



### **Objectives for Session #1**



- 1. Gain a clearer understanding of how insurance can contribute to nature-positive outcomes, including frameworks and resources that can support this understanding.
- 2. Explore existing financial flows for nature (with a focus on forests) their sources, financed activities, and areas requiring future investment or financing and examine the role insurance can play in closing the funding gap and enabling financial flows for nature.
- 3. Learn about existing examples and insurance solutions that support the implementation and delivery of nature-based solutions, restoration, and conservation projects, helping to unlock or channel finance for nature.
- 4. Assess whether these approaches are relevant for your business and discuss internal and external barriers and opportunities such as policy levers and partnerships to implement, scale, and mainstream these insurance solutions.



# **Agenda**



#	Agenda Item	Presenter	Duration
1	PSI Antitrust Statement	Ylann (UNEP FI)	3 min
2	Anchoring in the Framework for Insurance for Nature Positive		
а	Overview of the Finance for Nature Positive Working Model	Natacha Boric (Finance for Biodiversity Foundation)	15 min
b	Interpretation for Insurance	Verena (UNEP FI)	5 min
3	Sizing the Opportunity		
а	Overview of the just launched State of Finance for Forests reports (2025)	Gabriela Flores (UNEP)	15 min
b	Insurance enabling financial flows for Nature	Verena (UNEP FI)	5 min
4	Session #1 Focus: Insurance for the construction, implementation and delivery of NbS		
а	Overview of categories and relevant examples	Verena (UNEP FI)	5 min
b	Case Study: SCOR - Insurance to de-risk ecological restoration projects – "Manage"	Vicky Evans (SCOR)	20 min
С	Knowledge Sharing: Naturance - Liability insurance for implementation of prescribed burns	JoAnne Linnerooth-Bayer (IIASA) Xiran Dong (IIASA)	20 min
5	Roundtable discussion	Verena (UNEP FI)	15 min
6	Closing and next session	Verena (UNEP FI)	5 min



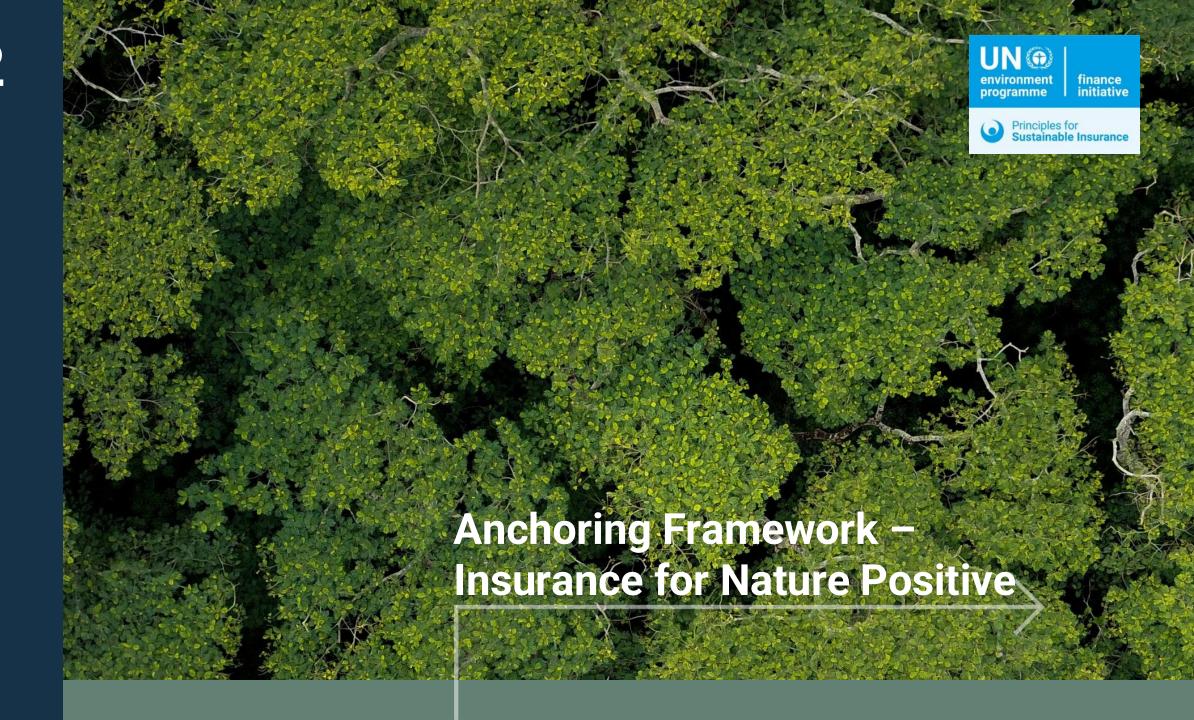
### **PSI Antitrust Statement**



The signatories and supporters of the Principles for Sustainable Insurance (PSI) Initiative, will discuss the matters of sustainable insurance aiming to reduce risk, develop innovative solutions, and contribute to environmental, social and economic sustainability.

While engaging in these discussions, the signatories will be mindful of various national and international laws which restrict the exchange of information among competitors and in particular applicable antitrust rules. All participants shall be aware of their obligations in this respect.

The signatories will therefore refrain from entering into any discussion, accord, agreement or understanding, or concerted action that could restrict or distort competition between them, and from disclosing any competitively sensitive information to each other. All meetings shall follow an approved agenda and each participant shall be obliged to speak up immediately for the purpose of preventing any discussion falling outside of what is legally permissible.



# Finance for Nature Positive Working Model

Natacha Boric FfB Foundation



# Finance for Nature Positive Working Model

Presentation of the discussion paper and its next steps





## **Agenda**

- 1 The Finance for Biodiversity Pledge & Foundation
- 2 Finance for Nature Positive literature review
- 3 Finance for Nature Positive working model
- 4 Deep-dive into nature finance strategies & nature positive outcomes
- 5 Recommendations & next steps: a practical framework





### 1. The Finance for Biodiversity Pledge

We, 200 financial institutions, representing EUR 23 trillion in assets, call on global leaders to take effective measures to reverse nature loss this decade and to ensure ecosystem resilience.

As financial institutions, we know that healthy societies, resilient economies and thriving businesses rely on nature. Together, let's protect, restore, and sustainably manage our natural resources. We make every effort to take our share of responsibility and contribute to the protection and restoration of biodiversity and ecosystems through our financing activities and investments.



We therefore commit to do the following within two years of signing the Pledge...

1

#### Collaboration and knowledge sharing

We will collaborate and share knowledge on assessment methodologies, biodiversity-related metrics, targets and financing approaches for positive impact.



2

# Engaging with companies

We will incorporate criteria for biodiversity in our ESG policies, while engaging with companies to reduce their negative and increase positive impacts on biodiversity. 3

#### Assessing impact

We will assess our financing activities and investments for significant positive and negative impacts on biodiversity and identify drivers of its loss. 4

#### **Setting targets**

We will set and disclose targets based on the best available science to increase significant positive and reduce significant negative impacts on biodiversity. 5

#### Reporting publicly

We will report annually and be transparent about the significant positive and negative contribution to global biodiversity goals linked to our financing activities and investments in our portfolios.

### 1. The Finance for Biodiversity Pledge Signatories

### 200 signatories | EUR 23 trillion AUM | 28 countries





### 1. FfB Working Group: Positive Impact

#### **Objective**

Support the mobilisation of 200 bn \$ USD per year from all sources to implement biodiversity strategies and action plans, echoing target 19 of the Global Biodiversity Framework.

#### 2025 Outputs

- Disseminate the Finance for Nature Positive Working Model & Structure the Finance for Nature Positive Programme
- Carry out engagements with stakeholders on how to establish more private finance funding for nature
- Share knowledge & best practices to help financial institutions develop their positive impact strategies on biodiversity.

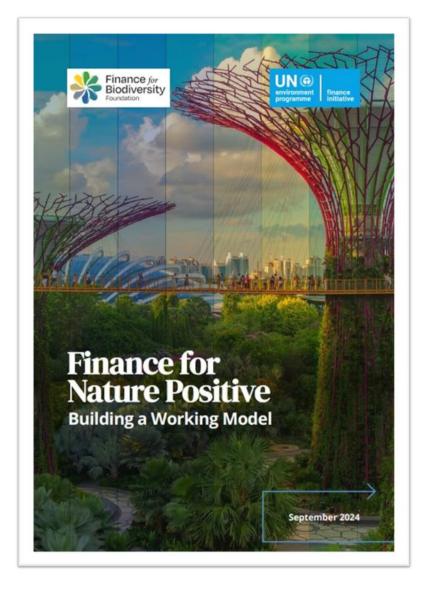
#### **Collaborations and partnerships**











### 2. Discussion paper on Finance for Nature Positive

The "Finance for Nature Positive" <u>discussion paper</u>, launched at NY CW in 2024, presented a **working model on finance for nature-positive**. This is a first step towards a common understanding of how private finance can contribute to the nature-positive goal; in line with the mission of the Global Biodiversity Framework (GBF)



#### Launch:

During the New York Climate Week and during the webinar 'Countdown to Cali' in September 2024



#### **Organisations:**

FfB Foundation & UNEP FI with the support of Netherlands Entreprise Agency (RVO)



#### **Processus:**

Foster consensus on definitions on finance for nature positive – through collaboration with +100 organisations.



#### **Ambition:**

Create a lighthouse of ambition for the financial sector on finance for nature positive and shed light on immediate and applicable actions that the private financial sector can take today.







### **Emergence of the concept**

- "Nature-Positive: a Global Goal for Nature" paper published in 2020 by J. Locke et al.
- GBF adopted in Dec. 2022:
  - "Reverse and halt biodiversity loss by 2030, and ensure the full recovery of Nature by 2050"
- Nature Positive Initiative, gathering 27 institutions around common definitions
- Lessons learned from Net-Zero

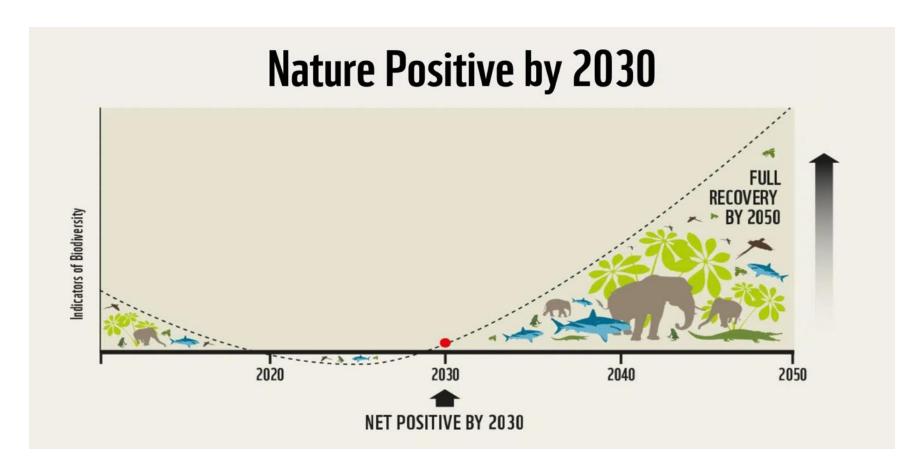






#### State of the art

- Scientific & sustainability models:
  - o UN SDGs;
  - Planetary Boundaries;
  - Doughnuts Economics & Dasgupta Review
- Existing sets of principles:
  - Nature Positive Initiative;
  - EU Business & Biodiversity Platform,
  - O Booth et al (in press).
- Recognised impact frameworks, such as:
  - Impact Management Project,
  - UNEP FI Holistic Impact Approach,
  - TNFD Impact definition.





Source: Nature Positive Initiative.







### **Current research & open debates**

- "Operationalizing Transformative Change for Business in the Context of Nature-Positive": How can individual actions of companies and financial institutions drive system-scale transformations?
- "Nature Positive must incorporate, not undermine, the mitigation hierarchy": How does the concept of Nature Positive interact with the mitigation hierarchy?
- <u>"Financing ecosystem conservation"</u>: Is there a misalignment between private finance objectives with conservation objectives?
- "Nature Futures Framework": What is the desired future state of nature?
- "Don't dilute the term Nature Positive": How to resist that « Nature Positive » becomes associated with « any action for nature?
- <u>"Nature-positive conceptual research framework"</u>: what additional research is needed by businesses?





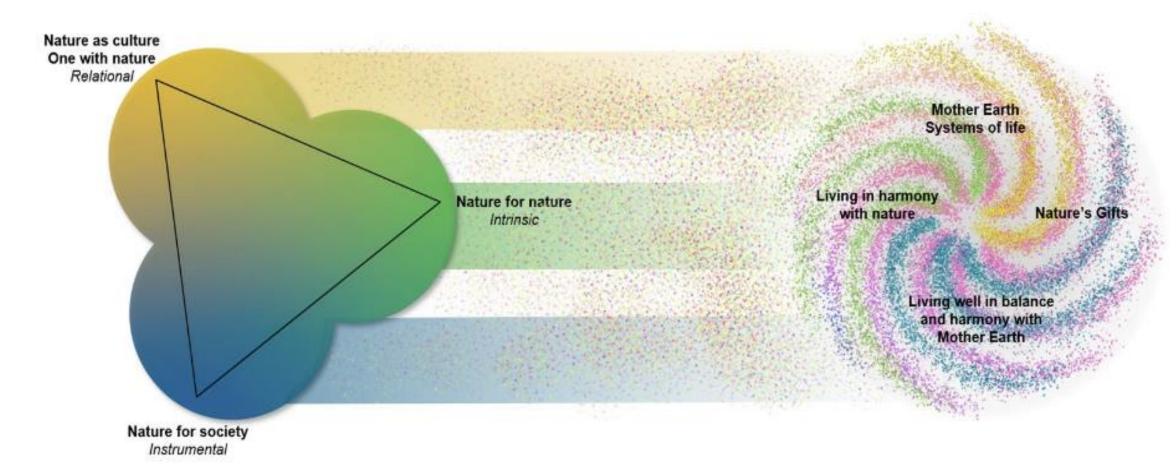






Illustration of the Nature Futures Framework, a flexible tool to support the development of scenarios and models of desirable futures for people, nature, and Mother Earth. Source: IPBES.

