TNFD: Turning the Framework into Action

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Topics for Today

1. **Nature & Biodiversity**
   - Basics
   - Global development
2. **TNFD Framework**
   - Why nature matters to business
   - Framework and guidance
   - IFRS Practice Statement
3. **Market Practices**
   - Case study

1. Nature & Biodiversity

What is nature and biodiversity?

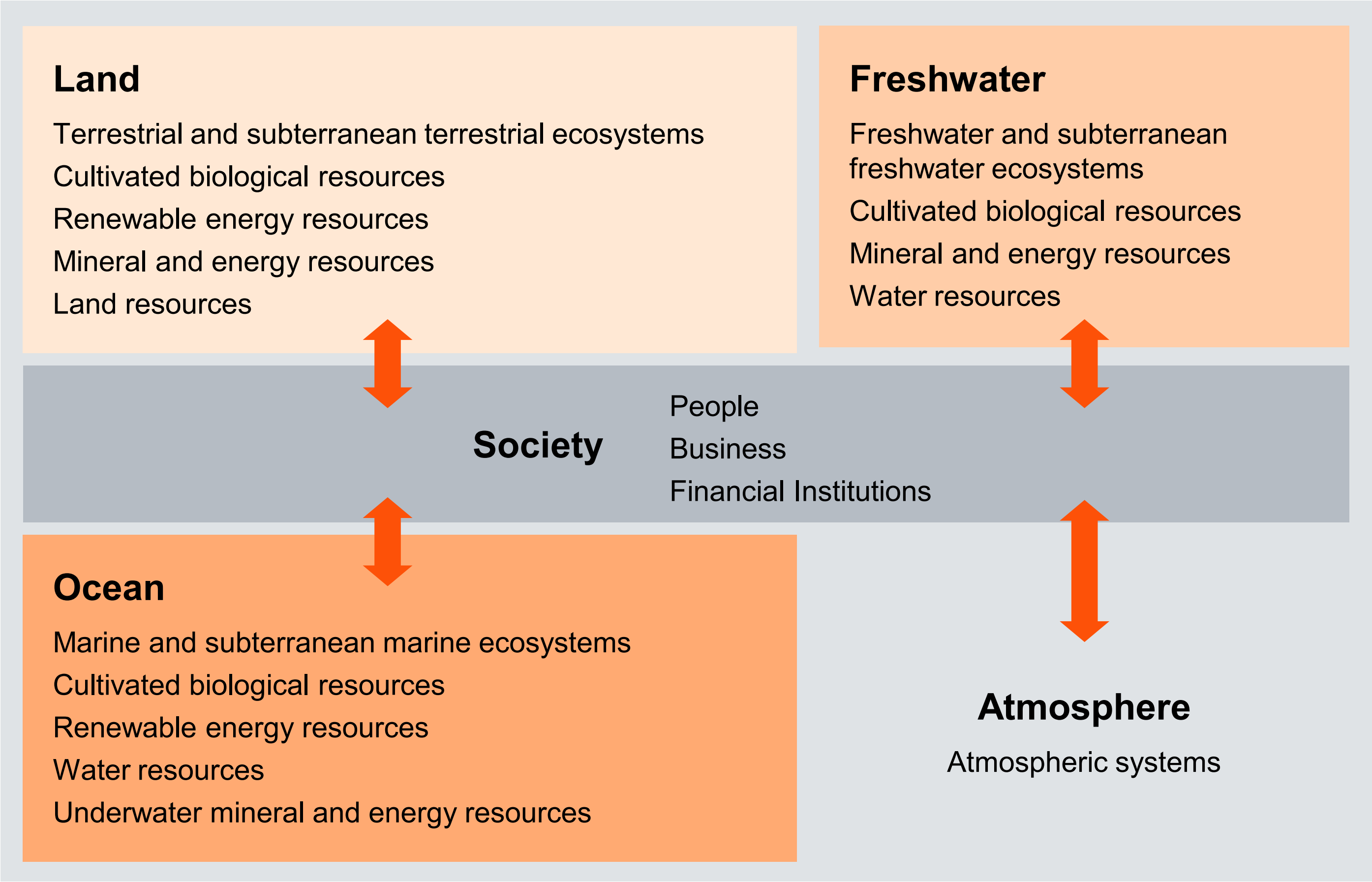
Nature and biodiversity should be seen as intricately connected

Nature is the natural world around us and for businesses it represents land, water and resource use, waste, plastics and pollution - and it is intrinsically linked to the delivery of climate and societal goals.

Biodiversity is the **part of nature** that is alive and is the **variability among living organisms** from all ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems. Biodiversity is an essential characteristic of nature that **enables ecosystem assets to be productive, resilient, and able to adapt to change.**

Source: Task Force on Nature-related Disclosures, Convention on Biological Diversity (1992)

Environmental assets by realm



There is no net zero without nature

Climate Actions

Decarbonisation

20x

PwC analysis finds that the world must decarbonise at a rate twenty times faster to limit global warming to 1.5°C

Adaptation and Resilience

US$135 bln

Economic losses contributed by tropical cyclones in 2024

Nature-based Solutions

Actions to protect, manage and restore natural or modified ecosystems, which address societal challenges, effectively adaptively, providing human well-being and biodiversity benefits.

