

Nature-focused regulations start to get serious

Whitepaper #1: Catching-up to climate



Michael Lewis
Head of
Research ESG



Steffen Kutscher
Lead Sustainability
Frameworks



Otar Sarishvili
Sustainability
Frameworks
Specialist



Dr. Yannik Bofinger
Sustainability
Frameworks
Specialist

IN A NUTSHELL

- Over recent years, we have published a number of whitepapers examining the relevance of land, freshwater and oceans as they relate to climate neutrality¹
- Today, we explore the rising tide of nature-related regulation which will mark the start of a series of nature-focused whitepapers to support investor understanding
- Like climate before it, government, corporate and investor commitments relating to nature have picked up speed over the last few years
- Nature-focused regulation, such as the European Commission's Nature Restoration Law approved last month², are focusing on eliminating harmful practices, encouraging more sustainable activities and promoting nature-positive policies
- The ambition is to radically transform the process of production and consumption, which includes moving away from the current linear model of take-make-waste to one which decouples economic growth from resource use
- It also includes increasing protected areas on land and sea, eliminating deforestation, reducing chemical use across key sectors, cutting food and plastic waste, and ending the illegal trade in wildlife among others
- Investors will require their investee companies to inform them of their transition plans to facilitate performance as well as progress transparency

Introduction

Nature can be defined³ as ecosystem services which focus on the value that living and non-living natural resources (the 'stocks') provide by supplying nature's 'goods and services' (the 'flows') which provide value to businesses and society. The world's biodiversity can therefore be considered as the living part of nature and acts not just as an important life support system, but, is the basis for the world's well-being and prosperity. Urgent action is required since over the past half century a third of the world's topsoil has been degraded, 32% of the world's forest area has been destroyed and more than 85% of wetlands have been lost⁴.

From a net zero perspective, this is not sustainable even in the short term since terrestrial ecosystems such as healthy soils, forests and wetlands alongside marine ecosystems play a critical role in emissions reduction and removal. Without restoring nature and significantly limiting the negative impacts of economic activities on biodiversity, we will not be able to mitigate and adapt to climate change.

This paper outlines the steps investors are exploring to embed nature into their investment process as well as examining some of the major nature-based initiatives which have emerged across the public and private sectors. It then assesses the ambition of nature-based regulation on at a global and regional level as well as nature-specific transparency requirements and taxonomies.

¹ DWS Research Institute: Transformational framework for water risk (Nov'20); Exploring the ocean-climate nexus (Oct'21); Earth Systems (Nov'22)

² [Nature restoration: Council and Parliament reach agreement on new rules to restore and preserve degraded habitats in the EU - Consilium \(europa.eu\)](#)

³ Capital Coalition and Cambridge Conservation Initiative (May 2020). Integrating biodiversity into natural capital assessments

⁴ WEF (January 2020). Nature Risk Rising

** We wish to thank Dr. Katja Kirchstein and Matthias Kopp of WWF Deutschland for providing comments on a draft of this report

The brand DWS represents DWS Group GmbH & Co. KGaA and any of its subsidiaries, such as DWS Distributors, Inc., which offers investment products, or DWS Investment Management Americas, Inc. and RREEF America L.L.C., which offer advisory services. There may be references in this document which do not yet reflect the DWS Brand.

Please note certain information in this presentation constitutes forward-looking statements. Due to various risks, uncertainties and assumptions made in our analysis, actual events or results or the actual performance of the markets covered by this presentation report may differ materially from those described. The information herein reflects our current views only, is subject to change, and is not intended to be promissory or relied upon by the reader. There can be no certainty that events will turn out as we have opined herein.

For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA)). For Qualified Clients (Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law 5755-1995). Outside the U.S. for Institutional investors only. In the United States and Canada, for institutional client and registered representative use only. Not for retail distribution. Further distribution of this material is strictly prohibited. In Australia and New Zealand: For Wholesale Investors only. For Asia For institutional investors only. *For investors in Bermuda: This is not an offering of securities or interests in any product. Such securities may be offered or sold in Bermuda only in compliance with the provisions of the Investment Business Act of 2003 of Bermuda which regulates the sale of securities in Bermuda.

1 / Investors and nature

Nature loss and the consequences for company operations have become an important area of investor attention. The World Economic Forum (WEF) estimates, that more than half of the world's gross domestic product, or US\$44 trillion, is moderately or highly dependent on nature's ecosystems⁵. In terms of definitions, ecosystem services are classified under four groups:

- (i) Provisioning services: tangible assets such as food, fuel, fibre and medicines
- (ii) Regulating services: nature's role in water purification, pollination and as a climate regulator
- (iii) Cultural services: intangible assets such as nature's contribution to education, recreation and tourism
- (iv) Supporting services such as soil formation and habitat creation

To help to understand the relevance of nature from an investor perspective, this whitepaper examines the rising tide of regulation and below we outline the content for future whitepapers in this series.

