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Unlocking the Potential of Nature-Based Solutions

The Insurance Industry's Role in De-risking and Scaling

Prepared in collaboration with Institute for Sustainable Futures, University of Technology, Sydney

Nature-based solutions (NbS) are strategies that leverage the power of healthy ecosystems to address environmental challenges, such as biodiversity loss and climate change. These solutions aim to protect people, reduce climate risk, and ensure a stable and biodiverse future.

NbS encompass a range of initiatives, including natural barriers against increasing climate risks, nature-positive carbon credits, and biodiversity certificates, which collectively offer opportunities to flow finance into nature conservation efforts.

Despite their potential, NbS financing is currently not mature, and there is a significant funding gap in the resources required to restore nature globally. The insurance industry plays a crucial role in de-risking and scaling these solutions, potentially contributing to the mitigation of biodiversity loss and climate change impacts.

The Current State of Nature-Based Solutions

NbS are currently at varying levels of maturity and impact, presenting both challenges and opportunities for the insurance sector. Despite this, NbS could offer significant opportunities for the insurance industry, particularly in the realms of carbon markets, biodiversity markets, and blended finance.

Despite international efforts, there has been a lack of financial flow to effectively reduce nature-related risks. The Kunming-Montreal Global Biodiversity Framework (GBF), adopted by 190 nations in 2022, aims to conserve 30% of land, waters, and sea by 2030, known as the “30x30” target.[1] However, the financial resources required to achieve these goals are significant.

The GBF outlines four goals for 2050, including protecting and restoring nature, prospering with nature, sharing benefits fairly, and investing and collaborating. It also sets 23 targets for 2030, with targets 14, 15, and 19 directly related to private finance, including insurance. These targets emphasise integrating biodiversity into decision-making, assessing and reducing biodiversity-related risks, and mobilising $200 billion per year from all sources, including $30 billion through international finance.[2]

Despite these targets, globally, $722-967 billion annually is needed to protect and restore nature.[3] As of 2019, only $124-143 billion per year is spent on economic activities that benefit nature. Current biodiversity financial flows are estimated at $166 billion per year, with over 75% coming from domestic government spending.

[1] International Institute for Sustainable Development, The Global Biodiversity Framework’s “30x30” Target: Catchy slogan or effective conservation goal?, December 2022

[2] Australian Government Department of Climate Change, Energy, the Environment and Water, A New Global Biodiversity Framework: Kunming-Montreal Global Biodiversity Framework, February 2025

[3] The Nature Conservancy, A New Deal to Close the Nature Finance Gap, September 2021

Opportunities for the Insurance Industry

Insurance plays a crucial role in de-risking capital investments into NbS by providing financial protection against potential losses. This de-risking effect encourages more capital to flow into NbS projects, as investors might expect a safety net that mitigates the financial risks associated with environmental uncertainties. The availability of nature-based insurance products, such as parametric insurance, further enhances this relationship by offering flexible and rapid payouts, which are essential for scaling investments in NbS.

Conversely, capital investment into NbS can drive the development and implementation of innovative insurance products. As more projects are funded, the insurance industry can tailor its offerings to meet the specific needs of NbS, thereby expanding its market and creating new business opportunities. This symbiotic relationship ensures that both capital investment and insurance work together to promote sustainable and resilient environmental solutions.

Insurers can invest directly in nature-based solutions (NbS) to complement a net-zero and nature-positive transition plan by integrating these investments into their broader sustainability strategies:

1. **Risk Reduction and Carbon Mitigation Benefits**

   NbS provide quantifiable risk reduction and carbon mitigation benefits[4], which can be maximised if considered upfront in the project design, in conjunction with insurers. This approach can help unlock underwriting capacity for NbS project financing, making it an attractive investment opportunity for insurers seeking to align with net-zero goals.

2. **Flexible Insurance Products**

   At project maturity, flexible insurance products like parametric insurance can help de-risk and scale investment in NbS. These products may offer rapid payouts and high customisability, making them potentially suitable for supporting NbS projects that generate carbon credits and other environmental benefits.

3. **Direct Investment**

   Insurers can invest directly in NbS projects, such as those that protect coastal areas or restore ecosystems. These investments not only contribute to environmental sustainability but can also support net zero and nature positive transition plans.

4. **Innovative Insurance Solutions**

   Developing new insurance products geared towards nature-positive outcomes can facilitate capital flows from financial markets into NbS. This includes carbon credit insurance solutions that de-risk purchases and facilitate the flow of capital.

[4] Australian Government Department of Climate Change, Energy, the Environment and Water, Nature-based solutions for climate, February 2025

Existing Solutions

Nature-positive insurance principles are defined as risk management and insurance strategies that address nature-related dependencies, impacts, risks, and opportunities.[5] These principles aim to value, conserve, restore, and wisely use biodiversity and ecosystem services, promoting economic, social, and environmental sustainability.

The insurance industry holds dual roles and responsibilities in this context: enabling economic activities while addressing nature-related issues, such as drivers of nature loss, and managing risk by absorbing financial shocks to build resilience for communities and economies.