Carbon Sink

1/3

of **emissions reduction needed** to meet the goals of the Paris Agreement can be provided by nature

Nature Restoration

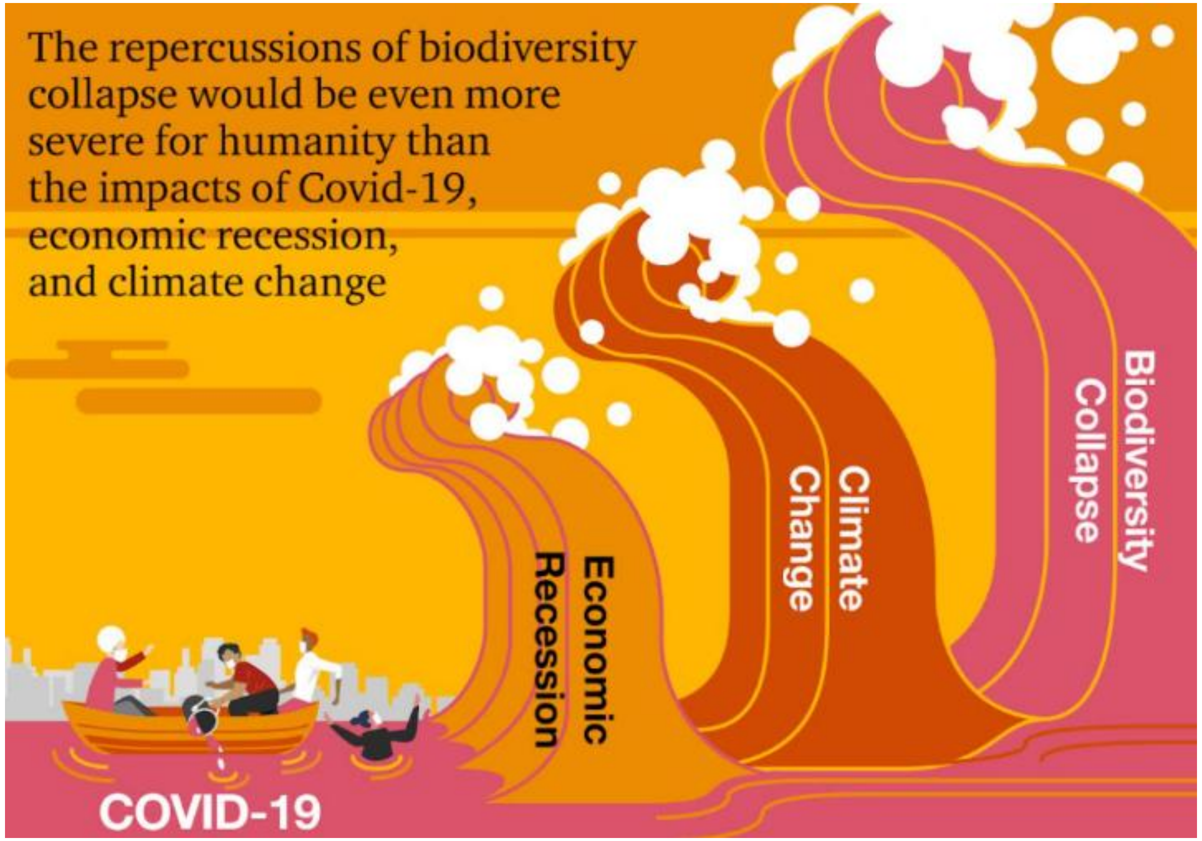
US$57 bln

Flooding damages averted by mangroves in China, India, Mexico, USA and Vietnam each year

Source: PwC Net Zero Economy Index 2024, IUCN, Munich RE

Increasing focus on nature and biodiversity

Biodiversity collapse could be the next wave of crisis



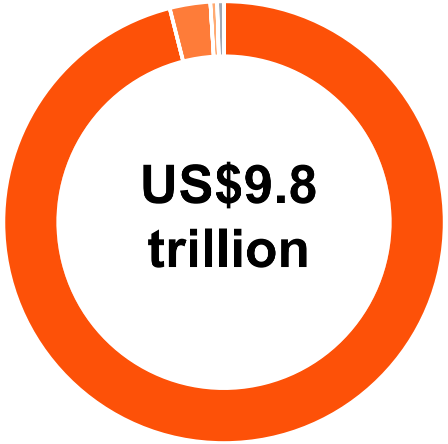
Source: MacKayCartoons, Taskforce on Nature Markets

Vast opportunities to add value given the trillions of dollars in Nature market value