Identifying impact and dependency: The dimensions of biodiversity risk

Like climate, biodiversity risks are typically framed under physical and transition risk⁶. Physical risk will be most relevant to those companies which have a high degree of *dependency* on nature. For example, companies operating in the construction, agriculture, and food and beverage sectors and their exposure to such things as droughts, wildfires and floods. Transition risk is relevant for those investee companies with a high *impact* on biodiversity. These can range from businesses with high water use, such as in the textile industry, or those with deforestation in their supply chains, such as in the consumer goods sector. In its 2021 assessment, the Banque de France⁷ found that 42% of the total value of securities held by French institutions were issued by companies highly or very highly dependent on at least one ecosystem service. These topics will form the basis of our second paper in this whitepaper series.

Understanding impact and dependency: Standards, frameworks and tools

Having in principle recognized these risks alongside the overall necessity to act, investors are adopting techniques to measure biodiversity dependency and impacts at an individual issuer and overall portfolio level. This is being facilitated by the development of nature-related standards and frameworks such as the Global Reporting Initiative and Task Force on Nature-related Financial Disclosures (TNFD), as well as upcoming regulatory frameworks such as the European Sustainability Reporting Standards (ESRS) on the basis of which investors receive more targeted information to inform their nature-related strategies. In addition, investors are also exploring a range of biodiversity measurement and target setting frameworks such as the Science Based Targets Network (SBTN). These standards, frameworks and tools will form the basis of our third paper in this whitepaper series.

Driving change: Investee company engagement

Investors are then examining ways to embed nature into their engagements with their investee companies. Investor initiatives relating to nature now include Nature Action 100, which was established at the end of 2022. In its report outlining investor expectations to support corporate action on nature loss⁸, this investor coalition identified key sectors for engagement ranging from agricultural chemicals, food and beverage to metals and mining and forestry and paper. To be effective, investors are encouraging investee companies to target specific key performance indicators which are SMART⁹ to track progress and assess whether engagement has been successful or not. There are different bodies¹⁰ helping to inform and develop engagement strategies be it at the corporate level or vis-à-vis governments and regulators. This will form the basis of our fourth paper in this whitepaper series.

Moving to a nature-positive economy: Investment opportunities

Forward-looking companies are recognizing the importance of protecting and restoring nature. Initiatives such as Champions for Nature are providing the blueprint for how to reduce company impacts on nature. According to the World Bank¹¹, protecting and restoring nature could create US\$10 trillion in business opportunities and 395 million jobs by 2030. From an investment perspective it is expected that capital will be allocated to firms providing solutions to restore nature as well as those taking credible measures to reduce or even avoid harm to nature by their operations and through their supply chains. Investors will increasingly be focusing on identifying those firms taking credible action to address their nature dependencies and impacts. This may be assisted by the TNFD's LEAP (Locate, Evaluate, Assess and Prepare) approach for assessing biodiversity impacts, risks and opportunities. What qualifies as a leader in biodiversity stewardship will form the basis of our fifth paper in this whitepaper series.

⁵ WEF (January 2020). Nature Risk Rising: Why the crisis engulfing nature matters for business and the economy

⁶ NGFS (March 2022). An agenda for action on biodiversity loss, financial risk and system stability

⁷ Banque de France (August 2021). A "silent Spring" for the financial system? Exploring biodiversity-related financial risks in France

⁸ <https://www.natureaction100.org/nature-action-100-releases-investor-expectations-to-support-urgent-corporate-action-on-nature-loss/>

⁹ SMART: KPIs which are specific, measurable, achievable, relevant and time-bound

¹⁰ Home - Accountability Framework ([accountability-framework.org](https://www.fairr.org/)); <https://www.fairr.org/>

¹¹ World Bank (May 2021). The business case for nature

2 / Pledges, standards, laws and frameworks

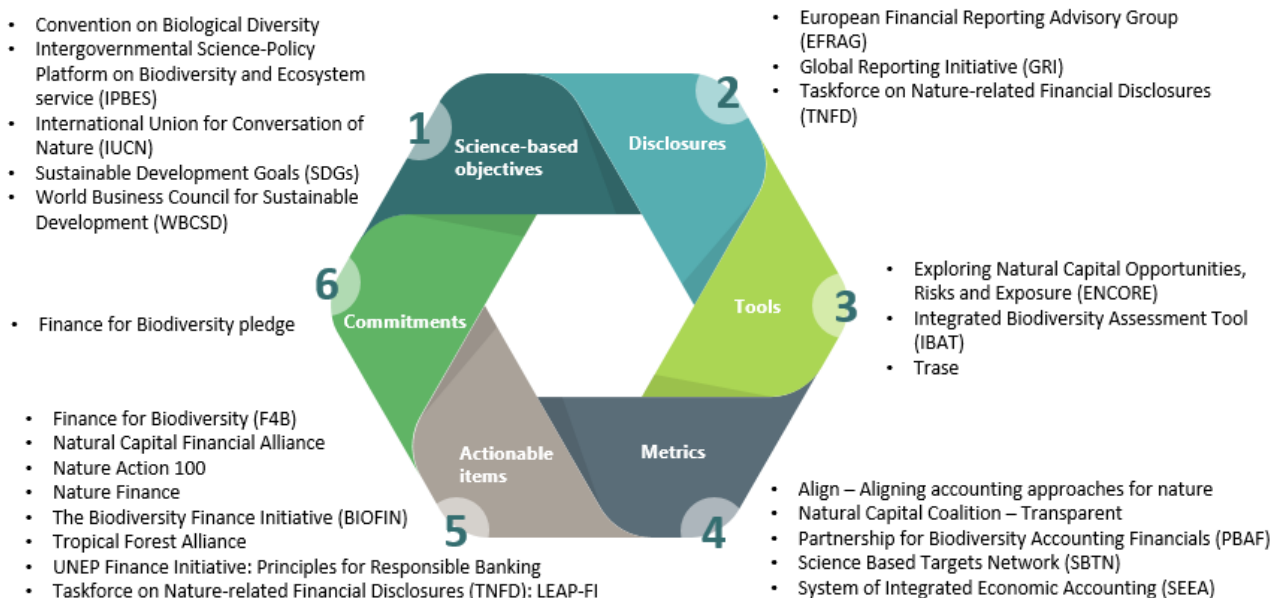
The race is on to propel biodiversity and nature to the same level of government, corporate and investor ambition that has occurred to date in climate. Progress is underway including the Kunming-Montreal Global Biodiversity Framework (GBF) signed at the end of last year by 190 countries. Among its goals and targets, it includes protecting 30% of land and water by 2030 as well as increasing biodiversity-related financing from developed countries to developing countries to at least US\$20 billion per year by 2025 and to at least US\$30 billion per year by 2030. Specifically, Target 15 of the GBF encourages businesses and financial institutions to regularly monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity.

