A4S
ACCOUNTING FOR
SUSTAINABILITY

NATURE GUIDANCE:

THE LINKS BETWEEN NATURE AND CLIMATE AND THE IMPLICATIONS FOR FINANCIAL DECISION MAKING

Contents

Important information

Navigating this guide

This guide includes a range of examples, tips and links to resources to help you consider climate and nature together and start incorporating them into key financial activities. Look out for the following symbols:

Case studies and company examples

Links to A4S case studies provide insight into what organizations are doing in this area. Extracts from published reports show how companies are integrating and disclosing on climate and nature, with the relevance to finance highlighted.

Practical tips

Throughout the guide, you will find practical tips to help you implement the guidance in your own organization.

Tools

We have developed a downloadable tool to provide practical guidance on incorporating climate and nature into your key financial activities.

Glossary

We have published a **glossary** of climate- and nature-related terms. Terms included in the glossary are highlighted as follows when they first appear in this guide: **nature**. You can navigate to the glossary by clicking on any term highlighted in this way.

About this guide

This guide is for finance teams within organizations that are operating in the real economy and is generally applicable to all industries and jurisdictions. The core skills of those in finance teams are essential when integrating climate and nature into business-as-usual processes. The key financial activities covered in this guide are not exhaustive, but they are a good starting point for developing an integrated approach to climate and nature that supports your organization in the transition to a net zero, **nature positive** economy. This guide is applicable to those who have started integrating climate considerations and could therefore build on this work to incorporate nature, but equally to those who are starting anew in both areas.

Introduction

The science is clear: we cannot limit global warming to 1.5°C in line with the **Paris Agreement** without addressing **nature loss**, and we cannot reverse the loss of nature without a stable climate.

Business awareness of, and response to, the climate crisis has accelerated in recent years. Across sectors, organizations have set net zero commitments, adapted their strategies and business models to reduce their **greenhouse gas (GHG) emissions**, and improved their climate-related reporting. By contrast, the business response to nature loss is still in its infancy – although organizations are increasingly recognizing its importance, including its role in meeting their climate goals.

The lead-up to 2030 is critical for action on both **climate and nature**: 2030 is the deadline for meeting the global commitment to halt and reverse **biodiversity** loss and to mandate reporting on nature-related risks for large corporates according to the **Kunming-Montreal Global Biodiversity Framework** (see A4S's ***The Business Case for Nature***, page 21). It is also a key point on the road to hitting net zero by 2050 – the central goal of the Paris Agreement. And a healthy natural world is key to meeting many of the ***2030 Sustainable Development Goals***, particularly SDG 6, Clean Water and Sanitation; SDG 13, Climate Action; SDG 14, Life below Water; and SDG 15, Life on Land.

According to the World Economic Forum's ***Global Risks Report 2025***, the top four global risks over the next decade – extreme weather events, biodiversity loss and ecosystem collapse, critical change to Earth systems, and natural resource shortages – all relate to the environment, and they are all interconnected. Taking action on nature can be a cost-effective way to meet climate goals while also improving resource efficiency, supply chain security, business resilience and operating environments.

Finance teams have a key role to play in helping organizations to understand and quantify climate- and nature-related risks and opportunities and to integrate them into financial decision-making and reporting processes. This guidance, aimed at CFOs and finance teams, covers:

- What you need to know about the links between nature loss and climate change, and why you need to consider their interactions, including trade-offs and synergies, in your business decision making
- Why integrating nature and climate considerations into key financial activities, such as risk management, asset allocation/valuation, scenario analysis, transition planning and reporting, offers key benefits

The Nature Guidance Series

Our first guide in the ***Nature Guidance Series***, *The Business Case for Nature*, explains why nature is vital to business and offers clear steps and practical tips for developing the business case for your organization.

As many organizations and finance teams are starting to take action on nature (often through their work on climate), this guide will help to build your understanding of the ways in which nature and climate interact, and the implications for financial decision making.

Impact on people

Although human impact is not the focus of this guidance, both nature loss and climate change affect the health, wellbeing and financial security of people across the world – particularly those from the poorest communities, Indigenous peoples, those living in areas most affected by severe weather events and those most dependent on nature. When assessing the impacts of – and our global response to – nature loss and climate change, it is vital to consider the social implications too. Finance teams should be involved in considering the financial implications of the complex trade-offs between climate, nature and people.

For more information, see the following resources:

- Shift (2023), ***Just Transition and Just Resilience***
- World Health Organization (2023), ***Climate Change***, and (2025), ***Biodiversity***
- International Union for Conservation of Nature (2022), ***Global Indigenous Agenda for the Governance of Indigenous Lands, Territories, Waters, Coastal Seas and Natural Resources***

1. Why should you consider nature and climate together?

Nature loss and climate change are interconnected, and climate is in itself a part of Earth's natural systems. These interactions result in synergies and trade-offs, often resulting in overlapping physical and transition risks and, ultimately, systemic risks (see ***Table 1***).

When assessing the financial risks and opportunities associated with climate change, the role that nature plays in regulating climate and the associated feedback loops must also be considered.

Negative feedback loops: Nature loss is a major driver of climate change, eg **deforestation** and soil degradation reduce **carbon sinks**. It also reduces resilience to the impacts of climate change, eg land conversion and habitat loss can increase the impacts of extreme weather such as flooding. At the same time, climate change is one of the five key drivers of nature loss, eg rising temperatures lead to habitat degradation, biodiversity loss, water scarcity and the spread of invasive species.[1] If left unchecked, these feedback loops can lead to dangerous **tipping points**: critical thresholds in the Earth's systems which, when crossed, can trigger abrupt and potentially irreversible changes.

Positive feedback loops: Natural ecosystems absorb and store GHGs from the atmosphere, helping to mitigate climate change and enhance resilience to its effects, eg forests help to secure water supplies during droughts, mangrove swamps protect against coastal floods and trees help to cool cities. In turn, a stable climate supports nature and facilitates ecosystem resilience and a flow of vital ecosystem services on which business and humanity depend.

Drivers of nature change and climate change

For more details about how the primary drivers of nature change both affect and are affected by climate change, see ***Appendix 1***.

Nature defends against climate hazards and reduces financial losses

Healthy coral reefs are natural defences against extreme weather events and help to lessen damage to life and property. For example, the Mesoamerican Reef provides estimated annual environmental services worth between US$320 million and US$438 million in coastal protection in the region.[2]

Wetlands along the coast slow down storm surges during hurricanes. Coastal wetlands prevented an estimated US$625 million of property damage as a result of Hurricane Sandy in the United States.[3]

This section discusses three key reasons finance teams should be considering climate and nature together:

1.1. The interconnection of climate- and nature-related risks and opportunities

1.2. The importance of nature in achieving net zero targets

1.3. The benefits of integrating climate and nature reporting

1. IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) (2019), ***The Global Assessment Report on Biodiversity and Ecosystem Services***.
2. UNEP-FI (UNEP Finance Initiative) (2023), ***Sustainable Blue Economy: Financing Reef Resilience to Extreme Climate Events***.
3. Akpan, N (2017), ***Wetlands Stopped $625 Million in Property Damage during Hurricane Sandy. Can They Help Houston?*** PBS News, 31 August.

1.1. Climate and nature risks and opportunities are interconnected

The interactions between climate and nature result in interconnected risks and opportunities that can impact supply chains, operational costs and asset values, as highlighted in Table 1. If you consider nature or climate – and the associated financial implications – in isolation, you may overlook the interactions and compounding effects, potentially leading to risks and opportunities being missed in materiality assessments. A more comprehensive picture of organizational risks and performance also facilitates better internal decision making, allowing you to identify actions that benefit both climate and nature.

Table 1: Interconnections of climate- and nature-related risks

RISKS		
Physical risks	**Transition risks**	**Systemic risks**
The combination of nature loss and climate change can significantly increase physical risks for corporates and financial institutions. For example, in the agriculture sector, crop yields can be affected by lower rainfall and higher temperatures, which are exacerbated by declining natural pest control, soil degradation and loss of pollinators. These risks can be compounding, eg climate change can create conditions in which pests flourish.	There is increasing recognition by regulators, standard-setters, investors and other stakeholders that climate change mitigation and adaptation and nature conservation and restoration are mutually reinforcing. As global commitments are made to achieve both net zero GHG emissions and nature positive outcomes, businesses will face increasing pressure to account for and respond to their impacts on nature.	The growing scientific evidence around dangerous tipping points highlights that compounding climate and nature impacts increase the risk to business owners and investors of **stranded assets** and, ultimately, damage to business resilience.

OPPORTUNITIES	
Business performance	**Sustainability performance**
Integrating action on climate and nature can help you to identify future risks and highlight cost-effective actions, with market, reputational and resource efficiency benefits. For example, working towards circular economy principles means using fewer **natural resources** and creating less waste, contributing positively to climate and nature while improving operational efficiency and reducing costs.	Integration helps to highlight potential nature-based solutions (NbS) which are a win–win for climate and nature. For example, investing in activities that protect, restore or regenerate habitats and ecosystems, such as reforestation or peatlands restoration, also contributes to carbon storage.

See ***The Business Case for Nature*** for detailed descriptions of nature-related risks (page 15) and nature-related opportunities (page 18). Use our ***Nature Guidance Tool 2: Potential Financial Impacts associated with Nature-Related Risks and Opportunities*** to explore the financial impact of nature-related risks and opportunities for your organization.

Understanding the synergies and trade-offs between and within climate and nature will help organizations to identify and manage these risks and opportunities more effectively.

Synergies exist where organizational activities contribute positively to both nature and climate and therefore create more effective and holistic outcomes. Examples include:

- An agrifood company supports farmers to convert to agroforestry practices, which creates biodiverse habitats while enhancing the climate resilience of food production systems and crop yields, protecting revenues.[4]
- A mining company implements bioengineering to stabilise road infrastructure, planting living vegetation which reduces erosion and landslides while providing carbon sequestration services, reducing costs.[5]
- A real estate developer constructs green roof systems in its urban property portfolio to help control run-off and water pollution while conserving both cooling and heating energy, leading to GHG emissions reduction and energy cost savings.[6]

Recognizing synergies can help you to maximize benefit and minimize harm while reducing financial risks.