Annual value of traded goods and services

2021 USD trillion / year

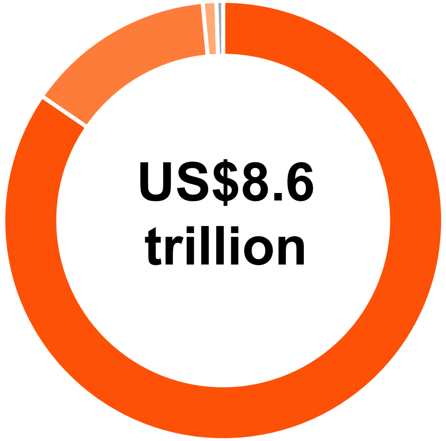
- Products (97%)
- Access (3%)
- Insurance (<1%)
- Conservation and credit (<1%)



Privately owned asset value

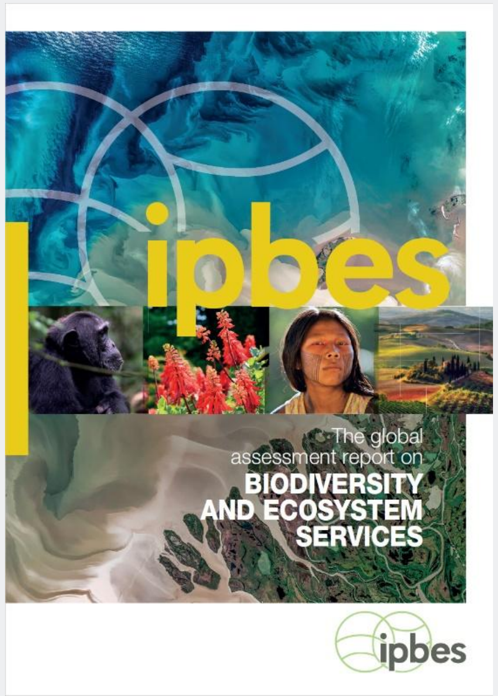
2021 USD trillion

- Agricultural land (85%)
- Timberland (14%)
- Water rights (1%)
- Wildlife derivatives (<1%)



Biodiversity loss is a result of human activities

IPBES identifies five key drivers



IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

Direct Drivers

Land and sea use change: deforestation, but also degradation of grasslands, peatlands, soils and other wetlands, land use change resulting from infrastructure, etc

Direct exploitation: e.g., overfishing, unsustainable logging, trade in wild species

Climate change: to which many species cannot adapt fast enough (with degradation of ecosystems make them even less resilient)

Pollution: of soils, water, air, and oceans (both on chemical and microscopic levels, and highly visible such as the Great Pacific Garbage Patch)

Invasive alien species, with humans introducing species to parts of the world where they did not evolve and where some become invasive.

Declines in Nature
(Examples)

- **Ecosystem extent and condition:**

Natural ecosystems have declined by **47%** on average, relative to their earliest estimated states.

- **Species extinction risk:**

Approximately **25%** of species are already threatened with extinction in most animal and plant groups studied.

- **Biomass and species abundance:**

The global biomass of wild mammals has fallen by **82%*.** Indicators of vertebrate abundance have declined rapidly since 1970.

- **Ecological communities:**

Biotic integrity – the abundance of naturally-present species – has declined by **23%** on average in terrestrial communities*.

* Since pre-history

Policy pressure on nature and biodiversity is growing

Emerging Policies and Regulations on Nature & Biodiversity

Global Biodiversity Framework

UN Biodiversity Conference COP15, 2022

30 x 30 Goal

Protect 30% of land, freshwaters, and oceans by 2030	Restore 30% of degraded ecosystems by 2030

China, Hong Kong

- **China National Biodiversity Conservation Strategy and Action Plan (2023-2030)** — outlines priorities to integrate biodiversity, combat its loss, promote sustainable use, and modernise governance.
- **Hong Kong Biodiversity Strategy and Action Plan 2035** — enhances ecosystem sustainability and human-nature harmony over the next decade, aligned with national conservation goals.

Europe

- **EU Nature Restoration Law** — mandates national ecosystem restoration plans.
- **EU Deforestation Regulation** — ensures traded commodities1 and derived products are free from recent deforestation or breaches of local environmental laws through comprehensive value chain diligence.
- **UK Biodiversity Net Gain** — requires developers to have a positive impact on biodiversity, replacing the habitat lost and achieving a net gain of 10%.

