

QUANTIFYING BIODIVERSITY-DRIVEN RISKS AND OPPORTUNITIES FOR RESILIENT PORTFOLIOS

Presenters:

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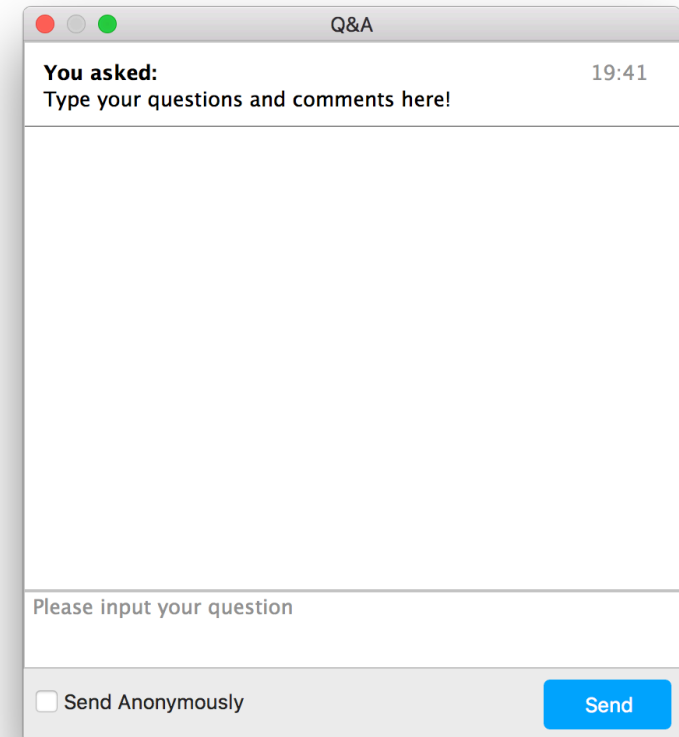
Eric Nietsch, CFA, Head of Sustainable Investing, Aisa, Manulife Investment Management

David von Eiff, PhD, Director, Institutional Partnerships, Asia Pacific, CFA Institute



HOUSEKEEPING

- Today's webinar is scheduled for 60 minutes including Q&A
- All participants are muted throughout the webinar
- We welcome comments via the Chat button and questions via the Q&A button on your screen.
- This webinar will be recorded and be made available to view soon after the presentation concludes today
- The main presentation will be uploaded onto [CFA Institute Asia-Pacific Research Exchange \(ARX, www.arx.cfa\)](http://www.arx.cfa)



The image shows a screenshot of a Q&A window interface. The window has a title bar with the text "Q&A" and three colored window control buttons (red, yellow, green). Below the title bar, there is a header section with the text "You asked:" on the left and "19:41" on the right. Underneath the header, it says "Type your questions and comments here!". The main body of the window is a large, empty white area. At the bottom of the window, there is a text input field with the placeholder text "Please input your question". Below the input field, there is a checkbox labeled "Send Anonymously" and a blue "Send" button.

MSCI ESG Research: Biodiversity

**WHY DOES BIODIVERSITY MATTER AND
HOW CAN INVESTORS ADDRESS RELATED RISKS?**

**Speaker: Arne Philipp Klug,
Biodiversity Research Director, MSCI ESG Research**

**CFA Institute, Asia-Pacific event:
Quantifying Biodiversity-Driven Risks and Opportunities for Resilient Portfolios
November 9, 2023**



Definition: Biodiversity

What is biodiversity?

Variability among **living organisms** from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes **diversity within species, between species and of ecosystems**.

Source: United Nations Convention on Biological Diversity (CBD)

What is nature?

