated recommendations.

LEADERSHIP & INTERNAL ORGANISATION	
1.8.1	The supervisor is a member of the Network for Greening the Financial System (NGFS) and the Sustainable Insurance Forum (SIF).
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 a net-zero and nature-positive 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 insurers' 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 insurance 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 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.
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.

## ENABLING ENVIRONMENT



This section covers measures that are not necessarily within the traditional mandates of supervisors, or that are outside the remit of other entities. However, these measures are key to facilitate the adoption of sustainable principles by insurance companies.

As such, multi-stakeholder initiatives can prove particularly useful for the finance sector to define joint solutions to overcome existing barriers to sustainable insurance, including by building the capacity of insurers, reinsurers, insurance associations and regulatory authorities. The development of taxonomies, or classification systems for (un)sustainable activities, backed by associated disclosure requirements for financial and non-financial corporates, is crucial to reduce the risks of greenwashing and ensure

that insurance activities are leveraged to meet pre-defined sustainable development goals. Some supervisors also have the ability to set targets or incentivise insurance companies to support certain industry sectors, in line with the national sustainable development objectives.

National Public-Private Partnerships or regional arrangements could be put in place to support the continued provision of insurance covering E&S risks, also enabling access to insurance for low-income population, especially in regions prone to catastrophic events.

Finally, the establishment of a carbon pricing mechanism (such as a carbon tax) is essential to achieving material greenhouse gas emissions reductions in the real economy.

ENABLING ENVIRONMENT	
2.1.1	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.
2.1.2	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.
2.1.3	A classification system for sustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.
2.1.4	A classification system for unsustainable activities (taxonomy) is in place and has been developed following a science-based and multi-stakeholder process.
2.1.5	Non-financial corporates are required to report on current and planned activities according to internationally or nationally recognised sustainability reporting standards and definitions.
2.1.6	Non-financial corporates are required to publish science-based transition plans.
2.1.7	A carbon pricing mechanism is being implemented in the country.
2.1.8	There is a national-level sustainability strategy, and financial institutions encouraged to make and adhere to net-zero transition plans.
2.1.9	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.
2.1.10	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).
2.1.11	National Public-Private Partnerships are in place to support the continued provision of insurance covering E&S risks (e.g., co-insurance pools).
2.1.12	The country is part of regional disaster risk reduction facilities.