Note: 1) Commodities include cattle, cocoa, coffee, oil palm, rubber, soya and wood 2) Nature and biodiversity information such as biodiversity risks assessed, habitat areas protected, threatened species (based on the International Union for Conservation of Nature ("IUCN") Red List of Threatened Species and national conservation list) and certified palm oil (against Roundtable on Sustainable Palm Oil ("RSPO") or Malaysian Sustainable Palm Oil ("MSPO") recommendations)

Global Biodiversity Framework: Target 15 requires businesses and financial institutions to monitor and disclose biodiversity dependencies and impacts

Target 15: Sustainable business, production and supply chains

Take legal, administrative or policy measures to encourage and enable business, and in particular to ensure **that large and transnational companies and financial institutions:**

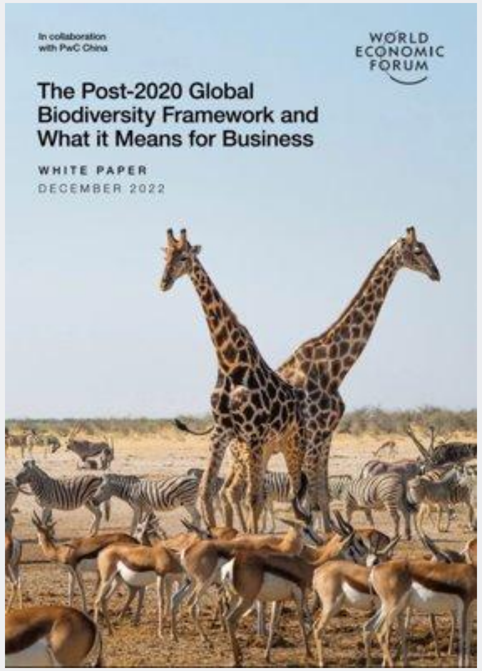
a) Regularly **monitor, assess and fully and transparently disclose their risks, dependencies and impacts on biodiversity,** including with requirements for all large as well as transnational companies and financial institutions **along their operations, supply chains and value chains and portfolios**;

b) Provide information needed to consumers to promote sustainable consumption patterns;

c) Report on compliance with access and benefit-sharing regulations and measures, as applicable;

in order 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.

PwC & WEF insights:
Implications of the GBF to business



2. TNFD Framework

Top 3 global risks: Climate change, biodiversity loss, and technology dominate the next decade

World Economic Forum's Top 5 Global Long-term Risks

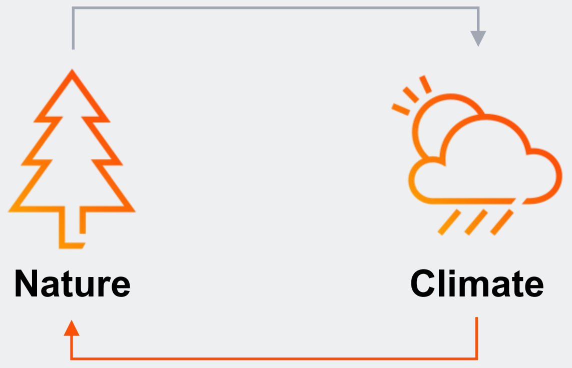
Top 5 global long-term risks

2022	2023	2024	2025	2026
Extreme weather	Failure to mitigate climate change	Extreme weather events	Extreme weather events	Extreme weather events
Climate action failure	Failure of climate change adaptation	Critical change to Earth systems	Biodiversity loss & ecosystem collapse	Biodiversity loss & ecosystem collapse
Biodiversity loss	Natural disasters & extreme weather	Biodiversity loss & ecosystem collapse	Critical change to Earth systems	Critical change to Earth systems
Social cohesion erosion	Biodiversity loss & ecosystem collapse	Natural resource shortages	Natural resource shortages	Misinformation and disinformation
Livelihood crises	Large-scale involuntary migration	Misinformation and disinformation	Misinformation and disinformation	Adverse outcomes of AI technologies

Climate Nature Societal Technological

Climate and nature are interconnected, and increasingly influenced by technology

Nature and biodiversity contributes to **climate regulation** and **provides adaptive capacity**



Climate mitigation contributes to the **distribution, abundance**, and richness of species

Source: World Economic Forum Global Risks Report 2026, PwC analysis

More than half of global GDP is highly or moderately dependent on nature

All industries have exposures to nature risk in their value chains

US$58tn

of global GDP—55%—is highly or moderately dependent on nature.