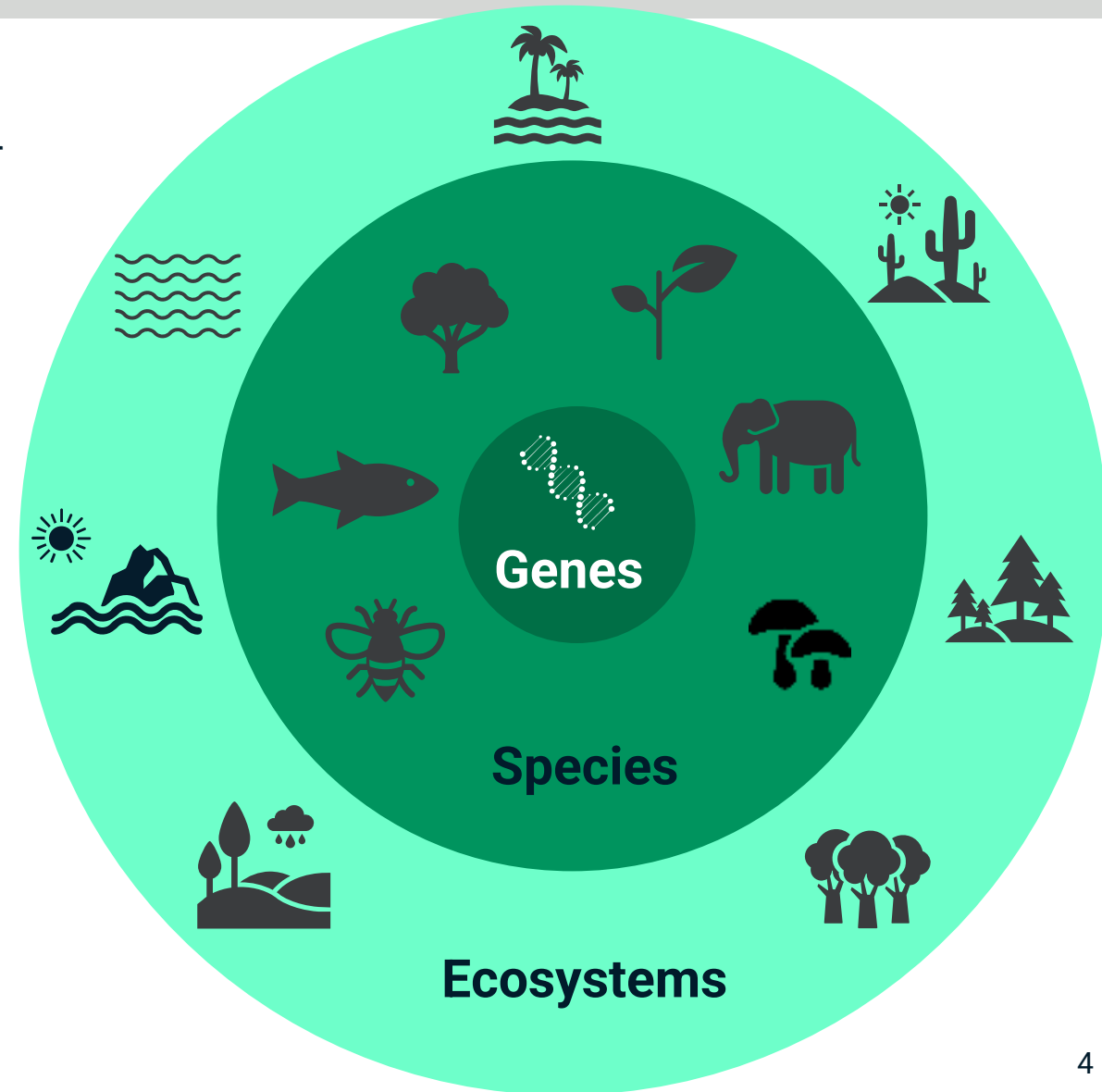
Includes biodiversity and the geology, water, climate and other inanimate components that exist on Earth.

What is natural capital?

Global **stock of natural assets** including geology, soil, air, water and all living things.

Source: Natural Capital Coalition, Natural Capital Finance Alliance, VBDO. 2018. "Connecting Finance and Natural Capital: A Supplement to the Natural Capital Protocol."

→ **Biodiversity ensures the resilience of natural capital**



Degradation of ecosystems: A bleak picture

83% vertebrate populations declined since 1970

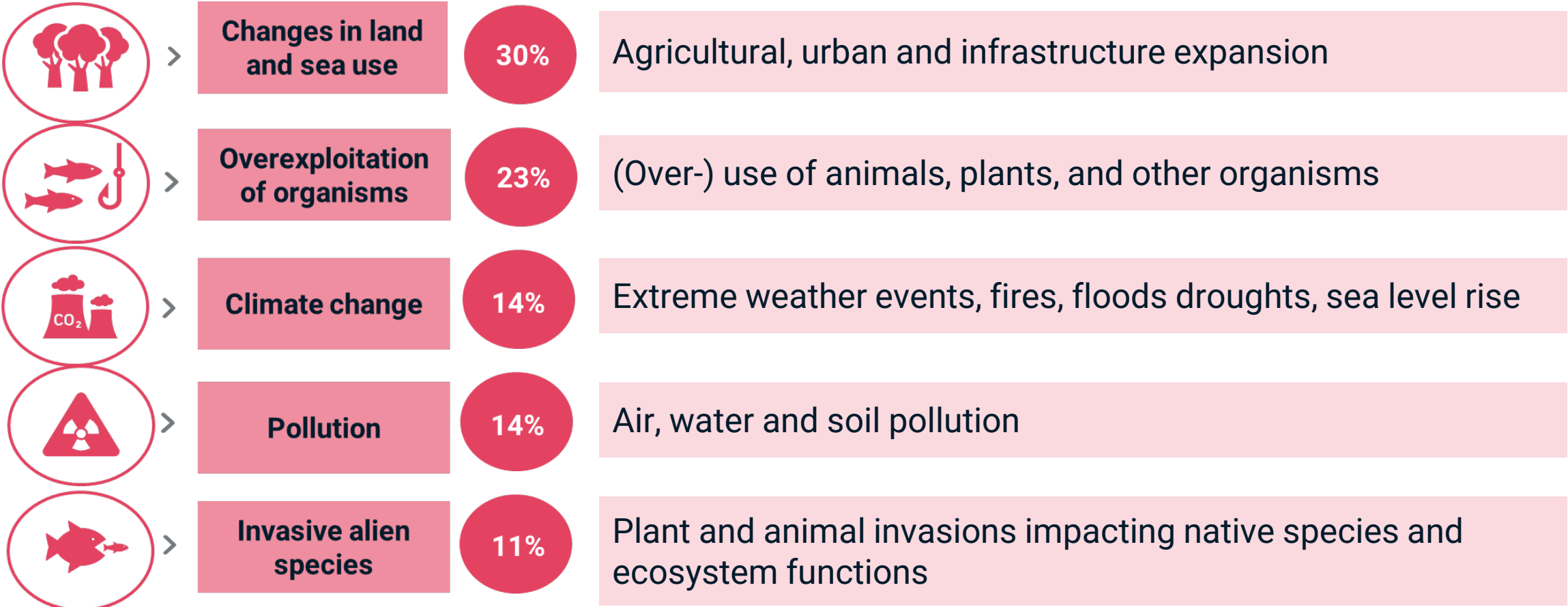
25% of existing animals and plant species could face extinction