# REFERENCES

- <https://www.worldbank.org/en/news/press-release/2021/07/01/protecting-nature-could-avert-global-economic-losses-of-usd2-7-trillion-per-year>
- <https://www.reuters.com/business/imf-sees-cost-covid-pandemic-rising-beyond-125-trillion-estimate-2022-01-20/>
- <https://www.nrdc.org/sites/default/files/cost.pdf>
- <https://www.weforum.org/agenda/2021/07/climate-change-economic-cost-world-bank-environment/>
- <https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-climate-change/>
- <https://www.weforum.org/agenda/2022/05/8-climate-change-records-world-2021/>
- <https://public.wmo.int/en/media/press-release/2021-one-of-seven-warmest-years-record-wmo-consolidated-data-shows#:~:text=The%20average%20global%20temperature%20in,all%20datasets%20compiled%20by%20WMO.>
- <https://public.wmo.int/en/media/press-release/wmo-update-5050-chance-of-global-temperature-temporarily-reaching-15C2%B0c-threshold> The 1.5°C threshold is crucial because it is the tipping point at which climate change could result in irreparable and unrecoverable damage to people and the planet as a whole.
- <https://www.weforum.org/agenda/2020/05/5-reasons-why-biodiversity-matters-human-health-economies-business-wellbeing-coronavirus-covid19-animals-nature-ecosystems/>
- <https://www.unep-wcmc.org/en/news/strategy-for-halting-and-reversing-biodiversity-loss-revealed>
- [https://report.ipcc.ch/ar6wg2/pdf/IPCC\\_AR6\\_WGII\\_SummaryForPolicymakers.pdf](https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_SummaryForPolicymakers.pdf)
- <https://www.swissre.com/media/press-release/nr-20210422-economics-of-climate-change-risks.html>
- <https://www.swissre.com/media/press-release/nr-20210422-economics-of-climate-change-risks.html>
- <https://www.munichre.com/en/company/media-relations/media-information-and-corporate-news/media-information/2022/natural-disaster-losses-2021.html>
- <https://www.ipcc.ch/assessment-report/ar6/>
- <https://www.imf.org/en/Publications/WP/Issues/2022/05/27/Rogue-Waves-Climate-Change-and-Firm-Performance-518060>
- <https://www.weforum.org/press/2020/01/half-of-world-s-gdp-moderately-or-highly-dependent-on-nature-says-new-report/>
- <https://ipbes.net/news/Media-Release-Global-Assessment>
- <https://openknowledge.worldbank.org/bitstream/handle/10986/35882/A-Global-Earth-Economy-Model-to-Assess-Development-Policy-Pathways.pdf?sequence=1&isAllowed=y>
- <https://www.weforum.org/agenda/2021/07/climate-change-economic-cost-world-bank-environment/>
- <https://www.weforum.org/agenda/2022/01/climate-change-action-trends-2022-un/>
- [https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/329/original/CDP\\_Co-benefits\\_analysis.pdf?1597235231](https://cdn.cdp.net/cdp-production/cms/reports/documents/000/005/329/original/CDP_Co-benefits_analysis.pdf?1597235231)
- <https://www.iea.org/reports/net-zero-by-2050>
- <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/#:~:text=Since%202010%2C%20there%20have%20been,the%20development%20of%20renewable%20energy>
- Dollars per metric ton of carbon dioxide equivalent emissions. A carbon dioxide equivalent is a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.
- <https://www.ipcc.ch/report/ar6/wg3/resources/spm-headline-statements/>
- [https://wwfint.awsassets.panda.org/downloads/ifrc\\_wwf\\_report\\_working\\_with\\_nature\\_to\\_protect\\_people.pdf](https://wwfint.awsassets.panda.org/downloads/ifrc_wwf_report_working_with_nature_to_protect_people.pdf)
- <https://ipbes.net/document-library-catalogue/chapter-23-status-and-trends-natures-contributions-people>
- <https://ipbes.net/document-library-catalogue/chapter-23-status-and-trends-natures-contributions-people>
- <https://www.fsb.org/2021/12/global-monitoring-report-on-non-bank-financial-intermediation-2021/>
- <https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210922-59ade4710b.en.html#:~:text=Portfolios%20most%20vulnerable%20to%20climate,increase%20under%20the%20same%20scenario.>
- <https://www.ngfs.net/en/about-us/membership>
- <https://www.bankingsupervision.europa.eu/press/blog/2022/html/ssm.blog220428-6fc9bc7bb0.en.html>
- <https://www.gfanzero.com/progress-report/>
- <https://g20sfwg.org/>