Parametric Insurance

Parametric insurance is an alternative risk transfer instrument that pays out a pre-agreed amount when a predefined event occurs, based on a predefined index or parameter. Unlike traditional indemnity insurance, parametric insurance does not pay out based on the actual damage or loss sustained. It offers rapid payouts, transparent claim amounts, flexible use of payouts, and high customisability.

Parametric insurance is increasingly popular for climate and nature-related disasters and is seen as a complementary product to traditional insurance, particularly in regions with significant insurance gaps and less established adaptation measures.

Carbon Credit Insurance

Carbon credit insurance is an emerging opportunity to mitigate risks associated with the voluntary carbon credit market. This type of insurance provides financial compensation for risks such as the reversal of carbon sequestration, where carbon that has been removed or avoided is emitted due to unforeseen events like forest fires.

Carbon credit insurance solutions can pay out the dollar value of the credit if the project fails, allowing investors to re-purchase new carbon credits. This de-risks purchases and facilitates the flow of capital towards NbS.

Biodiversity Credit Insurance

Biodiversity credit insurance is an emerging concept aimed at supporting biodiversity markets, which are currently not mature. Similar to carbon credits, biodiversity credits represent a financial mechanism to incentivise conservation efforts by quantifying and monetising biodiversity gains.
Insurance solutions for biodiversity credits could provide financial protection against risks associated with these credits, ensuring that investments in biodiversity conservation are safeguarded against unexpected losses. This type of insurance can help de-risk purchases and facilitate the flow of capital towards projects that promote biodiversity conservation, thereby encouraging more investment in NbS.

Quintana Roo Reef, Mexico

This project involves a parametric insurance policy developed by Swiss Re and The Nature Conservancy to protect 100 miles of the Yucatan coastline.[6]

Coastal property owners and the tourism industry contribute fees into a trust, which funds the insurance policy. The policy was triggered in 2020 when Hurricane Delta impacted the area, resulting in payout of USD 850,000.

This payout enabled a team to stabilise 1,200 large coral colonies and transplant 9,000 broken coral fragments, demonstrating the effectiveness of parametric insurance in facilitating rapid response and restoration efforts.[7]

[5] United Nations Environment Programme Finance Initiative, Insurance for Nature Positive, accessed June 2025

[6] Green Finance Institute, Quintana Roo Reef Protection (Parametric Insurance), October 2024

[7] Swiss Re, Protecting the world's second biggest coral reef with an innovative parametric solution, accessed June 2025

A Future Driven By Regulation or Innovation?

US Coral Reef Insurance Policy, Hawai'i

This initiative, supported by Munich Re and The Nature Conservancy, provides insurance coverage for coral reefs in Hawai'i. The policy is designed to offer financial protection and support restoration activities following damage from natural disasters.[8] This model highlights the role of insurance in safeguarding vital ecosystems and promoting biodiversity conservation.

Necessity is the mother of invention. Historically, the manifestation of risk – or regulation to manage risk – has led to innovation in the insurance industry. Within the paradigm of global biodiversity collapse, insurance innovation is again needed to flow finance towards natural capital, to protect against losses, and to fund repair and rebuild. The open question now is whether these innovations will come in time to plug the huge finance gap needed to halt and reverse the global biodiversity losses we are currently seeing.

Coastal Set-back Project Financing

Coastal set-back project financing involves creating financial structures to support projects that aim to mitigate coastal erosion and flooding risks. In Australia, this approach can be particularly beneficial given the country's extensive coastline and the increasing risks associated with sea level rise and coastal erosion.

By financing projects that establish set-backs or buffer zones along the coast, insurers and investors can contribute to reducing the vulnerability of coastal properties and infrastructure. This not only enhances resilience against environmental risks but also aligns with broader sustainability and climate adaptation goals.

Floodplain Regeneration Project Financing

Floodplain regeneration project financing involves providing risk capital that scales investment in projects that have a multitude of benefits in floodplains, including, but not limited to, risk reduction. For example, riparian and wetland restoration reduces flood risks, improves biodiversity, ecological sustainability, water quality and security, and carbon sequestration.

Revegetation of wetland areas in floodplains can increase the attenuation of flood waves, thereby reducing flood risk downstream. Opening up natural waterways to "make space for water" (a long-held initiative of the Environment Agency in England and Wales[9]) can reduce the magnitude of the flood peak downstream.

Often risk reduction is not explicitly built into the design of these schemes – rather, they are built with carbon credits in mind. There is an opportunity for project owners and insurers to collaborate early on in the project design phase to ensure that the risk reduction benefit of the schemes is maximised, in turn attracting underwriting capacity to scale investment in these projects.