Trade-offs exist when organizational activities benefit climate but could have a negative effect on nature, or the other way round. Examples include:

- An energy company considers hydropower in its renewable energy strategy to reduce GHG emissions, but dam construction and operation may impact freshwater biodiversity and food security in the surrounding region.[7] This may also have an impact on relationships with stakeholders, including regulators.
- A car manufacturer switches to electric vehicle (EV) production, as EVs have lower GHG emissions than internal combustion engine vehicles. However, the production of EVs is significantly more mineral intensive, and the mining and production activities at mineral-rich locations often overlap with areas of high biodiversity or water stress.[8] This may pose further supply chain risks for the company.
- A water company invests in desalination plants in areas where freshwater is scarce, to provide drinking water while avoiding further depleting local groundwater. However, unless powered by renewable energy, desalination can lead to a significant increase in GHG emissions.[9] This highlights the need for an integrated strategy if environmental goals are to be met.

Without considering trade-offs, it is easy to cause unintentional – and avoidable – damage to the environment and increase your business risk and future costs.

As well as trade-offs between nature and climate, actions may benefit one aspect of nature but harm another. For example, **reforestation** or **afforestation** help with flood control, but planting non-native species may damage soil health and have a negative impact on overall biodiversity or the effective delivery of ecosystem services. This emphasizes the importance of taking a holistic approach, as highlighted in ***Table 2.***

Spotlight on water

Water is often the most obvious (and significant) link between climate and nature for organizations. Its availability can also severely impact relations with local stakeholders and threaten supply chains, production processes and infrastructure. Climate change disrupts water availability through droughts, floods and altered precipitation patterns. Nature loss, such as deforestation or wetland degradation, further exacerbates water availability and quality issues, impacting sectors such as agriculture, manufacturing and energy. Conversely, NbS that promote healthy ecosystems can help to improve water availability and quality and to protect against droughts and floods.

4. The Nature Conservancy (2023), ***Farming with Trees: New Study Highlights the Potential of Agroforestry to Fight Climate Change***, 27 September.
5. International Finance Corporation (2023), ***Catalogue of Nature-based Solutions for Infrastructure Projects***.
6. Mihalakakou, G and others (2023), ***Green Roofs as a Nature-based Solution for Improving Urban Sustainability: Progress and Perspectives***, Renewable and Sustainable Energy Reviews, 180, article 113306.
7. Baldwin-Cantello, W and others (2023), ***The Triple Challenge: Synergies, Trade-Offs and Integrated Responses for Climate, Biodiversity, and Human Wellbeing Goals***, Climate Policy, 23(6), 782–799.
8. Kiers, N and others (2025), ***Under the Hood: The Untold Environmental Impact of EVs (Electric Vehicles)***, Frontier Economics, 5 March.
9. Finance for Biodiversity Foundation (2023), ***Unlocking the Biodiversity–Climate Nexus: A Practitioner's Guide for Financial Institutions***.

Table 2: Company examples of synergies and trade-offs

Unilever	Ørsted	AstraZeneca (AZ)
Unilever's Regenerative Agriculture Principles promote practices which both sequester carbon and enhance soil health and biodiversity, including pollinators. As part of its sustainable sourcing initiatives, this has helped to reduce supply chain risk and avoid costs resulting from resource scarcity (eg water, raw materials) and regulatory penalties (eg EU deforestation regulations). For more information, see ***The Unilever Regenerative Agriculture Principles***.	In 2021, Danish energy company Ørsted updated its strategy, setting a strategic ambition for its renewable energy projects to have a net positive biodiversity impact. The company believes that taking action on nature and biodiversity will play a key role in helping it to meet its climate goals while also assisting with regulatory approval and community goodwill, thereby ultimately providing financial benefits. For more information, see ***the Ørsted's Annual Report 2023*** and ***Uniting Action on Climate and Biodiversity***.	The AZ Forest initiative aims to address both climate change and biodiversity loss. Its reforestation projects are co-designed with planting experts, local communities and governments to deliver natural forest restoration and agroforestry. Although there can be trade-offs between carbon storage potential and biodiversity conservation – monocultures can sometimes offer high carbon sequestration at the expense of lower biodiversity – AstraZeneca has chosen to invest in projects that maximize co-benefits, even if they require higher financial investment. For more information, see ***AZ Forest***.

"Nature loss is one of the greatest threats facing our planet and the economy. It is a grave material, financial risk – particularly to investors and companies that depend on nature systems for the lifeblood of their products – and it is inextricably linked to our climate crisis."

Mindy Lubber, CEO and President, Ceres[10]

10. TNFD, ***Final TNFD Recommendations on Nature Related Issues Published and Corporates and Financial Institutions Begin Adopting***. Accessed: 19 August 2025.

1.2. Nature restoration is crucial to meeting net zero goals

If we do not halt and reverse the destruction of nature, we will be unable to prevent dangerous climate change. Investment in nature is key to climate mitigation – natural carbon sinks currently absorb around 55% of human-related carbon dioxide emissions but this is decreasing over time as nature loss and degradation increase.[11] Nature can also help with climate adaptation – reducing flood risk, cooling cities and protecting coastlines. In addition, NbS, which include making use of nature's capacity to absorb carbon dioxide, are a critical part of building long-term climate resilience, so investing in these win–win solutions can be a cost-effective way to build climate- and nature-related synergies into your strategy and business model. The overall message is clear: action on climate and nature can be mutually reinforcing, easing the effort and complexity of action while accelerating and enhancing the benefits.[12]

Examples of NbS and their climate mitigation and adaptation benefits include:

- Agroforestry, which can support agricultural productivity by improving soil health and its ability to store carbon, preserving revenues into the future
- Protecting, managing or restoring mangrove or wetland ecosystems, which can help to manage flood risk and act as a carbon sink, protecting assets and reducing insurance costs
- Afforestation and reforestation, which can provide access to natural resources or ecosystem services and improve biodiversity
- Incorporating green spaces into the design of buildings and projects, which can offer health and social benefits, contributing to employee wellbeing, productivity and retention, and which can help to reduce the impacts of heatwaves while increasing biodiversity and acting as a carbon sink

The World Business Council for Sustainable Development (WBCSD) has published the ***Nature-based Solutions Blueprint***, which provides useful guidance on how companies can develop their business case for NbS. This is supported by the ***Nature-based Solutions Map***, providing examples of solutions that companies can use to address their key risks and opportunities. The Science Based Targets Network (SBTN) has published ***target-setting guidance*** to help companies to adopt a holistic approach to the climate and nature crises and take action.

Integrating nature-based solutions into climate response

As part of its ***Pathway to Net Zero Impact on Climate***, GSK has set a climate target to reduce absolute GHG emissions by 80% by 2030, compared with a 2020 baseline, across all scopes. To support this, it has also committed to investing in NbS, including water replenishment, restoration and regeneration projects.

"Building on our net zero commitment, our nature-based solutions play a vital role in reducing the impact of climate change and increasing our business's resilience."

Magali Anderson, Chief Sustainability and Innovation Officer, Holcim[13]

11. National Aeronautics and Space Administration, ***How Might Earth's Atmosphere, Land, and Ocean Systems Respond to Changes in Carbon Dioxide over Time?*** Accessed: 19 August 2025.
12. Hatfield-Dodds, S and others (2023), ***How Can the Net Zero Transition Create a Nature-Positive Advantage?*** EY, 22 November.
13. Holcim, ***Holcim Launches Nature-Positive Strategy with Measurable 2030 Biodiversity and Water Targets***. Accessed: 19 August 2025.

1.3. Integrating climate and nature reporting helps to provide a more holistic picture

Financial institutions are increasingly recognizing the vital role of biodiversity and ecosystems in reducing climate risks through mitigation and adaptation. Integrated climate and nature reporting provides investors and stakeholders with a more holistic understanding of a company's approach to climate and nature, and to their own risk exposure.

There are a number of mandatory and voluntary frameworks and standards that require both climate and nature disclosures and promote integration, including:

- International Financial Reporting Standards (IFRS) S1 General Requirements for Disclosure of Sustainability-Related Financial Information and S2 Climate-Related Disclosures under the International Sustainability Standards Board (ISSB).[14] The ISSB are currently working to include incremental requirements and guidance for disclosing information on the effects of nature-related risks and opportunities, drawing on TNFD framework.
- European Sustainability Reporting Standards (ESRS) under the Corporate Sustainability Reporting Directive (CSRD)
- Taskforce on Nature-related Financial Disclosures (TNFD)
- Global Reporting Initiative (GRI) Standards, including GRI Topic Standards GRI 101: Biodiversity and GRI 102: Climate Change

The significant work on climate reporting to date has shaped a path that the response to nature loss can follow to aid the speed and ease of uptake. For example, TNFD and ISSB use the same four pillars as the Task Force on Climate-related Financial Disclosures (**TCFD**). With the TCFD recommendations now fully incorporated into the ISSB Standards, and the ISSB agreeing to build on the TNFD recommendations to enable nature-related financial disclosures for use by capital markets,[15] more companies are expected to adopt an integrated approach to reporting.

More than 600 organizations have committed to voluntary reporting against the TNFD recommendations as of October 2025.[16] While many companies are still in the early stages of adopting the TNFD, some have started integrating both frameworks to address climate- and nature-related risks and opportunities holistically.

Interactions between climate and nature and the implications for corporates

A short factsheet highlighting relevant differences between climate and nature and the implications for companies is set out in ***Appendix 2***.

"Increasingly, mining companies who don't take action on nature and climate will find it difficult to obtain permits, harder to negotiate Indigenous partnerships, have a harder time recruiting and retaining top talent, accessing capital, and attracting investment. So not only is integrating nature and climate considerations simply the right thing to do: it's a competitive advantage … This year, for the first time, we have incorporated the recommendations of the TNFD, delivering a single, integrated report covering both climate- and nature-related aspects of our business."

Jonathan H. Price, President and CEO, Teck Resources Limited (2024)[17]

14. IFRS Foundation, ***Nature-related Disclosures***'. Accessed: 2 October 2025.
15. TNFD (2025), ***IFRS Foundation and TNFD Formalise Collaboration to Provide Capital Markets with High-Quality Nature-Related Information***, 9 April.
16. TNFD, ***The Taskforce on Nature-related Financial Disclosures***. Accessed: 2 October 2025.
17. Teck Resources Limited (2024), ***Climate Change and Nature: 2024 Report***.

