



UNIVERSITY OF  
CAMBRIDGE

INSTITUTE FOR  
SUSTAINABILITY LEADERSHIP

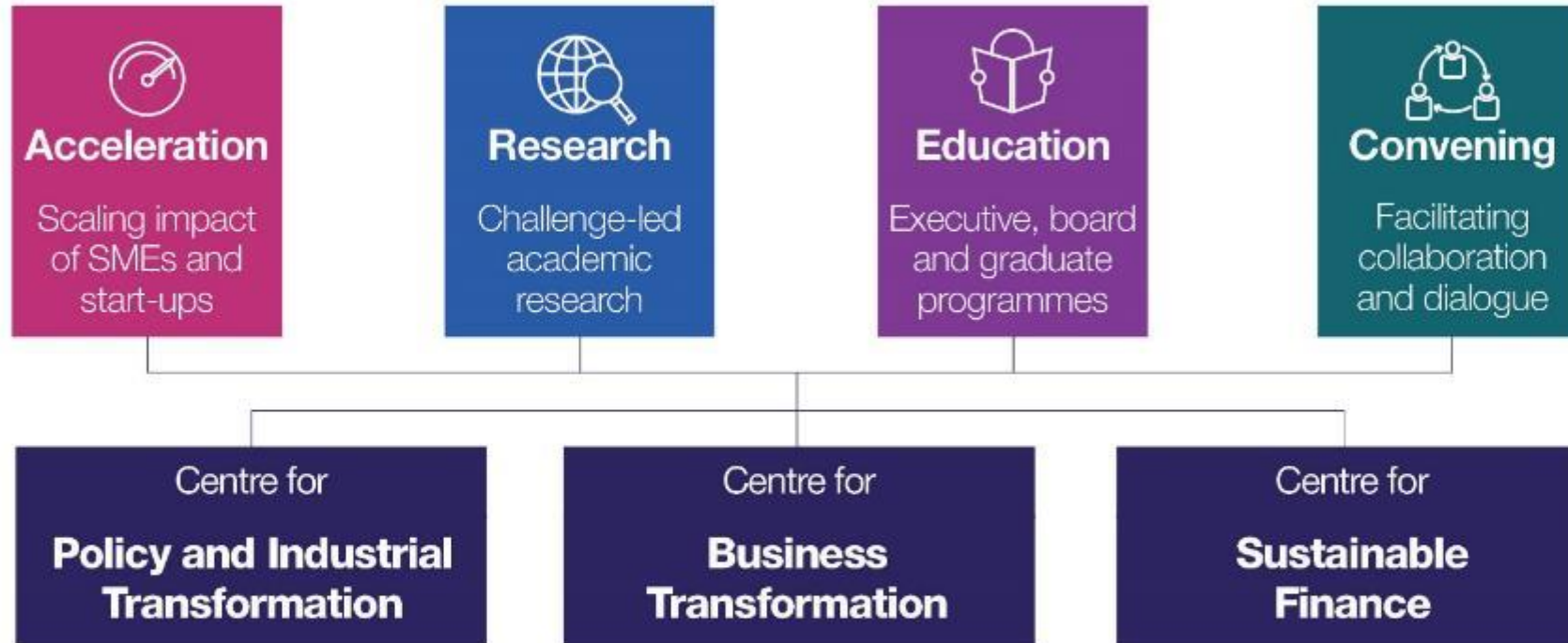
A photograph of the University of Cambridge buildings at dusk. The image shows a long, multi-story building with many windows, some of which are lit up. In the background, the iconic spires of King's College Chapel are visible against a dark blue sky. A body of water is in the foreground, reflecting the lights and the sky. The image is overlaid with a dark purple shape that contains the title text.

# Nature-related financial risks

Dr Nina Seega  
August 2021

# The Cambridge Institute for Sustainability Leadership

Developing leadership and solutions for a sustainable economy



## Leadership Groups

Corporate Leaders Groups on climate change  
Banking Environment Initiative  
Investment Leaders Group  
ClimateWise for the insurance sector  
Natural Capital Impact Group

