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Natural capital and biodiversity:
measurement and investment

Contents

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01 Preface

Assessments of economic and social progress over the last seventy years paint a positive picture. The average person now has a longer – and better quality of – life, and enjoys a far higher income, than previous generations. The proportion of the world's population in absolute poverty has fallen dramatically in that period, from around 50% in 1970 to about 10% today. In many ways, we are living in the best of times. But turn to those studying ecology and earth sciences, and you will gain a very different perspective.

For just as we have been increasing our produced capital (for example roads, buildings and factories) and human capital (knowledge and skills), we have been depleting – sometimes irreversibly – our natural capital, which underpins all economic and human activity. This is in part due to the fact that our standard economic models do not account for Nature. Nature's true worth to society is not reflected in the price we pay for the goods and services it provides. But this is not simply a market failure, it is a broader institutional failure too. To date, our institutions have failed – and in some cases continue to exacerbate – the problem.

This report makes a strong argument for globally coordinated work to monitor and report progress on human and planetary wellbeing. Reforming our economic models has the power to enable and encourage companies to make Nature-positive investments which recognise the value of natural assets. For this to happen, stakeholders at every level, from governments to businesses to consumers, need to act.

The recent advances in ESG investing suggest that when the tools, data and standards are available, investors, policymakers and economists will respond and turn them into practice. Resetting our relationship with Nature is an urgent but long-term process and will rest on recognising that we are embedded within – not external to – Nature. Better stewardship of Nature must follow – our descendants deserve nothing less.

Professor Sir Partha Dasgupta
Frank Ramsey Professor Emeritus of Economics
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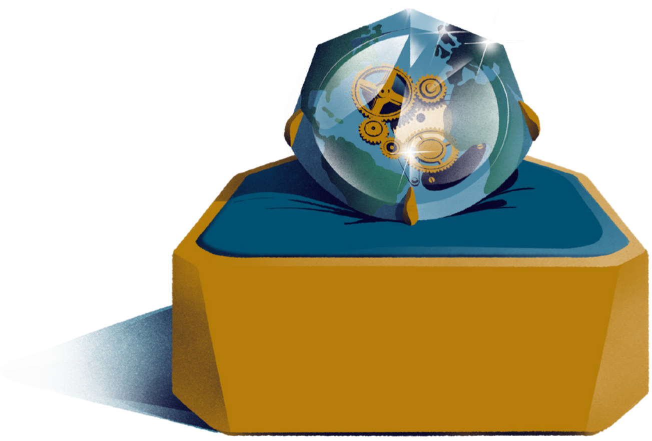

02 Introduction

Environmental concerns are likely to change the ways in which we assess the global economy. If a prime economic objective is to become more "nature neutral", we may need to adopt different measures of success. A focus on the preservation of "natural capital" could complement traditional economic measures such as GDP. We look at the concept of natural capital in Chapter 3.

An alternative perspective on the importance of environmental issues and biodiversity loss can be gained by looking at the concept of specific risks, which we explore further in Chapter 4. It is important to realise that these risks may exist independently of individual companies' ESG scores. In other words, simply investing on the basis of ESG scores does not eradicate these long-term risks.

The challenge posed by biodiversity loss is vast and fixing it will involve large amounts of capital in order to bridge the financing gap while developing and applying new technologies. As a result, a focus on new concepts (such as natural capital) is likely to be accompanied by new methods of funding involving collaboration between public and private sectors. We examine these and the potential amounts involved in Chapter 5.

Changing towards a more biodiversity-focused economy will involve a complex, unfamiliar (and not exactly predictable) process. But, as is discussed in Chapter 6, we think that the process will have three key components. Traditional international agreements (e.g. around particular threats) are likely to be complemented by a more informal reshaping of social and corporate beliefs and behaviour via social media and other channels. Data and technology will help, but concepts are important too. Then, in the longer term, we may see shifts in legal and philosophical attitudes around natural capital and associated rights.

Describing the future is fraught with difficulty and some of these concepts might seem abstract. But, as we have already seen with ESG investment (which has been in the investment mainstream for only a relatively short period of time), abstract concepts and measures can quickly become key parts of the investment process – making biodiversity evaluation an important future subject for investors.