"Climate and biodiversity are two sides of the same coin. To address today's environmental challenges, it is crucial to have an integrated view of these two dimensions. The Climate and Nature Report *provides a dual framework for addressing both climate and biodiversity issues simultaneously. This helps us gain a broader, more comprehensive understanding of the impacts of our activities and better align our decarbonization strategies with biodiversity preservation goals."*

Adrienne Horel-Pagès, Director of Citizen Engagement, La Banque Postale[18]

"The board continues to consider climate and nature as long-term financially material interlinked issues, with the success of addressing each dependent on the other. While our climate strategy is set for the long term, the board continues to oversee the incorporation of nature-related impacts and opportunities into this strategy. We are delighted to be TNFD adopters and welcome the introduction of standards to permit comparable disclosures from a nature perspective. This will enable more effective risk management and decision making."

Nilufer Kheraj OBE, Non-Executive Director, Legal & General Group Plc[19]

18. La Banque Postale (2023), ***2023 Climate and Nature Report***.
19. Legal & General Group Plc (2024), ***Climate and Nature Report 2024***.

2. What does this mean for finance teams?

The interconnections between nature and climate and the associated financial implications – as explored above – mean that nature must be integral to your organization's work on climate, and vice versa. For many finance teams, your current work on climate should provide a good foundation on which to build on your work on nature. For those yet to start on climate, it can be beneficial to consider both together from the start.

This section introduces key activities of finance teams where it is beneficial to consider climate and nature together and provides some resources and practical tips.

As you develop these processes, you can use our ***Tool 3: Incorporating Nature and Climate Change into Key Financial Activities – Key Questions for Finance Teams*** to help you explore the integration of climate- and nature-related considerations.

2.1. Risk assessment

Integrating climate and nature into risk assessments can give a more realistic picture of operational and supply chain risks.

Evaluating the likelihood and impact of key risks (both financial and nonfinancial) allows organizations to make more informed decisions and allocate resources effectively.[20] With climate-related events increasing in frequency and severity, many companies have started to integrate climate risk assessment as a key component of risk management and strategic planning. Few currently do the same with nature risk assessment. While investor demand for information on climate risks is well known, eg through TCFD or IFRS S2 disclosures, nature is only beginning to attract similar attention (***see section on Reporting below***). Finance teams have a role to play in collaborating with others across the business to identify, quantify and manage emerging nature risks.

Why integrate climate and nature?

- **To enhance your financial risk assessment** – by considering your climate and nature risk exposures and how they are interconnected, including any synergies and trade-offs, you can better assess your resilience and preparedness for these risks, as well as the resulting financial risks.
- **To strengthen your financial management** – financial risks may be amplified by the interactions between climate change and nature loss, eg local nature loss can often increase the financial impacts of floods or storms resulting from climate change. By assessing nature and climate risks together, you can more accurately estimate financial impacts and strengthen your financial management, including mitigation and adaptation strategies.
- **To identify opportunities to invest in nature to create resilience** – by understanding the interconnectedness between nature and climate risks, you can identify opportunities to invest in nature, eg through NbS, which can increase both climate and nature resilience and reduce related financial risks.

20. Business Case Studies (2024), ***What Is Business Risk Assessment***, 2 December.

Practical tips

- **Build on your climate risk assessment** – if your company has already adopted a climate risk assessment approach, work with your risk team to consider how to adapt and build on existing policies, processes and data sources to include nature risks. If you have not built climate into your risk assessment yet, integrate climate and nature into your risk assessment at the same time and reap the benefits sooner.
- **Apply a similar approach to categorizing climate- and nature-related risks** – similar to climate risks, nature risks can be physical, transition or systemic. Market-related transition risks (such as those arising from changes in investor and consumer preferences leading to a fall in share price or revenue loss) and physical risks (such as water scarcity causing stranded assets) are particularly relevant to finance teams. Work with your colleagues in risk, investor relations, marketing and sales to identify where actions can reduce both climate and nature risks.
- **Consider trade-offs and synergies when estimating financial implications** – when considering the potential financial losses that could result from mismanaging nature and climate risks (eg legal liabilities, higher operating costs and share price impacts), for each risk identified, consider (i) how trade-offs and synergies may impact such losses and (ii) if these interactions could have as-yet-unidentified risks. *Nature Guidance Tool 2: Potential Financial Impact associated with Nature-Related Risks and Opportunities* and the section below on *scenario analysis*.

Resources for getting started

- A4S (2024), *Nature Guidance Tool 2: Potential Financial Impact associated with Nature-Related Risks and Opportunities*
- PwC (2023), *Managing Nature Risks: From Understanding to Action*
- TNFD (2023), *Guidance on the Identification and Assessment of Nature-Related Issues: The LEAP Approach*
- TNFD, *Additional Guidance by Sector*
- UNEP (UN Environment Programme) (2024), *How Can an Integrated Approach to Climate and Nature Risks Help Financial Institutions Navigate the Future?*
- WBCSD (2023), *Integrating Nature and Climate for Corporate Risk Management Strategy*

Example

E.SUN Financial Holding Co., Ltd: Understanding the complex interactions between climate and nature

E.SUN, a financial services group in Taiwan, aspires to approach environmental issues with a broad perspective, addressing risks while also seizing opportunities for sustainable transition and green finance. It recognizes the complex interactions between climate change and the natural environment, and the fact that related risks span E.SUN's direct operations and its investment and financing portfolio. The company considers its business management mechanisms and product life cycles to conduct climate- and nature-related risk assessments for the short, medium and long term. The assessment of risk materiality includes potential losses or cost increases, as well as revenue growth margins that exhibit higher levels of impact and probability. These assessments are integrated into the company's current risk management framework and are reviewed regularly to develop response plans.

Figure 1 shows the risks identified, together with their potential financial impact and impact period. The top four risks highlighted are considered the most material.

Risks		Potential financial impact(s)	Impact Period
Policies and Regulations	**1.Carbon tax / Fee**	Financial impacts on the company and clients from carbon taxes and fees.	Short
	2.Stricter climate and nature regulations	Environmental regulations and supervision become more stringent, increasing compliance and production costs.	Short
Technology	**3.Climate and nature-sensitive assets**	Replacement of existing products and services with low carbon and environmentally friendly products may increase the uncertainty of operations and investment and financing assets	Medium
Market	**4.Raw material prices**	Rising prices of water, electricity, and raw materials, which rely on natural capital, increase costs.	Medium
	5.Changing consumer preference	Changes in consumer preferences requires consideration of climate and nature impact factors in business decisions, in response to climate and environmental issues	Medium
Reputation	6.Negative news / Litigation risk	Negative behaviors related to its direct operations or those of customers may generate negative news and even pose litigation risks	Medium
Liability	7.Penalty risk	Tightening anti-greenwashing and environmental regulations increases compliance costs and the risk of penalties.	Short
Acute	8.Natural disasters	Natural disasters such as typhoons, floods, and earthquakes can cause operational disruptions, leading to impairments in value	Medium
	9.Depletion and deterioration of natural capital	The depletion or deterioration of natural resources relied upon, such as water, forests, and biodiversity impacts operations	Long
Chronic	10.Deterioration of climate and natural environment	Climate change and the loss of biodiversity impact the economy, affecting the operations of the company and its customers, resulting in costly asset impairments or premature replacement	Long
Systemic	11.Irreversible degradation of the climate and environment	Global warming exceeding 1.5 or 2°C leads to irreversible degradation of nature, causing significant larger-scale impacts on the economy, resulting in systemic risks	Long

Figure 1: Identification of climate, biodiversity and natural capital risks (source: E.SUN (2023), ***Climate and Nature Report 2023***, page 33). Note: highlighted items are considered to be more material.

2.2. Strategic planning and budgeting

Considering synergies and trade-offs between climate and nature will increase the resilience of strategic initiatives and capital investment projects and maximize cost efficiencies.

Strategic planning involves making choices with the best available information. With increasing levels of climate and nature risk globally, it is critical to integrate environmental considerations into strategic planning and budgeting. Finance teams can play a central role in ensuring that these considerations are included in the regular strategic planning and budgeting cycle, and that adequate funding is available for relevant projects.[21]

Why integrate climate and nature?

- **To improve your strategic planning** – considering nature alongside climate can give you a more nuanced and realistic view of the compounding effect of strategic risks and opportunities. An integrated approach will help to protect and futureproof assets and operations, providing a clearer understanding of the risks to your supply chain so you are better prepared to take mitigating actions.[22] It can also help to unlock opportunities that support both nature positive and net zero outcomes, eg transforming business models so that they help to regenerate ecosystems and promote circularity.
- **To realize potential cost savings through synergies** – this could include savings made by using natural resources more efficiently, eg using less water in production; engaging in conservation activities which may improve stakeholder relationships, potentially avoiding costly planning permit delays; and lowering insurance premiums as a result of effectively addressing climate and nature risks.
- **To promote cost effectiveness** – nature-based approaches are often more cost effective in the long term than purely technical approaches and can produce important additional socio-economic benefits, eg by displacing the need for grey capital investment.[23]

Resources for getting started

- A4S (2024), ***Nature Guidance Tool 2: Potential Financial Impacts associated with Nature-Related Risks and Opportunities***
- Global Accounting Alliance (2025), ***Why Nature Matters to Accountants: A Guide to Building Resilience and Value through Nature-Positive Action***

Practical tips

- **Start with qualitative analysis and make informed estimates over relevant time horizons** – the ease of estimating costs or savings will vary greatly, so start with those for which you have some reliable information. In addition, the potential cost savings of taking action on nature may only be realized in the long term, so consider timelines carefully. Conduct qualitative analysis to support your cost estimation.
- **Engage with your suppliers and stakeholders** – taking joint action on nature and climate across your own operations, your supply chain and the wider value chain often requires partnerships and collaboration. Start engaging with your suppliers, insurers, service providers and other key stakeholders in your cost and benefit evaluation.
- **Apply cost effectiveness and cost–benefit analysis for NbS evaluation** – if your company is considering NbS, finance teams can support decision makers by assessing their costs, benefits and cost effectiveness in mitigating climate and nature risks, as well as their financial opportunities, such as carbon and nature credits generated from NbS projects.

21. A4S (2021), ***Net Zero: A Practical Guide for Finance Teams***, page 19.
22. For example, putting safeguards in supplier contracts to help preserve key natural resources, shortening your existing supply chains or sourcing from a different location. See WWF (2024), ***Catalysing Change: The Urgent Need for Nature Transition Plans***.
23. World Bank (2022), ***What You Need to Know about Nature-Based Solutions to Climate Change***, 19 May.