Patron: **HRH The Prince of Wales**

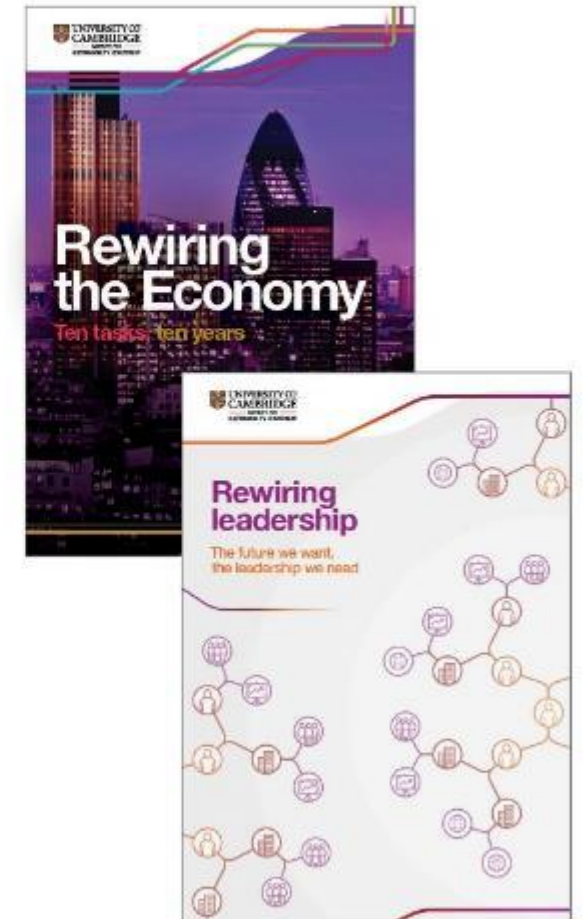
## Network

**9,000** alumni and network members  
**250+** major clients annually

## Advisory services

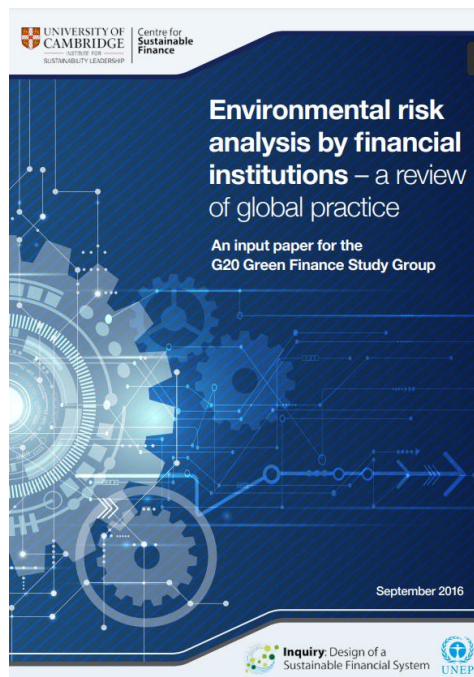
Guiding strategy for a sustainable transition