# 3. Finance for Nature Positive, a working model

The working model developed by the Finance for Biodiversity (FfB) Foundation and UNEP FI toward a Finance for Nature Positive builds from the definitions developed by the World Bank Group (WBG) in its <a href="Note on Nature Finance Tracking Methodology">Note on Nature Finance Tracking Methodology</a>.

The definitions used in this Finance for Nature Positive working model of are as follows:

- Nature Impact Mitigation Finance is finance for activities undertaken to address adverse impacts on nature in accordance with the Work Bank Group's Environmental and Social Framework (ESF) and IFC and MIGA Performance Standards (PS).
- **Nature Finance** is defined as finance contributing to the nature positive goal of halting and reversing nature loss and supporting the implementation of the Global Biodiversity Framework.
- **Nature Positive Finance** is finance that is expected to deliver measurable positive outcomes for biodiversity or ecosystem services, relative to business-as-usual; and
- **Nature Mainstreaming Finance** is finance that is expected to enable a broader economic transition toward practices aligned with delivering the nature positive goal.

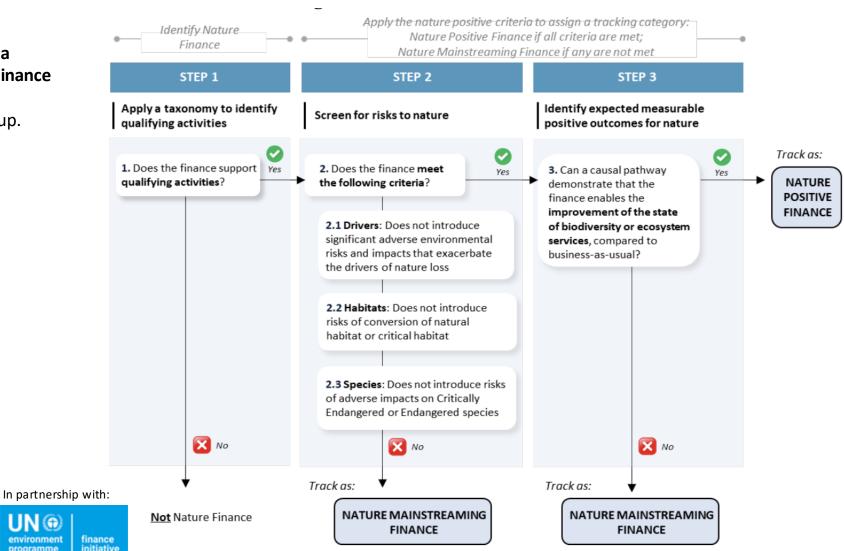




## 3. Finance for Nature Positive, a working model

Illustration of the criteria supporting the Nature Finance definitions.

Source: World Bank Group.







#### "Finance for Nature Positive" working model Transformative levels toward the improvement of the **Definitions Objectives** state of nature above the 2020 baseline Level 1: Compliance with the mitigation hierarchy **Nature Impact** Adherence to Mitigation finance international standards **Restore & Avoid** Reduce **Transform** regenerate **Nature** Level 2: Transformative actions for Global Biodiversity Framework implementation **Finance Nature** Sustainable use Solutions & **Broad economic Conservation &** (Mainstreaming) restoration enablers transition Remaining risks of adverse impacts **Finance** Finance for Solutions & Measurable positive **Conservation & Nature Positive** Sustainable use restoration enablers outcomes Transform value Goals **Avoid losses** Biodiversity gains chains Monitoring of contributions Manage **Reduce drivers** Support system Generate **Strategies** biodiversity gains to positive outcomes of loss phase-out changes Governance Level 3: Organisation strategy and governance

# 3. Finance for Nature Positive, a working model

### **Explanation of the visual**

- The Finance for Nature Positive working model builds on the definitions of the World Bank Group, including Nature Impact Mitigation Finance, Nature Mainstreaming, and Finance for Nature Positive.
- It underlines the improvement of the state of nature above the 2020 baseline as an overaching goal, in accordance with the recommendations of the Nature Positive Initiative.
- It defines three "transformative levels" for financial institutions: firstly, compliance with the mitigation hierarchy; secondly, support of transformative opportunities for the implementation of the Global Biodiversity Framework; and thirdly, organisation strategy and governance.
- Financial institutions are called to monitor their contributions to the Global Biodiversity Framework as they aim to avoid nature deterioration and biodiversity loss, (by phasing out from activities with adverse impacts and reducing drivers of loss), generate biodiversity gains (through the conversation & restoration of nature), and transform value chains (by supporting system scale changes).
- The categories of opportunities presented for financial institutions as contributing to nature-positive outcomes are "sustainable use", "conservation and restoration", and "solutions and enablers".





### 4. Deep-dives: nature positive outcomes

#### **Understanding measurable positive outcomes:**

- A positive outcome is a potential or realised improvement in the state-ofnature, including the provisioning of ecosystem services, relative to a static baseline, based on the difference between a scenario with mitigation and conservation actions and one without such actions.
- Positive outcomes are spatially explicit, operate at the site- and/or landscape-levels, and are quantifiable in terms of state-of-nature improvement.

#### Difference between achieving and contributing to positive outcomes:

- Nature-positive outcomes always occur at the landscape level/site level.
   Still, contributions to these outcomes can occur at multiple, nested levels.
- Corporate nature positive roadmaps ("transition plans") are the ideal instrument for describing these contributions and should include actions at multiple levels.

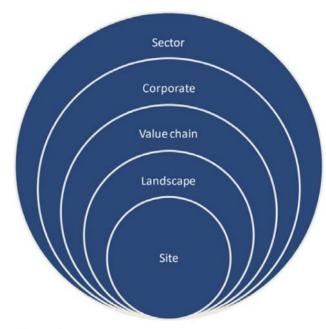


Figure 6: Possible levels of contributions to nature positive outcomes. Source: ALIGN.





## 4. Deep-dives: nature finance strategies

### Sustainable use

- Identify, avoid, and engage to phase out key negative activities
- Due diligence and internal processes
- Promote knowledge sharing and advocate for nature-centric policies (sectoral regulations, biodiversity credits)

- Identify and understand transition pathways within sectors
- Collaborate with stakeholders to drive the transition
- Promote knowledge sharing and advocate for nature-centric policies (disclosure requirements, nature scenarios)

# Conservation & restoration

- Identify conservation and restoration projects to develop a diversified portfolio
- Foster partnerships for community engagement and empowerment
- Promote knowledge sharing and advocate for Nature-centric policies (collaborative platforms, alignment of incentives)

# Solutions & enablers

- Identify market challenges to support the emergence of solutions and enablers
- Aim for transformative changes through innovations and commitments
- Finance research to lift institutional barriers for innovation





### 5. Call to Action & Next Steps

The private finance sector calls for clear policy pathways from governments on GBF implementation, focusing on the underlying economic activities that will genuinely mobilise private resources at the scale and speed required.

The discussion paper identifies the following market needs to be answered:

- on measurement, disclosure, and data: How to access the right level of data? How to compare projects? How to set baselines?
- on reducing barriers to nature conservation and restoration finance: Where & how to find returns? Can risks be reduced?
- on policy and sectoral transformation pathways: Are the right incentives in place? Is there policy coherence supporting the transition?

FfB and UNEP FI are publishing the discussion paper alongside a questionnaire to collect feedback. Beyond COP16, FfB and UNEP FI will continue working with their members and partners to further develop the concepts in this paper into a framework for Finance for Nature Positive – now supported by the GEF.





### 5. Finance for Nature Positive (FfNP) Programme

The Finance for Biodiversity Foundation (FfB Foundation) is thrilled to have been selected for funding under the Global Environment Facility's (GEF) first-ever Innovation Window.

Running from 2025 – 2027, this project aims to guide and support private financial institutions in mobilising financing and investment activities that contribute to the nature-positive goal, aligned with Goal D & Target 19 of the GBF.

The programme will be developed via a bottom-up approach by member financial institutions of the FfB Foundation, with inputs from UNEP FI members, and the support of a range of experts and organisations.

#### **Programme components:**

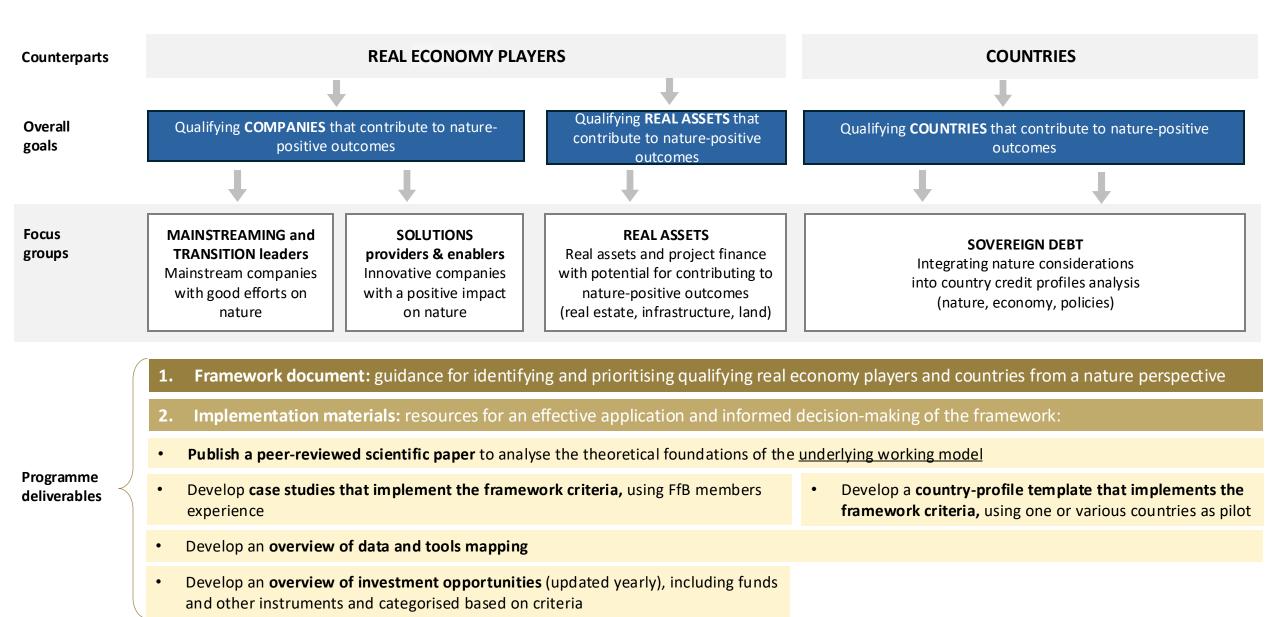
- 1. A framework that will help financial institutions identify real economy players and countries with a transition and/or solutions contributing to the nature-positive goal.
- 2. Implementation materials like case studies and overview reports of available data and funding vehicles.







### 5. Structure and deliverables of the FfNP Programme



# Thank you for your attention!

We invite financial institutions committed to making prPledge signatory and member of FfB Foundation.ogress on nature conservation to become a

**Application form** 



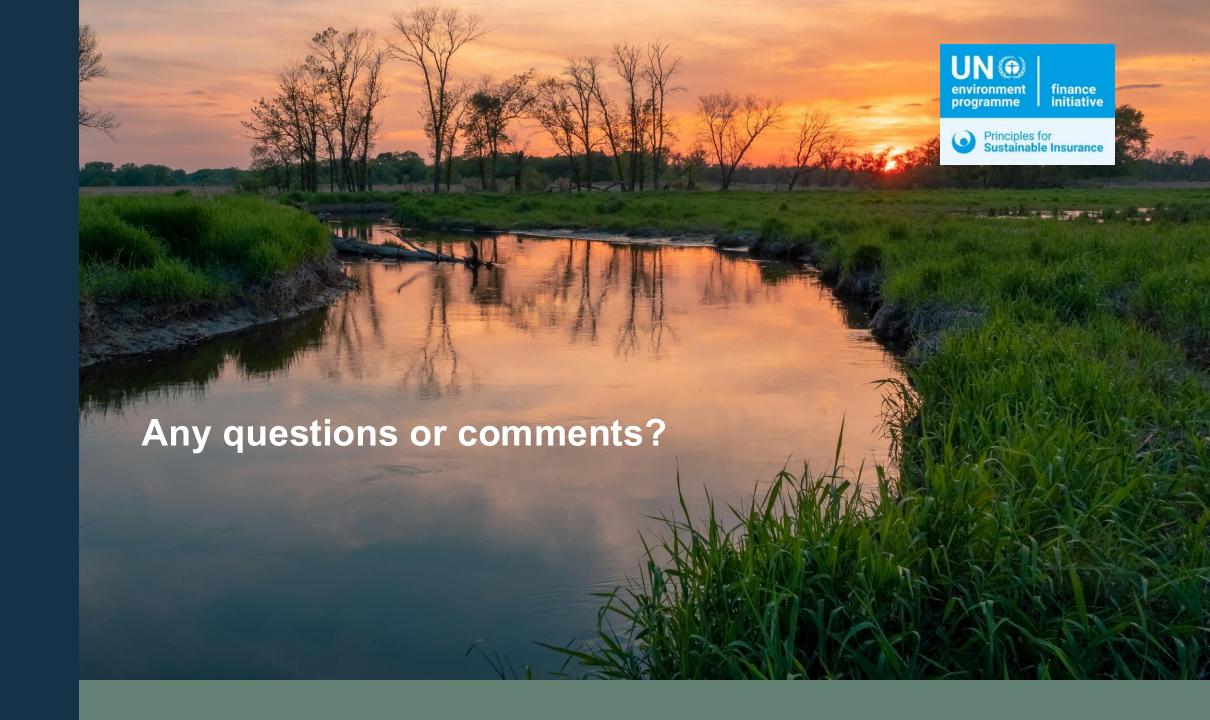
info@financeforbiodiversity.org



www.financeforbiodiversity.org







**Interpretation for Insurance** 

Verena UNEP FI

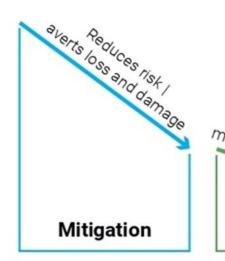




# **Risk Management Continuum**



# Climate change mitigation (net zero) and adaptation (resilience) are both about risk reduction







# Loss and damage

#### Avert loss and damage:

 Mitigation to reduce emissions

#### Minimize loss and damage:

- Adaptation
- Disaterrisk reduction

#### Address loss and damage:

- Transfer risk e.g. social protection insurance
- Retain risk e.g. contingency fund