Example

Legal & General Group Plc: Investing in NbS to support its climate transition plan

Legal & General Group Plc (L&G), a leading UK financial services provider, has committed to achieving a net zero asset portfolio aligned with a 1.5°C 'Paris' objective by 2050. L&G's primary climate risk exposure lies in its proprietary assets – assets that L&G owns and for which it controls the investment strategy. Its investment approach aims to mitigate risks by reducing the intensity of its financed emissions and maximize its impact by investing in the transition. Under the 'Invest' strategic pillar of its climate transition plan, L&G invests in climate and nature solutions, including debt conversion for nature and clean energy infrastructure. In the long term, L&G expects NbS to play a critical role in balancing the company's residual carbon emissions to achieve net zero.

Debt conversion transactions are typically backed by multilateral guarantees or insurance to mitigate sovereign risk, with the aim of attracting a greater number and diversity of investors.[25] The insured debt offers a more secure investment with a stable return while supporting nature conservation efforts with binding commitments and measurable outcomes.[26]

Figure 2 shows L&G's participation, alongside others including development banks, in Ecuador's debt conversion for nature, which will support terrestrial and freshwater conservation as the region becomes increasingly vulnerable to climate risks and biodiversity loss.

Case study

Debt conversion for nature

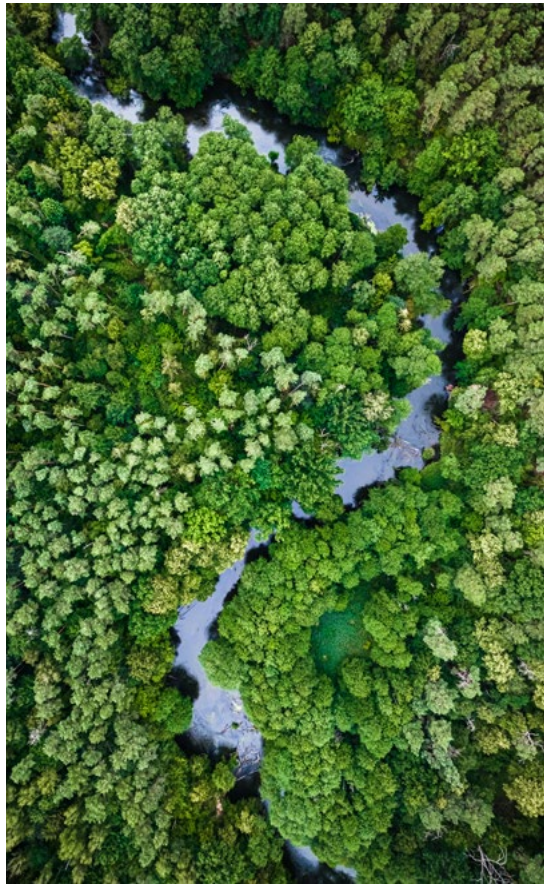
Challenge

As the region becomes increasingly vulnerable to climate-related risks and biodiversity loss, the Republic of Ecuador's Amazon Biocorridor Program (BCA) aims to improve the management of 4.6 million hectares of existing protected areas and protect 1.8 million hectares of forests and wetlands, while also protecting 18,000 kilometres of rivers. In 2024, The Nature Conservancy's (TNC) Nature Bonds Program facilitated a debt conversion for nature to advance the BCA.

Impact

L&G have been a key investor in debt conversions for nature in developing countries since 2021. In 2024, we participated in Ecuador's second debt conversion, having been the cornerstone investor in their 2022 conversion. This transaction will unlock approximately $460 million over the next 17 years to support terrestrial and freshwater conservation. It followed active engagement with TNC and the Ecuadorian government on the sustainability commitments, governance and reporting requirements.

Figure 2: Case study on debt conversion for nature (source: Legal & General Group Plc (2024), ***Climate and Nature Report 2024***, page 9)



25. Legal & General Group Plc (2025), ***How Debt Conversions for Nature Are Evolving***, 26 March.
26. Décary-Kostiw, F and Lanteri-Massa, F (2025), ***Debt-for-Nature Conversion Projects: New Voluntary Practice Standards***, Blake, Cassels & Graydon LLP, 6 August.

Example

Cellnex: Investing in NbS to address climate risks[27]

Cellnex, Europe's leading operator of wireless telecommunications infrastructures, has committed to achieving net zero by 2050 and carbon neutrality by 2035. The company recognizes that NbS offer a cost-effective opportunity to address climate-related risks. As shown in Figure 3, its assets (such as towers and data centres) are subject to physical climate risk, eg rising temperatures that can increase cooling needs for sites and, therefore, energy costs. Applying NbS, such as green roofs for urban sites and wooded perimeter areas as buffers for temperature and humidity to improve the cooling conditions in rural areas, means reducing future energy needs for cooling, lowering operating costs. Moreover, the energy saving will lead to lower scope 2 emissions, contributing to Cellnex's emissions reduction target.

Type of opportunity	Code	Specific opportunity	Time horizon	Description	Financial impact
Ecosystem protection, restoration and regeneration	JK-	Harness ecosystems around sites to address climate change risks such as rising temperatures on sites	Medium-term	Nature-Based Solutions (NbS) encompass actions that rely on ecosystems and the services they provide to address various challenges such as climate change. These solutions can include green roofs for urban sites, wooded perimeter areas as buffers for temperature and humidity to improve the cooling conditions in rural sites or the planting of specific plant species in areas at risk of landslides to adequately stabilize the soil, or the creation of permeable surfaces to prevent minor flooding.	↓ OpEx reduction due to lower cooling needs
Resource efficiency	JK.	Rationalising the number of sites needed to provide services, reducing visual impact, using resources efficiently and helping to restore the environment to its original state when decommissioning occurs	Medium-term	Increasing the shared use of telecommunications infrastructure (TIS), by rationalising the number of sites to meet customer needs, will reduce the visual impact of telecommunications infrastructure on the landscape, enable more efficient use of resources and restore areas to their original state when decommissioned.	↑ Revenue increase per site ↓ Reduction of OpEx for maintenance

Figure 3: Description of NbS as a nature-related opportunity addressing climate change risks (source: Cellnex (2024), ***2024 Integrated Annual Report***, page 208)

27. Cellnex (2024), ***2024 Integrated Annual Report***.

2.2.1. Scenario analysis

Scenario analysis is often used as a strategic planning tool to help organizations develop and test the resilience of their strategy. It involves considering the risks and uncertainties that the organization may face under different potential futures. It is already widely (although far from universally) used by companies to help them understand organizational climate risks and test supporting decarbonization strategies. For example, you could assess the implications for your organization of a warming scenario of 2°C compared with one of 3°C.

Scenario analysis is recommended as part of the TCFD and TNFD, although nature-related scenario analysis is still in its infancy. Finance teams can help to translate qualitative scenarios into financial metrics such as revenue, cost, profit, cash flow and balance sheet implications; use their financial models to review the impact of different scenarios on key performance indicators (KPIs); and help with risk identification and sensitivity analysis.

Why integrate climate and nature?

- **To enhance your medium- and long-term risk assessment and, hence, business resilience** – understanding the future possible interactions between climate, nature and economic activities can give you a more comprehensive view of your future risks and opportunities, including any trade-offs and synergies. In turn, this enhances your strategic planning, including future capex investment and management of current assets.
- **To prepare for emerging regulation** – global efforts to protect nature and biodiversity are gaining momentum, following in the footsteps of climate regulation. Building nature into your scenarios can help you to prepare for future nature-related policies and regulations.
- **To develop better, more cost-effective climate adaptation strategies** – by factoring the financial and nonfinancial benefits of NbS and ecosystem services in to your scenarios and building understanding across the organization, you can identify lower-cost ways to reach climate goals, eg investing in NbS in rather than grey capex.

The difference between climate and nature scenarios

Location specific: Nature-related impacts, dependencies, risks and opportunities are location specific, whereas, for example, the location of GHG emissions does not matter to their impact on climate change.

Multiple goals: There is no single global nature goal and agreed KPI akin to the Paris Agreement goal and GHG emissions, respectively, for climate. While the Kunming-Montreal Global Biodiversity Framework provides a set of global goals and targets and agreed KPIs, scenario analyses will be much more complicated given their multiplicity.

Scenario gap: There are few well-recognized science-based quantitative nature scenarios akin to the climate scenarios available, although there are a number of organizations working on this.[28]

28. TNFD (2023), *Guidance on Scenario Analysis*.

Practical tips

- **Look to TCFD and TNFD guidance** – in particular, if you plan to use your scenario analysis in TCFD and TNFD reporting. TNFD's LEAP approach can help ensure that you focus on the specific geographies and ecosystems most relevant to your business.
- **Start with a qualitative approach** – given that nature scenario analysis is in its early stages, start simple and apply a narrative or qualitative approach. As nature-related risk data, assessment methodologies and policy frameworks evolve, you can reiterate and start building up your quantitative analysis. As this develops, it can be helpful to set specific 'triggers' in your business strategy (eg, price thresholds for raw materials, water scarcity levels) that activate when a scenario becomes reality.
- **Consider systemic risks** – given that nature risks are non-linear and interdependent, as you develop, start to model how the loss of a key ecosystem service (eg, pollination) impacts other parts of the supply chain.

Resources for getting started

- A4S (2021), *TCFD Climate Scenario Analysis*
- TCFD (2017), *The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities*
- TNFD (2023), *Guidance on Scenario Analysis*
- Pentland Centre for Sustainability in Business, *Biodiversity Scenario Guides for Business*
- A4S (2024), *Q&A: A Narrative Approach to Climate Scenario Analysis at USS*
- NatureFinance (2024), *Climate-Nature Scenario Development for Financial Risk Assessment: Presentation of Final Results*

Example

Dow Chemical Company: Pilot-testing TNFD scenario analysis guidance highlights links with climate

The Dow Chemical Company is a NYSE-listed US-based chemicals company with over 100 operational sites worldwide. It has a goal to achieve US$1 billion in net present value through projects that are good for business and better for ecosystems.[29] As part of a pilot test for TNFD scenario analysis guidance, the company held a workshop with Dow leaders and subject matter experts focusing on Dow's main manufacturing complex in the Texas Gulf Coast region of the US. The site depends on several key ecosystem services, including the flow of freshwater used in Dow's manufacturing processes, and the coastal storm surge and floodwater protection services provided by neighbouring wetlands. To help contextualize the scale and frequency of nature-related dependencies, the team recognized the links with climate, including recent extreme weather events such as ice storm Yuri in 2021, hurricane events and periodic drought conditions that have placed pressure on the availability of water flow to its Texas operations.

