

UNDP BIOFIN – TNFD Training

The world we live in and the nature-business nexus

June 2025

Climate Risk Services

UNDP

BIOFIN
The Biodiversity Finance Initiative

Meet the team

- Climate Risk Services' CEO **Gerhard** has a wealth of experience in the climate and nature field, previously working for consultancies, banks, governments, and the IUCN. He also holds an MBA from the University of Oxford.

- As a senior analyst at Climate Risk Services, **Ben** specialises in nature-related risk for financial institutions and corporates. Ben holds a Masters degree from Imperial College London in Environmental Technology (environmental economics and policy).



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In this video…

1. The world we live and the nature – business interface
2. A global vision for nature

Key Objectives

- Understand the state of nature and how the economy relies on it.
- Understand the GBF and its global vision for nature.

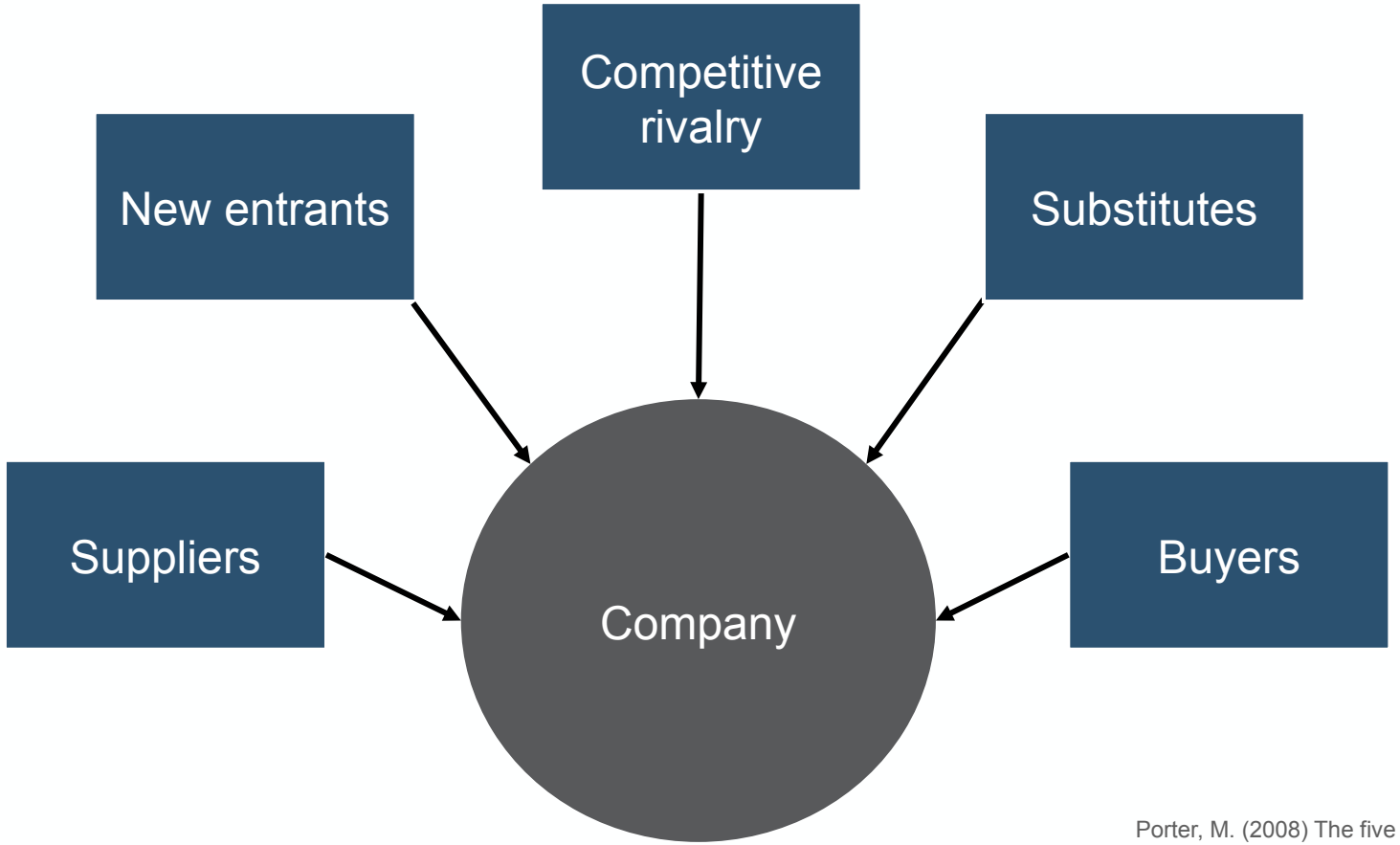
The world we live in and the nature – business interface

"Nature's ability to provide the goods and services on which we depend is being undermined, presenting enormous risks to prosperity"

HENRY M. PAULSON
FORMER U.S. SECRETARY OF THE TREASURY

Prevailing view of corporate strategy…

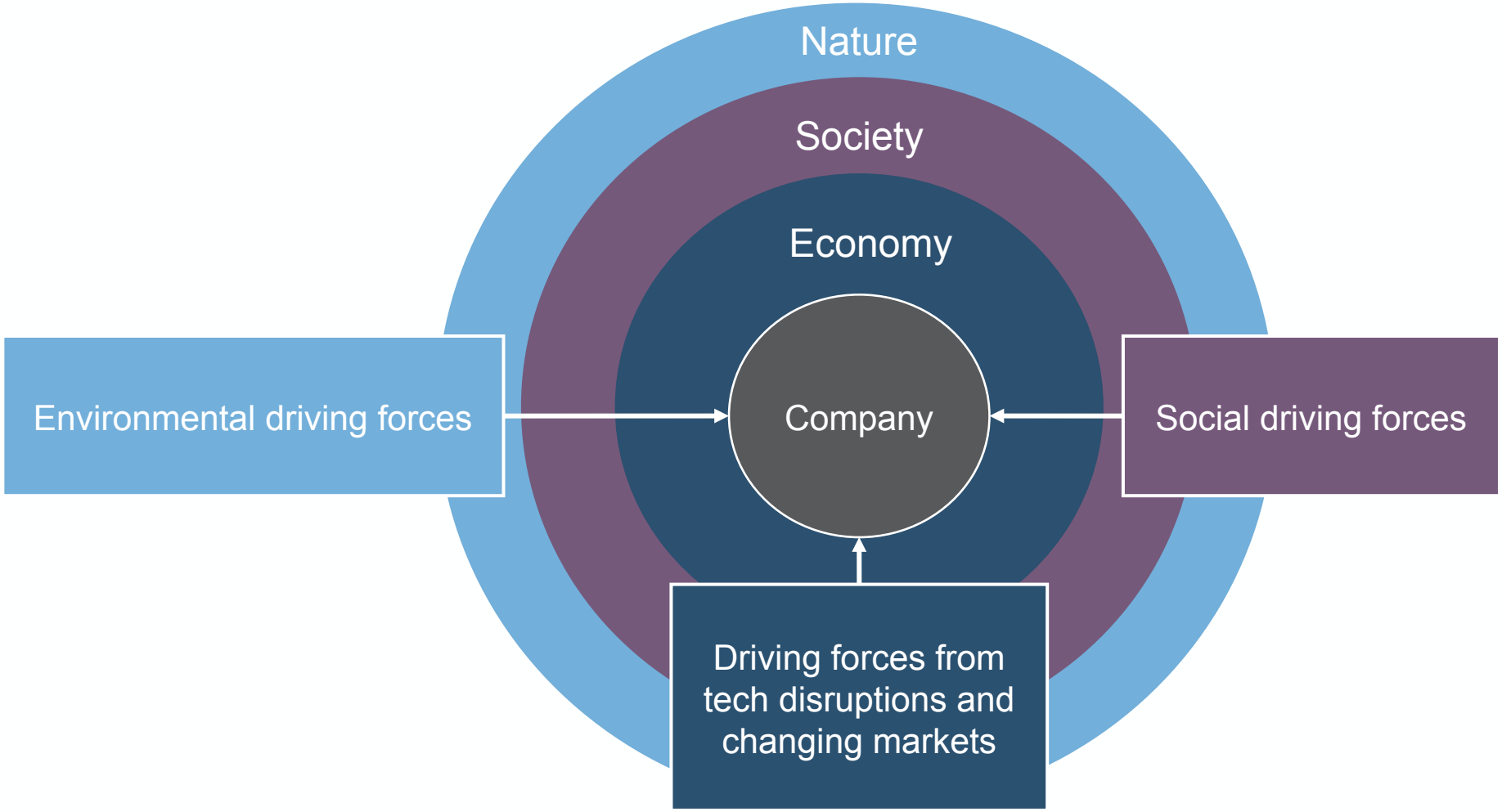
Michael Porter's "five forces" have influenced corporate strategy for decades