#### Extreme or slow onset event:

- Storm / Typhoon / Cyclone
- Extreme drought
- · Rising sea levels
- · Ocean acidification
- · Glacial melt
- · Heatwave
- Flood
- Wildfire

#### Address loss and damage:

- Emergency response
- · Rebuilding funds
- Relocation support
- Livelihood programmes
- · Social protection

Source: UNEP

### Insurance Framework – Opportunities to Mitigate Impact & Build Resilience

Nature-based Solutions (NbS)



finance initiative



Insurance for Nature Positive

Transition Insurance

Resilience Insurance

Mitigation

Avoiding Drivers of Loss

Reducing Drivers of Loss

**Biodiversity Gains** 

\*Adapted from UNEP mitigation and resilience pathway and

UNEP FI and FfB 'Finance for Nature Positive Working Model'

Conservation & Restoration

Conservation & Restoration

Solutions & Enablers

Transformation

### Adaptation

Natural (modified) ecosystems

- Risk reduction
   (e.g., investment in NbS)
- Anticipatory Insurance

- Risk transfer for natural assets/NbS (contributes to resilience of ecosystems)

Sustainable Use of Nature

Sustainable Use of Nature

#### **Residual Risk**

### **Human infrastructure / assets**

- Reduced risk to human systems
   i.e., communities, businesses, supply chains (due to more resilient ecosystems)
- Residual risk transfer for human systems and reflecting nature's risk reduction in risk models

Application of mechanisms individually or in insurance strategy

### Climate- or naturerelated events

Storms / typhoons / cyclones
Rising sea level
Droughts
Floodings
Wildfires
Heatwaves
Air / water pollution
Ocean acidification
Water shortages
Diseases / zoonoses
Pest outbreaks
Soil health decline
Fishery collapse
Algae blooms

### Loss & Damage

Additional considerations to include nature:

- Nature as a center piece in response and recovery efforts e.g., public funding for ecosystem restoration post disaster



### **Definitions (proposed) – Insurance Opportunities for Nature**



Insurance for Nature Positive

Insurance solutions and other risk-transfer instruments that: a) de-risk and thereby enable investments in the conservation, restoration, and sustainable use of nature; b) insure natural assets and nature-based solutions to strengthen ecosystem resilience and deliver benefits to people; and c) support the scaling of businesses that generate positive outcomes for nature. Insurance for nature-positive outcomes seeks to create measurable improvements for nature compared to business-as-usual approaches, while resilient ecosystems in turn help build resilience for human infrastructure and assets.

Resilience Insurance Resilience insurance focuses on integrating natural hazard risk reduction measures into traditional insurance coverage for human infrastructure and assets – particularly through recognising and incorporating the risk-reduction value of nature-based solutions (NbS) in premium pricing and product design, especially within property and business interruption insurance. It also includes providing insurance for emerging nature-related risks to help limit the growing protection gap.

Mainstreaming /
Transition
Insurance

Insurance products and other risk transfer solutions that provide enhanced transition support through tailored products and underwriting terms to help clients achieve nature-related goals (e.g., sustainability-linked insurance with nature-related KPIs). It can also provide cover for risks associated with transitioning activities and operations, and support companies transforming value chains to avoid or reduce drivers of nature loss compared with business-as-usual activities.

Insurer as a risk manager –

risk management services

and risk models

species

### Focus Session #1

### **Session #1: Insurance for Nature-Positive**

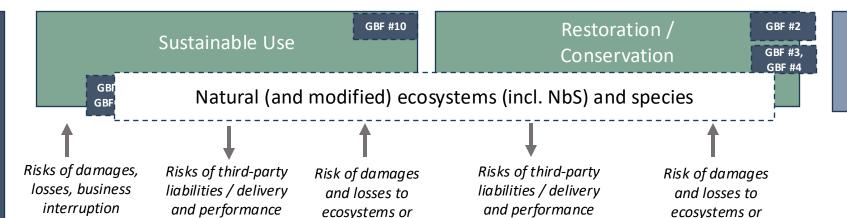
Potential risks of 'nature-positive activities' and to 'natural assets' (non-exhaustive)

insurance for Nature-Positive

Categories

**Risk Carrier** 

Insurer



**Insuring Activities for Nature-Positive:** 

- 1 Insurance for the construction/implementation of NbS and conservation/restoration projects (damages and losses, liability insurance)
- Insurance for the delivery/performance of NbS and conservation/restoration projects (damages and losses, surety insurance)
- Insurance for the operations/management of NbS and conservation/restoration projects (damages and losses, liability insurance)
- 4 Enabling investments for restoration, conservation and sustainable use of nature (political risk and credit risk insurance)

species

- 5 Insurance to increase confidence of participating actors to invest in NbS (e.g., insurance for carbon credits purchases and sales)
- 6 Insurance for businesses applying sustainable management / use of nature (e.g., property, business interruption, agricultural insurance)

#### Insuring Risk to Nature (Ecosystems and Species / NbS - or nature-based assets):

- 7 Insurance to reduce risks to species e.g., wildlife and ecosystems (anticipatory insurance) contributing to conservation and resilience of nature
- 8 Insurance of natural assets / ecosystems (and/ or specifically their ecosystem services) contributing to resilience of natural assets (asset protection)
- 9 Insurance to remediate negative impacts on nature by prior or insured activities (surety, environmental pollution liability insurance)

# environment programme finance initiative

### **Future Discussion Points**



We would like to continue building and refining the insurance framework and translation of the concept of nature-positive into an insurers underwriting portfolio. Following a number of initial Nature Practice Sessions, we aim to bring back the concept and definitions to gather your input and feedback.

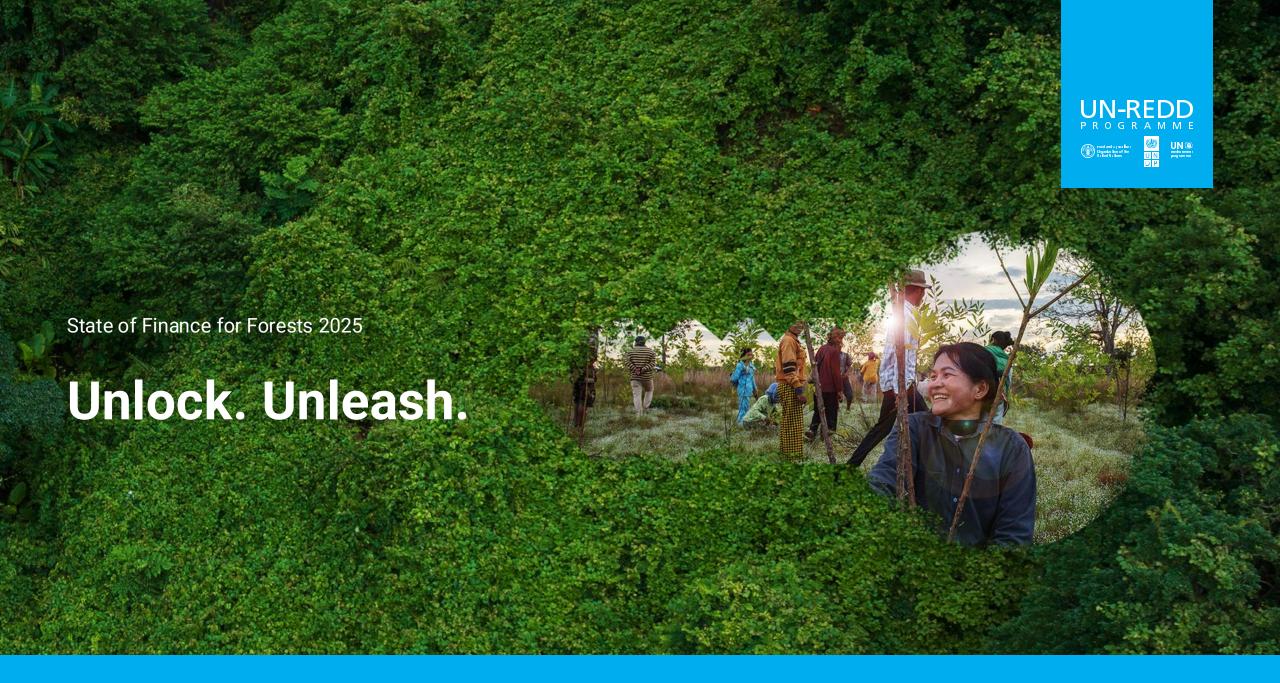
- 1. Is the concept of nature-positive (or elements of it) currently reflected or integrated within your organisation's existing frameworks, strategies, or processes?
- 2. How do you view the applicability and relevance of this framework in advancing a nature-positive approach within your organisation?
- 3. Does the framework help identify nature-related opportunities and support portfolio-wide approaches to integrating nature considerations?
- 4. Are there any areas, aspects, or insurance categories and solutions not yet reflected in the framework that would be useful for insurers to better contribute to nature-positive outcomes and resilience building?



**State of Finance for Forests** 

**Gabriela Flores UNEP** 

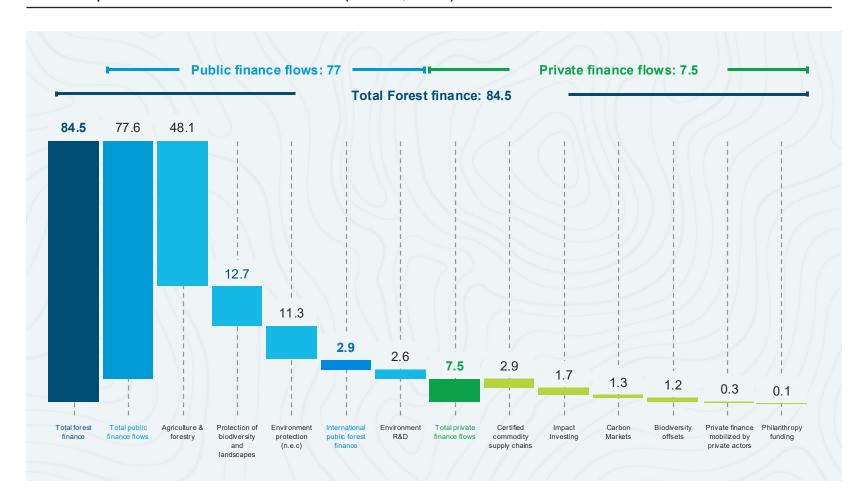






## Finance forest flows hit US\$ 84 billion in 2023, 91% from the public sector, 9% from the private sector

Public and private finance flows to forests in 2023 (2024 US\$ billion)

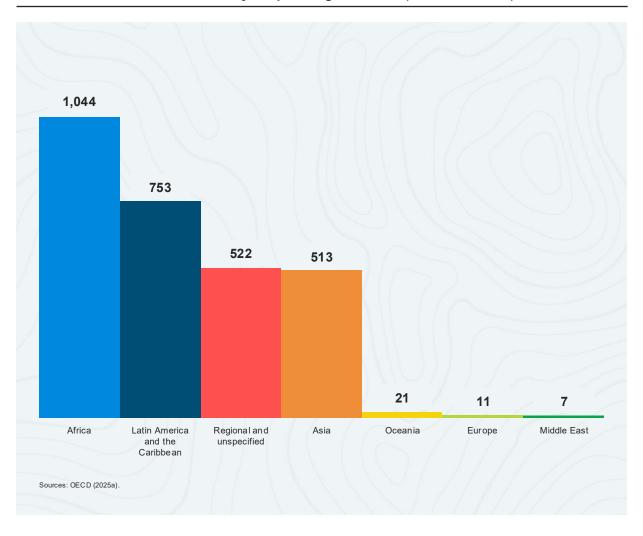


Of the US\$ 77 billion in public finance, 96% is spent domestically—mainly in advanced economies on sustainable agriculture and forestry—only 4% is international forest finance.