Offices: **Cambridge, Cape Town and Brussels**



**30** years  
of impact

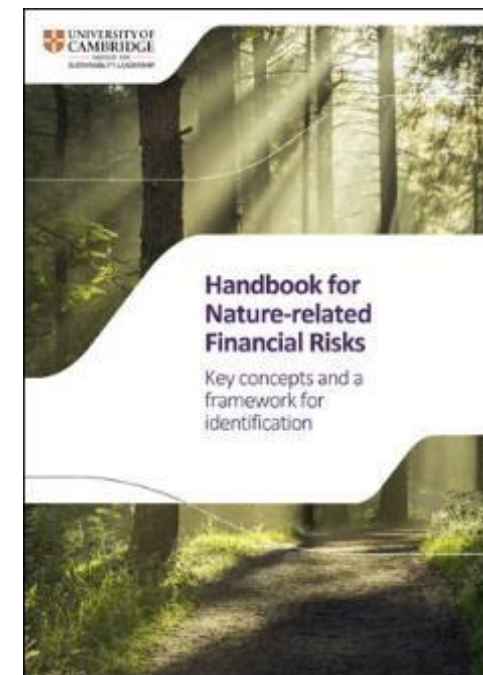
# Motivated to catalyse system change



**BANK OF ENGLAND**

**Banking Environment Initiative**

**Investment Leaders Group**

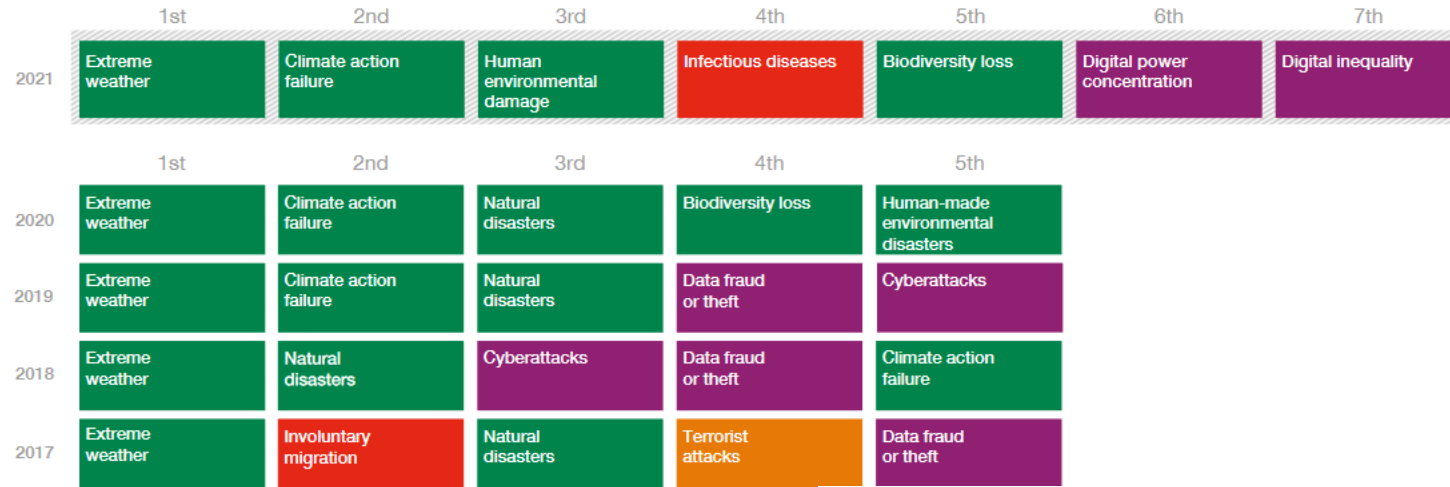


*Pioneering with other leaders from the financial system*

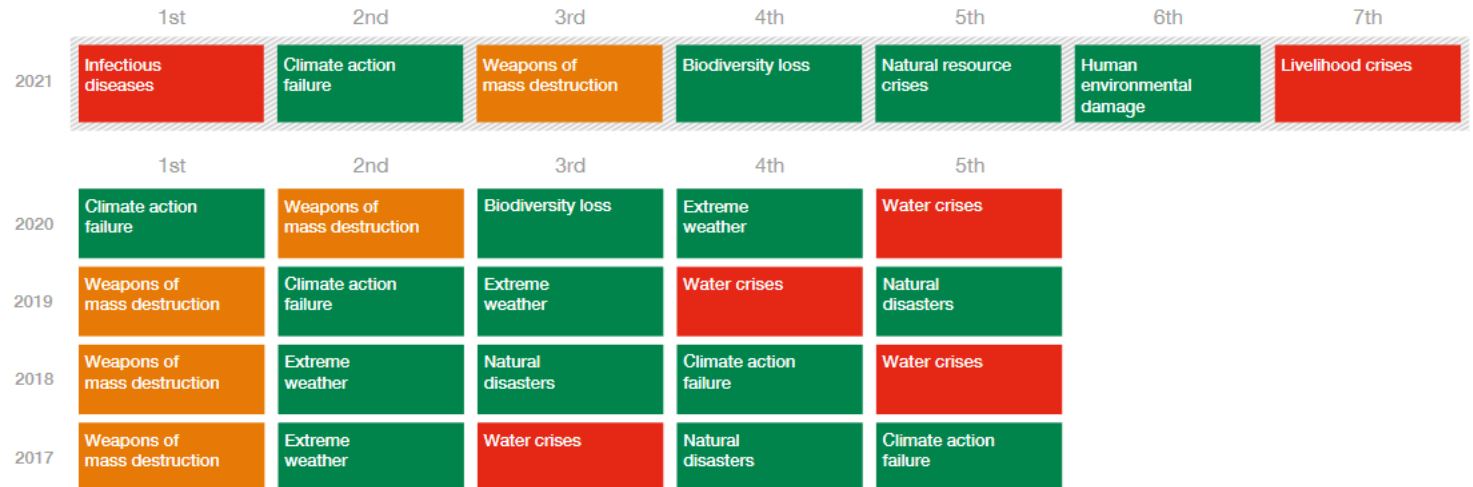


# WEF 2021 global risks report

Top Global Risks by Likelihood



Top Global Risks by Impact



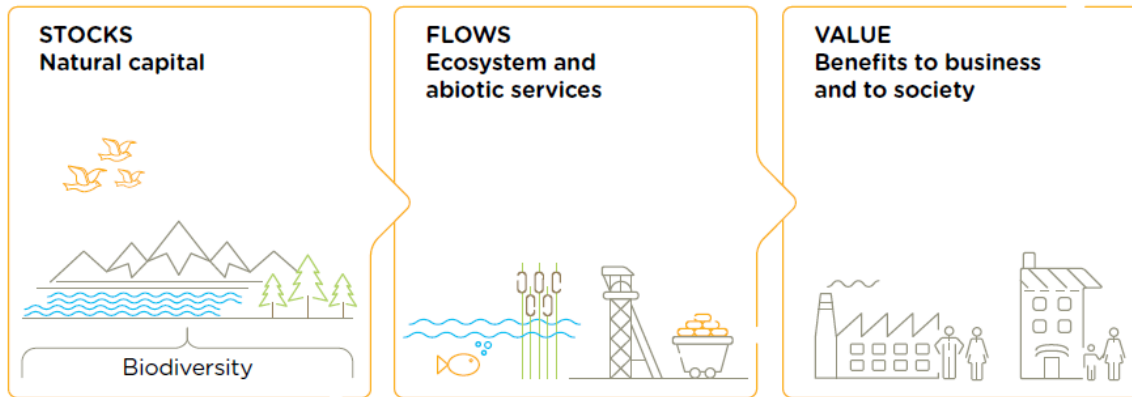
# Natural capital and ecosystem services

## Why and how nature matters

### KEY FACTS

- 75% of land is now degraded
- At least 20 per cent of land-based species have been lost since 1900 and one million are threatened
- USD 10 trillion of economic losses estimated by 2050 due to the decline of ecosystem services

### UNDERSTANDING WHY AND HOW NATURE MATTERS



### Natural capital

The stock of renewable and non-renewable natural resources (e.g., plants, animals, air, water, soils, minerals, ecosystems) that combine to yield a flow of benefits to people

Biodiversity underpins this.