In a nutshell: natural capital and biodiversity: measurement and investment

- The concept of natural capital is likely to become increasingly important in economic decision-making.
- Public investments have steadily increased, but by 2050 much more investment in natural capital will be required to preserve our natural world while successfully managing the associated triple planetary crisis.
- Hence, a natural capital framework should help us make and measure progress on biodiversity within existing broad-based objectives.
- In addition, the dynamics of transformation processes (e.g. "system leaps"), which focus on the need to identify guiding principles and the likelihood that "intermediary" transitions may be more complex than end-goal transitions, can effect economic and social change in a short time.

03 The concept of natural capital

The global economy is going through a period of major change, with the global coronavirus pandemic amplifying or accelerating some existing structural shifts.

In previous periods of economic change, the environmental dimension was usually ignored. But, this time around, there is a growing understanding that environmental threats will undermine the well-being and prosperity of present and future generations if not tackled properly.

Unfortunately, progress on the Aichi goals was not fast or effective enough and hence we have failed to meet them. The recent report by the Interngovernmental Panel on Climate Change (IPCC) reinforces this point as it finds that global temperatures will rise by at least 1.5 degrees Celsius in the next 20 years unless immediate and large-scale action is undertaken to reduce greenhouse emissions.[1]

As a result, we will start to view the economic implications of change in a rather different way. Rather than focusing simply on economic growth, or the relocation of resources across sectors, we are likely to focus more and more on economic sustainability.

Hence, the concept of natural capital (natural assets such as water, soil, air, and all living things) is likely to become increasingly important in economic decision-making. This increase in interest in natural capital will go hand-in-hand with a growing emphasis on biodiversity.

Global economic change is multifaceted. Digitalisation continues to transform business models and value chains with global trade patterns also affected by political considerations. But, in parallel, the number of extreme weather events is also rising, disrupting economic activity and damaging capital and land. In the course of the earth's history, ecosystems (terrestrial and oceanic) and species have had to adapt to changes in the world's climate. Yet, rapid climate change may make it more difficult for ecosystems to adapt, such that biological diversity (biodiversity) is directly affected within the triple planetary crisis – climate, nature, and pollution. The loss of biodiversity and healthy ecosystems in turn contributes to accelerating climate change.[2] Immediate economic impacts (driven by other factors too) include a slowdown in investment growth globally, from above 5% per year in 2017 down to less than 1% in 2019 for G20 economies.[3] The interconnectedness of our ecosystems and the importance of natural capital is depicted in Figure 1.

Figure 1: The importance of natural capital

Source: CSR-China, Deutsche Bank AG. Data as of September 13, 2021.

These changes need policy responses – which in turn need data to be measurable and credible. But existing economic data approaches have well-known shortcomings when it comes to considering the environment.

In the case of national accounts (i.e. GDP), for example, the focus is on immediate income flows rather than the health of underlying assets. So, (for example), while the income from harvesting timber is recorded in national accounts, the simultaneous depletion of natural forest assets is not; perhaps more importantly, essential life-support services provided by forest ecosystems are not explicitly recognized at all. This can result in quite misleading signals about economic growth and even disrupt economic activity.[4]

The Dasgupta Review (an economic study of biodiversity) puts this clearly: "GDP does not include the depreciation of assets, for example the degradation of the natural environment. We should remember that the 'G' in GDP stands for gross output of final goods and services, not output net of depreciation of assets."[5]

GDP and other economic measures may therefore need to be complemented with alternative indicators of economic prosperity as we try to monitor and report progress towards human and planetary wellbeing.[6] In line with the concept of natural capital, this is likely to require developing practical approaches for the valuation and monitoring of natural resources, so natural capital accounting can become a formal part of policy.[7]

A natural capital framework should help us make and measure progress on biodiversity (and other issues) within existing broad-based objectives – e.g. the UN's Sustainable Development Goals (SDGs). SDG 6 ("clean water and sanitation"), SDG 13 ("climate action"), SDG 14 ("life below water") and SDG 15 ("life on land") all have spill-over effects for the biosphere.