Private finance for forests is US\$ 7.5 billion, with over 70% channeled through certified commodity supply chains, impact investing and carbon markets

## Public international forest finance was US\$ 2.9 billion in 2023

Public international forest finance by recipient region in 2023 (2024 US\$ billion)





**Africa received 36%, LAC 26%, Asia 18%** of public international forest finance in 2023. Key recipients were DRC, Peru and Brazil



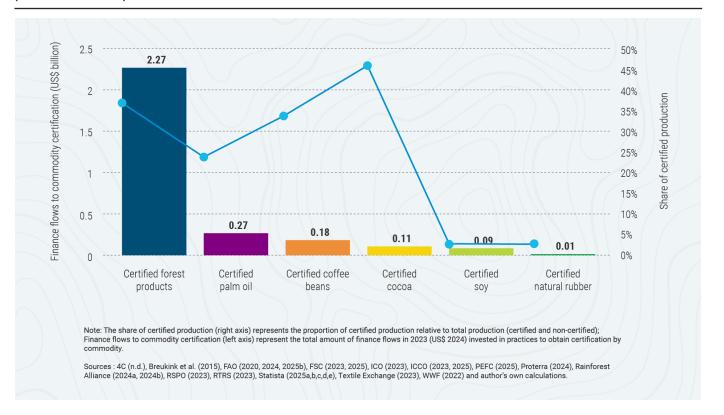
WB Group, Germany, UK, Norway provided around 65% of total public international forest finance



Only US\$ 362 million was directed to Indigenous Peoples & Local Communities

# Private forest finance reached US\$ 7.5 billion in 2023; certified commodity supply chains channeled US\$ 2.9 billion

Private flows from certified commodity supply chains relative to the share of certified production in 2023 (2024 USD billion)



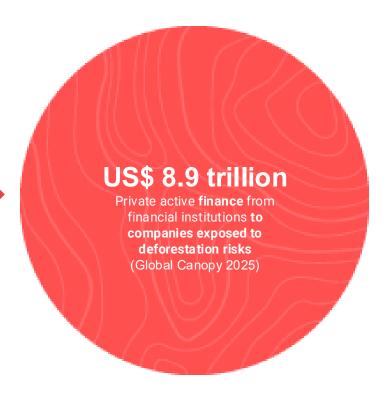


Most certified investments is directed to forest products in Europe and North America, while tropical high-risk commodities receive little, despite driving most global deforestation

# Finance that potentially harms forests overwhelm finance flows that contribute to halting and reversing deforestation



Private financing to high-risk deforestation companies exceeds current forest financing by **100 times** 





Potentially harmful subsidies in agriculture in 2023

US\$ 84 billion

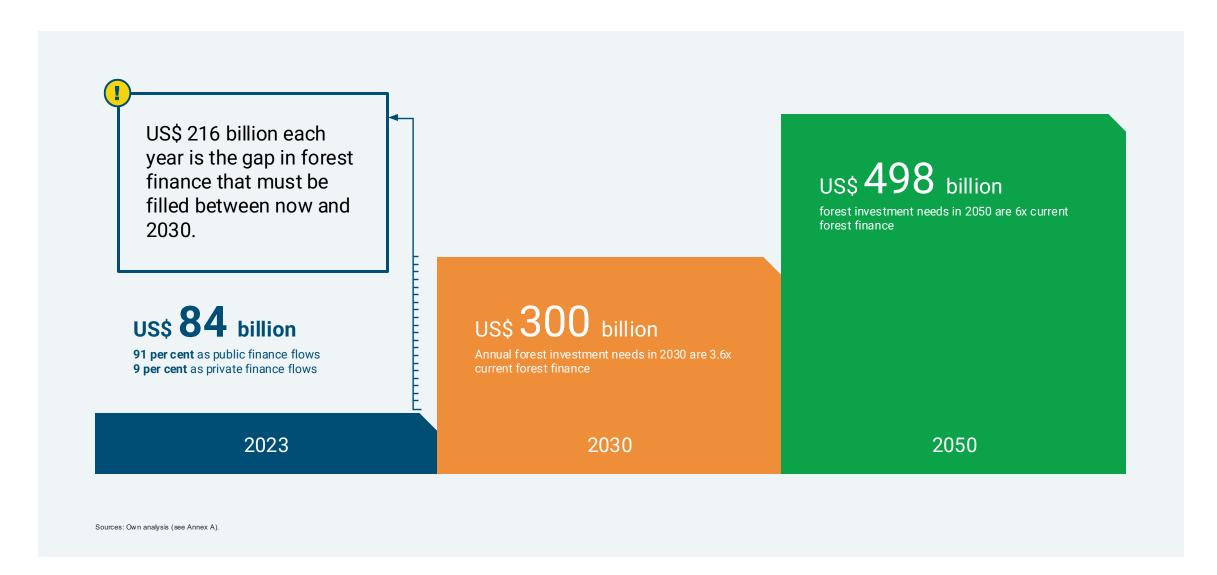
Current forest finance in 2023



For every US\$ 0.20 cents currently invested in forests related NbS, US\$ 1 is allocated to potentially harmful subsidies in agriculture that may exacerbate deforestation

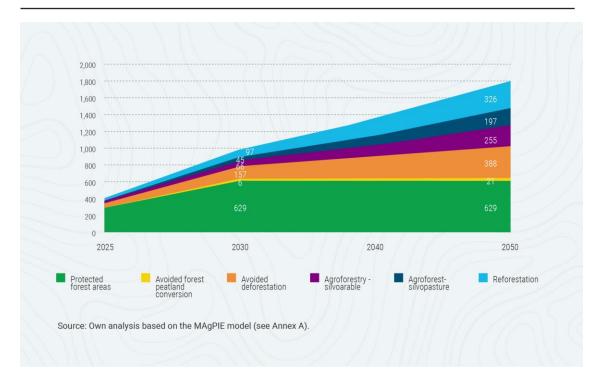


## Forest finance needs to increase over threefold by 2030 to meet global forest goals



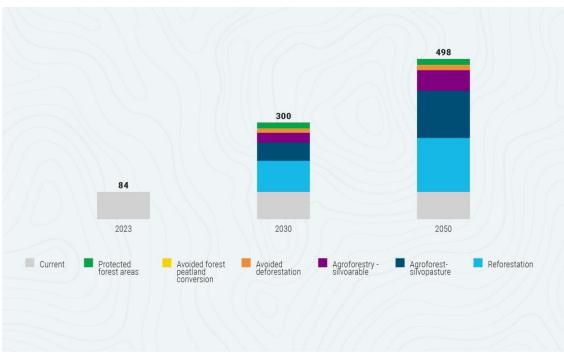
# Prioritizing forest protection is a cost-effective strategy covering 80% of land needs by 2030, absorbing just 15% of required finance

Additional land area Mha (cumulative) to reach the Rio targets by 2023 and 2050



The world needs to **expand the land area for forests related NbS by 1 billion hectares by 2030**, rising to 1.8 billion hectares by 2050.

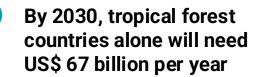
Annual investment needs globally to reach the Rio targets by 2023 and 2050 (2024 US\$ billion)



Annual investment in forest NbS needs to reach US\$ 300 billion by 2030 and US\$ 498 billion by 2050.

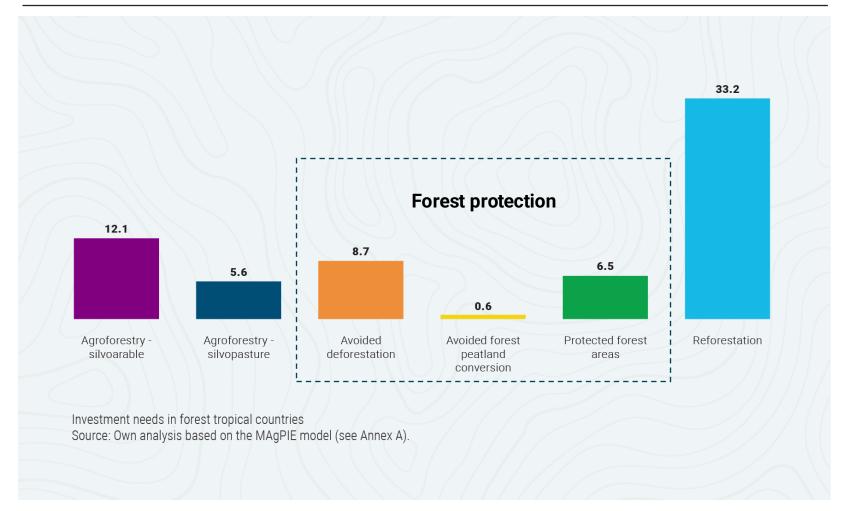
## Forest finance needs to flow where it matters the most: forest protection and tropical forests countries

Annual investment needs in forest tropical countries to reach the Rio targets by 2023 and 2050 (2024 US\$ billion)



- US\$ 16 billion to protect standing tropical forests
- US\$ 33 billion for restoration of degraded land.

US\$ 18 billion for agroforestry.



## **Key Takeaways**



#### Forest finance must triple by 2030, while also being allocated more strategically

• A US\$ 216 billion in annual forest finance gap must be filled between now and 2030. We must mobilize US\$ 300 billion per year in forest finance — especially from the private sector and for tropical forests protection.



## Advancing government leadership to mobilize forest finance is essential — shifting capital away from deforestation risk

Regulation, legislation and incentives are critical to mobilize and de-risk private investment in forests. And
reconciling economic growth with forest protection requires diverting capital from harmful activities and
reshaping incentives.



## Accelerating financial innovation can make a difference — now more than ever we need an integrated system for forests financing

Instruments like sovereign green bonds, debt-for-nature swaps, impact investing, blended finance, high-integrity
carbon markets (compliance, voluntary, and Article 6 of the Paris Agreement), biodiversity credits and offsets,
insurance and guarantees can mobilize both public and private investment — diversifying funding sources
and helping build a complementary, integrated system for forest finance.



#### Forest finance must be delivered with transparency, fairness, equity, and environmental and social integrity

 Forest finance must reach IP&LCs, guardians of ~36% of intact forests, and women through targeted financing and support, ensuring accountability and robust safeguards.

## How can insurance accelerate investments in forests carbon markets? (1)

#### Risk mitigation could encourage investment in forests

- Insurance products could reduce uncertainty and financial risks associated with forest carbon projects for example, through coverage for non-delivery, counterparty default, buffer depletion, or political risks
- Carbon-related insurance policies could facilitate project developers meet carbon standards requirements

Forest carbon project risks	Political – The risk that a host country may implement a change of law and regulations, impacting a carbon project, transaction or sale of credits
	Social – The key social risks entail carbon rights, participation, benefit sharing, equity, and community well-being
	Counterparty – The risk parties within the transaction may act in a manner such that they are enable or unwilling to fulfill their obligations
	Invalidation – The risk that the carbon credits or an entire project are invalidated
	Delivery – The risk that the credits forecast for a project are not delivery in part or full
	Price – The risk that the price of a credit may change, increasing your exposure and/or negatively impacting your investments purchase, sale or trade
	Leakage - The possibility that a conservation or reforestation effort in one area causes environmental harm somewhere else
	Permanence – The likelihood that the carbon sequestered by a forest project will no remain store over in the long run
	Reversal – The risk that carbon capture by a project may be released into the atmosphere

## How can insurance accelerate investments in forest carbon markets? (2)

## **Gold Standard Approves More Insurance Policies Under First Phase of CORSIA**



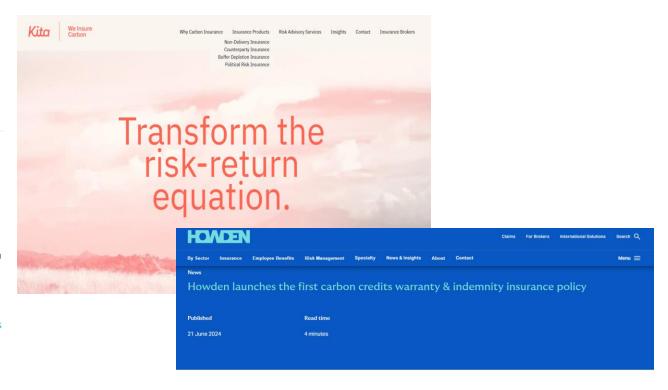


Today, Gold Standard has added two approved insurance policies for use by project developers seeking eligibility for Gold Standard Verified Emission Reductions (GS-VERs) under the first phase of CORSIA, the Carbon Offsetting and Reduction Scheme for International Aviation.

The approval of CFC Underwriting Limited (CFC): CORSIA Guarantee Insurance and Oka, The Carbon Insurance Company™: Corresponding Adjustment Protect™ insurance policy, follows assessment by Howden, under a process launched by Gold Standard in July 2025. The approval has been reflected in Gold Standard's Guidelines for the Eligibility of Gold Standard VERs for Use under CORSIA's First Phase.

"Approving these insurance products gives project developers more routes to meet CORSIA requirements. It will enable more projects to supply credits for CORSIA's first phase, in a way that is reliable and based on solid foundations."

Said Margaret Kim, CEO at Gold Standard.



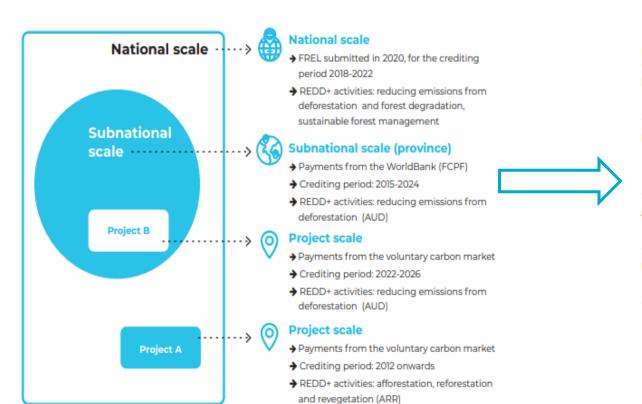
London, 21 June 2024 - Howden, the global insurance intermediary group, today announces the placement of the first Carbon Credits Warranty and Indemnity (W&I) insurance policy. The W&I policy provided insurance cover on the sale of carbon credits for the reafforestation project of degraded forest lands by Mere Plantations, a UK-based company that owns and operates a teak plantation in Ghana, West Africa, and has been underwritten by a leading managing general agent. This is an important milestone in the evolution of the voluntary carbon market. The presence of a Carbon Credits W&I policy dramatically improves trust in the quality of carbon credits and has the potential to unlock a wave of capital into the carbon market.

The demand for high-quality credits is strong, and by using insurance as a governance mechanism, the W&I policy significantly increases the integrity and value of the carbon credits. Mere Plantations can demonstrate to buyers that their credits have met the highest levels of environmental, social and financial diligence, and are backed by an insurance policy that guarantees their provenance.

This insurance policy allows project developers to access the underwriting expertise of the M&A insurance market, providing assurance in the methodology and implementation of their carbon credit projects.