Using the default TNFD scenarios, the team explored potential implications for Dow's corporate strategy, risk management and response options to a range of plausible physical and transition risks. It found that the links between climate and nature were clear, with physical risks from increasingly frequent and more severe tropical storms and storm surge and the reliability of the freshwater supply identified as key challenges. The team identified potential opportunities to meet these challenges, such as an evaluation of further investment in coastal wetland restoration to mitigate storm water surges associated with hurricanes, and potential accelerated investment in water stewardship in the face of growing evidence of potential future water scarcity.[30]

29. Dow, *Dow's Blueprint for Valuing Nature*. Accessed 15 October 2025.
30. TNFD (2025), *Guidance on Scenario Analysis*.

Example

City Developments Limited: Identifying nature-related risks and opportunities using climate scenario analysis

City Developments Limited (CDL), a global real estate company listed in Singapore, recognizes that nature is a powerful ally in the fight against climate change. While advancing green building and decarbonization is CDL's strategic focus, the company is also actively mitigating nature-related risks as it commits to a nature positive future. CDL has been using climate scenario analysis since 2018 as a tool to improve its understanding of the strategic implications of climate-related risks and opportunities. Drawing on these analyses, the TNFD guidance and the nature-specific ENCORE tool,[31] CDL was able to identify linkages and dependencies between nature-related impacts, climate change impacts and actions – as shown in Figure 4. The assessment of financial impacts resulting from climate physical risks identified financial risks arising from the loss of ecosystem-regulating services, eg stranded assets, operational and construction costs, revenue loss, and brand value decline.

City Developments Limited

Nature-related risks identified from CDL's 3rd climate change scenario analysis			
Anticipated timeframe	**Short- to long-term**	**Medium- to long-term**	
Classification of risks and relevance to CDL's operations	**Physical risks:** 1. **Loss of ecosystem services creating ad-hoc shocks or pattern:** changes in the pattern and frequency of precipitation and extreme weather may bring hazard to previously unaffected areas. These changes could affect construction activities, water costs, impact heating or cooling costs, or irreversibly damage the cultural value of eco-tourism areas. 2. **Interactions with other ecological issues**: higher average temperatures increase the frequency of acute climate hazards such as tropical storms and heatwaves. These could lower productivity and affect construction activities, water costs, cooling costs or irreversibly damage the cultural value of eco-tourism areas.	**Transition risks (market):** 1. **Increased cost of raw materials**: nature loss may result in regulatory changes that could lead to stricter standards and compliance requirements. Raw materials that are extracted from ecologically sensitive areas might face additional expenses for adapting to and meeting these regulations. Carbon pricing and/or national decarbonisation mandates for carbon intensive industries will also affect the cost of high-carbon construction materials such as steel and cement, as well as energy. Green building standards may also require more technology and innovation that could incur more capital. 2. **Shifts in consumer preferences**: consumer perceptions on environmental and social responsibility may evolve, for e.g., customers may prefer to stay in eco-friendly accommodations. The impacts of nature loss, climate change and carbon pricing may affect people's consumption choices (e.g., accommodation costs and destinations). There might also be more submetering data sharing with building occupants, being occupants or tenants, which could lower energy consumption and increase cost savings.	**Transition risks (policy):** 1. **Rising costs in stormwater management**: an increase in water regulation to manage the impacts of extreme rainfall and flooding is expected to result in an increase in the cost of stormwater management and mitigation requirements for greenfield developments. This is driven by mandated measures to detain stormwater and reduce pollutants discharged into waterways. An increase is also expected in operational costs associated with levies for impermeable surfaces at our assets over time. 2. **Increased expenses from renewable energy mandates**: any potential regulation to mandate the installation of solar photovoltaics in buildings will increase CDL's upfront costs. We may also incur retrofitting costs from the replacement of gas boilers or fossil fuel heating with electric models, as well as increasing demands for retrofit for facilities such as electric vehicle charging stations in building car parks. 3. **Water scarcity and rising costs**: water scarcity is driven by natural systems variability, population growth, change of socioeconomic and land-use factors and technology between now and 2030. We may need to prepare for potential impacts. Increased water pricing will have an impact on operational and construction costs.

Figure 4: CDL's nature-related risks, identified through its third climate scenario analysis (source: CDL (2025), *Zero in on Action: Integrated Sustainability Report 2025*, page 132)

31. ***ENCORE*** (Exploring Natural Capital Opportunities, Risks and Exposure) is a free, online tool that helps organizations to explore their exposure to nature-related risks and take the first steps towards understanding their dependencies and impacts on nature.

2.2.2. Transition planning

A transition plan is a strategic roadmap that outlines how an organization will shift from its current operating model to one that aligns with its goals. While transition plans are most often discussed in the context of climate change, awareness is growing of the importance of taking an integrated approach that considers a broader set of sustainability considerations, including climate, nature and social aspects.

Disclosure of material elements of transition plans can equip investors with the information they need to finance the transition. Finance teams have an essential role to play in ensuring that transition plans are financially credible, strategically aligned and integrated into decision making.

Integrated science-based transition planning helps organizations to consider their climate- and nature-related synergies and trade-offs and identify a path to meet its climate and nature goals in a coherent, structured and cost-effective way. Practically, however, this may take time to develop, with some organizations choosing to develop a separate nature plan that will be integrated into their climate plan over time.

Why integrate climate and nature?

- **To develop cost-effective approaches** – an integrated transition plan can highlight the most cost-effective way to meet your climate and nature targets, maximizing available synergies. For example, NbS can be scalable and cost-effective ways to reduce GHG emissions.
- **To meet evolving expectations** – as regulators and investors alike develop their understanding of the interdependencies of nature and climate, an integrated transition plan can help you to stay ahead of new reporting expectations and benefit from new sources of finance, eg sustainability-linked bonds.
- **To mitigate unintended consequences** – if nature is not factored in to how you plan to reduce emissions, it is easy to unintentionally take actions that can harm nature, which may in turn increase emissions and the cost of decarbonization.

"Ensuring the integrity of net zero investing must include taking into account nature. The vital role of biodiversity and ecosystems in climate change mitigation and adaptation is increasingly recognized among financial institutions. Nature-based approaches are often more cost effective in the long term than purely technical approaches and can produce important additional socio-economic benefits for the environment, citizens and local economy. We believe that it is rapidly becoming best practice for organizations to develop integrated climate and nature reporting frameworks and transition plans."

Jan Erik Saugestad, CEO, Storebrand Asset Management[32]

32. Storebrand Asset Management (2024), ***Climate and Nature Report***.

Practical tips

- **Stay abreast of evolving guidance** – while nature transition planning guidance remains less extensive than climate transition planning guidance, it is a rapidly evolving area and is based on the same principles. In addition, guidance on climate- and nature-related target setting from SBTi and SBTN respectively is becoming increasingly aligned. Make use of these resources to guide you through the planning process, and learn from your peers where you can.
- **Collaborate across the organization** – relevant knowledge and skills will come from a range of teams in your organization, including finance, sustainability, strategy, risk, supply chain management and operational teams. Set up processes for getting the right input at the right time to ensure that your transition plan focuses on the most material components.
- **Link your transition planning to your financial planning** – a transition plan will be most effective when aligned with your operational and financial planning. This will enable you to allocate resources to prioritize transition-aligned investments or to support green financing instruments (eg green bonds, sustainability-linked loans) to fund transition initiatives.
- **Consider constraints** – be aware of the challenges that you may face, including economic, political and social barriers, and consider the localized nature of nature-related risks, opportunities and climate-adaptation requirements. Plan the actions you could take to address such challenges. For example, you could engage with industry networks to help foster the industry-wide changes you may need.

Resources for getting started

- A4S (2025), ***Aligning Transition Planning and Financial Planning: A Guide for Finance Teams***
- A4S (2025), ***An Introduction to Aligning Transition Planning and Financial Planning: Key Questions for Finance Teams***
- Glasgow Financial Alliance for Net Zero (2024), ***Nature in Net-Zero Transition Plans***
- TNFD (2024), ***Discussion Paper on Nature Transition Plans***
- Transition Plan Taskforce (2024), ***The Future for Nature in Transition Planning***
- WWF (2024), ***Catalysing Change: The Urgent Need for Nature Transition Plans***

Example

Storebrand Asset Management (SAM): Integrating climate and nature in transition planning[33]

SAM is a leading asset manager in the Nordic region, providing sustainable investment solutions. It recognizes that to ensure the integrity of net zero investing, nature must be considered, due to the role of biodiversity and ecosystems in climate change mitigation and adaptation. It also believes that developing integrated climate and nature reporting frameworks and transition plans is rapidly becoming best practice for organizations. SAM has therefore established an internal taskforce on climate and nature to coordinate and drive the implementation of its transition plan.

SAM's transition plan consists of two major components: (i) the transition of its investment portfolios to net zero GHG emissions consistent with a 1.5°C pathway by 2050; and (ii) the alignment of financial flows with goals and targets of the Global Biodiversity Framework. The internal taskforce is led by the Chief Investment Officers, who report the following indicators to the board twice a year:

- Progress on reduced emissions, based on the short-term targets that the company has set
- Progress on investments in capital flows towards low-carbon, climate-resilient companies and/or companies that contribute to nature positive outcomes
- Progress on nature-related commitments, including deforestation
- Progress on engagement with sectors that contribute heavily to climate change and/or nature loss

SAM will incorporate further elements of nature, including quantitative targets, into its transition plan over time.

storebrand Asset Management

For more information on climate transition planning, including practical examples from NatWest Group, SSE, British Land and Heathrow, see our *transition planning hub*.

"An increasing loss of nature will affect companies' ability to operate in the long term. It is therefore important that our portfolio companies integrate material nature-related dependencies, impacts, risks and opportunities into their transition plans."

Carine Smith Ihenacho, Chief Governance and Compliance Officer, Norges Bank Investment Management[34]

33. Storebrand Asset Management (2024), ***Climate and Nature Report***, pages 2 and 10.
34. TNFD (2024), ***TNFD Publishes Draft Guidance on Nature Transition Planning at COP16***, 27 October.