### Ecosystem Services

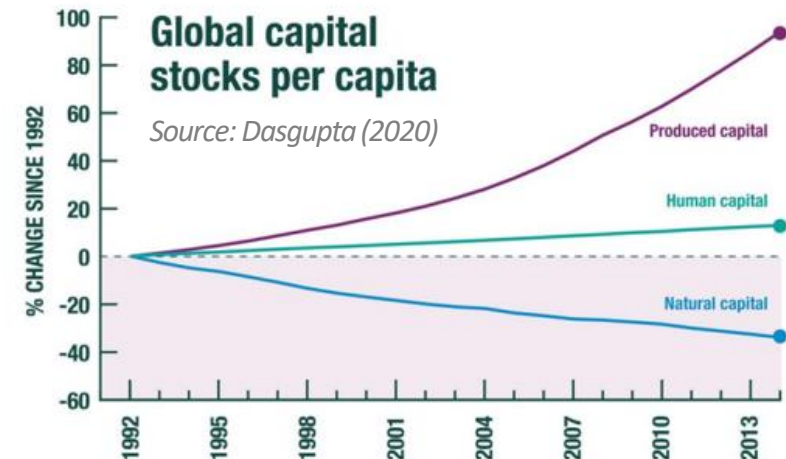
The benefits people obtain from natural capital. Four categories:

- **Provisioning:** Material outputs from nature (e.g. water, fiber)
- **Regulating:** Indirect benefits from nature (e.g. mitigation of climate change, water filtration, storm protection, pollination).
- **Cultural:** Non-material benefits from nature (e.g. recreational).
- **Supporting:** Fundamental ecological processes that support the delivery of other ecosystem services (e.g. nutrient cycling, soil formation).

Source: Natural Capital Coalition (2018)

### NATURE IS IN DECLINE

Natural capital has been transformed into produced capital



### KEY INITIATIVES



# Finance and nature

## Client dependence on nature and the biodiversity financing gap

### KEY FACTS

- USD 44 trillion of economic value generated each year is moderately or highly dependent on nature – more than 50 per cent of global GDP
- Up to USD 143 bn of finance flows toward biodiversity (natural capital) conservation annually
- In order to transition the key sectors that extract natural capital to sustainable practices and protect existing biodiversity up to USD 1 trillion is needed per year
- USD 542 bn is spent on subsidies harmful to nature.
- Cost of Amazon tipping point USD 256 bn, policies to avoid it would generate USD339 bn

### LINKS TO REPORTS

[WEF, Nature Risk Rising](#)

[details how the economy is dependent on nature]

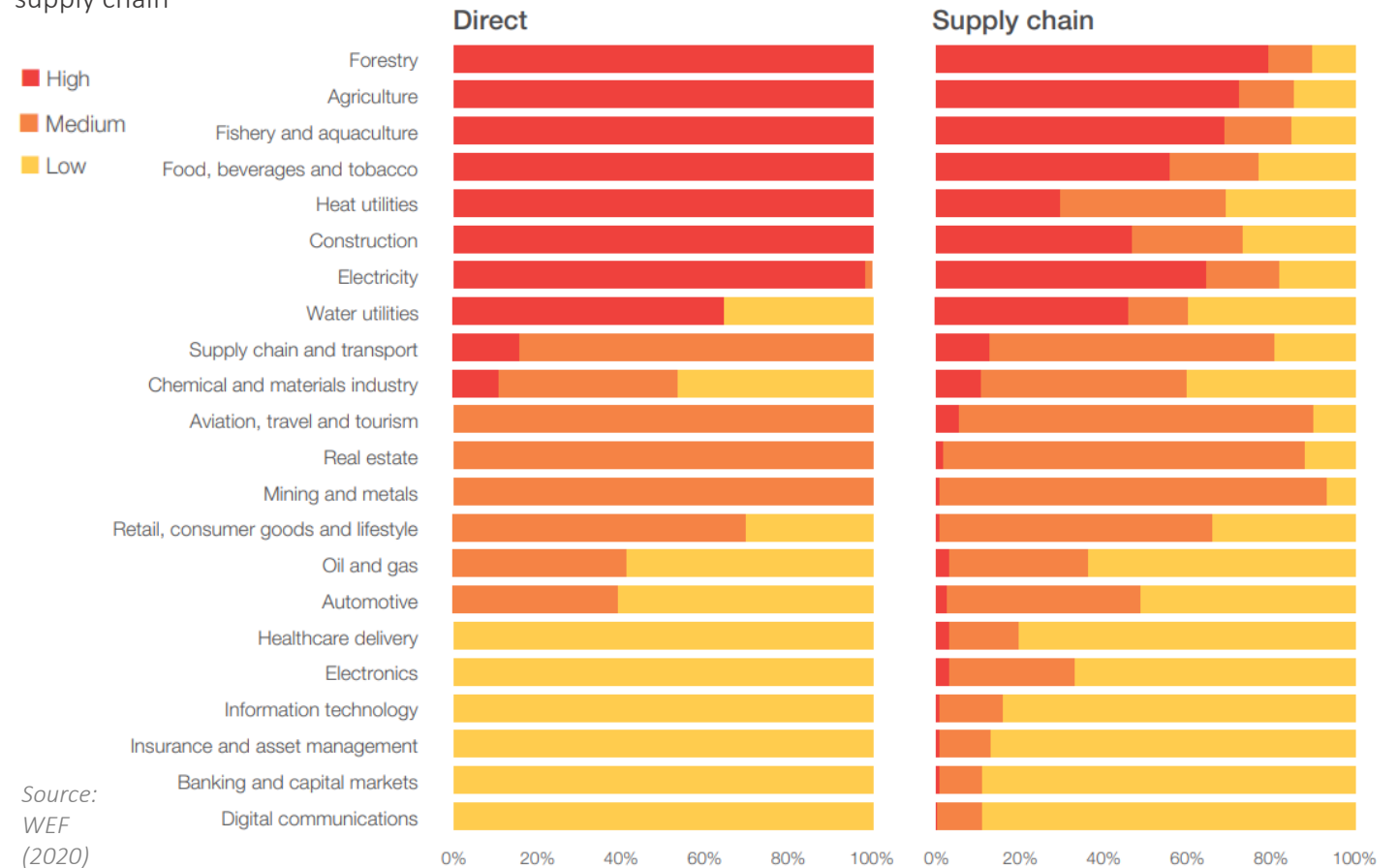
[OECD Biodiversity Finance Overview](#)