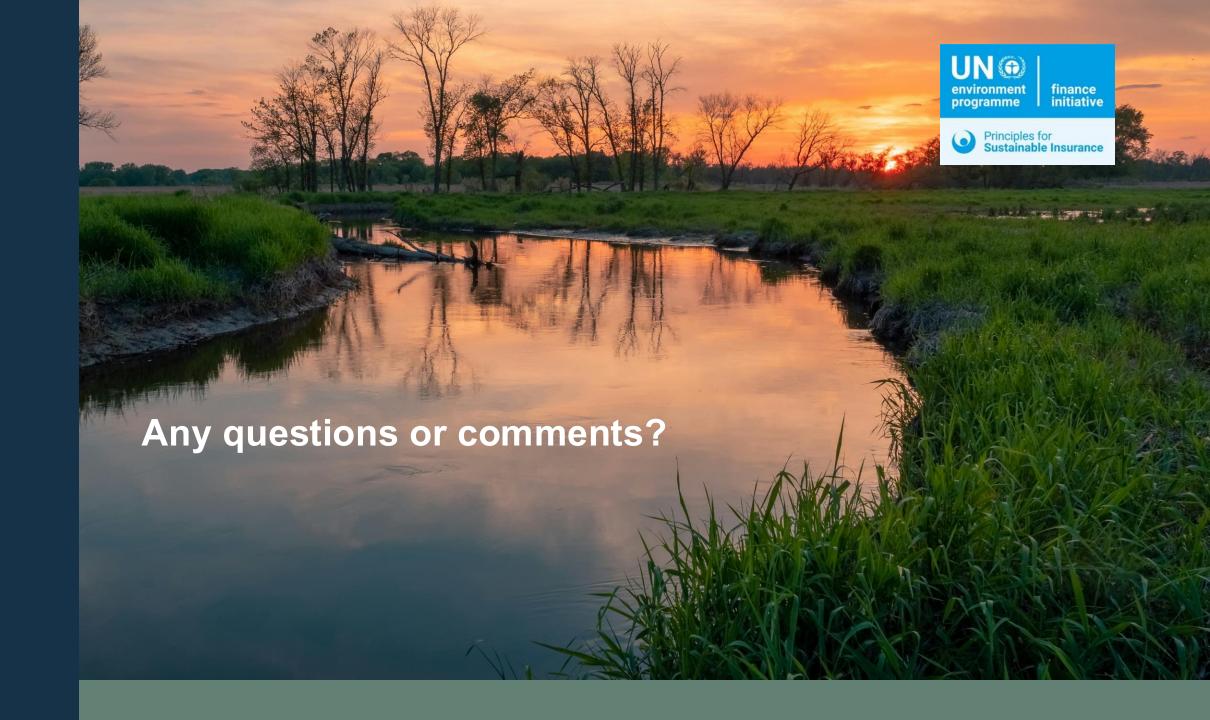
## **Besides insurance, are there other options?**

### JREDD+ programs → high integrity carbon credits



Environmental Risk	REDD+ (Project-Level)	Jurisdictional REDD+ (JREDD+)
Leakage	Higher risk; deforestation may shift outside project boundaries	Lower risk; policies applied across entire jurisdiction reduce displacement
Permanence	Challenging; limited resources and political instability can affect long-term impact	Improved; consistent jurisdictional policies and enforcement enhance durability
Additionality	Difficult to prove that reductions are beyond business-as-usual	Easier to assess using jurisdiction-wide baselines
Monitoring & Verification	Project-level monitoring may lack rigor and capacity	Centralized monitoring increases accuracy and credibility





**Insurance enabling financial flows for Nature** 

Verena UNEP FI



insurance for Nature-Positive Categories of

\*based on how the insurance product is structured

Enabling
funding

Insurance payouts

	Insu	ring Activities for Nature-Positive:		
rer as Risk Carrier	1	Insurance for the construction/implementation of NbS and conservation/restoration projects (damages and losses, liability insurance)	yes	Potentially*
	2	Insurance for the delivery/performance of NbS and conservation/restoration projects (damages and losses, surety insurance)	yes	Potentially*
	3	Insurance for the operations/maintenance of NbS (damages and losses, liability insurance)	yes	Potentially*
	4	Enabling investments for restoration, conservation and sustainable use of nature (political risk and credit risk insurance)	yes	
	5	Insurance to increase confidence of participating actors to invest in NbS (e.g., insurance for carbon credits purchases and sales)	yes	
	6	Insurance for businesses applying sustainable management / use of nature (e.g., property, business interruption, agricultural insurance)	yes	Potentially*
$\supset$	Insu	ring Risk to Nature (Ecosystems and Species / NbS - or nature-based assets):		
	7	Insurance to reduce risks to species e.g., wildlife and ecosystems (anticipatory insurance) contributing to conservation and resilience of nature		yes
	8	Insurance of natural assets / ecosystems (and/ or specifically their ecosystem services) contributing to resilience of natural assets (asset protection)		yes
	9	Insurance to remediate negative impacts on nature by prior or insured activities (surety, environmental pollution liability insurance)		yes

Resilience Insurance Incentivizing / enabling investment in NbS / conservation and restoration through considerations of nature in risk models and product structuring.

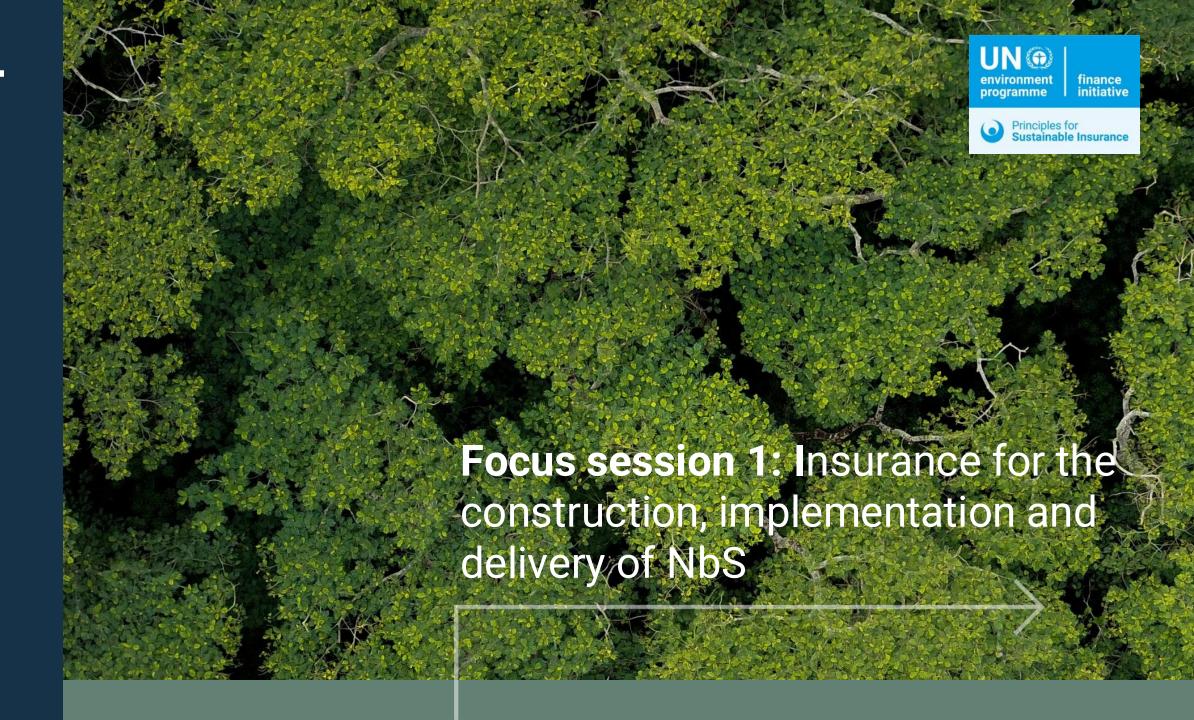
# environment programme finance initiative

## **Future Discussion Points**



We would like to continue building and refining the insurance framework and translation of the concept of how insurance can enable financial flows to nature. Following a number of initial Nature Practice Sessions, we aim to bring back the concept and definitions to gather your input and feedback.

- 1. Is the framework and its categories helpful in defining how insurance can enable or contribute to financial flows that support nature?
- 2. Does the framework help identify nature related opportunities and support a portfolio shift within insurance underwriting towards activities that contribute to nature positive outcomes?
- 3. Are the categories comprehensive, or do you see additional aspects or categories emerging under evolving policy, regulatory, market or environmental developments?
- 4. Which categories are most relevant or applicable to your business model, and where do you see the greatest leverage points for insurers within the Working Group?
- 5. How would you like to see the role of insurance further positioned in relation to these opportunities?



## **Categories and Examples**

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## Focus Session #1: categories and examples (1/2)



finance initiative

Category: 1	Insurance for the construction/implementation of NbS and conservation/restoration projects (damages and losses, liability insurance)			
Category: 2 Insurance for the delivery/performance of NbS and conservation/restoration projects (damages and losses, surety insurance)				
Category: 3 Insurance for the operations/maintenance of NbS (damages and losses, liability insurance)				

Cat	Case study name	Location	Biome/ ecosystem	Type of insurance coverage
1	Prince Hendrik Sand Dyke Project	Island of Texel, NL	Coastal Dunes	Construction all-risk coverage to support the restoration of the Prince Hendrick sand dyke – preventing failure of the dyke and protecting ecosystem on the island.
1, 3	Nature-based Municipal Bond for Canal Restoration	Kochi, India	Water canals	Project to restore canals (flood mitigation and improving water quality) supported by construction and engineering coverage for delays, operational coverage for ongoing maintenance risks and parametric coverage for early intervention and rapid response.
1	Construction insurance for coastal NbS	Various, US	Living shorelines	All risk insurance for the construction of NbS such as "Living Breakwaters" – Staten Island, NY, or Living Shorelines Mississipi USA.
1	Implementation of prescribed burns for fire risk mitigation	Various	Forests	Liability insurance for the implementation for prescribed burns – only in some occasion considered as an NbS.
1	Conservation Defense Insurance	USA	Various – based on conservation easements	Insurance for legal defense of conservation easements for land trusts in the USA. Insurance to support permanence of conservation easements.
2, 3	Insurance to de-risk ecological restoration projects	NA, LAC, Europe, Australia and others TBC	Various	The purpose of the "Restore" insurance product is to support ecological restoration projects whose planned recovery trajectories have been adversely impacted by predefined perils. The "Manage" product covers the ongoing management phase of a project, which focuses on maintaining and improving the conditions for recovery.
2	Insurance for performance risks of living levees	California, USA	Tidal Marsh	A local community is aiming to reduce flood risks by implementing a living levee. The community is looking at insuring the levee itself and the performance risk of the levee.
2, 3	Financial assurance for Mitigation Banks and Permittee Responsible Projects	USA	Various	Property & Casualty Insurance Policies or Surety bonds for e.g., wetland and stream restoration projects, nutrient credit banks, conservation banks, permittee-responsible mitigation etc.

## Focus Session #1: categories and examples (2/2)



Focus of these insurance products is the delivery of the carbon sequestration value of Nature-Based Solutions.



Cat	Case study name	Location	Biome/ ecosystem	Type of insurance coverage
2, 8	Forest carbon sink remote sensing index insurance	Hebei, Guangxi, and Hunan provinces, China	Forests, mangroves, grasslands	An index insurance product using satellite remote sensing to monitor forest carbon sink growth, provide rapid underwriting, fast claims settlement, and fund post-disaster restoration, contributing to the development of green forestry industries.
2, 8	Ocean carbon sink index insurance policy for marine ecosystem protection	City of Dalian, China	Ocean – Species (Kelp, Algae, Shellfish)	Compensation when specific changes in the marine environment damages local species such as kelp, shellfish and algae and lead to the weakening of carbon sink.
2, 8	Mangrove carbon sink insurance	Futian Natural Reserve, China	Mangroves	Mangrove carbon sink index insurance in China to offer risk protection, disaster prevention and loss reduction services for the mangrove carbon sinks of the Futian Natural Reserve.
2, 8	Parametric carbon storage insurance for grasslands	Inner Mongolia, China	Grasslands	First parametric Satellite Remote Sensing (SRS) index insurance for grassland carbon storage. The insurance product uses SRS for ecological assessment of grasslands and is then triggered based on the remote sensing index NPP (net primary productivity).
2, 8	China's National Wetland Park Insurance	Ningbo City's National Wetland Park, China	Wetlands	A parametric insurance solution was implemented to protect the gross ecosystem product (GEP) value of a National Wetland Park in China against risks from typhoons and droughts.
2, 8	Insurance for carbon credit buffer	Not specified	Wetlands	The insurance covers the loss and damage to the asset from unexpected natural and weather-related events that result in reduced carbon benefits, which may negate the need to set aside a portion of the buffer credits related to those specific risks.
2, 8	Parametric Insurance for wildfire protection and carbon credit loss	Australia / New Zealand	Forests	Parametric wildfire insurance for timber investments for Australian Carbon Credit Units (ACCUs).

**Case Study: SCOR** 

Insurance for Ecological Restoration - "Manage" product

Vicky Evans (Senior Underwriter, SCOR)







# **Ecological Restoration** Insurance Solution

Lourdes Robaina SVP, Product & Innovation Manager

Restore & Manage Products



# NatReCo Initiative Mission & Vision

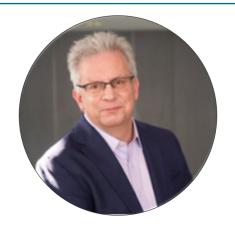


#### **Vision**

The NatReCo Initiative helps **SCOR optimise its impact on nature and people** by contributing to the welfare, resilience, and sustainable development of society to support the transition to a better tomorrow through the development of (re)insurance solutions and products which **preserves nature (and biodiversity)**.

#### **Mission**

The NatReCo Initiative offers proactive innovative (re)insurance solutions which support nature-resilient projects that address societal challenges like climate change, food and water security, and sustainable agriculture to endeavour to mitigate the causes of these challenges.



#### Jean-Paul Conoscente, Chief Executive Officer of SCOR P&C

"We are delighted to present this initiative, which demonstrates SCOR's innovative development capabilities and endeavors to address global issues which affect societies by de-risking financing opportunities. We believe insurance has an opportunity to play an important role in contributing to the actions required to mitigate and pre-empt the ongoing environmental challenges we are facing."