>50%

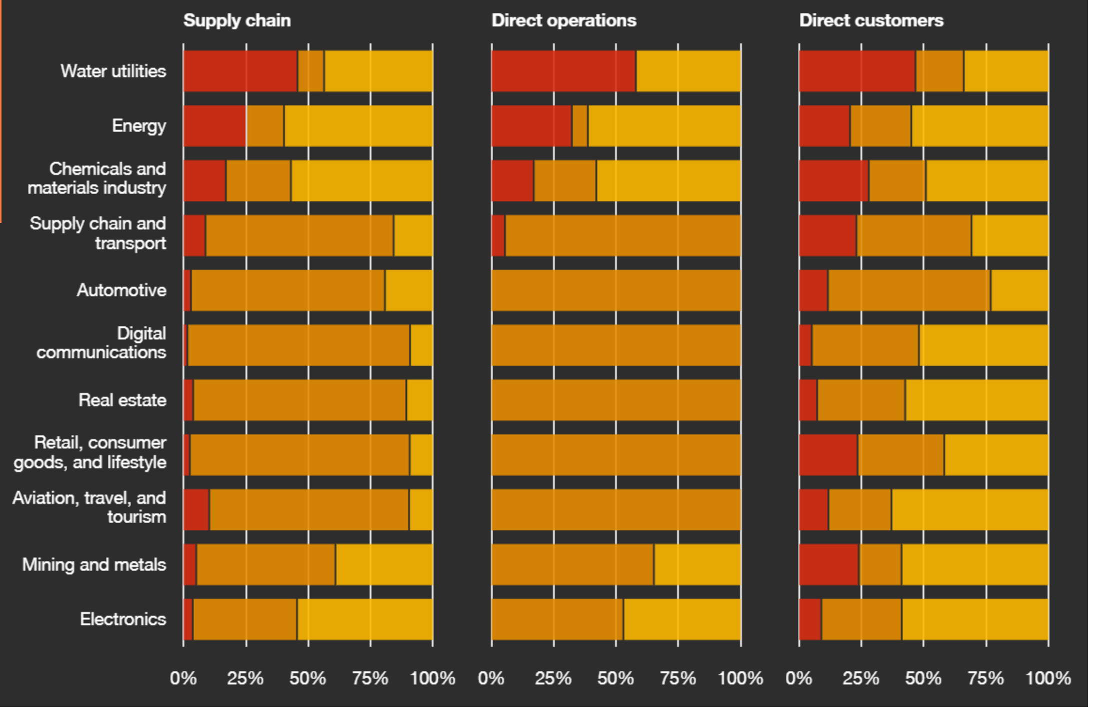
of the market cap listed on 19 large stock exchanges is exposed to material nature risks.

5

industries' direct operations are 100% highly dependent on nature.

Percentage of industry that has a high, moderate, or low dependence on nature

High | Moderate | Low



Note: Dependence ratings as a result of using the ENCORE database. For the analysis, consolidated dependence scores above 3.0 were considered "high," scores between 2.0 and 3.0 were considered "moderate," and scores below 2.0 were considered "low."

PwC, Managing nature risks: From understanding to action

Nature is rising on the global agenda, similar to climate

The global nature agenda builds on and is in conjunction with the **climate agenda.**

	Global science-policy	Global agreement	Disclosure framework	Target-setting
Climate	**IPCC** Intergovernmental Panel on Climate Change	**Climate COP21** Paris Agreement	**TCFD** Taskforce on Climate-related Financial Disclosures	**SBTi** Science-based targets for climate
Nature	**ipbes** Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services	**Biodiversity COP15** Global Biodiversity Framework	**TNFD** Taskforce on Nature-related Financial Disclosures	**SBTN** Science-based targets for nature

Quote from Why climate and nature matter to every business by Bob Moritz

The TNFD framework helps organisations navigate the reporting of nature-related issues and potential business impact

Launched in 2023, TNFD disclosure is currently voluntary but is expected to be mandatory like the TCFD.

How does TNFD help organisations?

- Provides a framework for **assessing, managing, and reporting** nature-related risks and opportunities.
- Guides organisations in building **resilience** on nature-related dependencies, risks, and opportunities through the **LEAP** (Locate, Evaluate, Assess, Prepare) approach.
- Builds on the TCFD framework and is **aligned** with other emerging standards and guidelines under development (ISSB, SBTN).
- Provides key nature definitions and concepts to enable **consistency** and understanding.

TNFD Core Pillars

- **Governance**
- **Strategy**
- **Risk & Impact Management**
- **Metrics & Targets**

Source: Task Force on Climate-related Financial Disclosures. TCFD has been disbanded and is now incorporated within the IFRS Foundation which will take over the monitoring of the progress of companies' climate-related disclosures.

TNFD mirrors the TCFD framework, but has one key differentiator

TCFD and TNFD share core principles

Core Principle	TCFD	TNFD
Framework structure: Four core pillars	✓	✓
Risks & opportunities focus	✓	✓
Investor & stakeholder communication	✓	✓
Integration into risk management and financial practice	✓	✓
Support for strategic planning	✓	✓

TNFD: double materiality

Dependencies	Ways in which business **relies on** natural resources and ecosystems to support operations or supply chain	• Access to raw materials • Water availability • Stable climate • Pollination services
Impacts	**Direct or indirect impacts** that business activities have on the environment and ecosystems	• Habitat destruction • Pollution • Biodiversity loss Emissions
Risks	Potential adverse events or developments related to nature and ecosystems that could **harm operations, reputation, or financial performance**	• Regulatory changes • Supply chain disruptions
Opportunities	Positive possibilities arising from nature-related activities that can **benefit business**	• Sustainable sourcing of materials • Eco-friendly product innovation • Access to green markets

TNFD disclosure recommendations

Key variations:
Additional to TCFD

The TNFD framework mirrors TCFD recommendations

1. Governance

Disclose the organisation's governance around nature-related **dependencies, impacts,** risks and opportunities.

a) Describe the board's oversight of nature-related dependencies, impacts, risks and opportunities.

b) Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities.