Porter, M. (2008) The five competitive forces that shape strategy, Harvard Business Review

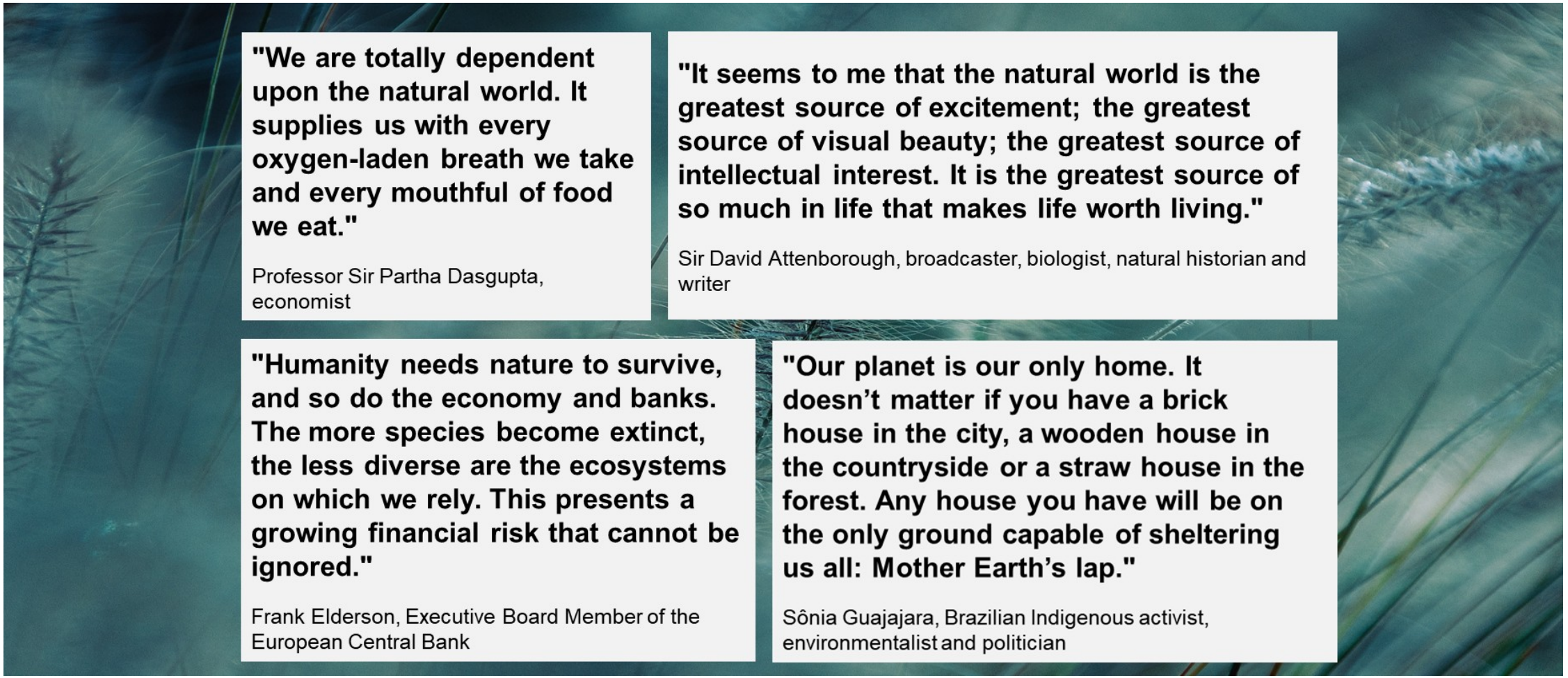
…the view that we need

Corporate strategy now requires us to take a much broader perspective



We all depend on nature

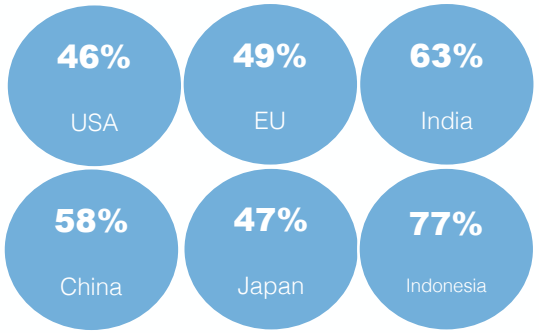
Nature is our most important asset, on which all economic activity depends



Nature and the Economy

Nature underpins our economies, societies, and business models

Countries around the world are now assessing the extent to which their economies are moderately to highly dependent on nature.



Source: WEF (2020) Nature risk rising: why the crisis engulfing nature matters for business and the economy

Reduced pollination, fisheries, timber production, and related ecosystem services could result in an annual decline in global GDP of USD 2.7 trillion by 2030, with Sub-Saharan Africa and South Asia being most at risk.

The World Bank (2021) Protecting Nature Could Avert Global Economic Losses of $2.7 Trillion Per Year



Sovereign credit rating changes by 2030 due to partial nature collapse

"Biodiversity and nature-related risks can have significant impacts on sovereign creditworthiness, default probability, and the cost of capital."

Source: Agarwala et al. (2022) Nature loss and sovereign credit ratings, University of Cambridge, Bennett Institute for Public Policy