33% of global forests lost since the last ice age

85% of wetlands lost since the last ice age

→ Studies suggest that humankind caused the ongoing sixth mass extinction

Main drivers for biodiversity loss

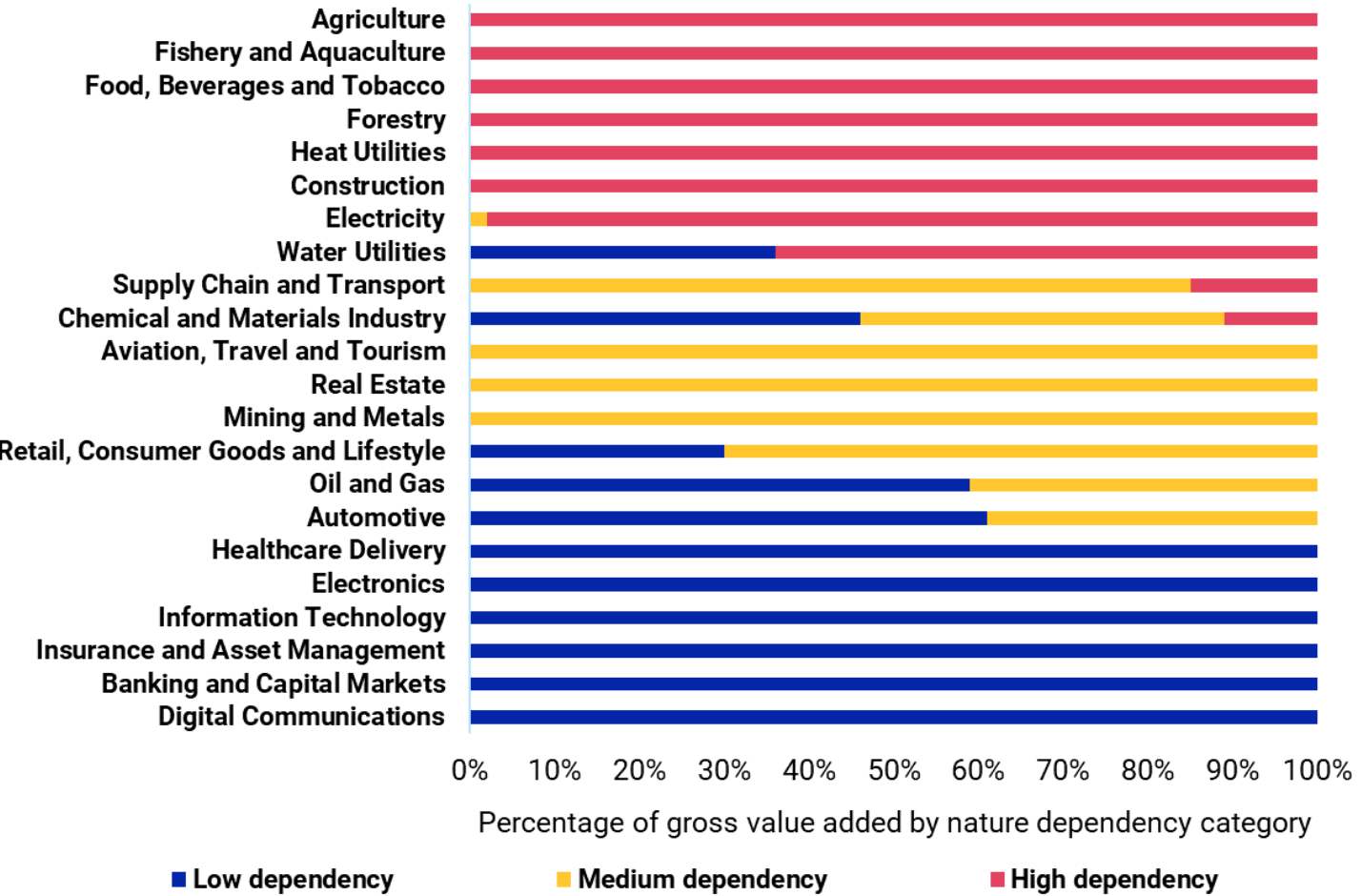


Contribution of driver to global biodiversity loss



Source: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). 2020. "Global assessment report on biodiversity and ecosystem services".