In terms of corporates, while more than 60% of the S&P500's constituents have commitments to net zero, this compares to biodiversity or deforestation targets being set by no more than one third of Europe's companies, less than 15% of Asia Pacific large- and mid-cap companies and around 7% of the constituents of the S&P500 as of the end of last year¹². Biodiversity-related disclosures also fall short of the mark compared to their climate counterparts. CDP data reveal that more than 18,600 companies disclosed climate change data last year. The equivalent figures for forests and water security disclosures were roughly 1,000 and 3,900 companies respectively¹³.

At an investor level, France has taken a leadership role fueled by the implementation of Article 29 of the Climate and Energy Law. From May 2021, this required all financial institutions to disclose biodiversity-related risks in addition to climate-related risks and their strategy for reducing biodiversity impacts. Elsewhere, nature-based commitments are being adopted in the areas of investment policies, corporate engagement and public advocacy programs strategically reinforced by industry initiatives like the Finance for Biodiversity Pledge. In many instances, biodiversity commitments are taking their lead from already existing climate initiatives.

For example, Nature Action 100 an investor engagement initiative focused on driving greater corporate ambition to reduce nature and biodiversity loss has been inspired by her Climate Action 100+ counterpart. Figure 1 provides an overview of the meaningful nature-related initiatives and pledges, standards as well as laws and frameworks. But more forceful action is required in defending and restoring biodiversity on land and sea. Given the financial stability risks posed by biodiversity loss, an increasing number of central banks and supervisors are also starting to consider biodiversity loss in their operational frameworks. In the next section, we explore in greater detail the rising tide of nature-related regulation around the world.

Figure 1: The nature ecosystem



Source: DWS Investment GmbH (August 2023). PwC (2023)

¹² S&P Global (December 2022). Biodiversity is still a blind spot for most companies around the world

¹³ CDP (July 2023) Global Forests Report 2023; CDP (March 2023). Business nature disclosures still majorly lagging behind climate <https://www.edie.net/cdp-business-nature-disclosures-still-majorly-lagging-behind-climate/>

For Institutional investors and Professional investors

Dec 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

3 / Transformation & nature-focused regulations

Nature-focused regulations are being developed at a global, regional and national level with the ultimate aim of reversing the degradation of ecosystems and placing biodiversity on a path to recovery. In time, regulation will also transform the processes of production and consumption away from the current linear model of take-make-waste to one which decouples economic growth from resource use and promotes the circular economy.

The Convention on Biological Diversity (CBD), a landmark international framework addressing the critical issues surrounding biodiversity, was one of three conventions signed in Rio de Janeiro in 1992. The three main goals of the CBD are the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from genetic resources. Countries that are parties to CBD commit to developing national strategies and action plans to achieve these objectives.

The [Kunming-Montreal Global Biodiversity Framework \(GBF\)](#) – sometimes labelled as the Paris-moment for biodiversity – signed at the end of 2022 is one of the most important global agreements relating to biodiversity and which was signed under the CBD. This framework sets goals and targets to protect and repair nature including restoring 30% of degraded ecosystems on land and sea globally by 2030 and conserving 30% of the world’s marine and terrestrial areas compared to only 17% of land and 8% of seas which are currently protected¹⁴.

The agreement also includes action on pollution, such as cutting the risks from pesticides by 50% by 2030 as well as identifying and then targeting subsidies harmful to biodiversity. According to one study¹⁵, governments globally are spending US\$1.8 trillion or 2% of global GDP on environmentally harmful subsidies across multiple sectors including fossil fuels, agriculture, fishing, forestry, and water.

The GBF will be reinforced through National Biodiversity Strategies and Action Plans (NBSAPs), which have been taking hold over the last few years. For example, in Europe, this includes the [EU Green Deal](#) and the [EU Circular Economy Action Plan](#) as well as the [Corporate Sustainability Due Diligence Directive](#).