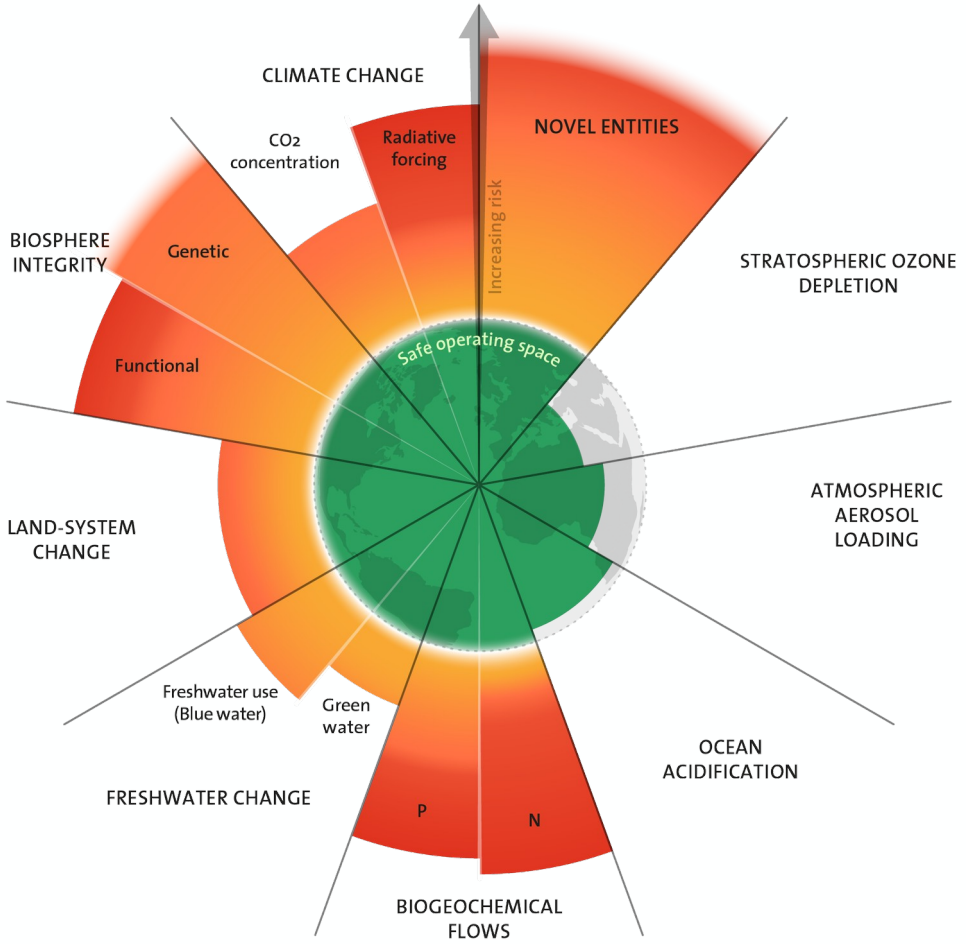
Planetary Boundaries

Six of the nine planetary boundaries are being transgressed

In 2024, six of nine planetary boundaries – only one of which is climate change – were transgressed. We are now close to breaching the safe operating limits on ocean acidification.

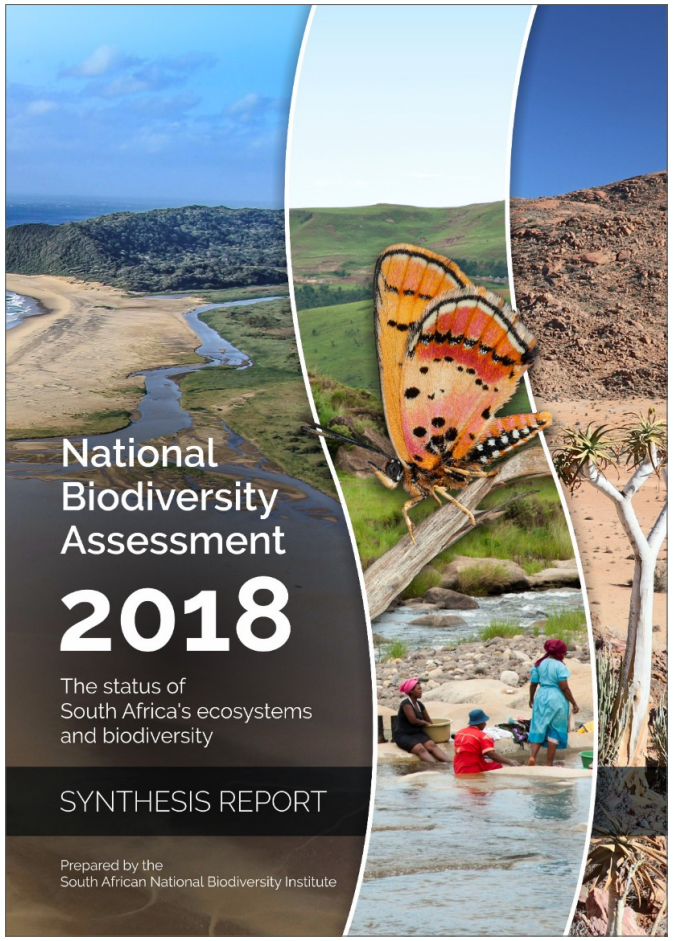
“Earth is now well outside of the safe operating space for humanity.”

Richardson et al (2023) Earth beyond six of nine planetary boundaries, Science Advances



The state of nature in South Africa

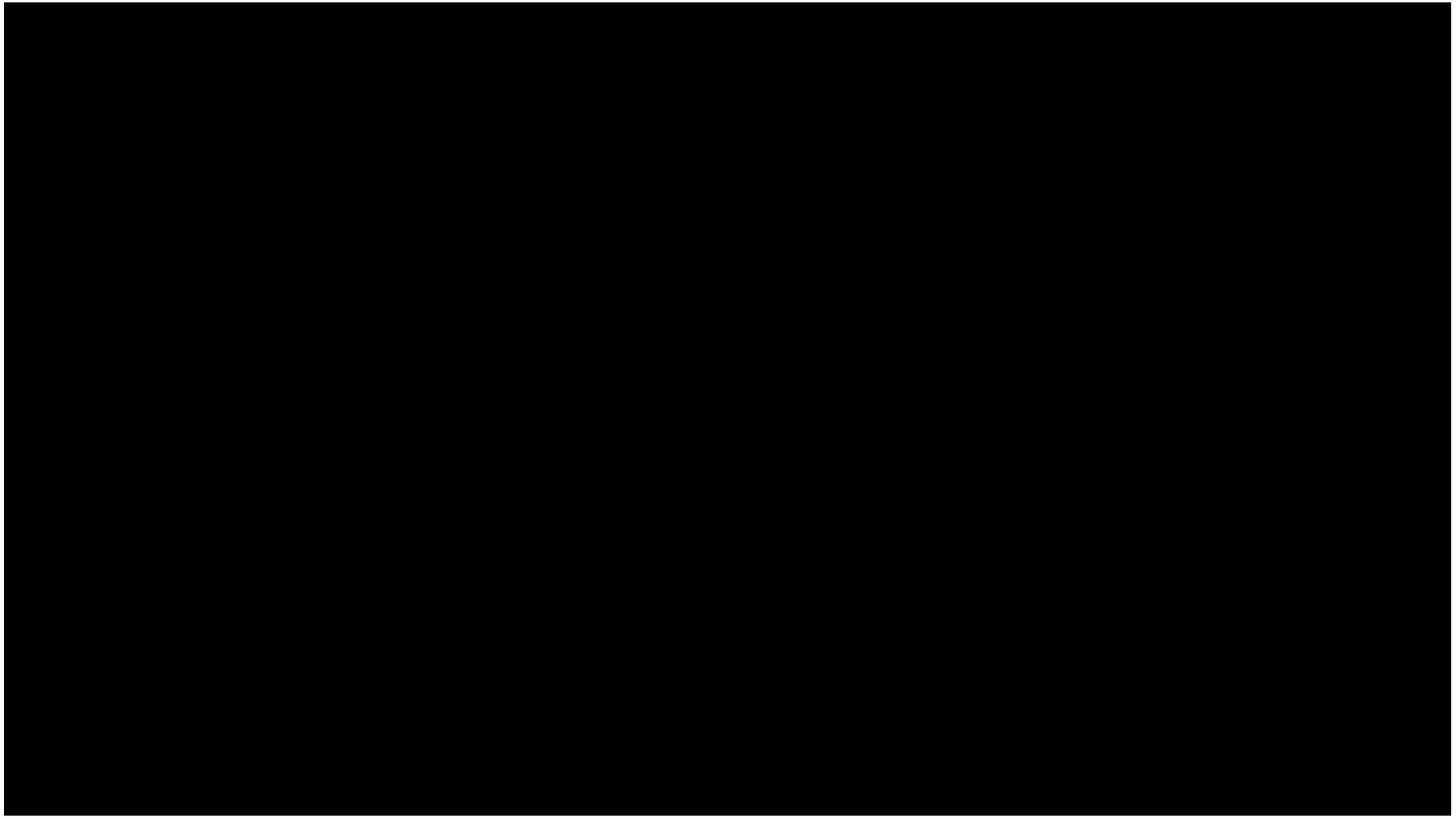
How is nature and biodiversity faring in South Africa



- South Africa is rich in biodiversity; home to 3 biodiverse areas, the Cape Floristic Region, the Succulent Karoo, and the Maputaland-Pondoland-Albany Region, and multiple KBAs (Key Biodiversity Areas).
- Almost half of the 1021 ecosystem types assess in the NBA 2018 are categorised as threatened.
- 14% of assessed plant species were categorised as threatened and 12% of animals assessed were categorised as threatened.
- A key driver of biodiversity loss is habitat loss and land conversion, alongside invasive species, over-harvesting of marine resources, water pollution, and climate change.