[The Paulson Institute, Biodiversity Finance Gap](#)

[IDB, Cost of Amazon tipping points](#)

### CLIENT DEPENDENCE ON NATURE

Percentage of gross added value (GVA) with high, medium and low dependence either directly or along the supply chain



# Market developments in 2020/21

## Momentum around nature and finance picking up

### [Taskforce for Nature-related Financial Disclosures \(TNFD\)](#)

- Formal working group currently being launched.
- UK government funded. Expert Group being formed

### Indebted to nature

Exploring biodiversity risks for the Dutch financial sector

June 2020

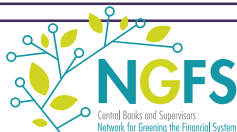
- [Dutch Central Bank](#) maps the financial risks of biodiversity loss. Uses the [ENCORE](#) tool from the Natural Capital Alliance to identify sectors at risk.
- Identifies how different sectors are reliant on the ecosystem services underpinned by biodiversity
- Analyses how many negative biodiversity impacts Dutch FIs are connected to, based on first order effects



- [UNEP FI & UNEP WCMC](#) references CISL's Financial Risks of Biodiversity Loss and Land Degradation project and Soft Commodities Compact
- Covers **how to set biodiversity targets** and discusses examples
- Identifies sub-sectors with a high dependence on biodiversity

### [Dasgupta Review of the Economics of Biodiversity](#)

- Equivalent to Stern Review of Climate Change. Will assess the **benefits of biodiversity and costs of losing it**. Interim report published April 2020
- Nature loss is an asset management problem – **natural stock needs to be managed better**, especially since the regenerative rate of natural capital is 19 per cent
- Depreciation of natural assets occurs because of pollution, mismanagement, climate and land use change etc.
- "To sustain our natural assets, our demands on Nature must be equal to, or less than, its regenerative rate."



- [NGFS](#) sets up a study group to understand the relationship between biodiversity and financial stability
- Initial report published in summer 2021 with interim report to come in autumn and final one in early 2022



- [WEF](#) compendium of business 'opportunities' of transitioning to a 'nature-positive' economy
- \$10.1 trillion of opportunities



- [WWF](#) creates three socio-economic scenarios through to 2050 and estimates impact on six ecosystems
- Estimates losses of \$10 trillion by 2050

# Business and nature

## How does it interact with finance?

Leading companies recognise that a prosperous business relies upon nature.

They also recognise that the 'E' in 'ESG' is about protecting our biodiversity and natural capital, as well as our climate.

Nature's health is under pressure from global trends in consumption, population and economic growth.

This creates long-term risks to business, citizens and wider society who depend on nature.



### Finance

There are two primary ways a financial institution can think about nature-related finance:

1. From an organisational perspective, integrating nature considerations into risk and opportunity thinking
2. From a client or investee perspective, supporting clients to mitigate business risks and capture investment opportunities to build resilience and long-term shareholder value