- <https://www.financeforbiodiversity.org/>
- <https://www.unepfi.org/news/industries/insurance/first-guidance-enabling-insurers-to-identify-and-disclose-risks-from-climate-change-launches/>
- <https://www.unepfi.org/psi/vision-purpose/>
- <https://www.sustainableinsuranceforum.org/about/>
- <https://www.insuresilience.org/about/>
- E&S in this report means climate, nature and social
- <https://www.sustainableinsuranceforum.org/publication/application-paper-on-the-supervision-of-climate-related-risks-in-the-insurance-sector/>
- [https://www.eiopa.europa.eu/document-library/opinion/opinion-sustainability-within-solvency-ii\\_en](https://www.eiopa.europa.eu/document-library/opinion/opinion-sustainability-within-solvency-ii_en)
- [https://www.ngfs.net/sites/default/files/medias/documents/ngfs\\_guide\\_for\\_supervisors.pdf](https://www.ngfs.net/sites/default/files/medias/documents/ngfs_guide_for_supervisors.pdf)
- <https://www.sustainableinsuranceforum.org/publication/application-paper-on-the-supervision-of-climate-related-risks-in-the-insurance-sector/>
- <https://www.unepfi.org/net-zero-alliance/>
- <https://www.unepfi.org/net-zero-insurance/>
- Compared to banks, insurers are generally less susceptible to short-term liquidity risks.
- [https://www.eiopa.europa.eu/document-library/report/report-non-life-underwriting-and-pricing-light-of-climate-change\\_en](https://www.eiopa.europa.eu/document-library/report/report-non-life-underwriting-and-pricing-light-of-climate-change_en)
- [https://www.eiopa.europa.eu/content/eiopa-pilot-dashboard-addresses-natural-catastrophe-protection-gap\\_en](https://www.eiopa.europa.eu/content/eiopa-pilot-dashboard-addresses-natural-catastrophe-protection-gap_en)
- Even if some core aspects are being debated and deserve improvements (<https://www.wwf.eu/76688941/Five-Reasons-To-Oppose-The-Inclusion-Of-Gas-And-Nuclear-Power-In-The-Eu-Taxonomy>)
- EU taxonomy for sustainable activities European Commission (europa.eu)
- IAIS is a membership organization of insurance supervisors and regulators from more than 200 jurisdictions, which is the international standard-setting body responsible for developing and assisting in the implementation of principles, standards and other supporting material for the supervision of the insurance sector.
- [https://www.dfs.ny.gov/industry\\_guidance/climate\\_change/DFS\\_Guidance\\_for\\_NY\\_Insurers\\_on\\_Managing\\_Climate\\_Risks\\_2021.pdf](https://www.dfs.ny.gov/industry_guidance/climate_change/DFS_Guidance_for_NY_Insurers_on_Managing_Climate_Risks_2021.pdf)
- <https://www.apra.gov.au/sites/default/files/2021-11/Final%20Prudential%20Practice%20Guide%20CPG%20229%20Climate%20Change%20Financial%20Risks.pdf>
- The European Commission has also proposed to introduce mandatory climate stress testing for all insurers under the new Solvency II review proposal.
- Noting that the PRA already include a climate scenario in its 2019 insurance industry-wide stress test.
- <https://www.sec.gov/files/33-11042-fact-sheet.pdf>
- <https://www.insurance.ca.gov/0400-news/0100-press-releases/archives/statement010-16.cfm>
- <https://www.cnp.fr/en/the-cnp-assurances-group/newsroom/press-releases/2021/cnp-assurances-strengthens-its-framework-for-investments-in-fossil-fuels>
- [https://www.axa-com.cdn.axa-contento-118412.eu/www-axa-com/b486145b-6e21-4cdf-97b6-84e82ac4e312\\_AXA\\_Deforestation\\_and\\_World\\_Heritage\\_Sites\\_detailed\\_policies.pdf](https://www.axa-com.cdn.axa-contento-118412.eu/www-axa-com/b486145b-6e21-4cdf-97b6-84e82ac4e312_AXA_Deforestation_and_World_Heritage_Sites_detailed_policies.pdf)

**OUR MISSION IS TO STOP  
DEGRADATION OF THE  
PLANET'S NATURAL  
ENVIRONMENT AND TO BUILD  
A FUTURE IN WHICH HUMANS  
LIVE IN HARMONY  
WITH NATURE.**



Working to sustain the natural world for the benefit of people and wildlife.

together possible™ panda.org

© 2022

Paper 100% recycled

WWF® and ©1986 Panda Symbol are owned by WWF. All rights reserved.

WWF, 28 rue Mauverney, 1196 Gland, Switzerland. Tel. +41 22 364 9111  
CH-550.0.128.920-7

For contact details and further information, please visit our international website at [wwf.panda.org](http://wwf.panda.org)

© Shutterstock - tabaca