A more decisive shift towards a "nature neutral" economy poses many challenges, not only for politicians and the economy, but also for investors. Getting the economic concepts and metrics right is an important first step for alignment.

GDP and other economic metrics may need to be complemented with alternative indicators of economic prosperity as we try to monitor and report progress towards human and planetary wellbeing.

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04 Measuring biodiversity in an ESG context

Any assessment of natural capital will need to focus on biodiversity – which underpins it.

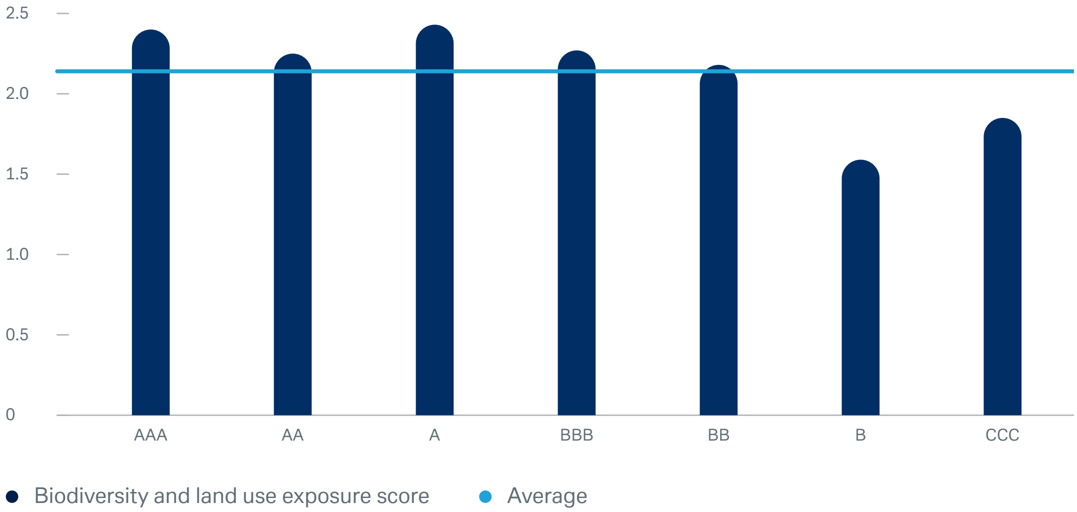
Biodiversity is already on investors' radar, but it still receives less recognition than other environmental issues. This is evident from investor patterns and surveys.[8] For example, in our recently conducted survey on biodiversity, only 11% put biodiversity in the top spot for environmental issues. Around 37% see ocean as well as land degradation as equally important and 46% of investors regard climate change as the most important factor.

Biodiversity has an obvious role in the environmental ("E") aspect of ESG – most obviously through ecological life support (e.g. the supply of oxygen, climate stability and resources). Biodiversity will also end up, directly and indirectly, playing a role in social ("S") debates. Preservation/conservation and improving biodiversity will also be fostered by the adoption of effective governance ("G") principles and frameworks.

However, it is important to make the point that while biodiversity has a major impact on ESG issues, biodiversity risks exist regardless of an individual company's ESG score. Figure 2 illustrates the distribution of the biodiversity and land use exposure scores for the MSCI World Index relative to the ESG score of a company. It turns out that there is no clear relationship between the mentioned exposure score and the company's ESG score.

Figure 2: Relationship between the ESG score and biodiversity and land use exposure scores for the MSCI World Index

Source: MSCI ESG Research LLC, Deutsche Bank AG. Data as of September 13, 2021.