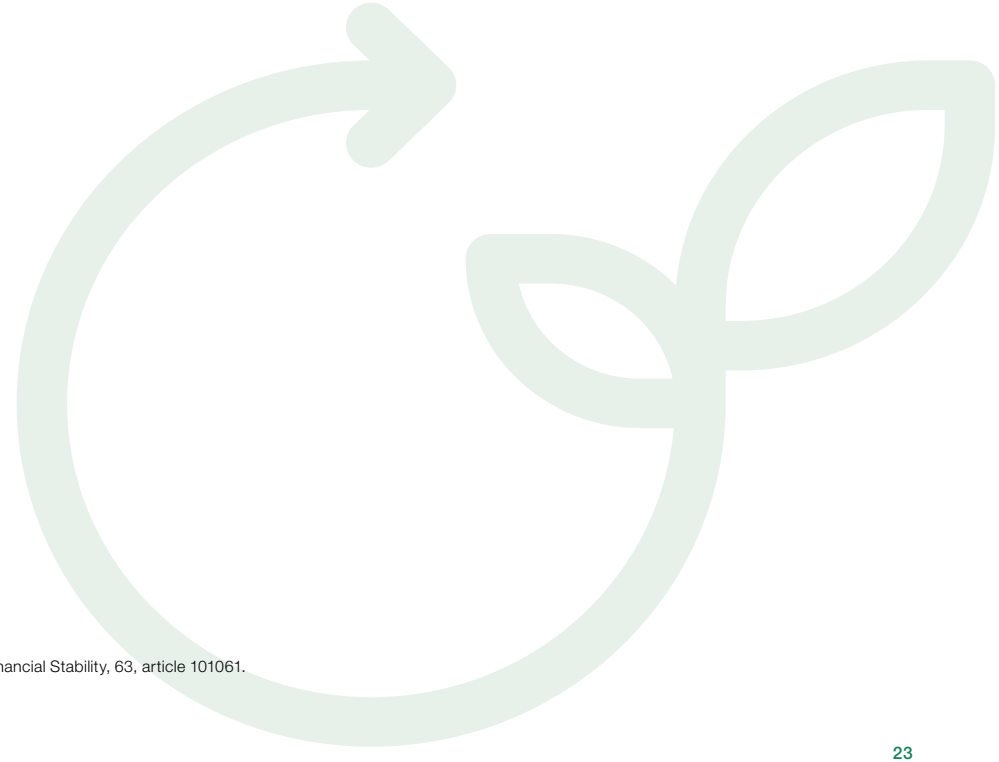
2.3. Capital investment and asset valuation

Considering climate and nature together can help to protect long-term asset value, enhance resilience and provide more accurate asset valuations

Capex is central to value creation for most organizations. Comprehensive risk assessment that considers climate and nature for future capex and current fixed assets can reduce the future risk of operational decline and stranded assets. Considering how climate and nature risks impact asset valuation will ensure more accurate valuation. The finance team has a key role to play in ensuring that capital allocation, investment decisions and asset valuations are in line with long-term planning and reflect key climate and nature risks.

Why integrate climate and nature?

- **To capture key risks and compounding effects on assets** – the effects of climate change and nature loss may exacerbate each other, leading to damage to infrastructure, disrupted supply chains and reduced asset productivity. Often these effects are amplified at a local level, eg a changing climate can intensify droughts which, when coupled with deforestation, may alter water cycles and contribute to increased water stress. Considering either nature or climate in isolation could result in risks and compounding effects being missed, leaving assets vulnerable to damage, increased insurance costs or write-offs.
- **To assess broader impacts on asset valuation** – the surge in frequency and intensity of extreme climatic events and consequential climate-related policies is already putting pressure on asset valuation.[35] By considering nature risks that may be exacerbated by climate change, you can assess more broadly the potential impacts on asset valuation. For example, water-intensive assets may decline in value if the water supply in the area they operate in is increasingly strained by drought due to climate change.
- **To identify assets at risk of stranding proposed solutions** – assets can be stranded as a result of regulatory or physical risks. As the quality and availability of natural resources (such as air and water) changes and ecosystem services (such as pollination) are degraded, local restrictions could be imposed, disrupting operations and heightening the risk of stranded assets. Identifying this risk early means that you can plan to, for example, change the location of future capex, stop investing in current vulnerable assets, or smooth the writing-off period and have time to find alternative opportunities for these assets.[36] This may also highlight any nature-related opportunities to address physical climate risks, eg investing in NbS such as mangrove forests as a cost-effective coastal defence, protecting infrastructure from storm surges and flooding.



35. Karydas, C and Xepapadeas, A (2022), ***Climate Change Financial Risks: Implications for Asset Pricing and Interest Rates***, Journal of Financial Stability, 63, article 101061.
36. A4S (2021), ***Net Zero: A Practical Guide for Finance Teams***, page 8.

Practical tips

- **Review your fixed-asset inventory and identify at-risk locations** – some of your company's fixed assets may already be subject to climate hazards, eg flooding, because of where they are located, making them vulnerable to loss of value.[37] Physical nature risks are also often highly location specific and are often amplified by climate change. Similarly, transition risks, such as changes to regulations and policies, may affect only certain jurisdictions. Ensure that the locations of your fixed assets are clearly identified, including land and buildings, plant and machinery, industrial equipment, and vehicle fleet.
- **Identify assets that may be subject to stranded asset risk or impairment loss** – start to identify the fixed assets which may be at risk of stranding or may require an impairment test. Focus on those located in areas likely to be subject to significant acute or chronic climatic events and nature degradation, as well as regulatory and market risks. Consider whether the nature of your assets may render them more sensitive to climate change and nature loss and therefore subject to higher financial risks. For example, food and beverage manufacturing sites are highly dependent on a reliable supply of freshwater, and pharmaceutical facilities are increasingly reliant on biomass inputs for production processes. If those supplies fail, the resulting business interruption, operational expenses and lost revenues could affect the asset value of those manufacturing sites.
- **Incorporate scenario planning in stress testing** – start using climate and nature scenarios to stress test your organization's investment options under different futures, which can help to inform future capital investment and identify the risks of operational decline and stranding.

Resources for getting started

- European Systemic Risk Board (2024), ***Climate-Related Risks and Accounting***
- ICAEW (2023), ***ICAEW Know-How: Applying IAS 36 Impairment of Assets (IFRS Factsheet)***
- ICAEW (2022), ***ICAEW Know-How: IFRS 13 Fair Value Measurement (IFRS Factsheet)***

Raising capital

Capital investment may be required to support the climate and nature goals and related activities in your company's strategic plan or transition plan. Finance teams can help to determine whether the company needs to raise finance to fund the capital investment and, if so, whether that should be done internally (eg through a carbon fee) or externally (eg through issuing a sustainability-linked financial product). The cost of financing needs to be included in your financial plans.[38]

While the sustainable bond market has shown significant growth over the last decade, innovative financing mechanisms that are biodiversity-focused are also expanding rapidly. Some financial institutions are now deploying capital to transition finance, allocating funds specifically to support the net zero, nature positive transition.[39]

37. S&P Global (2023), ***Quantifying the Financial Costs of Climate Change Physical Risks for Companies***, 20 November.
38. For further details, see A4S (2025), ***An Introduction to Aligning Transition Planning and Financial Planning: Key Questions for Finance Teams***, page 20.
39. Fisher, L and Matteini, A (2025), ***3 Reasons 2025 Is the Year for Nature-Positive Finance***, World Economic Forum, 13 January.

Example

Majid Al Futtaim (MAF): Recognizing asset valuation implications of climate- and nature-related risks

MAF is a large real estate and retail conglomerate in the Middle East, with projects in the region as well as in Asia and Africa. Through completing a TNFD assessment across its direct and downstream operations, MAF strengthened its strategies and risk management approach to encompass a wider range of climate- and nature-related considerations, which included the potential effects of those on its assets. Figure 5 shows an extract of MAF's climate- and nature-related risks across the medium-term horizon, together with the risk implications – including downward pressure on asset values, increased insurance premiums for vulnerable assets and the risk of stranded assets – and actions to mitigate those risks.

Medium-term: 2030-2040

CLIMATE AND NATURE-RELATED RISKS	RISK DESCRIPTION	RISK IMPLICATIONS	ACTIONS
Water stress and drought	Climate change strains water resources, potentially leading to inadequate supply to meet demand and declining water quality as resources deplete. Amid regional water resource pressures, water efficiency and NbS are crucial for achieving our net positive water commitment.	• Rise in operational costs and downward pressure on asset values for water inefficient assets • Capex to improve efficiency and invest in alternative water sources • Disruption to operations • Our communities can face health issues such as the spread of waterborne diseases	To mitigate risks, we will implement water recycling in developments, assess building engineering and materials for resilience, optimise water consumption, assess supplier resilience to water stress, diversify the supply chain, and promote water efficiency measures. Our net positive water commitment drives ongoing efforts to reduce usage. We will continue our natural water retention assessments on standalone assets, incorporating NbS like green spaces to slow water runoff.
Insurance challenges	Climate-related risks may impact our ability to secure appropriate and affordable insurance for our assets, a risk to the real estate market globally.	• Increased insurance premiums or greater difficulty in securing for vulnerable assets • Heightened risk of stranded assets • Difficulties securing financial capital where adequate insurance cannot be secured	We will work closely with insurance providers to assess climate-related risks and anticipate changes in insurance premiums. Our focus will be on our most valuable and vulnerable assets.

Figure 5: Description of climate and nature risks in the medium term (source: Majid Al Futtaim (2023), ***Sustainability Report: Dare Together***, page 133)

2.4. Reporting

Integrated nature and climate reporting provides stakeholders with a better understanding of your organization's climate- and nature-related risks and opportunities, supporting informed financial decision making.

Financial markets are increasingly demanding clear, comprehensive, high-quality disclosures on climate and nature risk in financial reports. Since their publication in 2017, the TCFD recommendations have been widely adopted by companies and regulators to improve transparency on climate risks and support informed capital allocation and business valuation. The TNFD framework builds on this approach, using the same four-pillar structure as the TCFD, and encourages companies to produce integrated climate-nature disclosures. This four-pillar structure is also used by the ISSB Standards and the ESRS to help promote integration, and addressing climate disclosure through IFRS S1 and S2 specifically requires incorporating some aspects of nature risk.

Finance teams have a role to play in disclosing robust and accurate information about the effects of climate and nature risks and opportunities on the company's financial position, financial performance and cash flows.

Why integrate climate and nature?