Dependencies of industries on nature



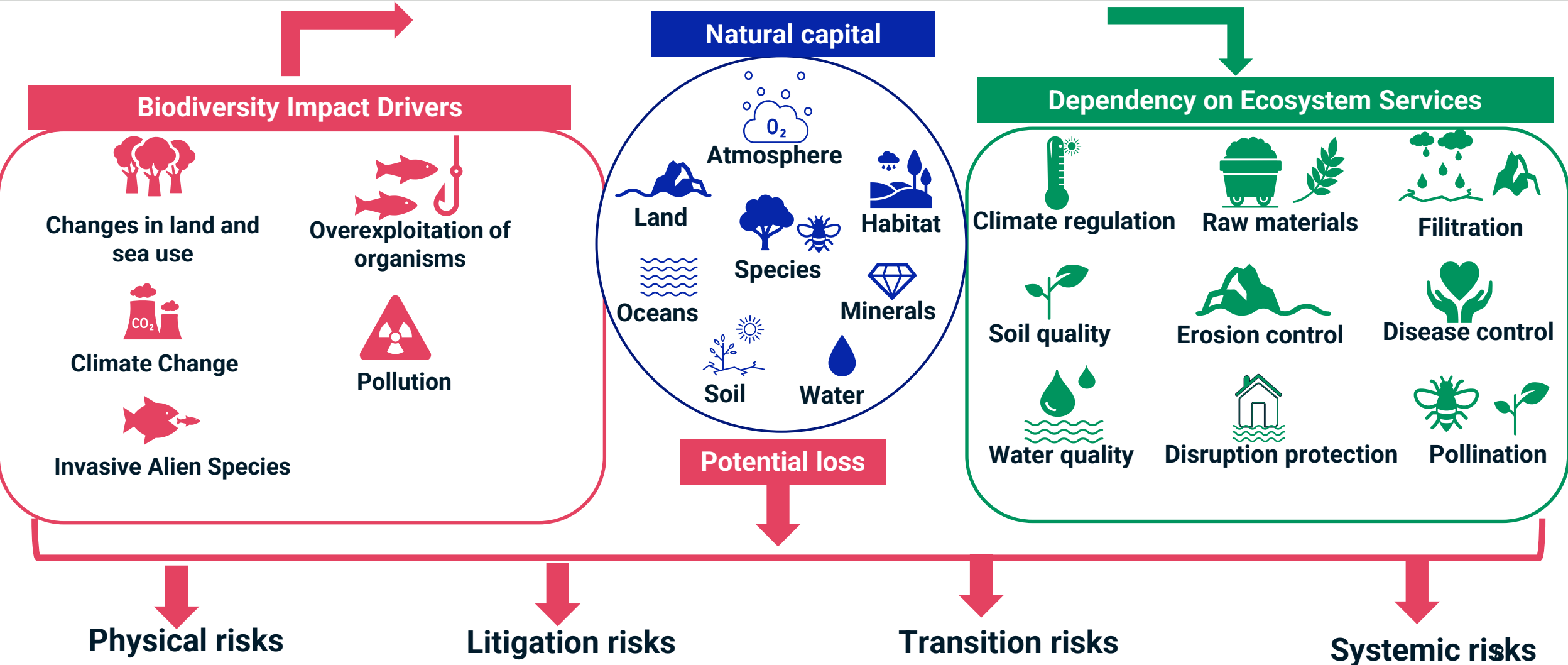
50% of Global GDP is highly or moderately dependent on nature

Source: World Economic Forum and PwC. 2020. "Nature Risk Rising: Why the Crisis Engulfing Nature Matters for Business and the Economy".

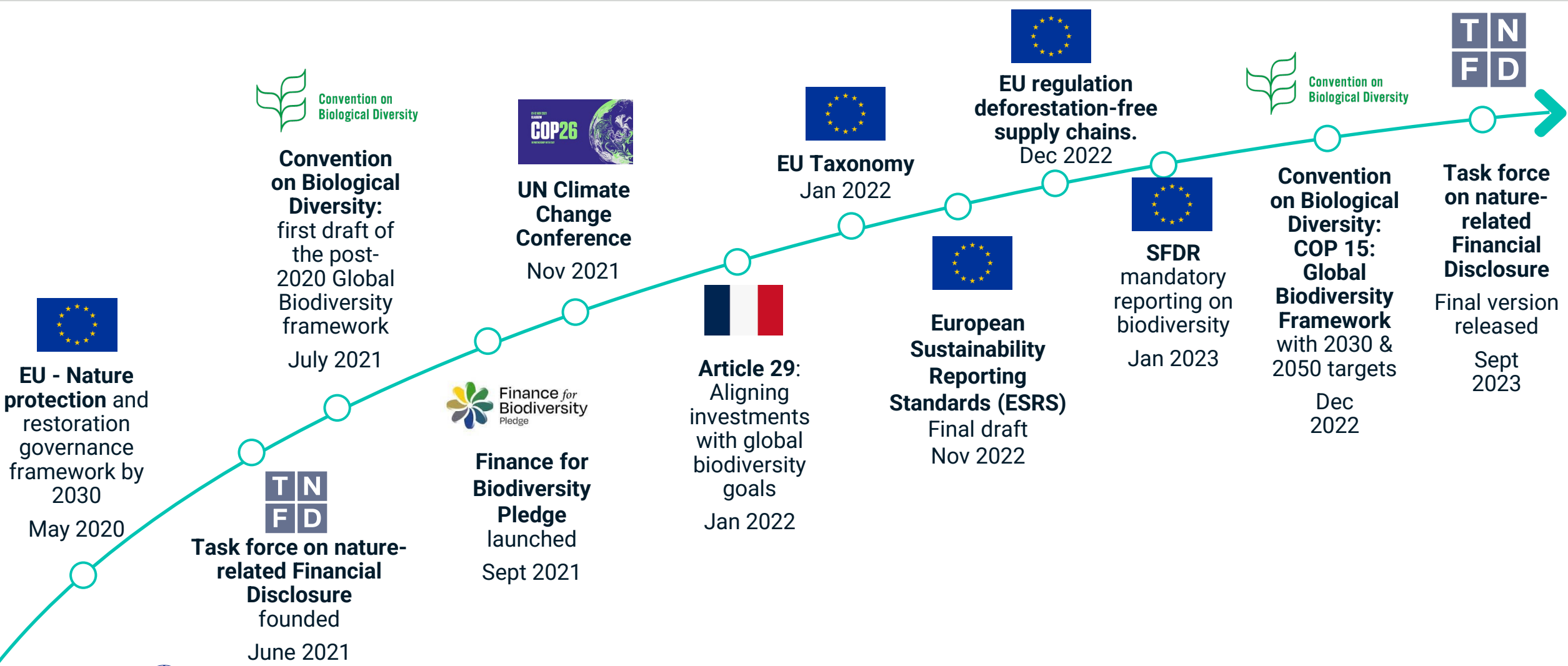
- 75% of global food crops rely on animal pollination
- 50% of crops are risk due to soil erosion
- 70% of cancer drugs are inspired or based on nature
- Forests, wetlands, oceans annually absorb 5.6 gigatons of carbon
- Biodiversity and climate change inextricably connected