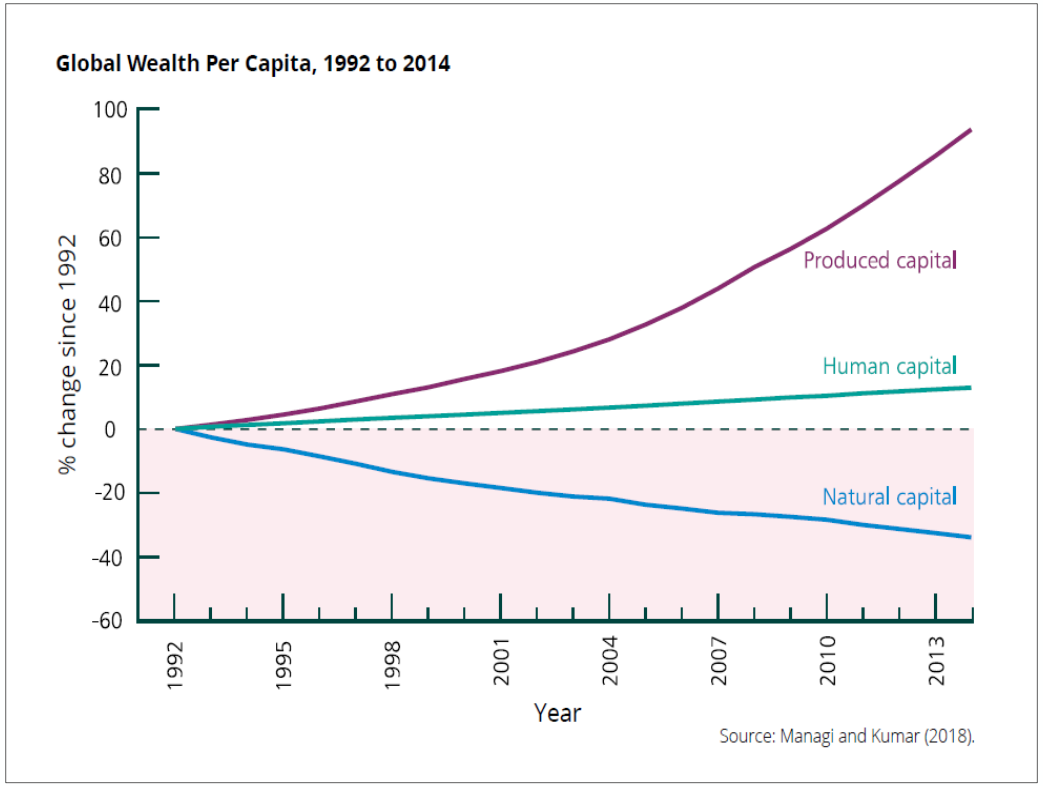
Natural Capital vs GDP

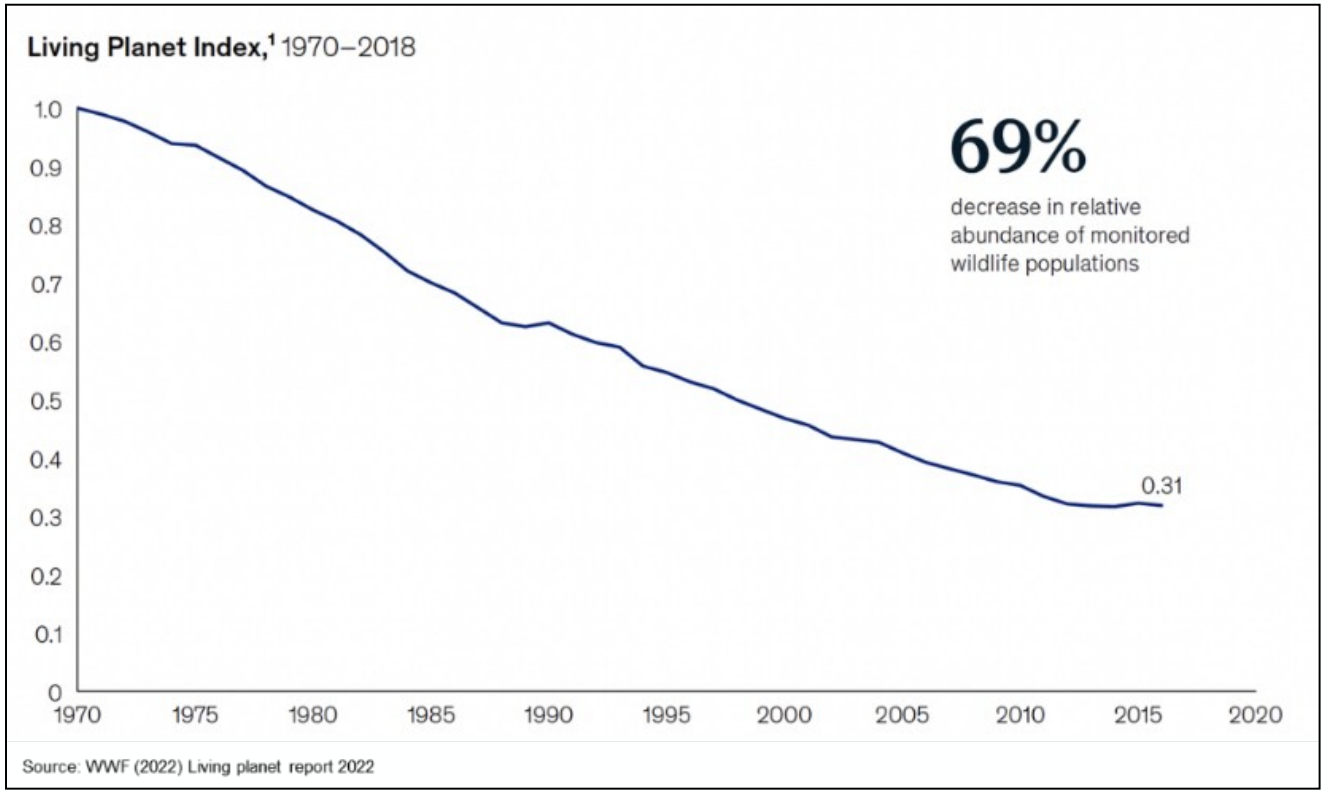
A tongue-in-cheek summary of the Dasgupta review



We are facing multiple nature crises

Growth in capital has come at the cost of natural capital - biodiversity has been in decline for decades





Nature loss is accelerating. Extinction rates are estimated to be 100 to 1,000 times higher than their background rate over the past tens of millions of years. Biodiversity is now declining faster than at any time in human history.

We urgently need to reverse this trend, and businesses and financial institutions will need to play a key role in this.

Ecosystem services

How can we view the role of ecosystems in economic activity?