Nature-focused regulation is therefore typically focused on (i) reducing harmful practices, (ii) transforming existing activities with more sustainable processes and (iii) restoring nature’s resilience. In so doing, regulation aims to address the five key areas driving biodiversity loss identified by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)¹⁶, namely:

1. [Change in land and sea use](#) and specifically the expansion of agricultural land at the expense of forests and grasslands
2. [Species and resource over-exploitation](#) since one-third of the world’s fisheries are overfished¹⁷ and more than 1,200 mining sites lie within key biodiversity areas¹⁸
3. [Climate change](#) and the increasing concentration of carbon dioxide in the atmosphere. This is leading oceans to become warmer and more acidic. This in turn is causing marine heatwaves and coral bleaching. Rising temperatures on land are also triggering droughts and forest fires further weakening the carbon sink capacity of forests
4. [Pollution](#) as 80% of the world’s wastewater is returned to the environment untreated¹⁹. This includes pesticide and fertilizer run-off leading to the build-up of algae blooms and dead zones at sea. Microplastic pollution is also negatively impacting marine and terrestrial species’ populations
5. [Invasive species and disease](#) in the form of plants or animals which have been brought there by humans, for example, through the illegal wildlife trade

In the rest of this section, we outline some of the most important regulation that has taken place to help reduce harmful practices, transform existing activities and restore nature’s resilience.

¹⁴ UNEP FI (May 2021). World met target for protected area of land, but quality must improve

¹⁵ Earth Track (February 2022). Protecting nature by reforming environmentally harmful subsidies

¹⁶ IPBES (November 2019). The global assessment report on biodiversity and ecosystem services – summary for policymakers

¹⁷ WWF (2023). Fighting illegal fishing https://www.wwf.eu/what_we_do/oceans/fighting_illegal_fishing/

¹⁸ S&P Global (November 2022). Rocks and hard places. The complicated nexus of energy transition materials and biodiversity

¹⁹ CDP (April 2020). Cleaning up their act

I. Reducing harmful practices

a. Deforestation

Since around 30% of global carbon emissions are absorbed by forests, they need to be protected²⁰. However, over the past two decades almost 100 million hectares of net forested area has been lost, an area roughly equivalent to the size of South Korea. These losses are primarily occurring in South America, sub-Saharan Africa, Southeast Asia and Oceania²¹. Regulation has been introduced not only in the main forested regions, but, also through supply chain-related legislation in developed countries.

In September 2019, Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Surinam signed the [Leticia Pact](#) to protect the Amazon rainforest and halt and eventually reverse the deforestation across the Amazon. With almost 60% of the Amazon located in Brazil there has been some early signs of success since data shows deforestation losses have declined by 48% in the first eight months of Lula's Presidency²².

Countries far from tropical rainforests are also taking action by tackling agricultural commodity-driven deforestation. This includes the [EU regulation on deforestation-free products](#)²³ which came into force in June 2023. This is primarily linked to the production of beef, coffee, cocoa, palm oil, rubber, soy and wood and their derivative products such as leather, chocolates, tyres or furniture.

Meanwhile the 2021 [U.S. Forest Act](#) restricts certain commodities produced in illegally deforested land from accessing the U.S. market. This requires importers to provide greater transparency and higher quality reporting in their supply chains. At a state level, in June 2023 the New York State Assembly approved the [Tropical Deforestation-Free Procurement Act](#). This bill is intended to ensure that companies contracting with the state are not contributing to tropical deforestation and human rights abuses overseas.

b. Illegal wildlife trade

The wildlife trade is regulated through the [Convention on International Trade on Endangered Species](#) (CITES) which protects over 38,700 endangered species covering animals and plants with Europe an important region of destination, transit and origin of many of the species protected. This carries not only biodiversity risk, but, potentially hazardous health implications with estimates suggesting that five tonnes of wild animal meat are smuggled every week into Paris's Charles de Gaulle airport alone²⁴. At an EU level, this convention is reinforced by the [EU wildlife trade regulations](#). In the United States, the long-established [Lacey Act](#) provides similar safeguards to endangered species.

c. Food waste

Since the production of food accounts for 70% of the world's freshwater withdrawal, causes around 70% of the projected loss of terrestrial biodiversity and is responsible for around 25% of greenhouse gas emissions, regulation is also focused on reducing food waste since 40% of the food grown around the world is either lost or wasted²⁵. To drive this agenda, in July 2023 as part of its revised [EU Waste Framework Directive](#), the European Commission proposed legally binding food waste reduction targets to be achieved by 2030.

d. Pesticide use

As part of the [EU Biodiversity Strategy 2030](#), the European Commission has proposed to reduce fertilizer use by 20% and cut the use of the more hazardous pesticides by 50% by 2030. The aim is to improve soil, water and agricultural biodiversity.

e. Hazardous chemicals

The [EU's REACH regulation](#) protects human health and the environment posed by the use of harmful substances. To reduce the contamination to water and soil, authorities across five European countries submitted to the European Chemicals Agency at the beginning of this year their proposal to restrict or ban the use of thousands of types of per- and polyfluoroalkyl substances (PFASs). It is not yet clear whether or not this legislation will be enforced or diluted.

f. Plastic use

The [UN Global Plastic Pollution Treaty](#) was signed by 175 countries in March 2022 with the aim of a legally binding agreement by 2024, The scope of the treaty covers abandoned fishing gear all the way down to microplastics given their impacts on marine ecosystems such as mangroves and coral reefs. In the EU, legislation includes the [directive on single use plastic products and](#)

²⁰ UN (2022). Land – the planet's carbon sink <https://www.un.org/en/climatechange/science/climate-issues/land>

²¹ UN (July 2023). The Sustainable Development Goals Report

²² Mongabay (September 2023). Deforestation in the Amazon rainforest continues to plunge

²³ European Commission (June 2023). Deforestation-free products

²⁴ IFAW (October 2022). What is bushmeat?