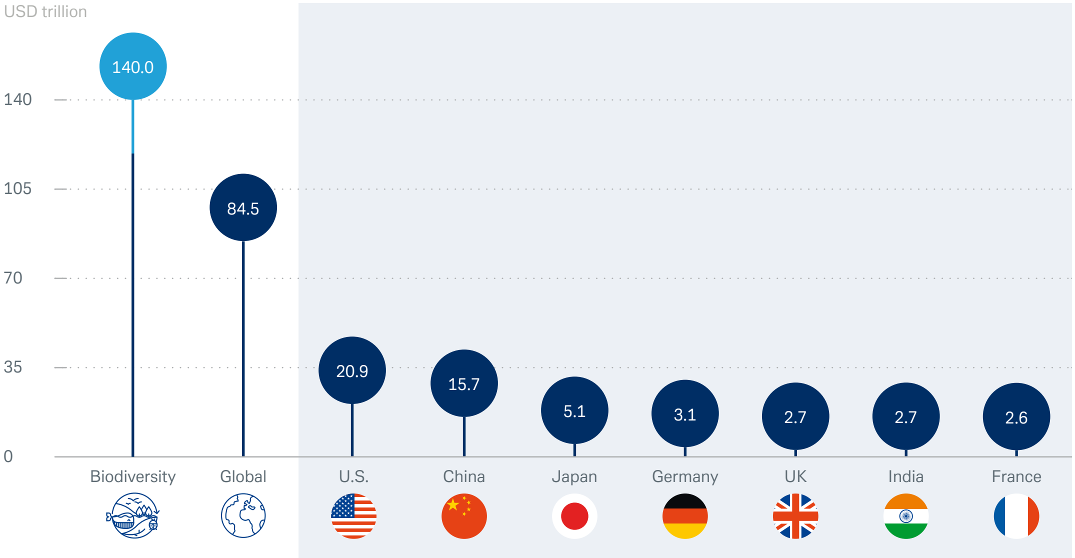


Note: The biodiversity and land use exposure score captures through an intangible value assessment to what extent a company's business is vulnerable to biodiversity loss. Higher biodiversity and land use exposure scores indicate a higher risk in relation to biodiversity loss. Surprisingly, companies with a B-score tend to have a lower biodiversity and land use exposure score on average.

Biodiversity involves understanding natural processes as both assets and inputs in our production function. Out of these natural assets (e.g. soil, air, water, purification, pollination, etc.) humans derive ecosystem services, which deliver regenerative returns and make human life possible. Regenerative returns are estimated to be worth around USD125 to USD140 trillion a year – more than 1.5x conventionally-measured global GDP as shown in Figure 3.[9] However, this bounty from nature is not guaranteed: estimates point to shrinking biodiversity having a substantial negative impact on GDP. According to one estimate by WWF, biodiversity loss could result in USD129 billion of lost global GDP per year by 2050.[10]

Figure 3: Value of biodiversity in terms of GDP

Source: Bloomberg, OECD, Deutsche Bank AG. Data as of September 13, 2021.