# Steps to turn impact measurement into action

## Developing a corporate biodiversity strategy



# Metric uses globally available data to measure impacts

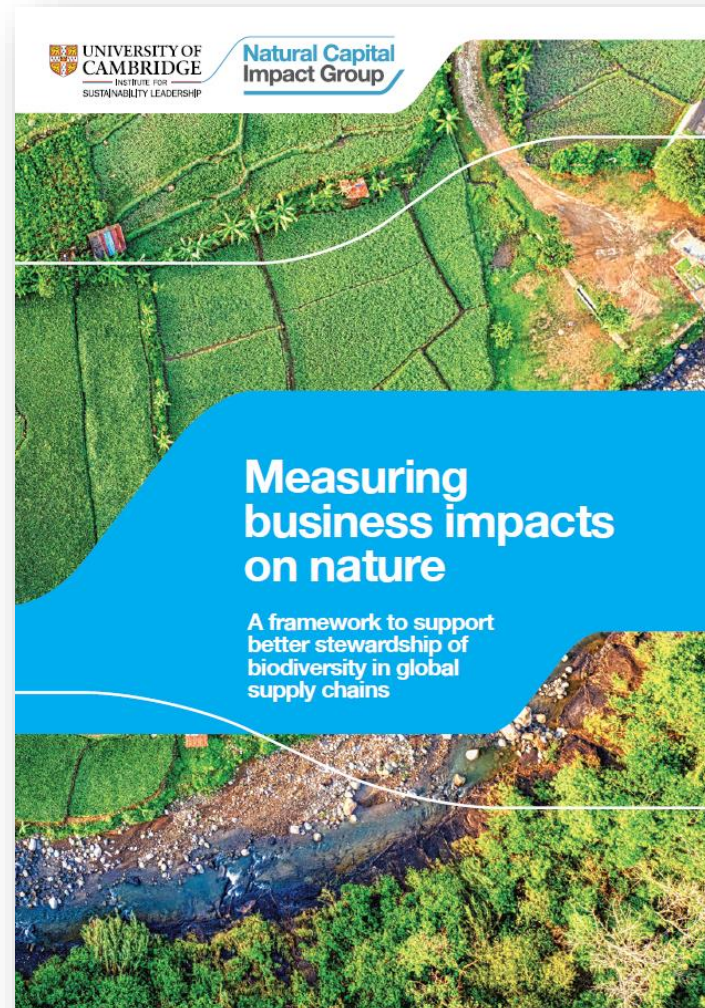
Helps business understand their impact on nature

**Measure** the impact from agricultural supply chains.

**Identify** high-risk locations

**Inform** the development of strategies, goals and targets.

**Align** with global goals for nature



Is my company at greater risk of having an impact in some regions compared with others?



Are particular materials likely to have greater impact?



Where might I need to improve my traceability/visibility of suppliers?



Where should I prioritise interventions – e.g. certification, work with farmers?



Can I assess risk of potential suppliers?



Where might I need more granular biodiversity data?

# Investment fund impact

How to measure the impact on biodiversity and help clients



Figure 3: Combining information on the six impact themes



## Ideal metric

Area of degraded land utilised by the asset

Hectares per USDmn invested

## Base metric

Fresh water use (surface + groundwater + municipal)

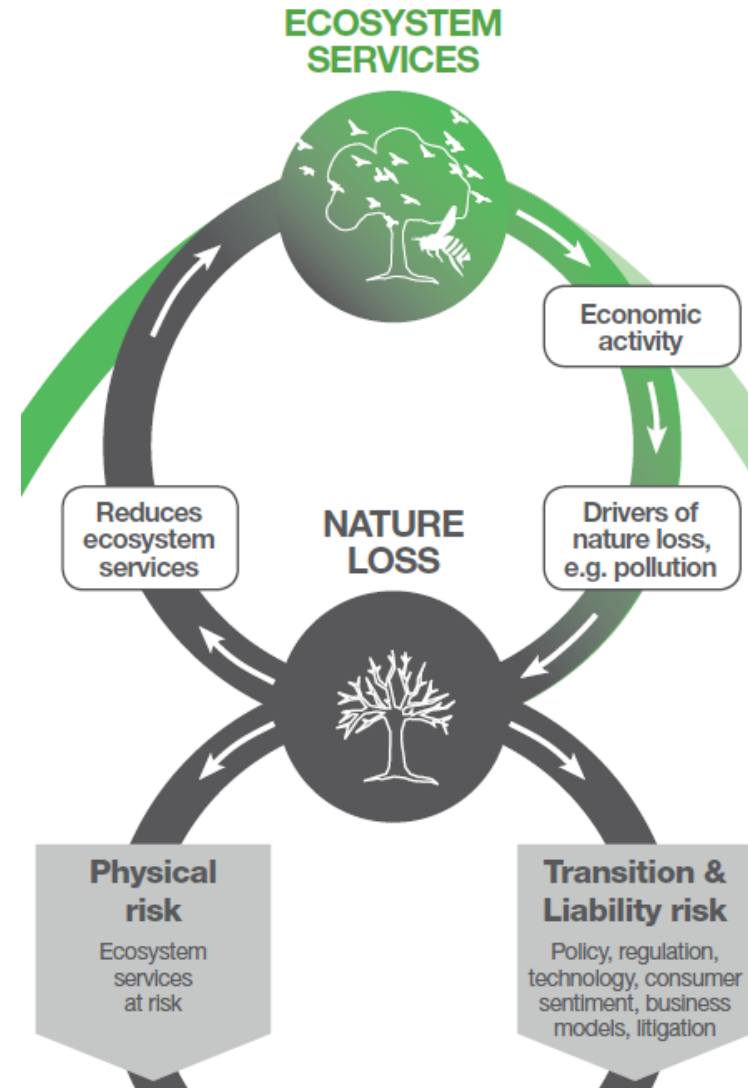
Cubic meters per USDmn invested

All investment has an impact on the real world. This framework shows how and includes a 'Healthy Ecosystems' metric.