- **To enable better decision making** – companies already reporting climate-related information can provide a more complete picture of their business performance by including nature-related information, such as the actual and potential impacts of both climate and nature risks on the business strategy and model, as well as its risk management practices.
- **To drive quality and efficiencies in reporting processes** – given how climate- and nature-related information is intertwined, by integrating their reporting, companies can realize efficiencies in data collection, tracking of key metrics and performance analysis, and improve the quality of their reporting over time.
- **To support the allocation of capital in the transition to a net zero, nature positive economy** – as more and more companies develop their reporting practices and techniques, the quality of their climate- and nature-related disclosures will improve. This will support more appropriate pricing of risks and allocation of capital in the transition to a net zero, nature positive economy. Companies may have better access to capital, potentially at lower cost.

Practical tips

- **Adopt reporting standards and frameworks** – standards and frameworks such as TCFD and TNFD have been developed in response to significant investor interest in transparent reporting on how climate change and nature loss can impact the financial position of companies. These frameworks help companies not only to measure, compile data and report on these matters, but also to ensure that information is presented in a comparable, consistent and transparent manner.
- **Repurpose data and processes** – you may be able to adapt and integrate existing data used for climate disclosures, noting that some TCFD-related metrics can also be used directly for TNFD disclosures, eg land use, water consumption, waste recycled and supply chain impacts. Existing TCFD governance processes, eg environmental, social, and governance (ESG) committees, can also be expanded to include TNFD, reducing administrative costs.
- **Establish governance and accountability** – the integrated climate and nature reporting process will involve the finance team, subject matter experts from across the organization, executive management and the board. You need to establish clear roles and responsibilities for the data and disclosures upfront and ensure that the reporting process is coordinated and driven by a dedicated cross-functional team with sufficient capacity and competencies.
- **Build on data collection and control systems** – you can review and build on existing processes for climate/sustainability reporting to include nature-related data, leveraging any central systems and internal controls in place. You should also review and update any definitions, collection and control procedures, and guidelines on assumptions and estimates to include nature-related data and metrics.

Resources for getting started

- A4S, *Sustainability-Related Reporting* – this hub includes resources on key developments in sustainability reporting and climate-related financial disclosures
- A4S (2023), *Sustainability in Action Webinar Recording: TNFD and Natural Capital Accounting* – this focuses on the business benefits of integrating nature-related issues into risk management and disclosures and the steps to begin adopting the TNFD recommendations.
- TNFD (2023), *Getting Started with Adoption of the TNFD Recommendations*
- TNFD (2023), *Recommendations of the Taskforce on Nature-Related Financial Disclosures*
- TNFD, *Standards Alignment* – this includes 'correspondence mappings' with the European Financial Reporting Advisory Group (EFRAG) and GRI and use of cross-reference tables

Comparison of key attributes of the TCFD and TNFD

The similarities and differences in key attributes of the TCFD and TNFD are set out in *Appendix 3*.

Example

Forico Pty Limited: An illustrative example of TCFD and TNFD integrated reporting

Forico, a private forest management company in Tasmania, collaborated with the TNFD to release an illustrative example of a report that integrates TCFD and TNFD methodologies. The disclosures lay out climate and nature risks, opportunities, impacts and dependencies, highlighting the most material risks and opportunities, supporting financial decision making. The combined report also provides an example of what business can do to prepare for the expected development of biodiversity reporting (see Figure 6).

R/O	I/D	Driver / Hazard	Timeframe	Potential impacts on our businesses, strategy, and financial planning	Response measures
Physical					
Acute					
R	D	Wildfires	Short to long term	Damage to key assets (wood, infrastructure, carbon, and biodiversity), and increases to tree crop insurance premiums.	Firebreaks, road access, internal wildfire management capability, landscape management
R	D	Biosecurity incursion	Medium-term	Asset damage, decrease in productivity, lost sales, legal liability and/or reputational damage.	Site inductions, Biosecurity risk assessments, weed management plan, Integrated Management, industry research.
R	D	Increase in extreme weather events	Short to long term	Port closure due to severe weather, road closure, harvesting schedule.	Infrastructure management, crop management for adaptable harvesting.
Chronic					
R	D	Prolonged multi-year drought	Medium to long term	Reduced productivity in drought affected plantations during planting - equates to about two Site Quality demotions.	Geographically diverse estate, optional species diversity. Seedling management.
O	D	Increase in mean temperatures	Medium to long term	Slight improvement in productivity.	Climate scenario modelling. Heatmap and sensitivity analysis. Environmental monitoring of temp, soil moisture, humidity, smoke.

Figure 6: Extract of Forico's climate and nature risks (R) and opportunities (O), impacts (I) and dependencies (D), with the most material risks shaded in blue and opportunities in green (source: Forico (2023), ***Illustrative Example of Integrated TCFD + TNFD Disclosures***, page 15)

"At this stage our report is an illustrative example of a report which combines the two approaches, and we hope will provide a useful example as the corporate world moves towards mandatory disclosures of this sort."

Evangelista Albertini, CEO, Forico[40]

40. TNFD. ***Forico's publish an illustrative TCFD + TNFD disclosure report***. Accessed October 2025.

Next steps

Collaborate

Work with key stakeholders, both internally and externally, to identify the implications for financial decision making in your organization and value chain of the interactions between nature loss and climate change.

Learn from climate action

Identify actions your finance team has taken on climate where the additional consideration of nature is likely to lead to better decision making, eg risk management and capex appraisal. Let actions on climate guide your actions on nature.

Start simple

Consider the financial risks in the most material areas where climate and nature impacts overlap in your organization, eg water, as a starting point, and broaden the issues considered over time.

Ask questions

Enquire as to how the compounding effects of climate and nature risks are identified and managed across the organization so that these are not overlooked.

Build capacity

Consider any training required by members of the finance team and whether this can be delivered through internal collaboration, eg by sustainability and risk teams.

Appendix 1: How the primary drivers of nature change link to climate change

It can be helpful to start by understanding how the connections between nature and climate play out at a macro level. Climate change is one of the five key drivers of nature change and has an indirect impact on the other drivers.[41] In turn, the different drivers of nature change can exacerbate climate change. These relationships are explored in the table below. More details can be found in TNFD's LEAP (locate, evaluate, assess, prepare) assessment guidance.[42]

	How climate change affects the drivers of nature change	Direct drivers of nature change (adapted from TNFD and IPBES)	How the drivers of nature change affect climate change
Land/freshwater/ocean use change			
Negative	Rising temperatures, more severe weather events and rises in sea level can accelerate land conversion for agriculture, urbanization and infrastructure. This fragments habitats and reduces biodiversity.	Agricultural and urban expansion, an increase in the intensity of land and sea use, and the degradation of land (eg from soil erosion) can cause loss of habitats and ecosystem services.	The destruction of natural carbon sinks exacerbates climate change. This destruction can result from soil degradation, deforestation and urbanization.
Positive	A stable climate helps to stabilize ecosystems and make them more resilient to external pressures.	Regenerative activities such as afforestation/ reforestation, wetland restoration and rewilding can regenerate habitats and increase biodiversity.	NbS can contribute to climate mitigation and adaptation, eg afforestation can sequester carbon and mangrove plantation can lessen the impact of sea level rise and storm surges.
Resource use/replenishment			
Negative	Changes in temperature and weather can lead to scarcity of resources such as water and food, which can drive over-exploitation of natural resources and further degrade ecosystems.	Global consumption of natural resources such as minerals, water and timber leads to resource scarcity (and depletion if they are exploited beyond their capacity to renew).	Extraction methods can generate high levels of GHG emissions. As resources become scarcer, deforestation and land degradation may increase, which can worsen climate change.
Positive	A stable climate can help to avoid resource scarcity by improving ecosystem stability.	Conservation and restoration can increase the provision of natural capital and associated ecosystem services.	Restoring natural capital and ecosystem services can increase their capacity as natural carbon sinks.

41. IPBES (2019), *The Global Assessment Report on Biodiversity and Ecosystem Services*.
42. TNFD (2023), *Guidance on the Identification and Assessment of Nature Related Issues: The LEAP Approach*.

How climate change affects the drivers of nature change		Direct drivers of nature change (adapted from TNFD and IPBES)	How the drivers of nature change affect climate change
Pollution/pollution removal			
Negative	Extreme weather events, such as flooding, can increase run-off of pollutants, eg fertilizers entering waterways. Meanwhile, ocean acidification from rising CO_2 harms marine life.	Water, land and air pollution degrade ecosystems, disrupts natural processes and impact human health. Pollution includes chemicals released into land or water courses from agriculture and manufacturing, particulate matter released into air from burning fossil fuels, and plastic debris in the ocean from waste.	GHG emissions are a direct driver of climate change. Other pollutants, such as particulate matter, can also cause atmospheric warming and impair the ability of plants to grow and store carbon.
Positive	A stable climate promotes healthy ecosystems such as forests, which can sequester carbon and filter air and water pollutants, while healthier soils reduce run-off into water bodies.	Reducing pollution can help ecosystems to return to their natural state.	Removing pollution can lead to healthier ecosystems and increase their capacity as natural defences against climate change, eg healthy forests, soils, peatlands and oceans are crucial for carbon sequestration.
Introduction/removal of invasive alien species			
Negative	Climate change can create conditions that favour the spread of diseases and invasive species, which can put further stress on ecosystems and lead to biodiversity loss, including loss of pollinators.	Introduction of species that are not native to an area can cause harm to local species. This has been a major factor in 60% of all extinctions and costs the global economy more than US$423 billion annually.[43]	Invasive species can weaken an ecosystem's ability to capture and store carbon, eg by reducing pollinators or introducing new diseases to an area.
Positive	A stable climate typically favours local species, making it easier for them to out-compete new arrivals.	Removal can help to conserve and restore native species.	Healthy native ecosystems are effective natural defences against climate change (eg forests and wetlands act as natural carbon sinks) and can better adapt to rising temperatures and altered weather patterns.
Climate change			
Negative	n/a	This causes extreme weather events such as flooding, droughts and wildfires, outbreaks of pests, and ocean acidification, which are all harmful to nature.	n/a
Positive	n/a	A stable climate allows ecosystems to function well.	n/a

43. IPBES (2023), *The Thematic Assessment Report on Invasive Alien Species and Their Control.*

Appendix 2: Short factsheet highlighting relevant differences between climate and nature and implications for companies

The table below highlightes key differences between climate and nature that may be relevant to the work of the finance team, and possible implications for your organization.