2. Strategy

Disclose the actual and potential impacts of nature-related **dependencies, impacts,** risks and opportunities on the organisation's businesses, strategy, financial planning where such information is material.

a) Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium, and long term.

b) Describe the effect nature-related risks and opportunities have had and may have on the organisation's businesses, and financial planning.

c) Describe the resilience of the organisation's strategy on nature-related risks and opportunities, taking into consideration different scenarios.

d) Describe the <u>locations</u> where there are assets and/or activities in the organisation's direct operations, and upstream and/or downstream and/or financed where relevant, that are in priority areas.

3. Risk and Impact Management

Disclose how the organisation identifies, assesses and manages nature-related **dependencies, impacts,** risks and opportunities.

a) (i) Describe the organisation's processes for identifying and assessing nature-related dependencies, impacts, risks and opportunities in its direct operations. **(ii) Describe the organisation's approach to identifying nature-related dependencies, impacts, risks and opportunities in its <u>upstream and downstream value chain(s)</u> and financed activities and assets.**

b) Describe the organisation's processes for managing nature-related dependencies, impacts, risks and opportunities and actions taken in light of these processes.

c) Describe how processes for identifying, assessing and managing nature-related risks are integrated into the organisation's overall risk management.

d) Describe how affected <u>stakeholders</u> are engaged by the organisation in its assessment of, and response to, nature-related dependencies, impacts, risks and opportunities.

4. Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant nature-related **dependencies, impacts,** risks and opportunities where such information is material.

a) Disclose the metrics used by the organisation to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.

b) Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.

c) Describe the targets and goals used by the organisation to manage nature-related dependencies, impacts, risks and opportunities and its performance against these.

LEAP is a multi-stage approach to help organisations meet TNFD requirements

The LEAP approach: Locate, Evaluate, Assess, Prepare

Scoping

Generate a working hypothesis

Aligning on goals and resourcing

Locate The interface with nature	**Evaluate** Dependencies and impacts	**Assess** Risks and opportunities	**Prepare** To respond and report
L1 Span of the business model and value chain.	**E1** Identification of environmental assets, ecosystem services and impact drivers.	**A1** Risk and opportunity identification.	**P1** Strategy and resource allocation plans.
L2 Dependency and impact screening.	**E2** Identification of dependencies and impacts.	**A2** Adjustment of existing risk mitigation and risk and opportunity management.	**P2** Target setting and performance management.
L3 Interface with nature.	**E3** Dependency and impact measurement.	**A3** Risk and opportunity measurement and prioritisation.	**P3** Reporting
L4 Interface with sensitive locations.	**E4** Impact materiality assessment.	**A4** Risk and opportunity materiality assessment.	**P4** Presentation

Engagement with Indigenous Peoples, Local Communities and affected stakeholders

Scenario analysis

Iterate

TNFD helps companies anticipate potential financial impacts by understanding nature-related risks and opportunities

Nature-related Risks and Opportunities' Impacts Corporate Planning and Risk Management

Transition Risks
- Policy and Legal
- Technology
- Market
- Reputation

Physical Risks
- Acute
- Chronic

1

Nature-related Risks

Nature-related Opportunities

Strategic Planning Risk Management

2

Financial Impact

Statement of Income

Statement of Cash Flow

Statement of Financial Position

Business performance
- Markets
- Capital flow and financing
- Products and services
- Resource efficient
- Reputational capital

Sustainability performance
- Sustainable use of natural resources
- Ecosystem protection, restoration and regeneration

Revenues

Expenditures

Assets and Liabilities

Capital Financing

Source: TNFD, PwC Analysis

TNFD general requirements ensures consistency and helps identify what is most pertinent

Materiality Approach

Determine an organisation’s approach to materiality, aligning to external standards or regulatory requirements where appropriate.

1

Scope of Disclosures

Determine the coverage of activities and assets in the organisation’s direct operations and its value chain (e.g. upstream, downstream, financed).

2

Consideration of nature-related issues

Organisations should identify nature-related risks and opportunities based on an assessment of dependencies and impacts on nature.

3

Location

Organisations should consider the specific locations of its interface with nature as integral to the assessment.

4

Integration with Sustainability Reporting

Ensure that TNFD disclosures harmonise with other sustainability reporting frameworks and standards (e.g. TCFD, GRI) for a consistent and comprehensive sustainability picture.

5

Stakeholder Engagement

Engage with stakeholders to understand their expectations and concerns related to nature-related issues, fostering transparency and trust.

6

ISSB progresses nature-related disclosures through proposed Practice Statement (Apr 2026)

Context

Nature is already within scope of IFRS S1. The Practice Statement is intended to provide more detailed guidance on how organisations identify and disclose nature-related risks and opportunities in practice.

The ISSB's preferred approach attempts to balance implementation practicality with growing market demand for more consistent nature-related disclosures.