²⁵ WWF (August 2021) We're losing 40% of the food we produce. Here's how to stop food waste

fishing gear²⁶ as well as the [EU Plastics Strategy](#)²⁷. These include the aim to transform the way plastic products are designed, produced, used and recycled in the EU.

The [Philippines' extended producer's responsibility \(EPR\) law](#)²⁸, requires large companies to recover their plastic footprint and encourage individuals collecting the waste to turn their trade into a more formal privately held business. By the end of 2023, companies need to demonstrate recovery and diversion of 20 percent of their 2022 plastic packaging footprint: 40 percent by 2024, with 10 percent annual increase up to 80 percent by 2028 and onwards.

g. Marine waste pollution

The Association of Southeast Asian Nations (ASEAN) launched the [ASEAN Regional Action Plan for Combating Marine Debris \(2021 – 2025\)](#)²⁹. It provides a scalable, solution-focused joint strategy to address marine plastic debris across the region. The goal of the Regional Action Plan (RAP) is to enhance coordination at the regional and international levels for achieving sustainable management of coastal and marine environments through responding to marine plastic pollution.

II. Transforming existing activities by adopting more sustainable processes

h. Supply chains

The European Commission's [Corporate Sustainability Due Diligence Directive \(CSDDD\)](#), which will come into force no earlier than 2025, will oblige companies to conduct the appropriate due diligence not just on their operations but also on the activities of their subsidiaries and other entities in their value chains in order to identify and prevent any environmental or human rights abuses. Similar in spirit to CSDDD, is the [German Supply Chain Act](#), which came into force at the beginning of this year.

i. Circular economy

Currently, only 7.2 percent of resources are returned to the circular economy at the end of their useful life. This means that more than 90 percent of resources are wasted, lost or cannot currently be reused³⁰. The [EU's Circular Economy Action Plan](#) aims to promote more sustainable activities through regulations that increase the durability, repairability, reusability or recyclability of products with the aim of increasing the material use rate all materials to at least 25% by 2030. One example is the [2023 EU Batteries Regulation](#) which aims to extend the life-cycle of batteries which are critical to the e-mobility sector. In addition, the planned [EU Critical Raw Materials Act](#) aims to address Europe's strategic dependencies on raw materials for the net zero industry by improving the refining processing and recycling of critical raw materials.

III. Restoring nature's resilience

j. Restoration on land and sea

The [EU Nature Restoration Law](#) aims to restore the continent's forest, agricultural, marine, river and urban ecosystems. This includes restoring habitats, reversing the decline in pollinators, no net loss of urban green space by 2030, restoring drained peatlands, seagrass and sea bottoms and a commitment to plant at least 3 billion additional trees in the EU by 2030. Agreed by the European Council and Parliament in November 2023³¹, it also includes measures to restore at least 20% of the EU's land and sea areas by 2030.

In China, almost a quarter of the country's land mass is covered by forests³². The Chinese government has ambitious forest conservation programs and highlights growth in forest stock volume as a prominent climate change goal. During the [14th Five-Year Plan \(2021–2025\)](#), the Chinese government aims to increase forest cover to 24.1% of the country's total land area. This builds on the forest cover goal in the [13th Five-Year Plan](#) to increase forest cover from 21.7% to 23%, which was met in 2020³³.

²⁶ Directive (EU) 2019/ of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (europa.eu)

²⁷ Plastics strategy (europa.eu)

²⁸ Deloitte (July,2022) The EPR Law takes on the Philippines' plastic problem

²⁹ <https://asean.org/book/asean-regional-action-plan-for-combating-marine-debris-in-the-asean-member-states-2021-2025-2/>

³⁰ Circle Economy (January 2023). The circularity gap report 2023

³¹ Nature restoration: Council and Parliament reach agreement on new rules to restore and preserve degraded habitats in the EU - Consilium (europa.eu)

³² World Bank database Forest area (% of land area) - China | Data (worldbank.org)

³³ Oxford Institute of Energy Studies (2023). Guide to Chinese climate policy

With China also home to 7.7 million hectares, or approximately 3%, of the world's wetlands³⁴, the Chinese Communist Party has enacted additional legislation in the [Wetlands Conservation Law](#)³⁵ which came into force in June 2022. This law was enacted to strengthen wetland protection, maintain wetland ecological functions and biodiversity. It includes charging local governments to take measures relative to water body management, land improvement, vegetation restoration, and animal protection to enhance functions and carbon sink capabilities.