Source: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). 2020. "The Global Assessment Report on Biodiversity and Ecosystem Services."

Business impact and dependency on nature



Growing momentum: Regulations and initiatives on biodiversity



Sources: MSCI ESG Research, April 2023

Institutional investor objectives: Biodiversity

Identify and manage risks

- Identify companies with exposure to **biodiversity related financial risks** and potential gaps in biodiversity risk management



Identify and manage impacts

- Identify companies with potential high **biodiversity impacts** and potential gaps in biodiversity management



Meet disclosure obligations under regulations

- Meet **EU Sustainable Finance** and other emerging regulatory requirements around biodiversity
- Report against emerging **disclosure frameworks**

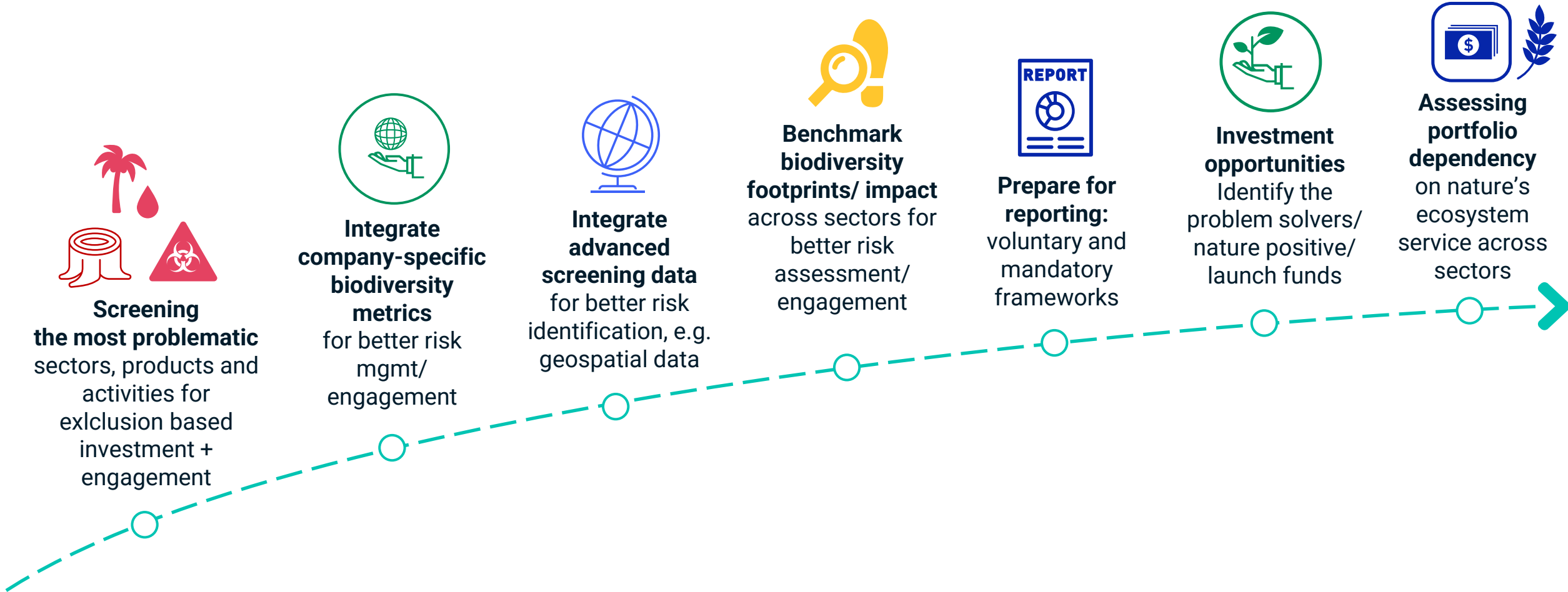


Benefit from investment opportunities

- **Identify** companies that are tackling biodiversity loss with their products and solutions