	Climate	Nature	Implications for companies
Geography	GHG emissions contribute to higher temperatures and changing climate patterns globally, regardless of where the GHG emissions occur. The impact of rising temperatures – such as droughts, floods and extreme weather events – can vary in severity across the world.	Nature loss is highly localized, affecting the balance of ecosystems and the ecosystem services they provide. Impacts are generally felt close to what caused them, except for climate-driven nature loss.	Companies should take action to reduce emissions across their operations and value chains, taking advantage of least-cost options. However, mitigating climate risks can require local action (eg identifying sites at risk of flooding and relevant mitigation measures). With nature-related impacts and dependencies, companies will need to take action to manage the corresponding risks and opportunities primarily at the local level.
International agreements and goals	The central goal of the 2015 ***Paris Agreement*** is to limit the average annual global temperature rise to 1.5°C above preindustrial levels, and to well below 2°C.	The ***Convention on Biological Diversity*** (CBD), established in 1992, is an international treaty on nature and biodiversity. it is implemented through the 2022 ***Global Biodiversity Framework*** (GBF). The goal of the GBF is to halt and reverse biodiversity loss by 2030 and reach full recovery by 2050.	Organizations can use the core global goals and underlying targets to guide their own target setting and action. Companies working towards the two goals will face varying challenges based on the regions and sectors they operate in and how these are affected by other areas explored in this table.

	Climate	Nature	Implications for companies
National strategies for meeting agreed international goals	Under the Paris Agreement, countries must produce national climate plans called ***Nationally Determined Contributions*** (NDCs) every five years. The first NDCs were submitted in 2015.[44] The latest NDCs were due in February 2025, but 95% of signatories missed the submission deadline.	Under Article 6 of the CBD, signatories must produce their own 'national strategies, plans or programmes'. These ***National Biodiversity Strategy and Action Plans*** (NBSAPs) are effectively national-level transition plans, and they should align with the GBF. The first NBSAPs were due before COP16 in October 2024. Only 44 out of 196 countries had put their NBSAPs in place by the end of COP16.[45]	National plans are relevant to company transition plans as they provide clarity on the policy environments in which companies operate. As not all countries have submitted their first NBSAPs or their latest NDCs, companies should refer to any other actions and communications from national governments and consider the implications for their climate- and nature-related risks and opportunities.
Corporate reporting standards and frameworks	The TCFD recommendations are now mandated in an increasing number of jurisdictions. Under the 'Strategy' pillar, the TCFD recommends the disclosure of transition plans. The TCFD has been integrated into the IFRS through the ISSB Standards, marking a significant transition in climate-related financial reporting. IFRS S2 Climate-related Disclosures requirements are becoming mandated in some jurisdictions. ESRS E1 Climate Change is mandated for companies required to report under the CSRD. The GRI Standard 102 Climate Change is not not currently specifically mandated in any jurisdiction.	The TNFD recommendations were released in 2021 with support from the G20 Sustainable Finance Working Group. They are growing in prominence but are not currently mandated in any jurisdiction. Under the 'Strategy' pillar, the TNFD recommends the disclosure of transition plans. ESRS E2–E4, covering nature-related reporting on pollution, water and marine resources, and biodiversity and ecosystems, are mandated for companies required to report under the CSRD. GRI 101 Biodiversity is not currently specifically mandated in any jurisdiction.	Climate-related reporting is generally better established than nature-related reporting across companies. Some companies may be disclosing nature-related information through their sustainability reports, but these may not be linked to financial outcomes. Companies should start to prepare for nature-related financial disclosures, as they are expected to become increasingly mandated in a range of jurisdictions, likely based on the TNFD. Companies that have started to work on climate-related financial disclosures can build on this to develop an integrated approach to climate- and nature-related financial reporting. Climate and nature are also included in several wider reporting frameworks (see ***The Business Case for Nature***, step 4).

44. United Nations, ***All About the NDCs***. Accessed: 14 January 2025.
45. Pervan, J (2024), ***CBD COP16 Signals a Growing Momentum towards Integrating Biodiversity Considerations into All Sectors of the Economy and Society***, WBCSD, 14 November.

	Climate	Nature	Implications for companies
Corporate goals and targets	Many companies have set strategies and goals to reduce emissions and transition to net zero by 2040 or 2050, driven by global and national commitments, regulatory and industry developments, and stakeholder expectations. These goals are typically supported by interim targets to reduce GHG emissions across scopes 1, 2 and 3. Target-setting methodologies have been developed by organizations such as the SBTi and net zero investor alliances.	Companies are starting to set strategies and goals to reduce their impact on nature and transition to a nature positive economy, driven by global and national commitments and increasingly by regulatory, industry and stakeholder pressure. These goals are typically supported by targets across multiple realms of nature. Target-setting methodologies have been developed by organizations such as the SBTN.	Net zero may be a simpler goal for companies, as it focuses on reducing GHG emissions, although there are complexities in measurement and implementation. Nature is a much broader category, including areas such as biodiversity, water, soil and waste, and companies should focus on those areas that are most material to them. Theoretically, being nature positive means contributing more to restoring, regenerating and enhancing nature than to harming it. Achieving this in practice is not straightforward and needs to be measured against strict spatially explicit criteria.
Potential metrics	GHG emissions (scopes 1, 2 and 3) and emissions intensity are the key metrics. CO_2e is a standard science-based metric used to convert GHG emissions to their carbon dioxide equivalent, making it easier for companies to measure and track their climate impact. The use of standard metrics also supports the trade in carbon credits and offsets. The GHG Protocol methodology is widely adopted for calculating emissions.	The TNFD recommendations include guidance on metrics and recommended metrics for companies – core sector metrics and additional global metrics (see ***annex 1***). Further guidance is available for specific sectors. The Finance for Biodiversity Foundation has published information on different approaches to measuring biodiversity impacts and dependencies.[46] Biodiversity credits and offsets are growing in popularity, based on specific metrics such as species abundance, ecosystem condition and habitat quality. This enables the development of policies such as biodiversity net gain, which measures the change in levels of biodiversity for a given site or area. Developers in England are now legally required to deliver a biodiversity net gain of at least 10%.[47]	Some climate-related metrics used by companies could be repurposed for nature-related metrics, eg waste avoided and water consumption. There are many more potential metrics for nature than climate. Guidance is available to support companies on developing a set of metrics that reflect their material nature-related risks and opportunities.[48] Start early, as it may take time to settle on the right metrics and implement data collection and control processes.

46. Finance for Biodiversity (2024), ***Biodiversity Measurement Approaches: A Practitioner's Guide for Financial Institutions***.
47. For more information about how companies can use biodiversity net gain, see A4S (2023), ***Yorkshire Water: Embedding Biodiversity Net Gain into the Capital Investment Process***.
48. TNFD, ***Metrics***. Accessed: 17 March 2026.

Appendix 3: Comparison of key attributes of the TCFD and the TNFD

Similarities		Differences	
Objectives	Both frameworks seek to improve the disclosure of environmental risks and opportunities to help investors, lenders and other stakeholders assess their financial implications, with the aim of reducing systemic risks and guiding capital towards sustainable outcomes. The TCFD focuses on climate-related risks, eg physical risks such as floods and transition risks such as carbon pricing. The TNFD addresses nature-related risks, eg physical risks from biodiversity loss and ecosystem degradation and transition risks such as investor pressure.	**Materiality**	The TCFD focuses on financial materiality – how climate risks impact a company's financial performance. The TNFD provides users with a choice of considering only financial materiality or also considering impact materiality – how a company's operations affect nature, eg through pollution or deforestation.
Structure	Both frameworks use the same four-pillar reporting structure: 1. Governance 2. Strategy 3. Risk (and impact) management 4. Metrics and targets While the TCFD covers risk management, the TNFD covers risk and impact management.	**Metric complexity**	The TCFD uses standardized metrics, eg CO_2 equivalents. The TNFD's metrics are more complex due to nature's localized impacts, eg species abundance.
Alignment with wider reporting frameworks	Both frameworks align with emerging global sustainability standards, including the ISSB and GRI. The TCFD's recommendations are fully integrated into ISSB's IFRS S2 (Climate-Related Disclosures). ISSB plan to introduce incremental disclosure requirements on nature-related risks and opportunities not already reflected in explicit requirements in IFRS S1 or S2, drawing on the TNFD framework.[49] This alignment supports compatibility with regulatory requirements (eg EU CSRD and UK TCFD mandates) and reduces reporting fragmentation.	**Maturity and uptake**	The TCFD was launched in 2015 by the Financial Stability Board (FSB). The TNFD was launched in 2021, building on the TCFD's success. Both the TCFD and the TNFD started as voluntary frameworks, with adoption encouraged through stakeholder pressure rather than mandatory regulation. The TCFD is now increasingly being mandated in specific jurisdictions. The TNFD is newer and fully voluntary. Both have seen widespread voluntary uptake.

49. IFRS. *ISSB welcomes TNFD's support as it advances nature-related disclosures*. Accessed November 2025.

Acknowledgements

We would like to thank all external parties who reviewed the guide, contributed background information, provided examples, and participated in or promoted it.

Authors

Sarah Nolleth, Consultant, Knowledge and Technical, A4S

Elizabeth To, Consultant, Knowledge and Technical, A4S

Jenny Williamson, Senior Manager, Knowledge and Technical, A4S

Advisory group

Noha Abdelrahman, Lecturer in Accounting & Finance, London Metropolitan University

Kajetan Czyź, Director of Finance Sector Strategy, Accountability Accelerator

Fiona Donnelly, Director of Sustainability, Institute of Chartered Accountants of Scotland (ICAS)

Stephanie Hime, Director, Little Blue Research Ltd

Jos Lemmens, Consultant, Natural Capital Consulting

Luke McLaughlin, ESG Strategy Manager, United Utilities Group

Karen McWilliams, Business Reform Leader, Chartered Accountants Australia and New Zealand

Aadam Nabi, Senior Manager, Sustainability Finance, Burberry

Graeme Nicholls, Technical Manager, Capitals Coalition

Toby Roxburgh, Nature and Biodiversity Manager, Institute of Chartered Accountants in England and Wales (ICAEW)

Nina Seega, Director, Centre for Sustainable Finance, University of Cambridge Institute for Sustainability Leadership

Madlen Sobkowiak, Associate Professor in Sustainability Accounting, EDHEC Business School

Nick Spencer, Sustainable Investments Advisor, Gordian Advice

Thomas Viegas, Group Nature Lead, Aviva

A4S team

Warda Al-Jawahiry, Project Manager, A4S

Helen Slinger, Executive Director, A4S

Get in touch or find out more

Accounting for Sustainability (A4S)

Accounting for Sustainability (A4S)

info@a4s.org

accounting4sustainability

More from the A4S Essential Guide Series:

accountingforsustainability.org/guides