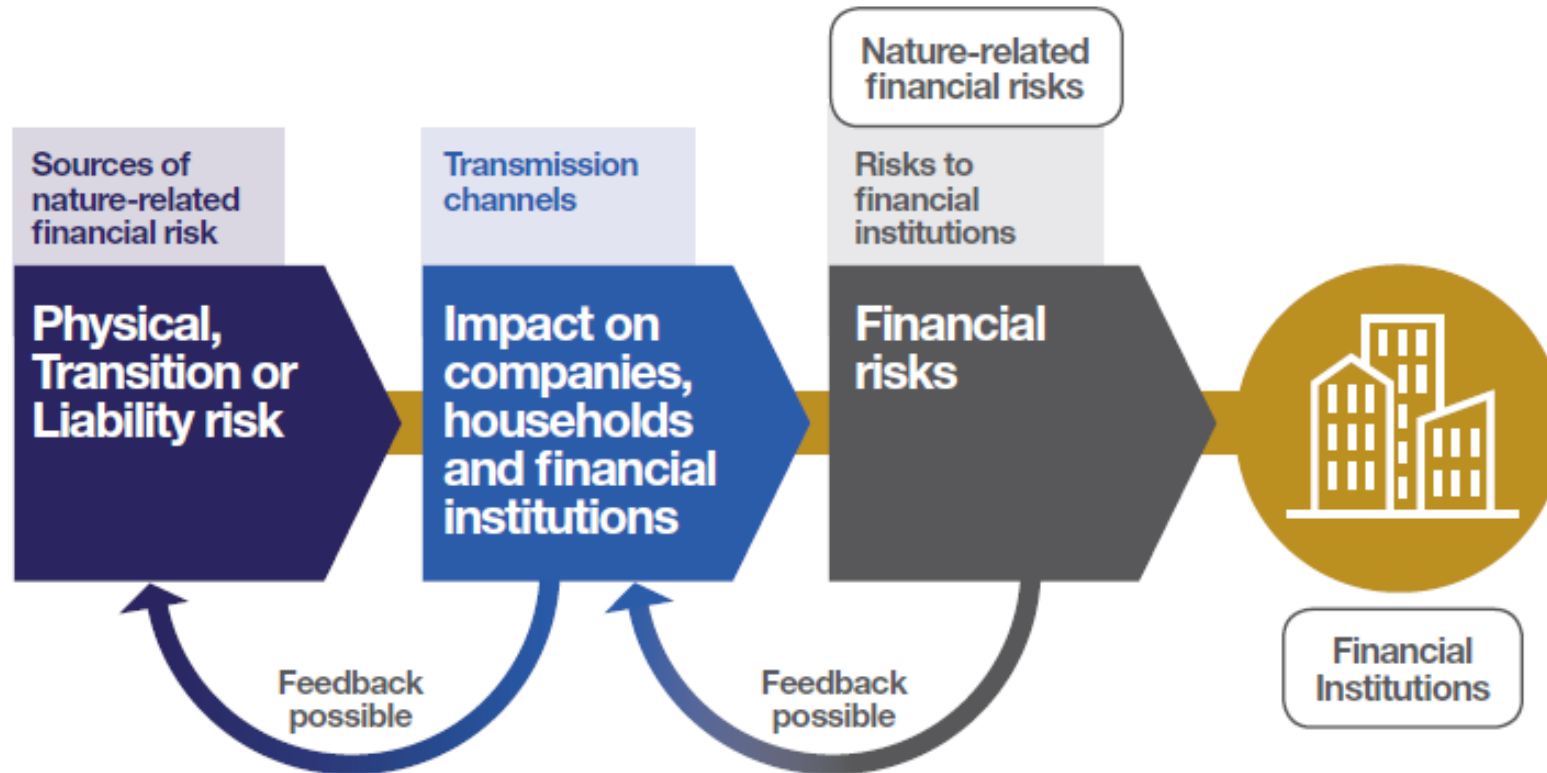
[Read more](#)

# Nature loss is a source of financial risk

- Economic activity that is dependent on ecosystem services is causing nature loss
- Nature loss results in physical risk
- To combat nature loss, we also see transition risks emerging and liability risks crystallising



# When risks manifest they impact companies, households and financial institutions



## Transmission Channels

1. Disruption of activities
2. Raw material price volatility
3. Pricing externalities
4. Adjustment or relocation of activities
5. Stranded assets
6. Capital destruction

# Framework for identifying nature-related financial risks



- Included in CISL's [\*Handbook for Nature-related financial risks\*](#)
- Handbook enables financial institutions to identify these risks
- Five direct drivers of nature loss [A] can damage five types of ecosystem service [B], e.g. water security
- Transition and liability risks [A] contribute a further five risk categories [B], e.g. policy and regulation