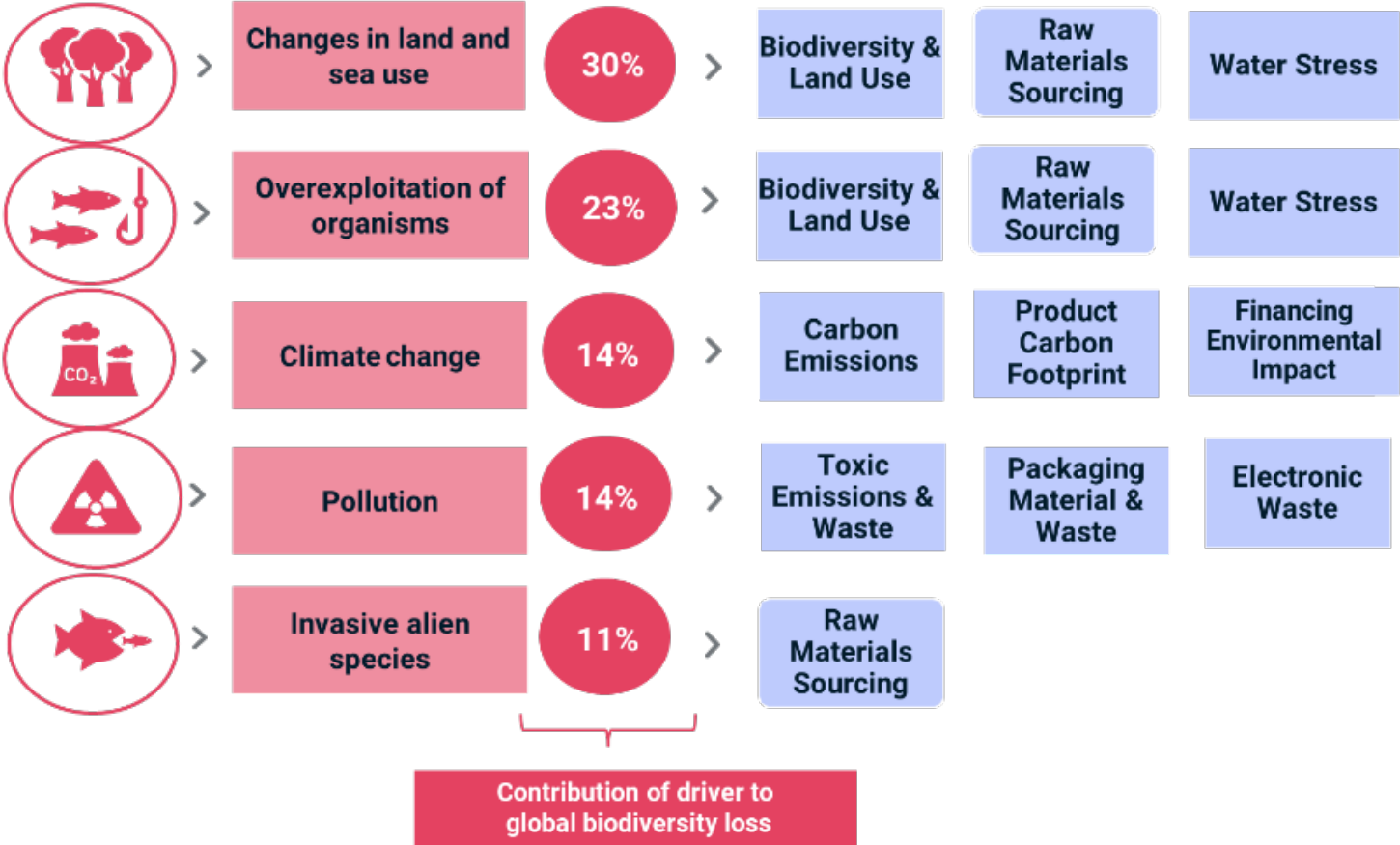
Integrating biodiversity into investments: From simple to complex



ESG Ratings: Key Issues linked to biodiversity loss drivers

Main drivers: Biodiversity Loss

MSCI ESG Key Issues



MSCI Biodiversity-Sensitive Areas Screening Metrics - Overview

Objective:

Provide location-based terrestrial biodiversity metrics that can be aggregated to the company level and used to identify companies at risk of contributing to biodiversity loss