# NatReCo: Ecological Restoration Insurance Solution Our Background, Our People & Our Partners

#### **Initiative Owner**



"Debemos de hacer algo por la biodiversidad." – Henri Douche, Gerente, Equipo de Prouctos e Innovación, Dueño de la iniciativa.

La biodiversidad es un tema amplio: ¿Sera relevante para la comunidad ambiental? Funcionara como Producto de Seguro?

United Nations Biodiversity Conference (COP15) in Montreal → Global Biodiversity Framework (c.200 govts) → '30-by-30':

→ Ecological Restoration and De-risking Financing Opportunities ◆

#### **SCOR Team**



Harmender Kalirai (Transaction Advisor)



Lourdes Robaina (Subject Matter Expert)



Mohamed Motala (Subject Matter Expert)



Emma Bartolo (Lead Underwriter)



Vicky Evans (Lead Underwriter)



Laura Onorati (Claims Expert)



Quentin Zanella (Business Analyst)

#### **Lead Advisory Group**



Keith Wheeler



Mark Schaefer



Aline Bsaibes



Nik Lopoukhine



Bethanie Walder



John Gulliver



Michele Lacroix

#### **Expert**











# NatReCo: Ecological Restoration Insurance Solution Healthy Ecosystems: Importance and Current Status

Healthy ecosystems are essential for maintaining the planet's biological diversity and the natural capital that sustains human life and well-being because of the ecosystem services they provide to societies.

# Provisioning Services Products obtained from ecosystems such as: food fiber fuel natural medicines pharmaceuticals







Ecosystems are rapidly declining with some at risk of collapse due to:

Climate Change

Adverse Changes in Land And Sea Use

Pollution

Unsustainable
Exploitation of Natural
Resources





# NatReCo: Ecological Restoration Insurance Solution Impact & Understanding of Declining and Collapsing Ecosystems

#### **Public Health & Societal**

Public Health and Societal consequences of declining and collapsing ecosystems arise from not having the full benefits of ecosystem services.

#### **Economic**

When it is considered that an estimated US\$44 trillion of economic value generation (over half the world's total GDP) is moderately or highly dependent on nature and its services, it becomes evident how important nature is to the global economy and therefore how exposed economies are to nature.

Declining or collapsing ecosystems could have a material impact on the future stability and growth of industries such as agriculture, fishery and aquaculture, food, beverages and tobacco, construction, forestry, water, and energy.

#### **Financial Assets**

Investors will also not be immune to the consequences of declining ecosystems which are causing asset value deterioration to financial assets.





# NatReCo: Ecological Restoration Insurance Solution Increased Awareness

There is now a **greater understanding** of the importance of Ecosystem integrity and resiliency, including, for example, in addressing climate change. Ecosystem restoration has become an **international priority** due to its ability to recover and deliver the many ecosystem services they provide to societies.



## **Government Regulations**

Uplift in regulations in recent years including:

- the Kunming-Montreal Global Biodiversity Framework
- the EU Nature Restoration Law
- the Biodiversity Net Gain legislation in England
- the Nature Conservation Act in Japan
- Law 2173 of 2021: Promoting restoration in Colombia

These put greater pressure on businesses to address nature-related obligations and to remediate damage to avoid the consequences of violating regulations, including possible fines and reputational damage.



## **Consumers & Investors**

The growing awareness of declining ecosystems and their consequences has increased the expectations of customers and investors for companies to reduce greenhouse gas emissions, to have a 'Social Licence to Operate', and for companies to report and act on a much broader range of nature-related risks, including negative impacts on ecosystems.





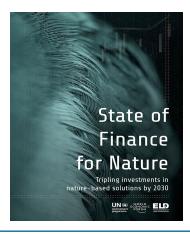
# NatReCo: Ecological Restoration Insurance Solution Ecological Restoration Financing

Even though there is a greater awareness of declining ecosystems and understanding of the importance of ecosystem integrity and resiliency, **more financing is required**.



A total investment in nature of **US\$8.1 trillion** is required between now and 2050.





- Scientists estimate that \$700 billion is the amount required to sustainably manage biodiversity and halt the destruction of ecosystems and species.
- At COP15 & COP16 it was agreed that a minimum of US\$200 billion a year was required between then and 2030.
- Current annual investment is around US\$150 billion



Governments, corporations, financial institutions, nongovernmental organizations, and individuals **can be reluctant to finance nature-related projects** for a variety of reasons:

- The inherently **unpredictable and dynamic nature of ecosystems** and the drivers that impact them can affect investments.
- A lack of available data relating to projects and investment returns.
- Uncertainty about returns on investments, including the timing of returns.
- The lack of governance and standards around ecological restoration projects.

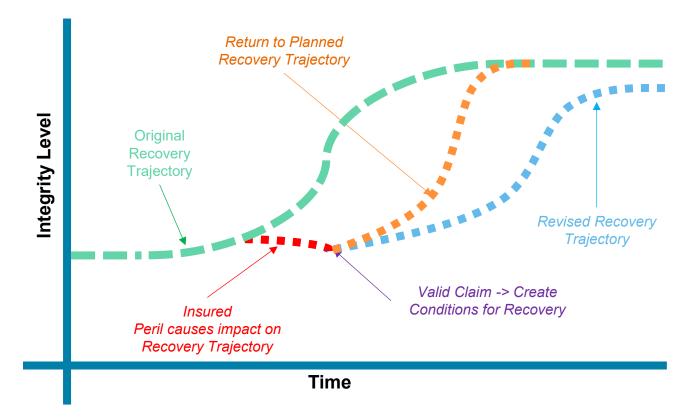




# NatReCo: Ecological Restoration Insurance Solution Ecological Restoration Insurance Solution

SCOR proposes to bridge the 'gap' between the need and desire to finance ecological restoration projects by **de-risking** the financing opportunity with its Ecological Restoration Insurance Solution.

- Following implementation of the restoration plan which intends to assist the recovery of the biodiversity and integrity of a native ecosystem which has been previously degraded:
  - if the original recovery trajectory of the integrity level of an Ecosystem (as defined in the restoration plan)
  - is adversely impacted following a predefined insured peril
  - the Ecological Restoration Insurance Solution will insure the <u>financial costs</u> associated with creating the restoration conditions required
  - to return an Ecosystem to its planned (or a revised) recovery trajectory



Insured Perils: Aircraft; Cold Wave; Earthquake; Explosion; Fire; Flood; Hail Damage; Heat Wave; Impact; Lack of Precipitation; Landslide; Lightning; Malicious Damage; Rockslide; Storm



# NatReCo: Ecological Restoration Insurance Solution Restore & Manage Products: Principal Features

#### **Scalable**

There are various reasons why an ecological restoration project may be undertaken, and such projects are ongoing all around the world. Therefore, the product cannot be bespoke to a client's specific needs; it needs to be a scalable, global solution. By insuring the project itself, it is possible to provide coverage for different ecological restoration projects notwithstanding their location.

#### **Impact Assessment Based**

Not parametric. Ecosystems have a *biological elasticity* to their integrity levels therefore, it is necessary to assess the severity of an event to establish whether it has had a negative, neutral or positive impact on the ecosystem. This will allow for the product to be priced accordingly.

#### **Expert Driven Claims Assessment**

Given the technical nature of the Ecological Restoration Insurance Solution, loss adjustors appointed by SCOR to assess claims will be assisted by **Certified Ecological Restoration Practitioners** who will provide **technical expertise** as to the impact of an insured event and the quantum of any valid claim.

#### **Ecological Restoration Related Claims Payments**

To ensure the Ecological Restoration Insurance Solution *supports ecological restoration* and the wider environmental community, it is a condition of any claim payment that *some or all of the claim monies* be utilised for a restoration project (being the one insured by SCOR or, if not possible, one which is approved by the Ecological Restoration Due Diligence).





# NatReCo: Ecological Restoration Insurance Solution Restore & Manage Products: Principal Features

#### **Standards-Based Due Diligence**

SCOR endeavours to support only those projects which *advance ecological restoration, promote equity and equality, respect cultural diversity, and commit to integrity and transparency* in all actions related to ecological restoration. In collaboration with SER, SCOR has developed a standards-based approach – *the Project Review Standards* (which forms part of the Ecological Restoration Due Diligence).







- 6 : General Criteria



#### **Assessment**

- **Context Assessment**
- **Baseline Inventory**
- Native Reference Ecosystems and Reference Models

**Ongoing Management** 

**Ongoing Management** 

**Financial Commitment** 

**Updates** 

Communication

#### **Planning and Design**

- **Land Tenure**
- **Applicable Laws & Regulations**
- **Commitment to Project**
- Scope, Vision, Goals, and Objectives
- **Restoration Treatment Specifications or Prescriptions**
- **Logistics and Risk**
- **Ecological and Social Protections**
- **Participation and Communication Strategy**
- **Information Management**
- **Restoration Project Plan Review**
- **Ongoing Management Plan**
- **Monitoring and Evaluation Plan**
- **Restoration Project Plan & Content**

#### **Monitoring and Evaluation**

- **Monitoring Program**
- **Control and Test Plots**
- **Monitoring Results**
- **Update of the Monitoring and Evaluation Plan**
- Record Keeping
- **Communication of Results**

#### **Implementation**

- **Site Measures**
- **Engage Appropriate Personnel and Participants**
- **Compliance with Planning and Design**
- Compliance with Environmental, Labour, and Health and Safety Regulations
- **Specific Implementation Phase Communication** 
  - **Documentation**

#### **General Criteria**

- **Broad Engagement & Participation**
- **Key Interested and Affected Party Consultation**
- **Key Interested and Affected Party Communication**
- **Adaptive Management Framework**
- **Restoration Project Record Keeping**

11



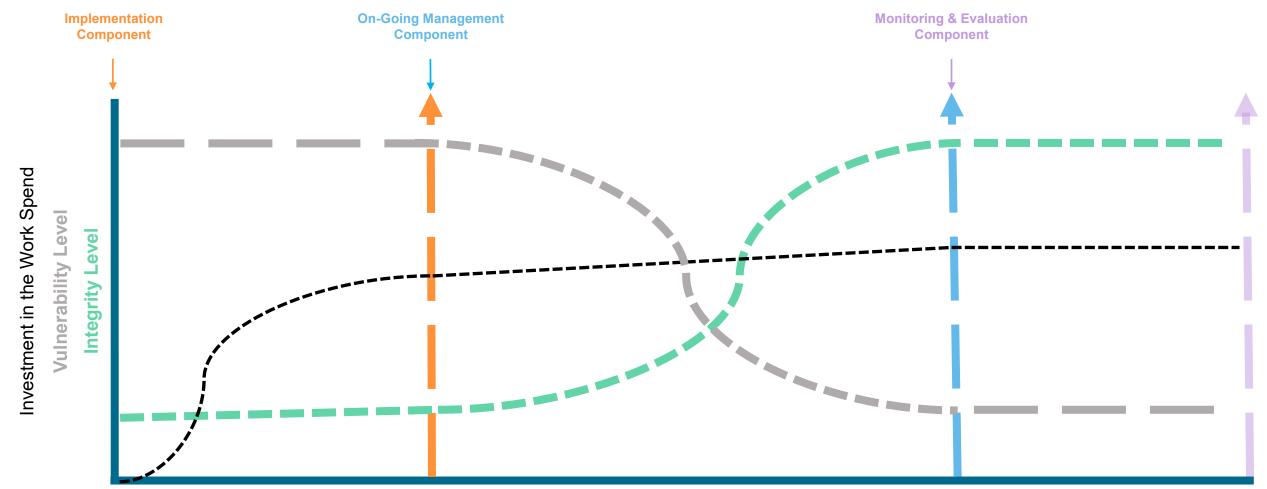


# NatReCo: Ecological Restoration Insurance Solution Project Grade: Provisional Grade and then Final Grade

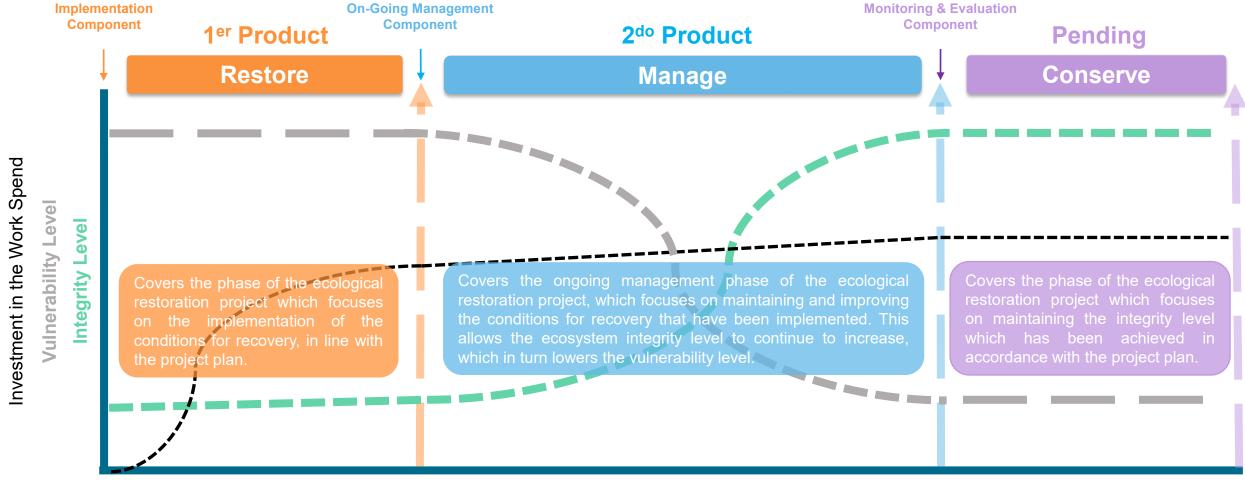
Grade	Critical Criteria (CC)	Optional Criteria (OC)	General Description		
AAA	All CC have a rating of ≥ 2, AND the average CC rating is ≥ 2.75.	At least <b>50</b> % of applicable OC have been addressed, <b>AND</b> their average rating is ≥ <b>2.5</b> .	The Restoration Project achieves an excellent level; Critical Criteria are almost perfectly met, and Optional Criteria are addressed with a high level of quality.		
AA	All CC have a rating of ≥ 2, AND the average CC rating is ≥ 2.5.	At least <b>50</b> % of applicable OC have been addressed, <b>AND</b> their average rating is ≥ <b>2</b> .	The Restoration Project demonstrates very strong compliance in Critical Criteria and has competently addressed Optional Criteria.		
A	All CC have a rating of ≥ <b>2</b> .	Considered, but does not impact the Final Grade.	The Restoration Project effectively meets all Critical Criteria.		
В	One or more of the CC has/have a rating of ≤ 1 AND the average CC rating is ≥ 2.	Not applicable.	The Restoration Project complies with most critical aspects, though some deficiencies may exist.		
С	One or more of the CC have a rating of ≤ 1 AND the average CC Rating is < 2.	Not applicable.	The Restoration Project has significant failures in essential aspects and an overall low performance.		