Ecosystem services refers to the values and benefits that nature and ecosystems provide to people, businesses and society. They are commonly broken down into 4 categories:

- **Provisioning services**
  products people obtain from ecosystems e.g. timber
- **Regulating services**
  benefits people obtain from the regulation of ecosystem processes such as air quality and climate regulation.
- **Cultural services**
  non-material benefits that people obtain from ecosystems e.g. recreational value
- **Supporting services**
  are those necessary for other ecosystem service provision e.g. soil formation

Article | Published: 15 May 1997

The value of the world's ecosystem services and natural capital

→ **USD $33 trillion**

1.3.1 Ecosystems and Their Services

An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment interacting as a functional unit. Humans are an integral part of ecosystems. Ecosystems provide a variety of benefits to people, including provisioning, regulating, cultural, and supporting services. Provisioning services are the products people obtain from ecosystems, such as food, fuel, fiber, fresh water, and genetic resources. Regulating services are the benefits people obtain from the regulation of ecosystem processes, including air quality maintenance, climate regulation, erosion control, regulation of human diseases, and water purification. Cultural services are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences. Supporting services are those that are necessary for the production of all other ecosystem services, such as primary production, production of oxygen, and soil formation.

Biodiversity and ecosystems are closely related concepts. Biodiversity is the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part. It includes diversity within and between species and diversity of ecosystems. Diversity is a structural feature of ecosystems, and the variability among ecosystems is an element of biodiversity. Products of biodiversity include many of the services produced by ecosystems (such as food and genetic resources), and changes in biodiversity can influence all the other services they provide. In addition to the important role of biodiversity in providing ecosystem services, the diversity of living species has intrinsic value independent of any human concern.

Opening concepts in the Millenium Ecosystem Assessment

Ecosystem Services are in decline

14 out of 18 ecosystem services are in decline

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is the equivalent for nature as to what the Intergovernmental Panel on Climate Change (IPCC) is for climate science.

“Nature and its vital contributions to people, which together embody biodiversity and ecosystem functions and services, are deteriorating worldwide.”

IPBES (2019) Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services



Figure SPM 1 **Global trends in the capacity of nature to sustain contributions to good quality of life from 1970 to the present, which show a decline for 14 of the 18 categories of nature's contributions to people analysed.**

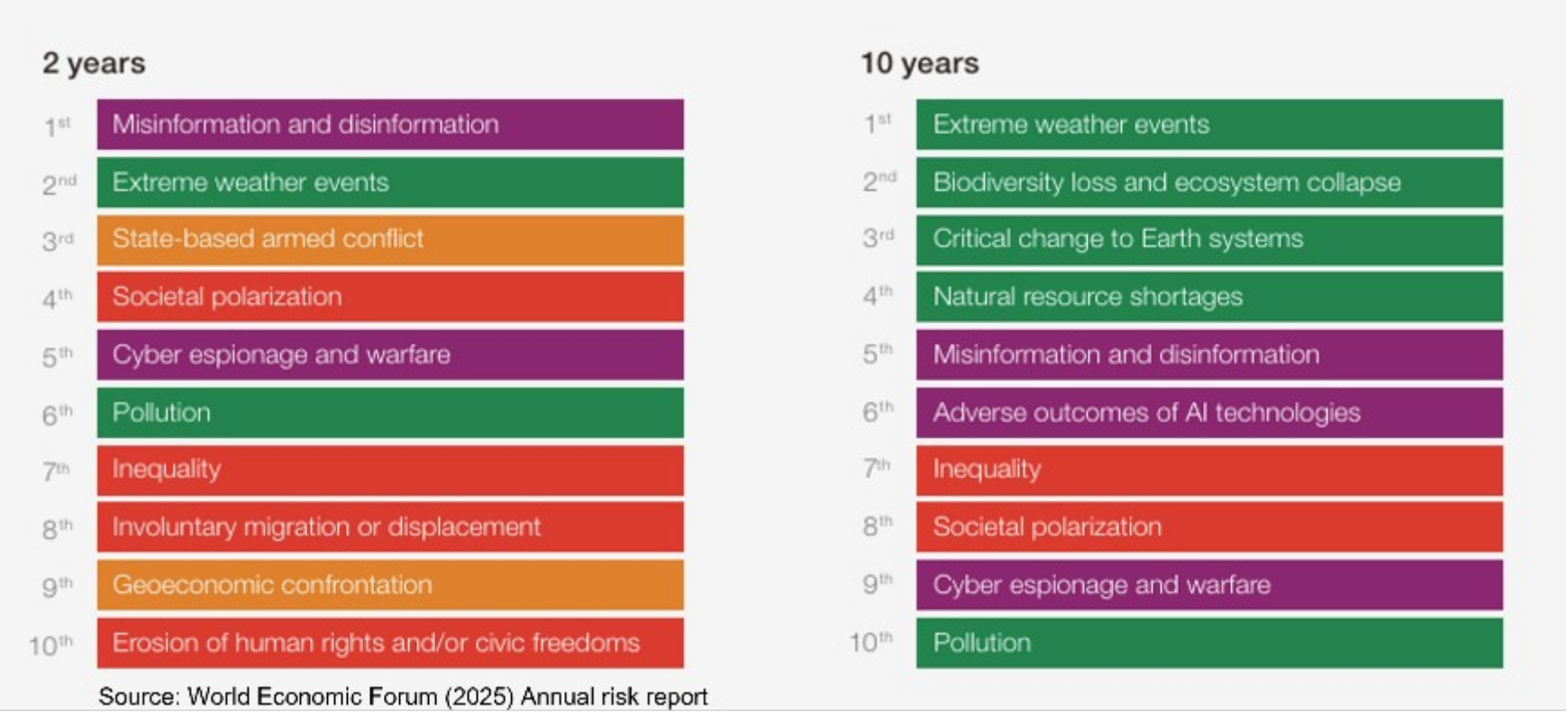
Data supporting global trends and regional variations come from a systematic review of over 2,000 studies {2.3.5.1}. Indicators were selected on the basis of availability of global data, prior use in assessments and alignment with 18 categories. For many categories of nature's contributions, two indicators are included that show different aspects of nature's capacity to contribute to human well-being within that category. Indicators are defined so that an increase in the indicator is associated with an improvement in nature's contributions.

Environmental risks dominate the global risk landscape

Top 10 global risks over the next 2 and 10 years

Global risks ranked by severity over the short and long term

"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period."



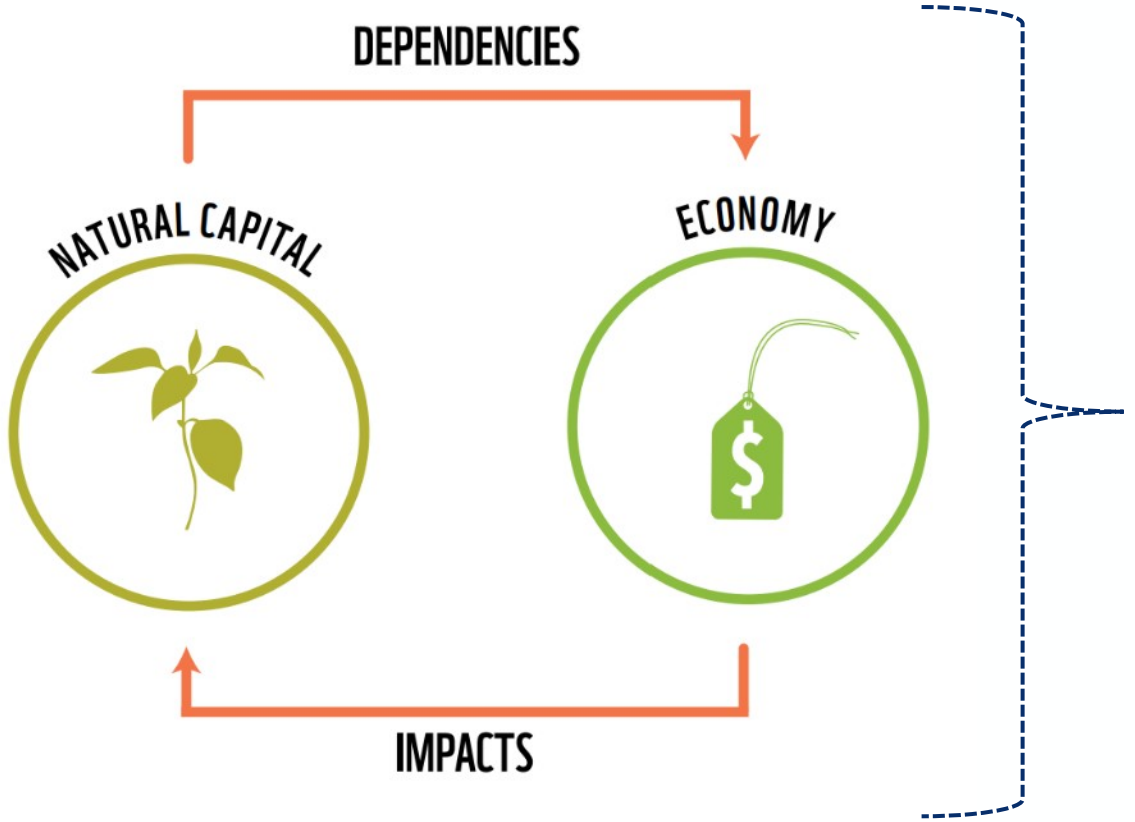
Source: World Economic Forum (2025) Annual risk report