[8] The Nature Conservancy, The Nature Conservancy Announces First-Ever Coral Reef Insurance Policy in the U.S., November 2022

[9] GOV.UK, SW12: Making space for water, January 2024

Unlocking Potential

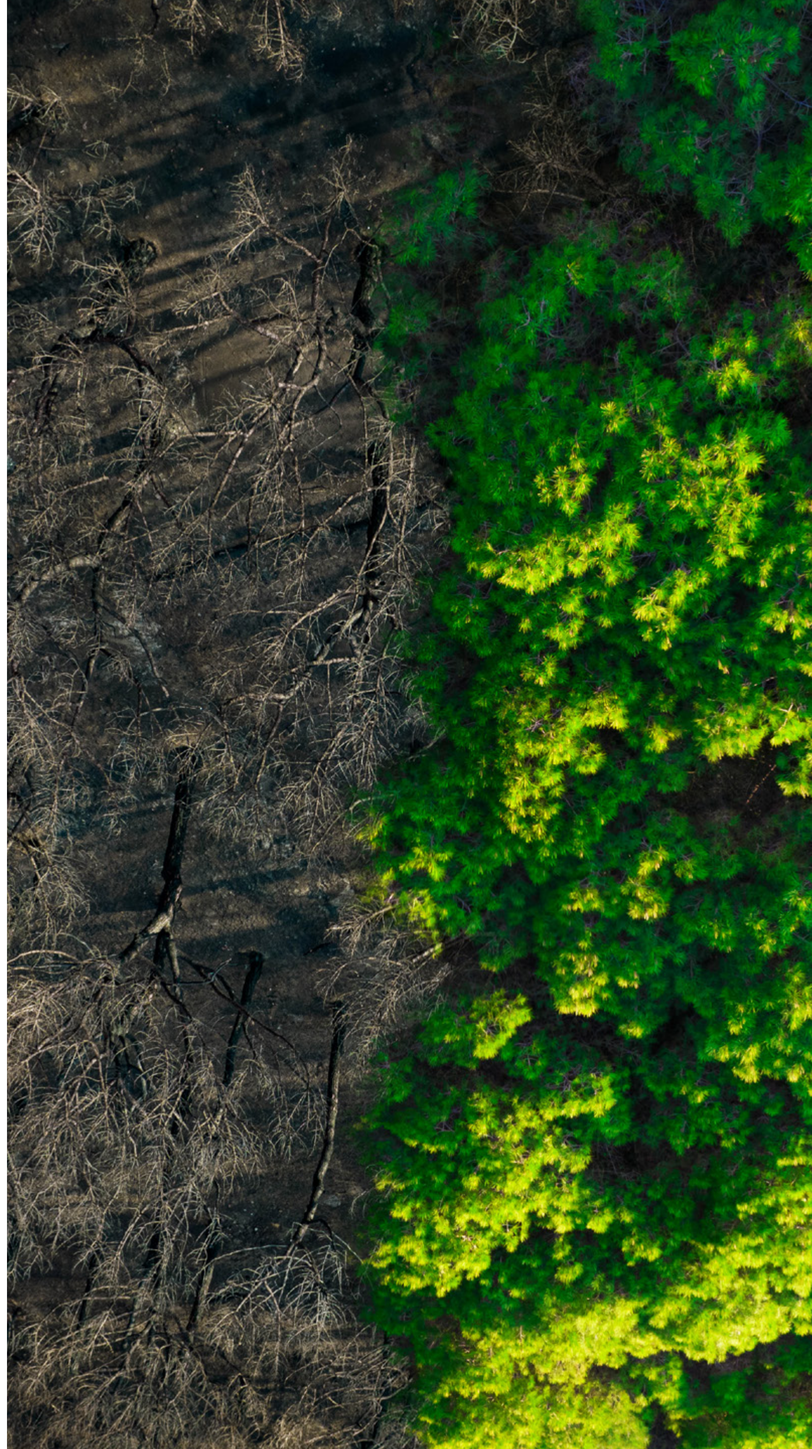
Biodiversity loss is identified as one of the most severe threats to humanity, with wide-reaching impacts on the financial system and real economy. Yet, there remains a significant funding gap in the resources required to restore nature globally.

The insurance industry, including insurers, reinsurers, brokers, and suppliers, plays a crucial role in restoring natural systems so they can continue to deliver the essential ecosystem services to the real economy, while at the same time building resilience to climate risks.

The integration of nature-positive insurance principles can help insurers address nature-related dependencies, impacts, risks, and opportunities. Insurer “nature positive” activity can be important to customer base and branding and is widely expected to be an extension of current climate disclosure requirements, in the form of the TNFD (Taskforce on Nature Related Financial Disclosures)[10], in coming years.

There are tangible nature underwriting opportunities, also. There are various examples of how parametric insurance has already been deployed across coastal environments to protect reefs and the local economies that depend on them. Parametric solutions have also been used to protect, de-risk and scale investment in carbon credit schemes, and we will likely see an uptick in the demand for similar products related to biodiversity credits in the future. Project financing across coastal and flood zones are also examples of where nature positive underwriting can be a profitable business opportunity for insurers, while at the same time helping build resilience to coastal and flood risks.

Lastly, it should not be forgotten that insurers are some of the economy’s largest investors too. Insurers, as institutional investors, can invest directly in NbS to complement net-zero and nature-positive transition plans and reap the risk reduction benefits for communities that they underwrite.



[10] The Taskforce on Nature-related Financial Disclosures, accessed June 2025

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