# NatReCo: Ecological Restoration Insurance Solution Ecological Restoration Insurance Solution: Products

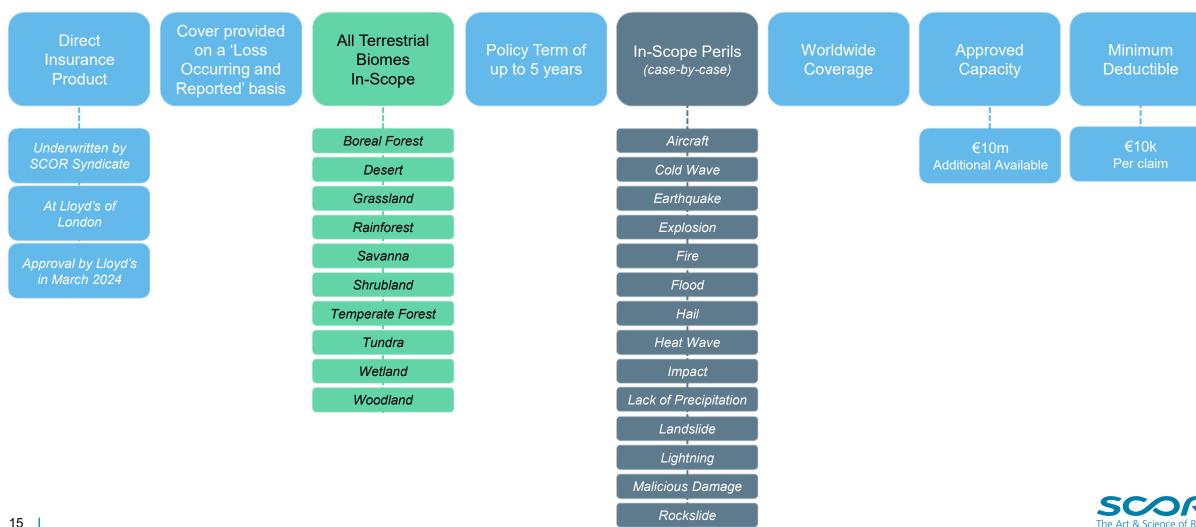


# NatReCo: Ecological Restoration Insurance Solution Ecological Restoration Insurance Solution: Products





### NatReCo: Ecological Restoration Insurance Solution Restore & Manage Products: Underwriting Particulars



Storm



### NatReCo: Ecological Restoration Insurance Solution Ecological Restoration Insurance Solution: Stakeholders & Benefits

#### INITIATE

Corporates

Govts. / States / Auth.

Landowners

Individuals

**Public Health Goals** 

**Societal Goals** 

**Economic Goals** 

**Financial Asset Goals** 

#### **FINANCE**

Banks

Corporates

Govts. / States / Auth.

Investors

**Asset Managers** 

**Greater Initial Investment Security** 

**Greater Capital Efficiency** 

**Meet Regulations** 

**Fulfil Other Obligations** 

**Investment Returns** 

#### **IMPLEMENT**

**Project Developers** 

**Project Managers** 

**Asset Managers** 

Attract Financing

**Assist Meet Contract Obligations** 

#### **EXECUTE**

Restoration Companies

Contractors

**Assist Meet Contract Obligations** 

Greater confidence in quality of project. Greater prospect of project completion.







### Thank You

## Any Questions?

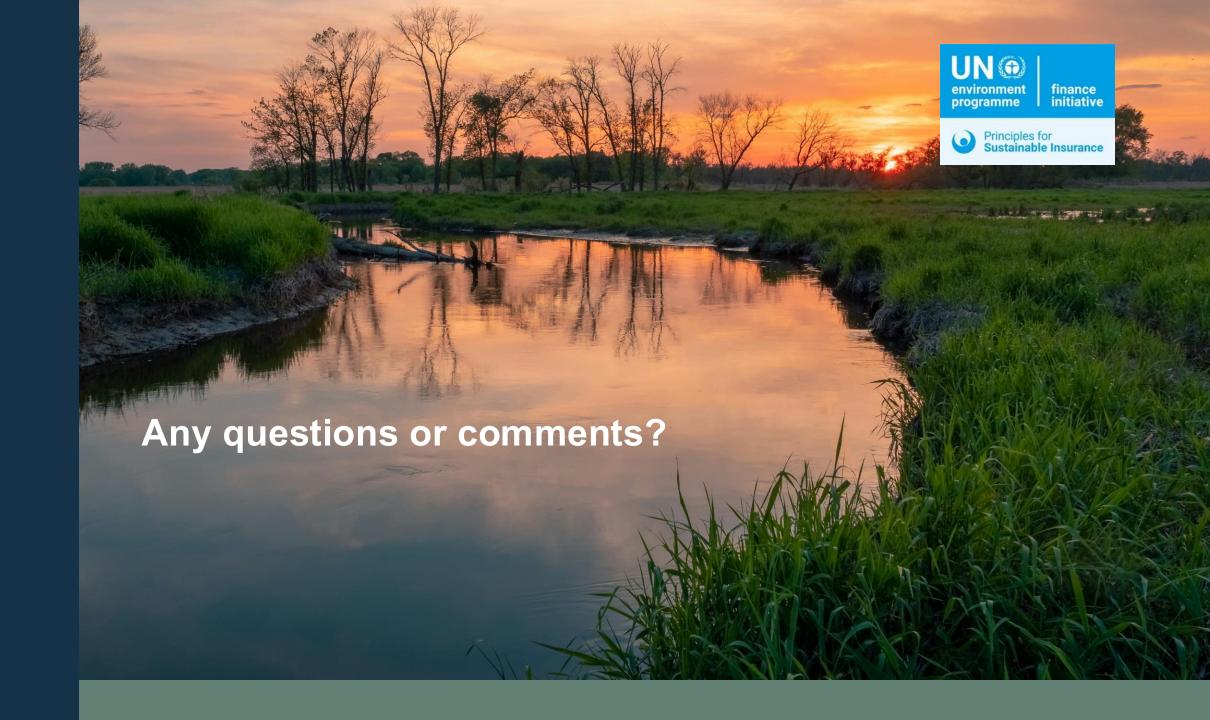
#### For more information:

- Email: natreco@scor.com
- Visit: www.scor.com



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**Knowledge Sharing: Naturance** 

Liability insurance for implementation of prescribed burns

JoAnne Linnerooth-Bayer (IIASA) Xiran Dong (IIASA)







### Liability insurance for implementation of prescribed burns

Nature Practice Session
UNEP FI PSI Working Group for Nature

**Knowledge Sharing: Naturance** 

JoAnne Linnerooth-Bayer (IIASA)

Xiran Dong (IIASA)





### Nature-based Solutions (NBS)

... "address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services, resilience and biodiversity benefits"

UNEP (2022)



# What is a NBS for wildfire? Agreement on what is NOT an NBS



... 'firefighting trap', in which spiralling fire suppression costs consume budget for investment in fire prevention, therefore contributing to increased fire risks.

Marsh & McLennan Insights (2019)

(Source: US Forest Service, Apache-Sitgreaves National Forest)

(Source: Erickson)

### Less agreement on what IS an NBS for wildfire

#### **Ecological forestry (forest treatment)**

- Thinning (ecological)
- Grazing
- Mosaic landscapes with green firebreaks
- Controlled prescribed burns





#### Conservation/biodiversity

- Little human intervention (let it burn)
- Rewilding
- Cultural burns





### What is a prescribed (controlled) burn?

An **intentional fire** for the purpose of mitigating the risk of large, destructive wildfires



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- Fuel reduction by removing excess fuel like dead wood, leaf litter, and shrubs
- Ecosystem restoration by restoring <u>fire-adapted ecosystems</u> and promoting growth of native plants

Habitat maintenance by opening up understory to benefit certain species

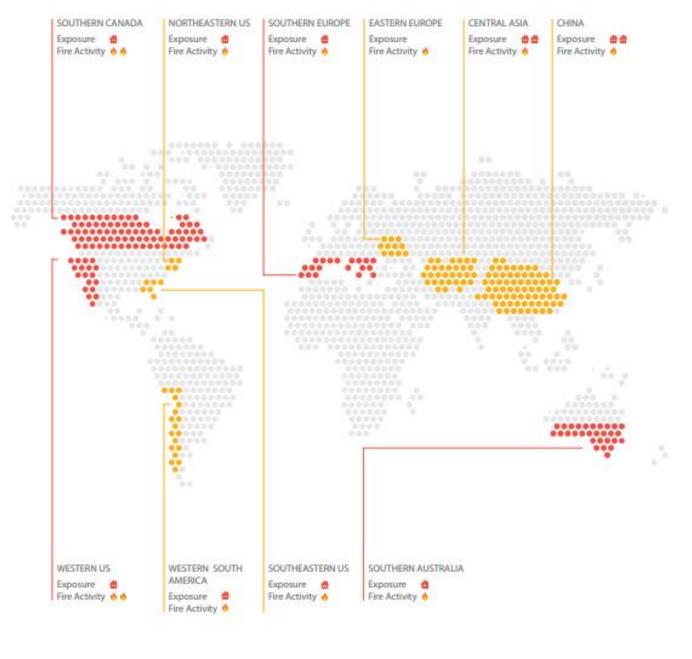
Forests, chaparral, coastal shrub, bush, peat, field crop residue

Many types of burns: broadcast, underbrush, cultural

Source: https://fireland.com.au/services/prescribed-burning/

### Where?

- US (southeast)
- Australia
- Growing interest in Europe, especially
   Mediterranean



#### What are risks?

A prescribed burn by Colorado's Department of Natural Resources

- Destroyed 22 homes and killed three persons
- Compensation paid \$18 million

A prescribed burn by US Forest Service caused the Calf Canyon/Hermits Peak Fire in New Mexico

- Destroyed around 1,000 structures/homes
- Compensation still tied up in courts



Source: Fish and Wildlife Research Institute



Source: Wildfiretoday.com

#### Concerns



- Risk of escaped fire
- **Health impacts** from smoke, environmental justice
- **Ecological impacts** from poorly timed/intense burns that can damage soils and harm sensitive habitats (although frequent, low-intensity fire can restore fire-adapted ecosystems and benefits many species)
- Climate impacts from CO2 emissions (although megafires release far more CO2)
- Costs from planning, notifications, permits, prep lines, and mop-up (although suppression can cost up to \$3 million/day)

### Regulation



Prescribed burning is **partially forbidden** in many places depending on habitat type, season, or during declared ban days, e.g., California, Australia, Canada

 Oct. 2024, the US Forest Service announced it would stop prescribed burning in California "for the foreseeable future"

**General prohibitions with narrow exemptions** (e.g., research or emergency operations).

- Southern Europe (e.g., Portugal, Spain, France)
- Switzerland, the Baltics, and the UK also regulate rather than ban.

EU farmland: Under CAP, burning arable stubble is banned

### Permits and certification



#### Fire authority (safety)

 Certified "burn boss" (training on fire behavior, ignition, safety, smoke)

#### Air quality

• Burn plan

#### Minimum liability coverage

E.g., Texas requires a Certified &
 Insured Prescribed Burn Manager
 (CIPBM), who must carry ≥\$1 m per
 occurrence and ≥\$2 m aggregate;
 proof of insurance is checked
 annually

### Liability



#### Who is liable?

Landowner, contractor, burn boss, NGO, state?

#### Three categories

- Strict
- Simple negligence
- Gross negligence
  - "gross-negligence" standards are favored by burners
  - Hostile fire (wildfire or prescribed) typically not included under general liability insurance (cover may be in logger or agriculture policies)

#### What are insurable losses?

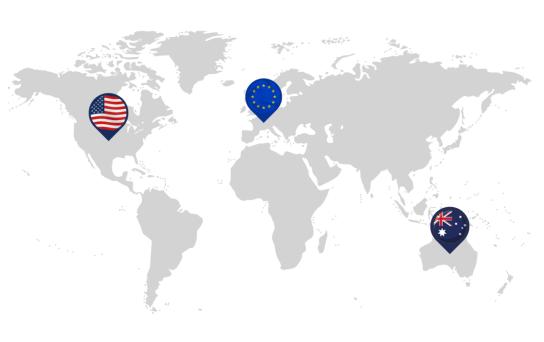
 Life loss, injury, property damage, smoke damage, business disruption, professional E&O, suppression costs

### Which carriers offer prescribed burn policies?

In the U.S., e.g., FSU/Lloyd's, Outdoor Underwriters, Conservation United, Arroyo, AssuredPartners

In Australia, e.g., Fireland (Queensland). States it carries Public Liability that includes planned burning operations

In Europe, e.g., NODFYR Portugal (Prescribed Fire Association) offers civil liability insurance that explicitly covers prescribed-fire activities through commercial insurers



### Insurance availability

#### Tight!

- Little data to estimate risks (Of the average 4,500 fires the U.S. Forest Service conducts each year, about six escape 99.84% success
- Small market, large uncertainties
- "insurance industry has responded to increasingly expensive wildfire damages and claims by largely dropping any policies that deal with fire"

#### Limits

- Typically \$500k-\$1m
- Example: new carrier: Forest Specialty Underwriters, Ltd., with Lloyds of London offers policy with limit of \$10,000 \$100,000 per day for fire suppression costs and \$1 million for overall liability

#### **Pricing**

• "Rates are 10 times what they were four years ago" ..."now going for nearly \$3,000 per hectare.."