The essence of the business and nature relationship

Businesses and nature are systemically interconnected

Nature-related issues are evolving rapidly and have clear strategic implications for companies:

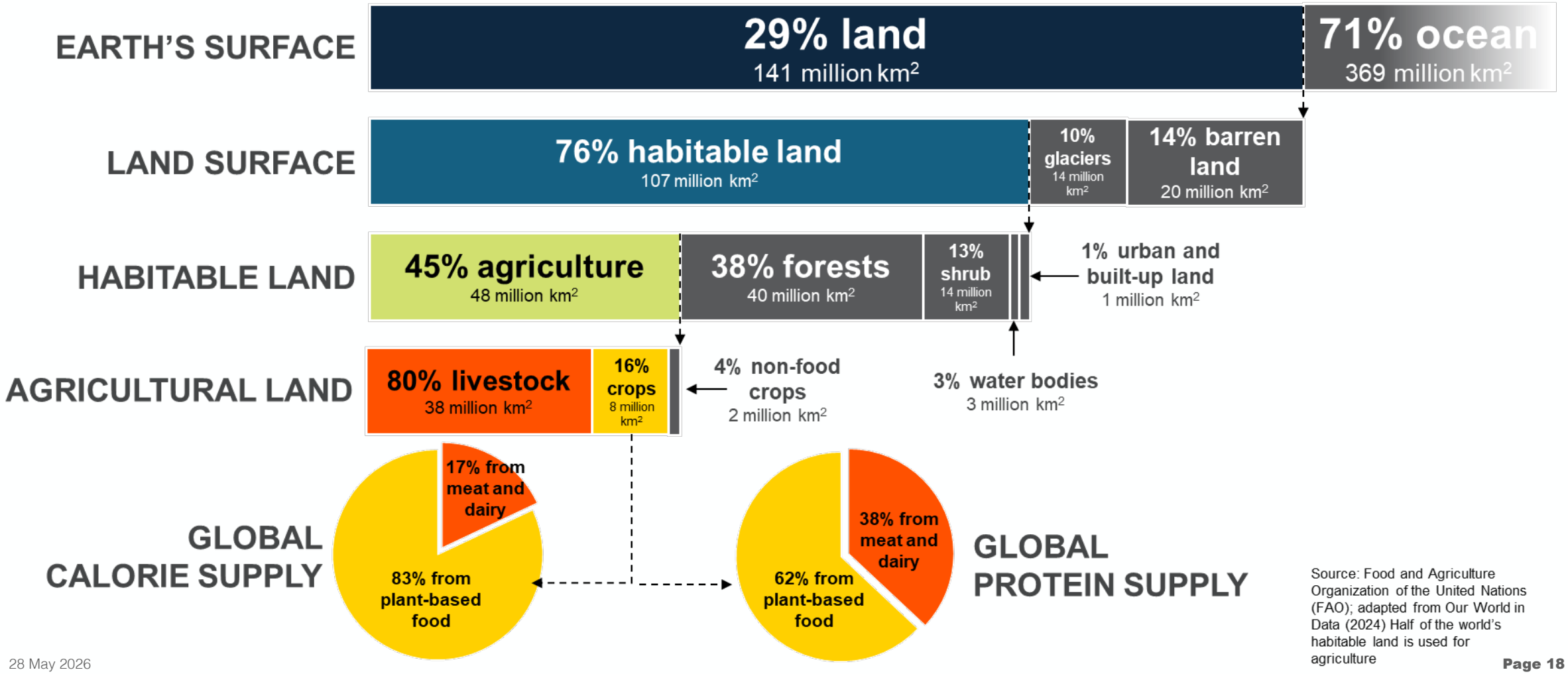
- today's impacts can accentuate tomorrow's dependencies
- understanding dependencies and impacts is essential for understanding risks and opportunities
- pursuing opportunities can enhance the resilience of businesses by investing in the resilience of nature



Risks and Opportunities for organisations

Example: land-use change

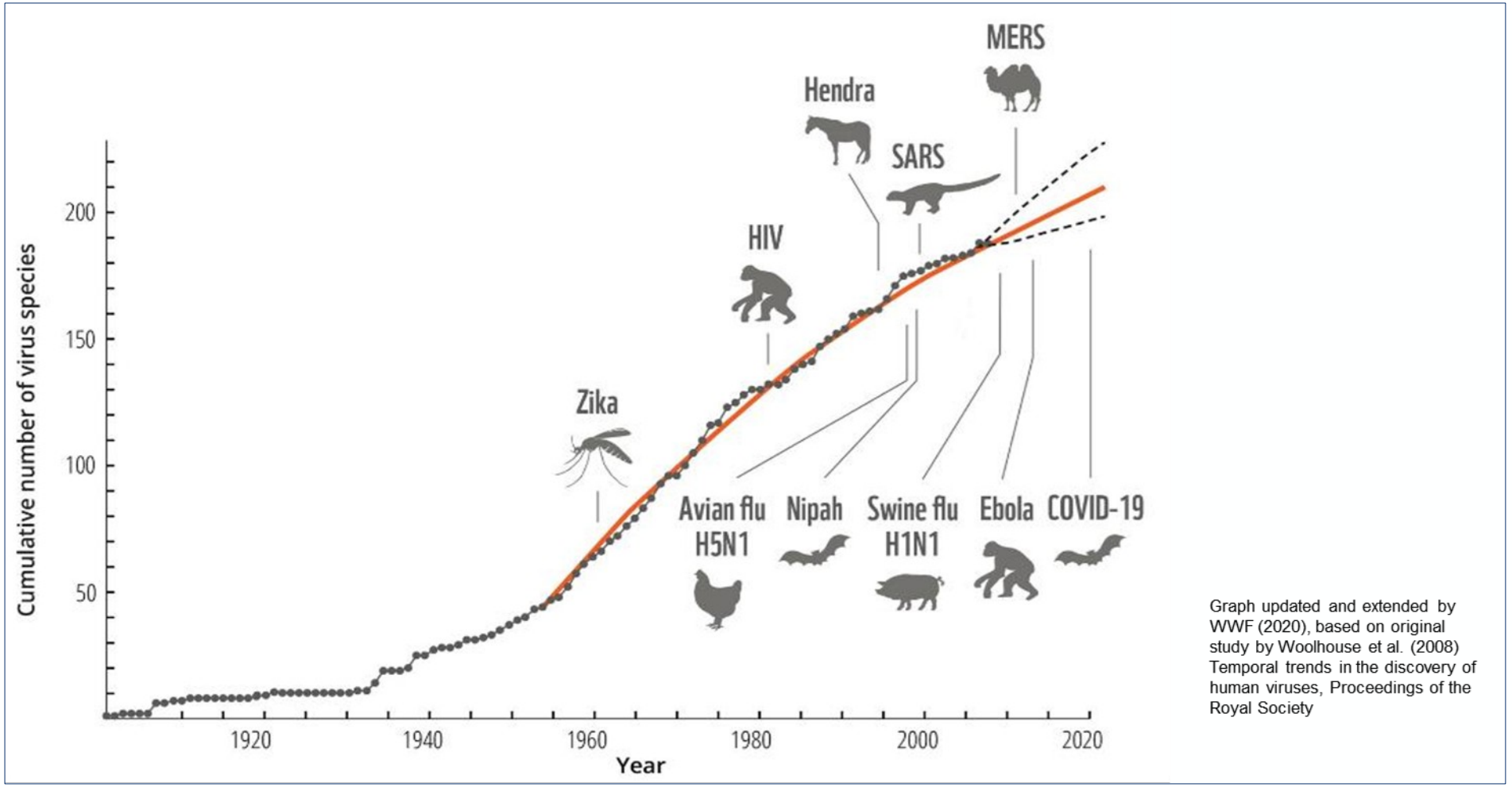
Nearly half of all habitable land is now dedicated to agriculture