The [Environment Protection and Biodiversity Conservation Act](#)³⁶ in Australia is a central piece of environmental legislation which focuses is on the conservation and protection of matters of national environmental significance, including threatened species, world heritage sites, the Great Barrier Reef marine park and wetlands. The Australian government has recently proposed the [Nature Repair Market Bill \(2023\)](#)³⁷, which incentivizes investment in nature restoration. The proposed bill will facilitate the trading of biodiversity certificates and will be overseen by the Clean Energy Regulator.

In January 2023, the UK government published its [Environmental Improvement Plan \(EIP\) 2023](#)³⁸ and [Environmental Principles Policy Statement](#). The plan sets out how the UK government will work with landowners, communities, and businesses to meet its environmental goals. According to the roadmap set out by the EIP 2023, every household in England will be within a 15-minute walk of a green space or water, with the Government committing to restoring 500,000 hectares of wildlife habitat and 400 miles of rivers. The plan will see the creation of a new multi-million Species Survival Fund that aims to protect the rarest species in Britain, including red squirrels and grey seals.

The UK and France have also launched a [biodiversity credit](#)³⁹ roadmap to support companies' contribution to nature recovery. The objective is to facilitate the scaling up of efforts in supporting companies that invest in credits for nature recovery in a credible manner.

³⁴ Ramsar Convention (2022 data) [https://rsis.ramsar.org/ris-search/?language=en&f\[0\]=regionCountry_en_ss%3AChina&pagetab=2](https://rsis.ramsar.org/ris-search/?language=en&f[0]=regionCountry_en_ss%3AChina&pagetab=2)

³⁵ FAO (December 2021). [Wetlands Conservation Law of the People's Republic of China](#). | FAOLEX <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC207861/>

³⁶ The Guardian (June 2020) [Australia's environment laws: how do they work and what needs to be done to fix them?](#)

³⁷ Parliament of Australia (2023) [Nature Repair Market Bill 2023](#)

³⁸ UK Government (January 2023). <https://www.gov.uk/government/publications/environmental-improvement-plan>

³⁹ Gov.uk (June 2023) [UK – France Global Roadmap launched to mobilise global nature finance](#)

4 / Targets, disclosure, transition plans & taxonomies at an entity level

Regulation will drive significant transformation across the corporate sector in terms of the processes of production and consumption. Transition plans will be an important feature of how a company is responding to increasing regulation as it relates to both climate and biodiversity.

From an investor perspective, company transition plans would help to inform the allocation of capital and how, for example, asset managers engage. To assist in this regard, transition planning guidance is developing at speed and includes the UK's [TPT Disclosure Framework](#)⁴⁰ and the Glasgow Financial Alliance for Net Zero (GFANZ) [Expectations for Real Economy Transition Plans](#)⁴¹. These provide companies with the tools to communicate their net zero strategy, which includes accompanying information on a company's targets, actions and progress. These will then provide financial institutions with a more transparent picture of how a specific company is performing not just against her own targets but also versus her sector peers.

To be credible, such transition plans need to be accompanied by science-based targets to enable performance to be assessed against key performance indicators such as those relating to land use or the quality and quantity of freshwater use for example. This has been facilitated with the work of the [Science Based Targets Network \(SBTN\)](#) and the release of corporate science-based targets for nature⁴². Robust disclosures and reporting requirements are also being developed with the ultimate aim of enabling not just performance transparency, but also progress transparency.

To improve reporting on a company's performance, the European Union adopted⁴³ the [Corporate Sustainability Reporting Directive \(CSRD\)](#), which will replace the Non-Financial Reporting Directive (NFRD) in 2024. As part of CSRD, the [European Sustainability Reporting Standards \(ESRS\)](#) is an extension in the coverage of mandatory reporting based on double materiality. As part of the ESRS reporting framework ESRS E4 is intended to help companies understand how their actions affect biodiversity and, as a result, will help to facilitate integrating biodiversity protection into their corporate strategy and operations. The standard requires forward-looking performance metrics, such as biodiversity action plans, as well as any potential financial ramifications of biodiversity-related impacts, risks, and opportunities. Along with these forward-thinking indicators, the standard requires the publication of measurable biodiversity and ecosystem targets⁴⁴, which are based on science.

As part of the EU's Green Deal, the [EU Taxonomy](#) and the [Sustainable Finance Disclosure Requirement \(SFRD\)](#) include indicators and objectives related to biodiversity. In addition, the EU has adopted the [Corporate Sustainability Due Diligence Directive \(CSDDD\)](#), which requires companies to implement due diligence measures to identify, end, prevent, mitigate, and account for the negative human rights and environmental impacts of their actions, such as waste handling, collection, storage, and disposal, or the use of biological resources that may have an adverse impact⁴⁵ on biodiversity. Companies subject to the regulation would be required to undertake due diligence not just on their own operations but also on the activities of other companies in their value chains with which they have direct and indirect business contacts.

To help bring transparency and ultimately bridge the nature funding gap, nature-focused taxonomies are also being developed to identify harmful and helpful economic activities relating to nature. Of the 29 [sustainable finance taxonomies](#) around the world, 12 consider, or plan to consider nature-relevant aspects although only half of these are in G20 countries, namely China, the European Union, Russia, South Africa, South Korea and the UK.⁴⁶ The most widely recognized green taxonomy is the one introduced in the European Union⁴⁷ in 2020. What makes the EU non-climate environmental taxonomy distinct is that it is the only jurisdiction to consider supply chains. This is important since the greatest losses in biodiversity are occurring in South America, the Caribbean, Africa and the Asia Pacific⁴⁸. The next step in the development of biodiversity taxonomies will be to introduce time-bond, forward-looking and science-based instruments.