What it IS

- Part of official IFRS / ISSB literature
- Subject to formal consultation and due process
- Provides detailed guidance on applying IFRS S1 to nature-related risks and opportunities
- Can be adopted or mandated by jurisdictions if they choose

What it ISN'T

- A standalone mandatory disclosure standard
- Required to assert compliance with ISSB Standards
- Equivalent to a potential future "IFRS S3"
- A replacement for IFRS S1 obligations on nature

Why the market debate?

Supporting perspective

- Practical and phased implementation approach
- Supports more consistent application of IFRS S1
- Avoids overwhelming preparers while climate reporting matures
- Allows flexibility while ISSB considers future architecture

Critical perspective

- May weaken the market signal relative to climate
- Risks inconsistent application across organisations and jurisdictions
- Relies heavily on robust application of IFRS S1 in practice
- Could prolong fragmentation before full standardisation emerges

Directionally agreed: Advance nature-related disclosures via a Practice Statement for the exposure draft. Exposure draft expected later in 2026, including consultation on the form of standard-setting.

3. Market Practices

Companies are applying their climate journeys to pioneer the TNFD framework

Benefits of TNFD to business

Risk mitigation	Helps mitigate impacts on operations and reputation, bolstering resilience
Strategic decision-making	Enable informed decisions that support long-term sustainability goals
Competitive advantage	Enhance market position and attract eco-conscious consumers
Financial performance	Reduce costs, minimise disruptions, and uncover new revenue streams
Stakeholder trust	Strengthens relationships with investors, customers, and the community

Company examples

Infrastructure

Towngas

Iberdrola

Acciona

Enel

United Utilities

Real estate

Swire Properties

Sino Group

Henderson Land Group

Healthcare

GSK

Bayer

Company examples (1/3)

Infrastructure: Towngas — The first TNFD disclosure in Hong Kong

Demonstrates understanding of nature-related issues

Locate the interface with nature ▶ **Evaluate dependencies and impacts** ▶ **Assess risks and opportunities**

Locate the interface with nature

Using the Integrated Biodiversity Assessment Tool (IBAT) tool, **sites are mapped for proximity** to:

- Protected areas
- Key biodiversity areas
- Threatened species

Evaluate dependencies and impacts

Using the Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) tool, the greatest potential dependencies and impacts were identified:

Key dependencies:

- Water
- Mass stabilisation and erosion control

Key impacts:

- GHG emissions
- Terrestrial ecosystem use
- Water use

Assess risks and opportunities

Physical risks, transition risks and its impact on business are identified based on its dependencies and impact on nature:

Physical risks (non-exhaustive):

- Higher GHG concentration
- Depletion of water table
- Poor water flow or quality

Transition risks (non-exhaustive):

- Climate regulations
- Water price rises

Business impacts (non-exhaustive):

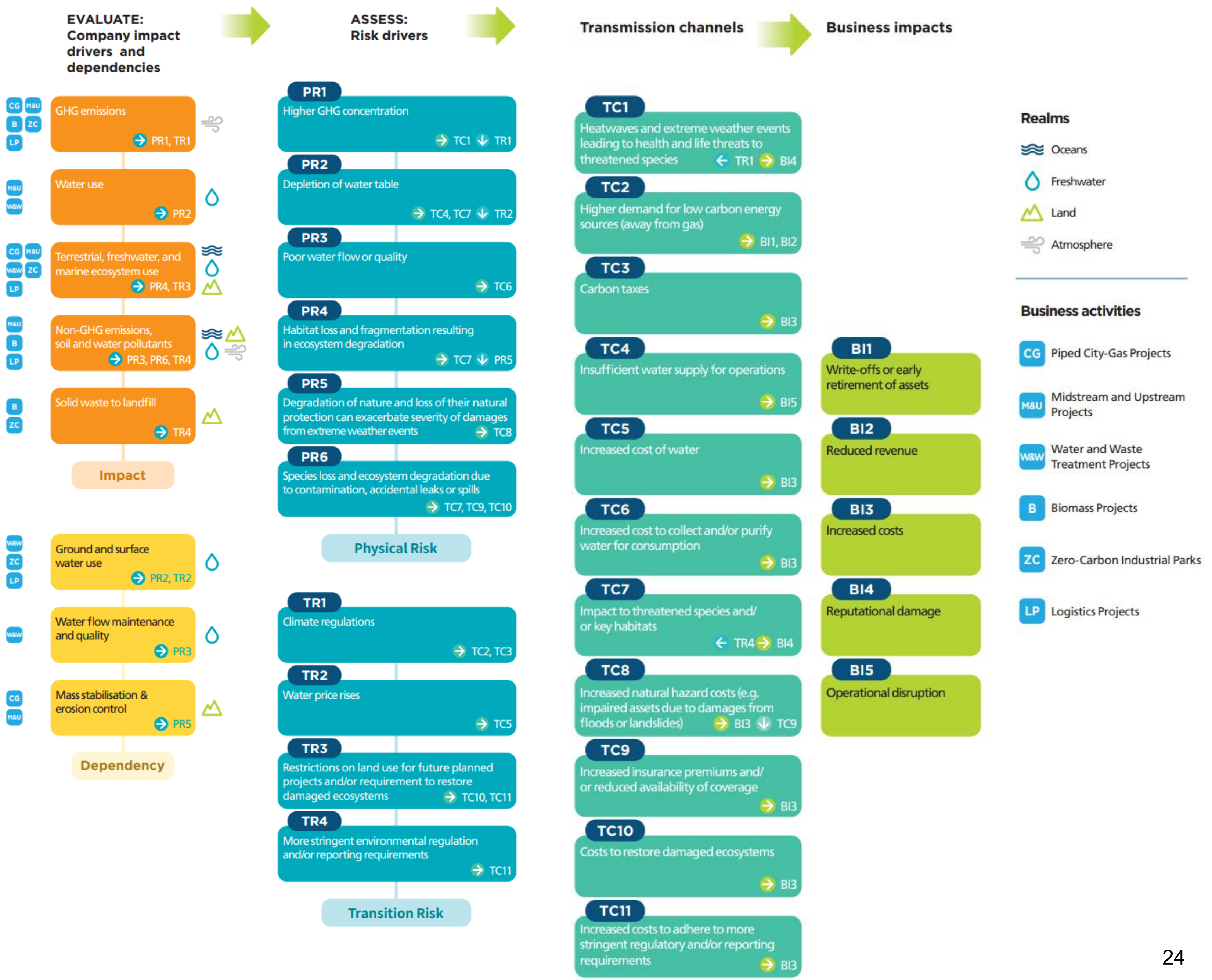
- Reputational damage
- Reduced revenue
- Increased costs