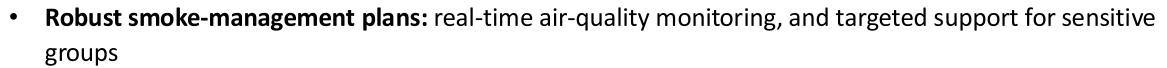
#### Dilemma

Important to encourage (appropriate) prescribed burns as an NbS, but

- Most permitting procedures require liability insurance
- Liability insurance is scarce
- Without insurance practitioners can face huge liability risks (civil and criminal)
- High insurance premiums deter practitioners

#### Paths out of the dilemma?

- Accessible and affordable insurance
  - Better data
  - Clear liability frameworks (e.g., goss-negligence standards)
  - Indemnity backstops (e.g. in California)
  - Tax deductible premiums
  - O Parametric products?



- Community engagement: advance notice, hotlines, and transparent "go/no-go" criteria
- Ecological safeguards: seasonally appropriate timing, mosaics and refugia, invasive-species follow-up, and post-burn monitoring.



### References and further reading

Marsh & McLennan Insights (2019) The Burning Issue. Managing Wildfire Risk. Online accessible: <a href="https://doi.org/10.108/journal.org/">here</a>.

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Russel, M.L. and Lashmet, T.D. (2025) Prescribed Burning: Liability and Insurance Considerations. Texas A&M AgriLife Extension. Online accessible: <a href="https://example.com/here/">here</a>.

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### Looking forward to your insights and comments

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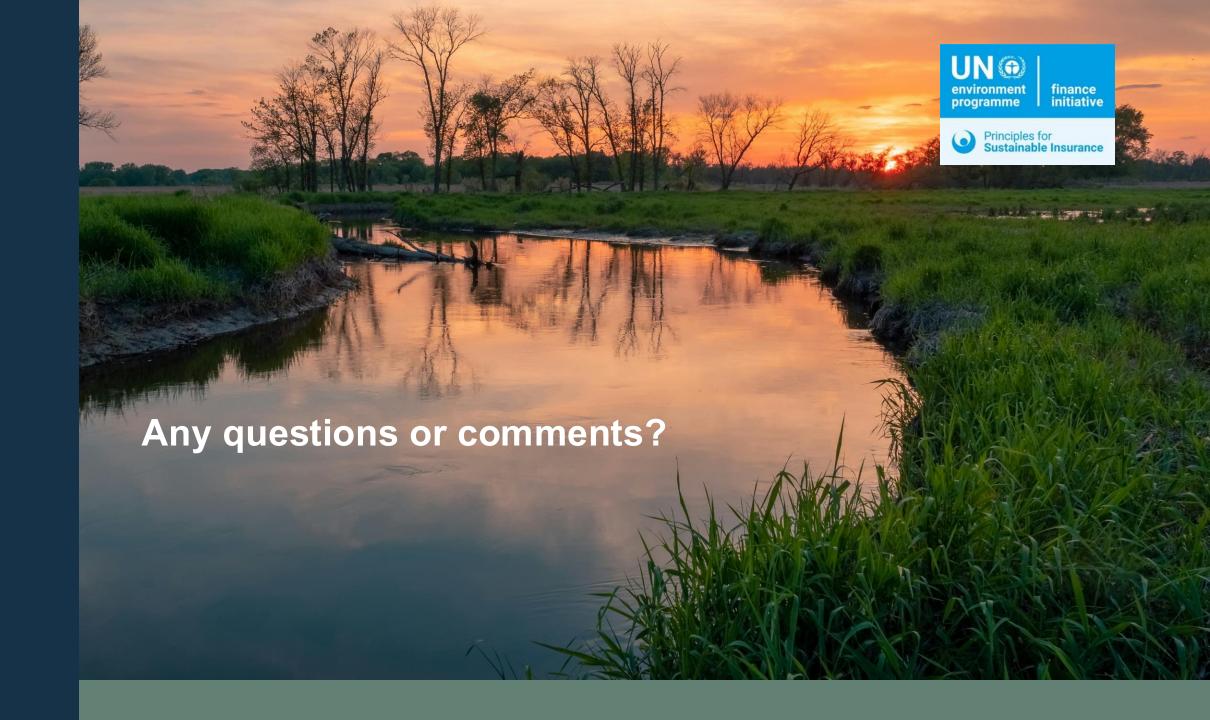
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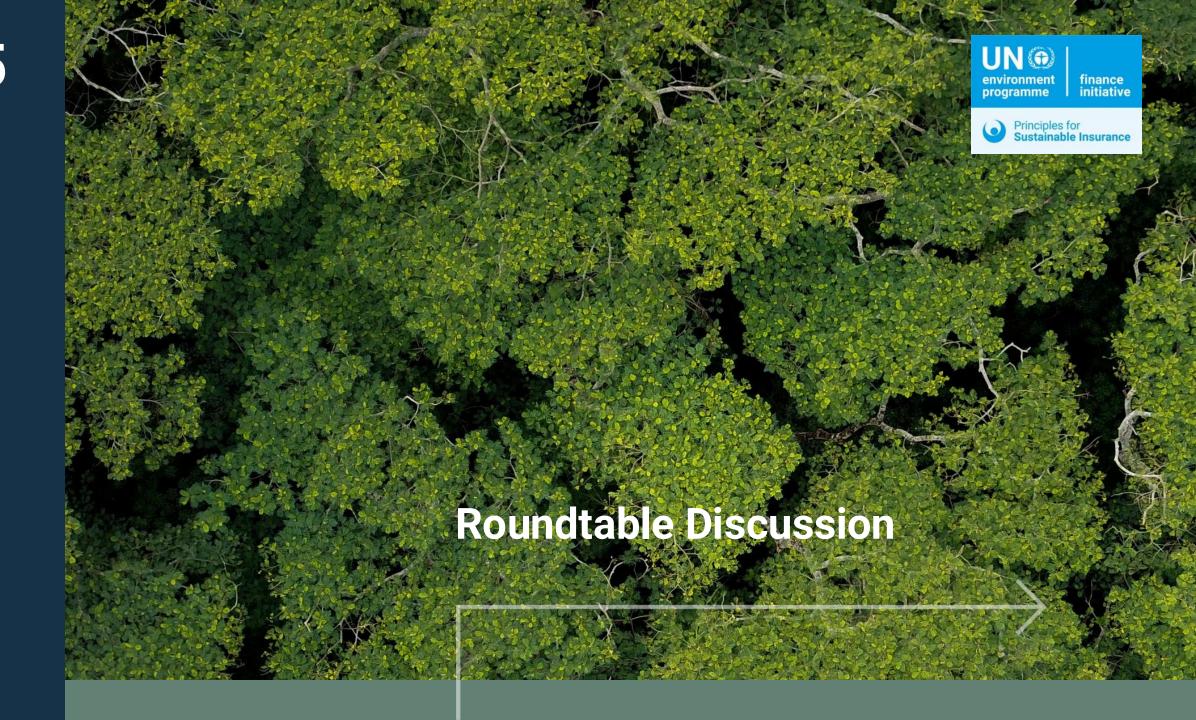
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# environment programme finance initiative

#### **Discussion Points**



- 1. Do you see regulatory, policy, market, or other developments that are driving or could drive the demand for insurance to support the implementation and delivery of Nature-based Solutions (NbS)?
- 2. How can insurance build on these developments, and what is needed to identify related opportunities? What should the overarching goal or objective of insurance be in the context of NbS?
- 3. Based on the presentations and case studies, to what extent do you see these approaches as relevant or feasible for your business? Considering your business model, how could you drive innovation in the implementation, delivery, and performance of NbS, including their replication or expansion across regions or biomes? Where do you see the biggest lever?
- 4. Where do you still see barriers or challenges both internal and external to advancing insurance innovation and solutions that enable or insure NbS?
- 5. Are there any aspects you would like to explore further through additional resources or case studies?

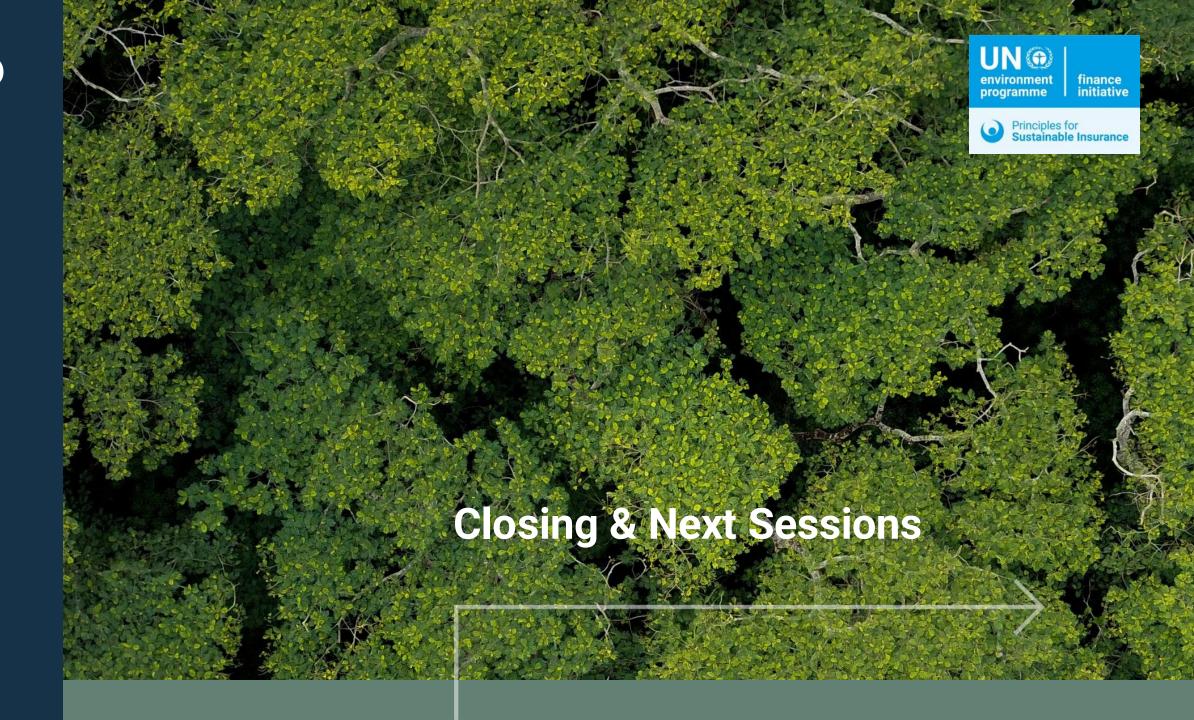






### Let's discuss this together





### **Proposed schedule for Nature Practice Sessions (1/2)**



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	programm				
#	Date	Thematic Focus	Focus Area	Segment	for le Insurance
1	21/10	Insurance for Nature- Positive	Insurance for the implementation / delivery and operations / performance of nature-based solutions (NbS) (liability, damages/losses, surety)	Non-Life	ne insurance
2	4/11 5/11	Resilience Insurance	Nature-based Solutions for wildfires Nature-based Solutions for heatwaves	Non-Life Life & Health	
3	18/11	Health Resilience	Global trends biodiversity loss and health impacts and policy framing Nature-related risk in the life & health insurance business and NbS for health risk reduction	Life & Health	
4	2/12	Transition Insurance	Commercial / Personal Motor Insurance Homeowner Insurance	Non-Life	
5	16/12	Insurance for Nature- Positive	Insurance enabling investments in nature / NbS Insurance for carbon / biodiversity credits	Non-Life	
6	20/1	Resilience Insurance	Nature-based Solutions for floods (riverine, flashfloods) Nature-based Solutions for storms (coastal)	Non-Life Life & Health	
7	3/2	Insurance for sustainable lifestyles	The health risk - environmental impact nexus: lifestyles	Life & Health	
8	19/2	Transition Insurance	Commercial Property & Business Interruption Insurance Engineering Lines / Construction All Risk Liability & Casualty Insurance Marine Hull and Liability	Non-Life (Built Environment, Trade, Transportation)	50

### **Proposed schedule for Nature Practice Sessions (2/2)**



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					A HOUSE AND A SECOND CO.
#	Date	Thematic Focus	Focus Area	Segment	for le Insurance
9	3/3	Insurance for Nature- Positive	Insurance to reduce risk to species and ecosystems Insurance of natural assets / NbS and their services (NatCat)	Non-Life	
10	24/3	Resilience Insurance	Relevant tools to understand state of Nature / NbS Risk reduction value of NbS in risk models	Non-Life	
11	14/4	Transition sustainable health systems	Support transition into sustainable health systems  NbS in medical treatments	Life & Health	
12	28/4	Transition Insurance	Commercial Property & Business Interruption Insurance Engineering Lines / Construction All Risk Liability & Casualty Insurance	Non-Life (Utilities, Energy generation, Manufacturing, Mining)	
13	12/5	Insurance for Nature- Positive	Insurance of Nature-Positive Business Models Insurance to remediate negative impact on nature	Non-Life	
14	26/5	Resilience Insurance	NbS for individual business / farm level NbS for nature-related risks (e.g., water availability/quality) Emerging nature-related physical risks	Non-Life	
15	9/6	Transition Insurance	Agriculture Insurance	Non-Life (Plant products, animal products, forestry, fisheries, aquaculture)	
16	30/6	Resilience Insurance	Integrated approaches of NbS as interventions to reduce risks - community vs. private sector Insurers to role to drive investments in NbS for risk reduction - barriers and limitations; opportunities and innovation	Non-Life Life & Health	.org   <b>53</b>