⁴⁰ TPT (October 2023). Transition Plan Taskforce: Disclosure Framework

⁴¹ GFANZ (September 2022). Expectations for real-economy transition plans

⁴² <https://sciencebasedtargetsnetwork.org/how-it-works/the-first-science-based-targets-for-nature/>

⁴³ European Commission (June 2023). Corporate sustainability reporting https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en#:

⁴⁴ European Commission (July 2023). https://ec.europa.eu/finance/docs/level-2-measures/csrd-delegated-act-2023-5303-annex-1_en.pdf

⁴⁵ European Commission (Feb 2022). [https://ec.europa.eu/transparency/documents-register/detail?ref=COM\(2022\)71&lang=en](https://ec.europa.eu/transparency/documents-register/detail?ref=COM(2022)71&lang=en)

⁴⁶ WWF (December 2022). When finance talks nature

⁴⁷ European Commission (July 2020). EU Taxonomy https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en#legislation

⁴⁸ WEF (November 2020). WWF: These are the biggest threats to the Earth's biodiversity

5 / Conclusion

The world has enjoyed unprecedented prosperity over the past 100 years when measured in terms of wealth and standards of living. Since the middle of the last century, economic output is up more than thirteen-fold in real terms, and life expectancy has risen by 27 years⁴⁹. However, these achievements have come at a cost. The stock of natural capital, such as forests, fisheries, agricultural land and minerals, have fallen by 40% on a per capita basis since 1992.

With the adoption of net zero climate commitments by governments, corporates and investors, nature-related regulation is accelerating at speed. This means the policy environment for nature is rapidly catching up to climate and in recognition of the fact that to build a credible net zero pathway can only be achieved by addressing the dual challenges of climate change and biodiversity loss together.

To tackle the main causes of biodiversity loss, regulation is being focused in the areas on reducing harmful practices, transforming existing activities with more sustainable processes and restoring nature's resilience. Alongside technological and market changes, these will transform the processes of production and consumption across the entire economy including global supply chains and particularly for those companies with a high degree of dependency and impact on nature.

To comply with their net zero commitments, sustainability-minded investors are demanding transparency on company transition plans. Regulation is therefore also focused in the area of developing taxonomies, targets and disclosures. To facilitate not just performance transparency, but also progress transparency the setting up of time-bound, forward looking, science-based targets would be a good next step. Investors would then be in a better position to examine how a specific company, combining its own operations and value chain, is performing not just against their own targets, but also versus their sector peers. This could then deliver a more informed biodiversity-focused engagement strategy.

However, challenges remain in that most of world's biodiversity sensitive areas are outside the EU, where regulation is not so robust. Frameworks such as SBTN and TNFD are largely voluntary, biodiversity-related datasets relevant for investors are still in their infancy and comparison of biodiversity dependencies and impacts between different sectors and drivers is highly complex. To help understand these challenges, the focus of our next whitepaper in this biodiversity series will be on company dependencies on and impacts towards nature.

⁴⁹ UK HM Treasury (February 2021). The Economics of biodiversity. The Dasgupta Review

6 / Glossary

Figure 4: Terms and definitions

<p>Biological diversity means the diversity of life in all its forms—the diversity of species, of genetic variations within one species, and of ecosystems</p>	<p>Natural capital is the stock of renewable and non-renewable natural assets (e.g. ecosystems) that yield a flow of benefits to people (i.e. ecosystem services). The term 'natural capital' is used to emphasise it is a capital asset, like produced capital (roads and buildings) and human capital (knowledge and skills).</p>
<p>Ecosystems are self-regulating communities of plants and animals interacting with each other and with their non-living environment—forests, wetlands, mountains, lakes, rivers, deserts and agricultural landscapes. Ecosystem services are the associated benefits such as climate regulation, flood protection, pollination, soil and water quality</p>	<p>Natural capital accounting is the measuring and quantifying of environmental assets and services. Accounts are of two types: (i) physical accounts – classify and record measures of extent, condition and annual service flow and (ii) monetary accounts – assign a monetary valuation to selected services on an annual basis and record an overall valuation of the natural asset's ability to generate future flows of services</p>
<p>Forest degradation is a reduction in the capacity of a forest to produce ecosystem services such as carbon storage as a result of anthropogenic and environmental changes</p>	<p>Nature-based solutions are techniques that involve using nature as part of the solution to environmental issues such as to mitigate or adapt to climate change, to manage flood and coastal erosion risk, to provide healthy, social and liveable cities or improved water quality.</p>
<p>Habitat degradation is the diminishment of habitat quality, which results in a reduced ability to support flora and fauna species. Human activities leading to habitat degradation include polluting activities and the introduction of invasive species</p>	<p>Nature-related financial risks are those that arise from changes in the stock and/or condition of natural capital and from societal responses to those changes. These risks can arise from three channels or 'risk factors': physical, transition and litigation.</p>
<p>Invasive species are those that are introduced—intentionally or unintentionally—to an ecosystem in which they do not naturally appear and which threaten habitats, ecosystems, or native species</p>	<p>Nature positive is the term used to describe a world where nature – species and ecosystems – is being restored and is regenerating rather than declining. Governments and organisations around the world have signed up to the 'Leaders Pledge for Nature' which includes a commitment to nature positivity.</p>
<p>Land use refers to how a specific piece of land is allocated: its purpose, need or use such as agriculture, industry, residential or nature</p>	<p>Planetary boundaries outline nine processes that regulate the stability and resilience of the Earth. Planetary boundaries are thresholds within which humanity can continue to develop and thrive for generations to come. Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes</p>
<p>Protected areas are an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means</p>	<p>Regenerative agriculture are ways of producing food on farms that lead to progressive improvements in the condition of land, water and nature.</p>
<p>The natural environment comprises all living and non-living things that occur naturally on Earth. In its purest sense, it is thus an environment that is not the result of human activity or intervention. The natural environment may be contrasted to "the built environment"</p>	<p>Wetlands are areas that are subject to inundation or soil saturation. Such areas are frequently termed peatlands, marshes, swamps and wet meadows and play an important role in carbon sequestration</p>