BIODIVERSITY-SENSITIVE AREAS SCREENING METRICS

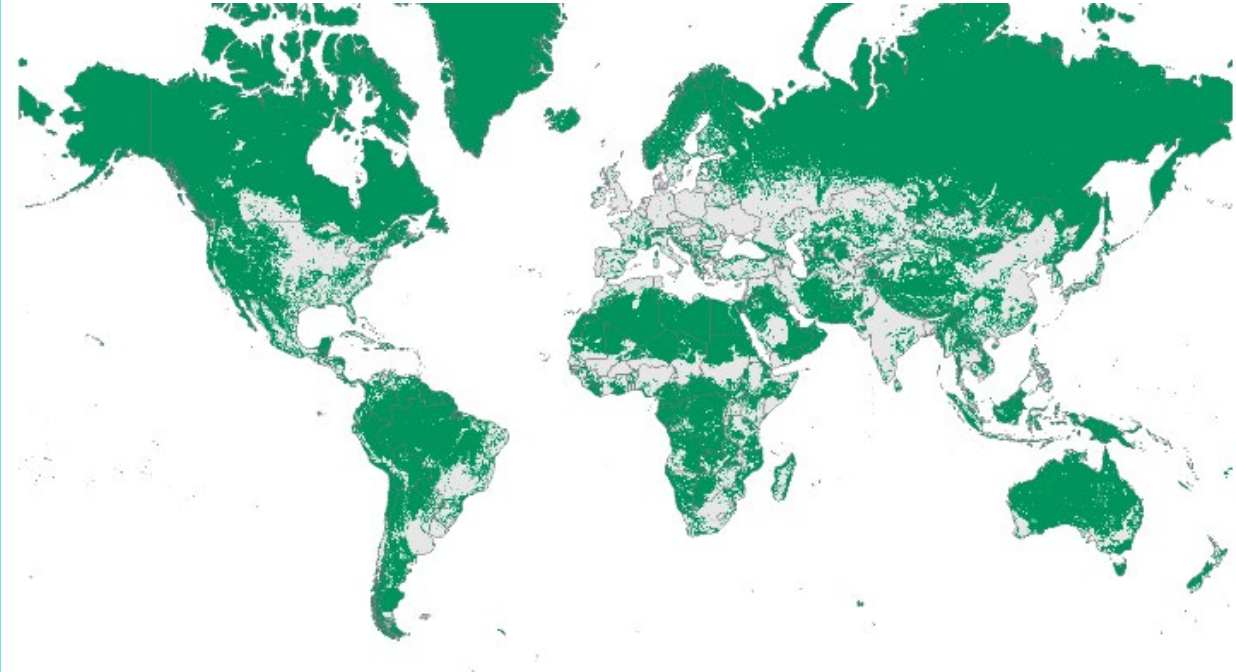
Output:

True/ False flag for operations in biodiversity-sensitive areas

Captures companies with three or more known physical assets located in biodiversity-sensitive areas:

- Healthy Forests (Forest Landscape Integrity Index ≥ 6)
- Biodiversity Intact Areas (Mean Species Abundance ≥ 0.56)
- Deforestation Fronts (WWF, Terra-i)
- Prime areas for Conservation (Global Safety Net)

Biodiversity-Sensitive Areas



Source: MSCI ESG Research, December 2022,
green coloured areas = biodiversity-sensitive areas

MSCI Deforestation Screening Metrics - Overview

Objective:

Identify companies who are at risk of contributing to deforestation

Output:

True/ False flag for potential direct or indirect contribution to deforestation

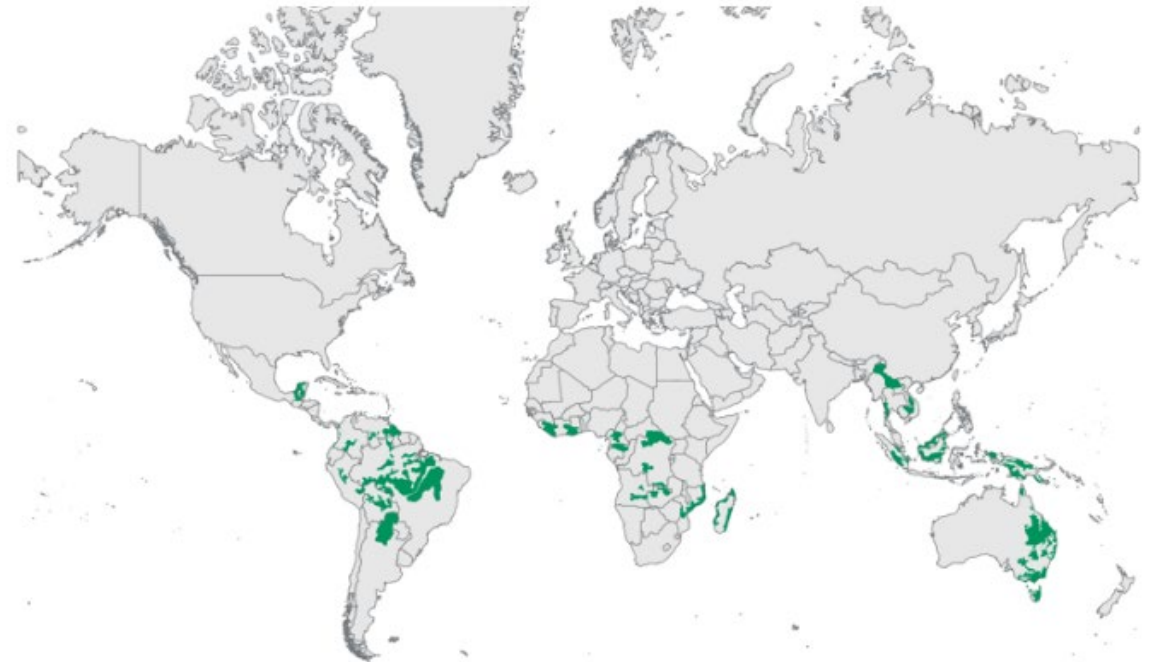


DEFORESTATION
SCREENING METRICS

Captures:

- **Commodities considered key drivers of deforestation:** Production / use of palm oil, soybean, beef or timber
- **High-risk Industry in Deforestation Fronts:** Physical assets in Deforestation Fronts when operating in a high-risk industry
- **Controversies:** Involvement in controversies linked to deforestation, land degradation or forest species loss

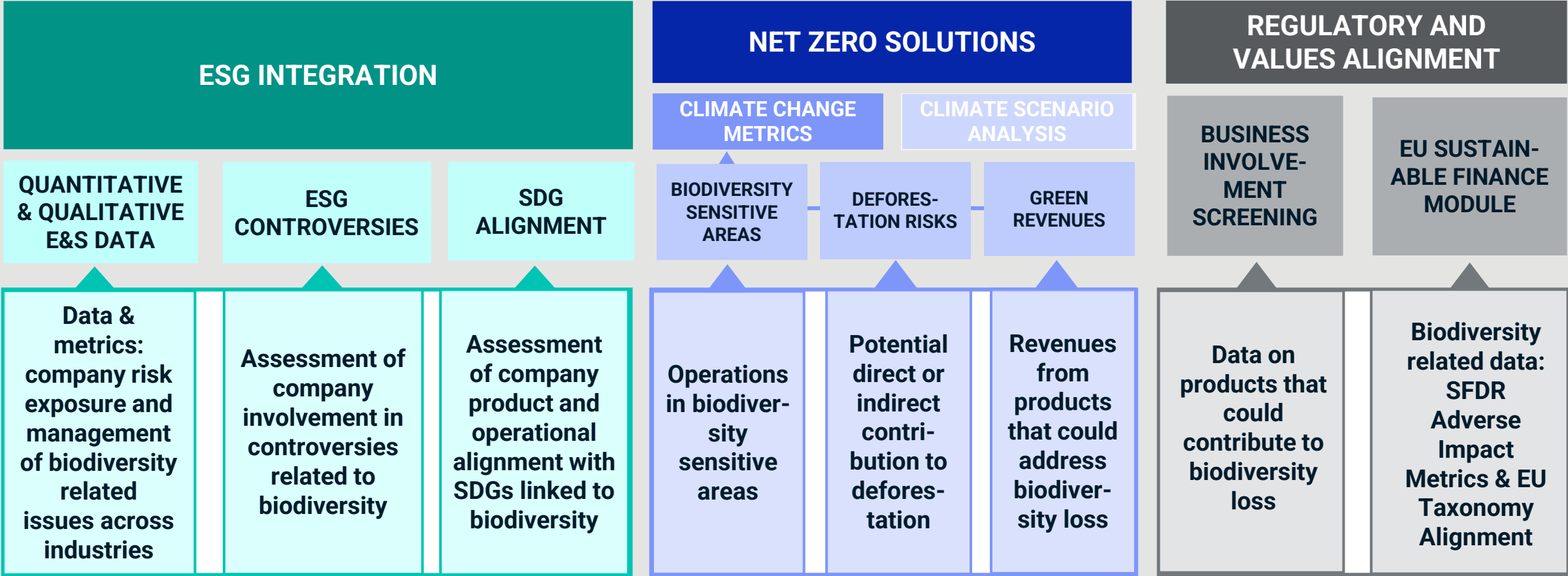
WWF Deforestation Fronts



Source: MSCI ESG Research, December 2022; "Deforestation fronts: Drivers and responses in a changing world report". World Wide Fund For Nature (WWF). 2021. Countries flagged for forest loss: "Deforestation Fronts" or hotspots, based on data from Terra-i

Biodiversity Within MSCI's ESG Product Suite

MSCI ESG Research rates 10,000+ companies (16,400+ issuers including subsidiaries) and more than 785,000 equity and fixed income securities globally (as of April 2022)



Biodiversity related Key Issues in our ESG Ratings model

ENVIRONMENT PILLAR				SOCIAL PILLAR				GOVERNANCE PILLAR	
Climate Change	Natural Capital	Pollution & Waste	Environ. Opportunities	Human Capital	Product Liability	Stakeholder Opposition	Social Opportunities	Corporate Governance	Corporate Behavior
Carbon Emissions	Water Stress	Toxic Emissions & Waste	Opportunities in Clean Tech	Labor Management	Product Safety & Quality	Controversial Sourcing	Access to Communication	Board	Business Ethics
Product Carbon Footprint	Biodiversity & Land Use	Packaging Material & Waste	Opportunities in Green Building	Health & Safety	Chemical Safety	Community Relations	Access to Finance	Pay	Tax Transparency
Financing Environmental Impact	Raw Materials Sourcing	Electronic Waste	Opportunities in Renewable Energy	Human Capital Development	Consumer Financial Protection		Access to Health Care	Ownership	
Climate Change Vulnerability				Supply Chain Labor Standards	Privacy & Data Security		Opportunities in Nutrition & Health	Accounting	
					Responsible Investment				
					Insuring Health & Demographic Risk				

Key Issue: Biodiversity & Land Use / Raw Material Sourcing

Key Issues with strong link to Biodiversity

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