Source: Food and Agriculture Organization of the United Nations (FAO); adapted from Our World in Data (2024) Half of the world's habitable land is used for agriculture

Example: consequences of land-use change

One of the consequences of loss of biodiversity and natural habitats has been new risks to global health through the form of zoonotic diseases



Graph updated and extended by WWF (2020), based on original study by Woolhouse et al. (2008) Temporal trends in the discovery of human viruses, Proceedings of the Royal Society

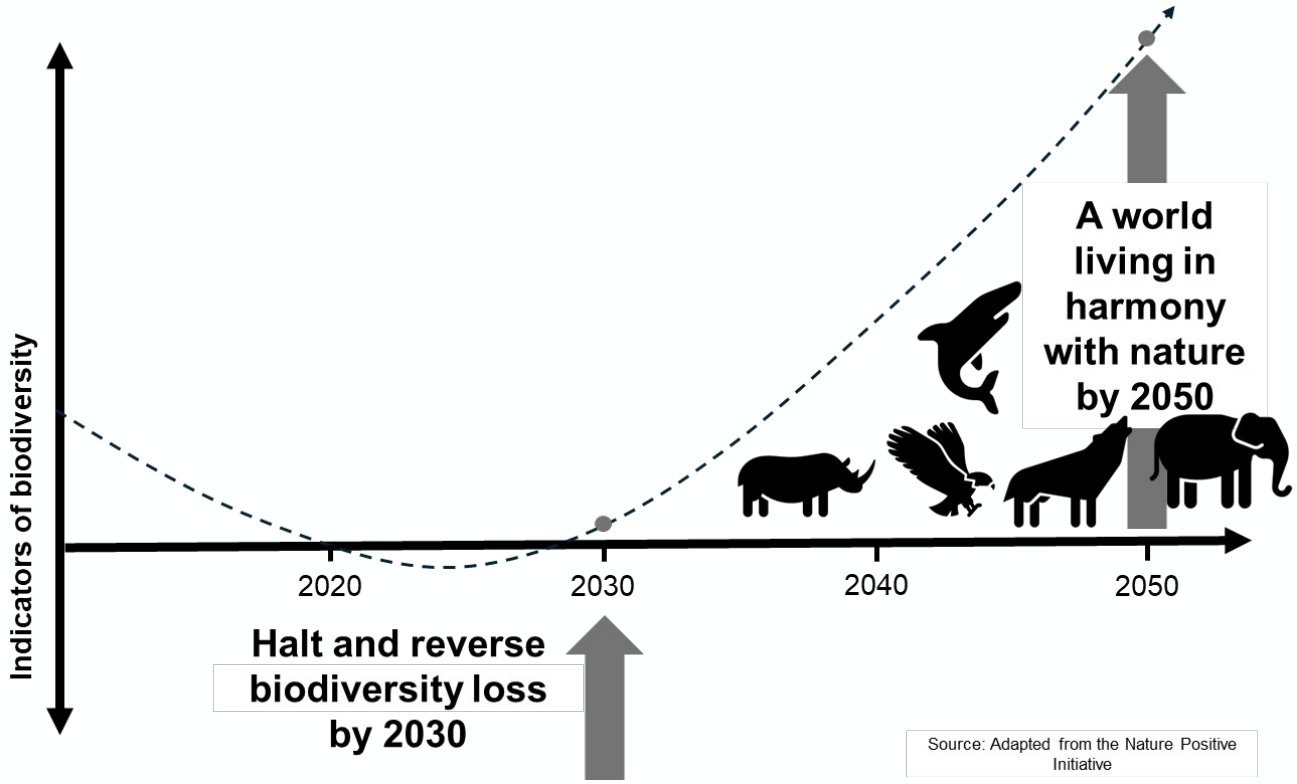
A global vision for nature


Ecological Civilization-Building a Shared Future for All Life on Earth
KUNMING – MONTRÉAL
COP President
Ms. Inger Andersen

The Global Biodiversity Framework (GBF)

We have internationally agreed goals and targets setting out how we can live in harmony with nature

The GBF is equivalent to the Paris Agreement on climate change and was signed by 196 nations in December 2022. It commits countries to take urgent action to halt and reverse biodiversity loss by 2030 and sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050.



The transition required by the GBF

Significant changes to business practices across all sectors will be required

There are four Goals for 2050 and 23 Targets for 2030.

Signatory countries commit to demonstrating progress towards meeting the Targets and publishing National Biodiversity Strategy and Action Plans.

Vision for 2050
A world living in harmony with nature

- **Goal A:** Protect and restore
- **Goal B:** Prosper with nature
- **Goal C:** Share benefits fairly
- **Goal D:** Invest and collaborate



Kunming - Montreal
GLOBAL BIODIVERSITY FRAMEWORK

Mission for 2030
Halt and reverse biodiversity loss

- **Targets 1–8:** Reducing threats to biodiversity
- **Targets 9–13:** Meeting people's needs through sustainable use and benefit-sharing
- **Targets 14–23:** Tools and solutions for implementation and mainstreaming

Target 15: *…encourage and enable business [to] regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity,… in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production.*

South Africa and the GBF

What actions has South Africa taken aligned with the GBF

- South Africa has committed to alignment with the Global Biodiversity Framework (COP15, 2022)
- It will submit a revised National Biodiversity Strategy and Action Plan (NBSAP) ahead of COP17 2026
- This will build on the cabinet approved 2023 White Paper: *the Conservation and Sustainable Use of South Africa's Biodiversity*



Wildebeest, elephant, and zebra all at a waterhole in South Africa.
Photographer: Moelyn Photos/Getty Images