Potential Benefits

- **Risk mitigation**
- **Strategic decision making**
- **Competitive advantage**
- **Stakeholder trust**

Risk pathways: how nature risks may translate to business impacts

The Group's nature-related risk pathways



Company examples (2/3)

Real Estate: Sino Group | **The first cross-sectoral coral conservation project in Hong Kong**

Nature-based Solution

Project	**Coral REEFStoration**
Objective	• Restore coral reef habitats • Establish ecotourism for public education • Promote conversation awareness
Action	Rebuild coral reef at Sino's **Deep Water Bay area** and educate people about the marine biodiversity
Progress (end of 2024)	• 3,200+ visitors • Rebuilt 20+ square metres of coral reefs

Real Estate Asia Awards 2023
ESG Initiative of the Year – Hong Kong

Success Factors

Partnership

Archireef

Ocean Park

The Fullerton (Ocean Park Hotel)

Innovation

The world's first 3D-printed reef tiles

Education

Tours, workshops, internships

Potential Benefits

Stakeholder trust | Risk mitigation | Competitive advantage | Financial performance

Company examples (3/3)

Real Estate: Swire Properties | **One of the 40 global taskforce members of TNFD**

TNFD Metrics

Nature-related Metrics

The following table includes the TNFD core metrics and the sector-specific disclosure metrics in the sector guidance for the engineering, construction and real estate industry used by Swire Properties to assess and manage our dependencies, impacts on nature and nature-related risks and opportunities identified in line with our sustainability strategy and risk management process.

Indicator	Metric	Unit of Measure	2025	2024	2023
Total spatial footprint	Total surface area managed by the Company	square feet	14 million	14 million	11 million
Extent of land/ freshwater/ ocean-use change	Extent of land/ freshwater/ocean ecosystem use change	square feet	/	/	/
Pollutants released to soil split by type	Volume of pesticides used by toxicity hazard level	tonnes	5.8 Total 0.1 Extremely hazardous 5.5 Moderately hazardous 0.04 Slightly hazardous 0.1 Unlikely to present an acute hazard	6.2 Total 0.1 Extremely hazardous 5.9 Moderately hazardous 0.1 Slightly hazardous 0.1 Unlikely to present an acute hazard	6.4

Nature Transition Plan

Enhancing Urban Biodiversity

Transform green spaces and landscaped areas so that they harmonise community wellbeing, and provide ecological value and ecological connectivity with surrounding habitats and climate resilience through nature-based solutions and biophilic design.

Key Actions:

- Integrate nature-positive design by incorporating sustainable and nature-positive principles into our existing portfolio and new development projects to achieve no net loss or biodiversity or a net gain, compared to the predevelopment baseline.
- Embed biodiversity considerations into the planning and design processes of new development projects.
- Scale nature and biodiversity impacts by partnering with NGOs and engaging local communities in the design phase of new development projects.
- Pilot the application of a biodiversity and ecosystem services index to measure to achieve a biodiversity net gain.

Targets:

- By 2030, establish a biodiversity and ecosystem services index.
- By 2035, make improvements to the established biodiversity and ecosystem services index to achieve a biodiversity net gain.
- By 2030, ensure that 100% of landscaped areas in new developments are designed using nature-based solutions components.
- By 2035, increase native plant species in new developments and existing portfolios to 30% across our portfolio.

Thank you

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