Source: DWS Investment GmbH (August 2023)

Contributors

Abhishek-r Mittal

CROCI Investment Strategy & Valuation Group

Janamejay Kumar

CROCI Investment Strategy & Valuation Group

For Institutional investors and Professional investors

Dec 2023 – For Qualified Investors (Art. 10 Para. 3 of the Swiss Federal Collective Investment Schemes Act (CISA). For Professional Clients (MiFID Directive 2014/65/EU Annex II) only. For Institutional investors only. Further distribution of this material is strictly prohibited. Australia and New Zealand: For Wholesale Investors only

Important information – EMEA, APAC & LATAM

DWS is the brand name of DWS Group GmbH & Co. KGaA and its subsidiaries under which they do business. The DWS legal entities offering products or services are specified in the relevant documentation. DWS, through DWS Group GmbH & Co. KGaA, its affiliated companies and its officers and employees (collectively "DWS") are communicating this document in good faith and on the following basis.

This document is for information/discussion purposes only and does not constitute an offer, recommendation or solicitation to conclude a transaction and should not be treated as investment advice.

This document is intended to be a marketing communication, not a financial analysis. Accordingly, it may not comply with legal obligations requiring the impartiality of financial analysis or prohibiting trading prior to the publication of a financial analysis.

This document contains forward looking statements. Forward looking statements include, but are not limited to assumptions, estimates, projections, opinions, models and hypothetical performance analysis. No representation or warranty is made by DWS as to the reasonableness or completeness of such forward looking statements. Past performance is no guarantee of future results.

The information contained in this document is obtained from sources believed to be reliable. DWS does not guarantee the accuracy, completeness or fairness of such information. All third party data is copyrighted by and proprietary to the provider. DWS has no obligation to update, modify or amend this document or to otherwise notify the recipient in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

Investments are subject to various risks. Detailed information on risks is contained in the relevant offering documents.

No liability for any error or omission is accepted by DWS. Opinions and estimates may be changed without notice and involve a number of assumptions which may not prove valid.

DWS does not give taxation or legal advice.

This document may not be reproduced or circulated without DWS's written authority.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, including the United States, where such distribution, publication, availability or use would be contrary to law or regulation or which would subject DWS to any registration or licensing requirement within such jurisdiction not currently met within such jurisdiction. Persons into whose possession this document may come are required to inform themselves of, and to observe, such restrictions.

For institutional / professional investors in Taiwan:

This document is distributed to professional investors only and not others. Investing involves risk. The value of an investment and the income from it will fluctuate and investors may not get back the principal invested. Past performance is not indicative of future performance. This is a marketing communication. It is for informational purposes only. This document does not constitute investment advice or a recommendation to buy, sell or hold any security and shall not be deemed an offer to sell or a solicitation of an offer to buy any security. The views and opinions expressed herein, which are subject to change without notice, are those of the issuer or its affiliated companies at the time of publication. Certain data used are derived from various sources believed to be reliable, but the accuracy or completeness of the data is not guaranteed and no liability is assumed for any direct or consequential losses arising from their use. The duplication, publication, extraction or transmission of the contents, irrespective of the form, is not permitted.

© 2023 DWS Investment GmbH

Issued in the UK by DWS Investments UK Limited which is authorised and regulated in the UK by the Financial Conduct Authority.

© 2023 DWS Investments UK Limited

In Hong Kong, this document is issued by DWS Investments Hong Kong Limited. The content of this document has not been reviewed by the Securities and Futures Commission.

© 2023 DWS Investments Hong Kong Limited

In Singapore, this document is issued by DWS Investments Singapore Limited. The content of this document has not been reviewed by the Monetary Authority of Singapore.

© 2023 DWS Investments Singapore Limited

In Australia, this document is issued by DWS Investments Australia Limited (ABN: 52 074 599 401) (AFSL 499640). The content of this document has not been reviewed by the Australian Securities and Investments Commission.

© 2023 DWS Investments Australia Limited

as of 11/27/23; 098768_1 (11/2023)