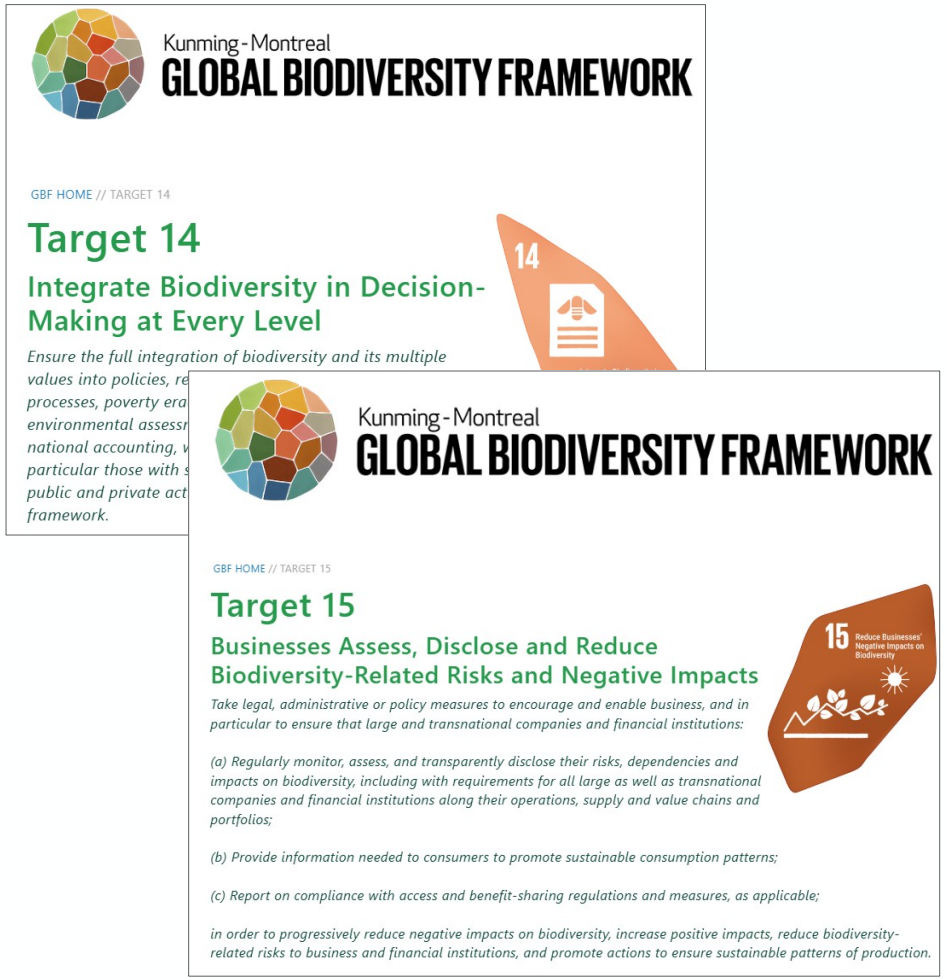
GBF Target 14 & Target 15

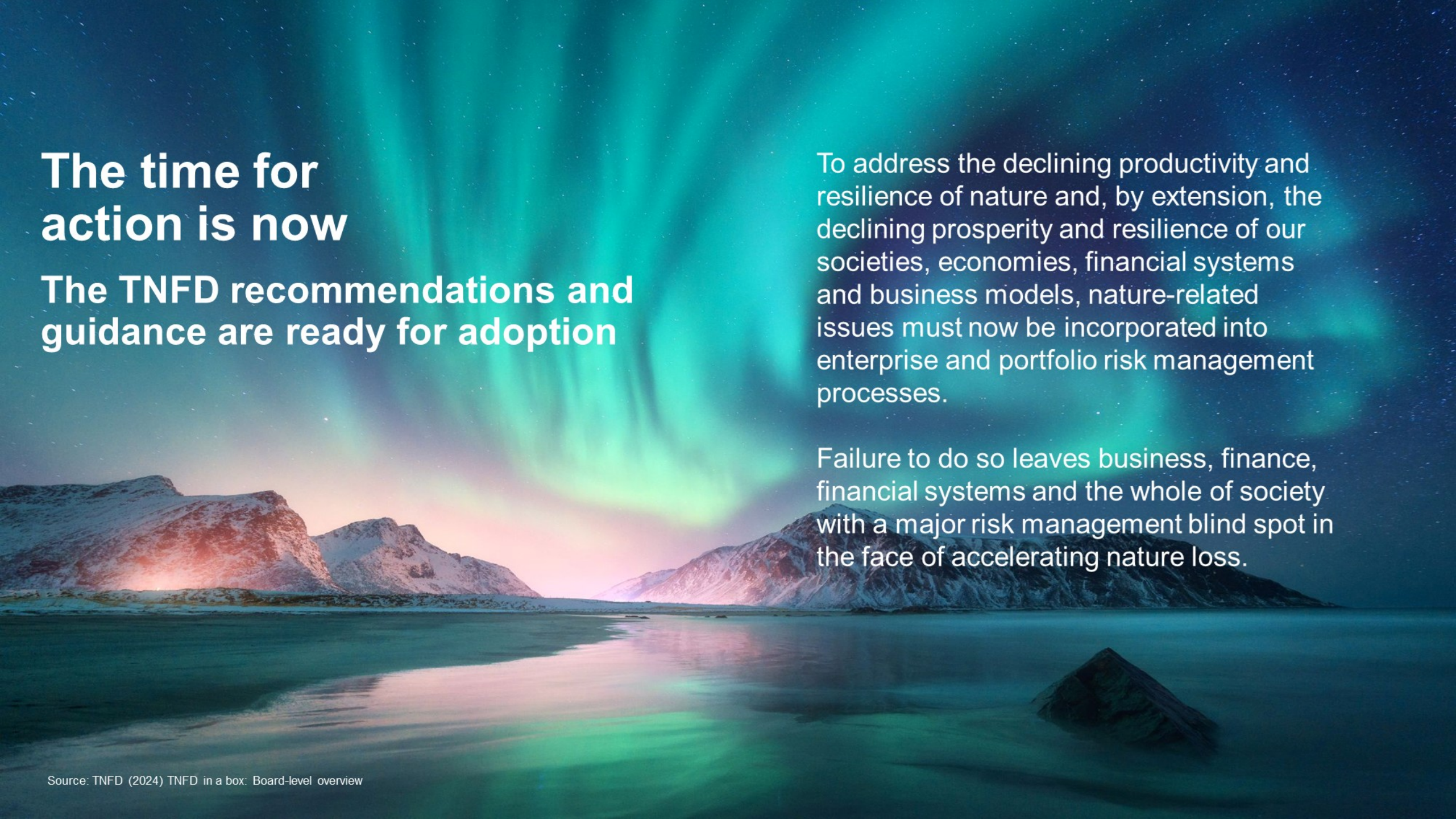
What will the role of South African Financial Institutions be in achieving the GBF goals?

Signatory governments should view financial institutions as leverage points for change

What will FI's have to do?

- Integrate biodiversity into risk management
- Engage with clients to ensure they're disclosing and managing biodiversity risks
- Align with international norms and standards like the TNFD
- Follow regulatory and policy signals around nature and biodiversity





The time for action is now

The TNFD recommendations and guidance are ready for adoption

To address the declining productivity and resilience of nature and, by extension, the declining prosperity and resilience of our societies, economies, financial systems and business models, nature-related issues must now be incorporated into enterprise and portfolio risk management processes.

Failure to do so leaves business, finance, financial systems and the whole of society with a major risk management blind spot in the face of accelerating nature loss.

Source: TNFD (2024) TNFD in a box: Board-level overview

Key take home messages

1

Our economies and societies are 100% dependent on nature. While levels of dependency vary across sectors, every business in every sector needs to understand its impacts and dependencies on nature.

2

Our societies, businesses and financial systems are embedded in nature, not external to it, and the loss of nature poses material risks that can no longer be ignored. The financial costs of failing to invest in the resilience of nature are becoming increasingly evident.

3

Climate and nature-related risks and opportunities are inextricably connected and organisations are increasingly being expected to factor nature-related issues into their long-term business resilience by identifying, assessing and reporting on nature-related issues and the actions that they are taking to address them.

Climate Risk Services

Thank you!

Building a climate-smart, net zero and nature-positive future together.

www.climateriskservices.com