# Climate change is only one cause of nature-related risk



- Considering climate-related financial risks thinking made framework possible, but climate change is only one cause of nature loss
- There is a need to acknowledge the other ways nature is damaged
- Without moving beyond climate risk, there will continue to be unmeasured and unmanaged nature-related risks in financial portfolios and business models

# Examples of leadership from financial institutions

## New funds and commitments are emerging



- Financing related to the world's stocks of natural assets such as soil, air and water.
- JV between HSBC GAM and Pollination Group
- Aims to **mainstream natural capital as an asset class**, e.g. soil, water
- Investment themes will include regenerative agriculture and sustainable forestry
- First fund aims to raise USD 1 billion; aims to launch in mid-2021
- Second fund: carbon credit focus, USD 2 billion target
- Example of collaboration between finance and technical partners



- Natixis is “mobilising its business lines to promote biodiversity”
- Biodiversity to included in 2021 strategic plan
- Biodiversity **impact and measurement reporting standards for clients by 2022**
- Mirova's Natural Capital focus includes funds **investing in nature-based solutions**
- Mirova strategies include: 'land degradation neutrality', 'climate' [deforestation focus], 'sustainable oceans' and 'brazil biodiversity'
- Significant focus on **sustainable agriculture**



- Public-partnership to finance landscapes focussed on **green growth** and **sustainable rural livelihoods**
- **Blended finance** structure
- Inaugural USD 95 million bond for sustainable natural rubber production
- **Tenors up to 15 years**
- Impacts targeted include land conservation and fair-wage jobs
- Another example of **partnership** between **public and private finance**, as well as with **technical partners to design and verify sustainability outcomes**

Landscape Finance: [read more](#)

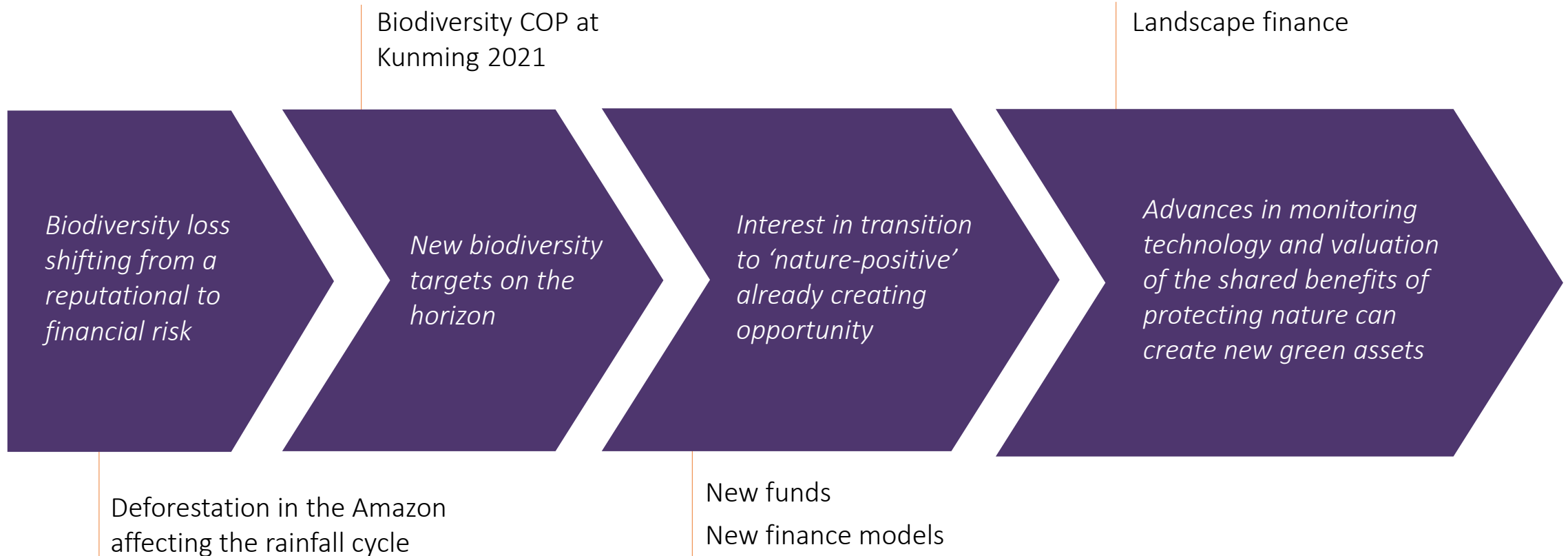


- Provides **concessional finance** and grants for **nature-positive agriculture** and **rural livelihoods**
- USD 1 billion target
- Commercial and development banks source capital, utilising public-private guarantees
- Investment targets project **ticket sizes of USD 2 – 15 million**
- **Tenors up to 12 years**
- Eligibility based on KPIs related to land restoration, CO2 emissions, contribution to household income and employees trained
- Acknowledges that nature degradation is often the result of livelihood insecurity



# What next for nature-related finance?

## Context that supports action



# Points of contact



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