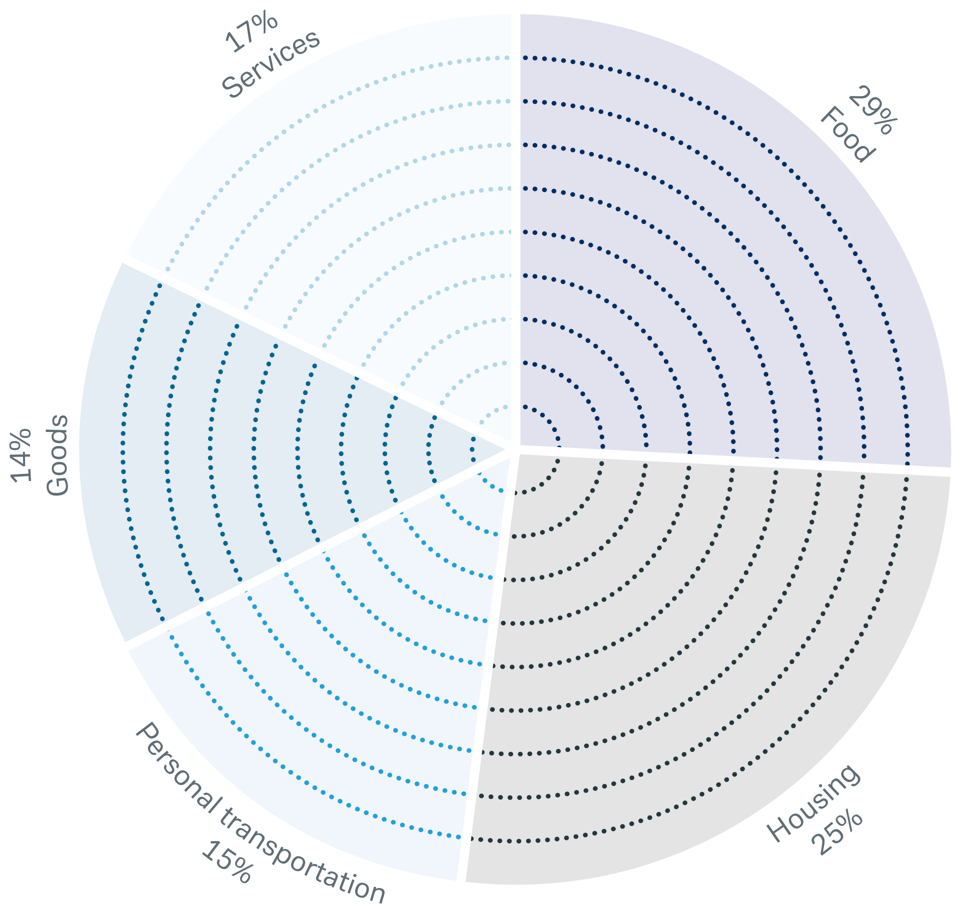


Note: The numbers in the bubbles are the respective country/global GDP figures in USD trillion. Biodiversity accounts for up to USD140 trillion in GDP.

There are various ways of measuring human impact on biodiversity. One of these is the ecological footprint. This measures how much demand human consumption places on biodiversity and can be compared to the sustainable biodiversity capacity (biocapacity). According to one estimate, the overall ecological footprint amounted to 2.6 global hectares per person in 2020, whereby the biocapacity was only around 1.6.[11] In other words, we are creating long-term risks by jeopardising biodiversity and depleting natural capital. Figure 4 estimates humanity's ecological footprint by type of activity.

Figure 4: Humanity's ecological footprint by type of activity

Source: WWF, Deutsche Bank AG. Data as of September 10, 2020.



Biodiversity involves understanding natural processes as both assets and inputs in our production function.

05 Biodiversity risk assessment

An alternative perspective on the potential costs of biodiversity loss is provided by looking at the associated potential risks.

Figure 5 provides one assessment, looking at the top five risks in terms of both likelihood and impact and how this has changed over time according to the World Economic Forum's Global Risks Report, which is published annually and describes changes occurring in the global risks landscape. Here, environmental risks such as biodiversity loss, natural resource crises and climate action failure dominate and represent the greatest risks.

Figure 5: Top five global risks in terms of likelihood and impact over time

Source: World Economic Forum, Deutsche Bank AG. Data as of January 19, 2021.

Top 5 global risks in terms of likelihood

	1st	2nd	3rd	4th	5th
2021	Extreme weather [Environmental]	Climate action failure [Environmental]	Human environmental damage [Environmental]	Infectious diseases [Societal]	Biodiversity loss [Environmental]
2020	Extreme weather [Environmental]	Climate action failure [Environmental]	Natural disasters [Environmental]	Biodiversity loss [Environmental]	Human-made environmental disasters [Environmental]
2019	Extreme weather [Environmental]	Climate action failure [Environmental]	Natural disasters [Environmental]	Data fraud or theft [Technological]	Cyberattacks [Technological]
2018	Extreme weather [Environmental]	Natural disasters [Environmental]	Cyberattacks [Technological]	Data fraud or theft [Technological]	Climate action failure [Environmental]
2017	Extreme weather [Environmental]	Involuntary migration [Societal]	Natural disasters [Environmental]	Terrorist attacks [Geopolitical]	Data fraud or theft [Technological]
2016	Involuntary migration [Societal]	Extreme weather [Environmental]	Climate action failure [Environmental]	Interstate conflict [Geopolitical]	Natural catastrophes [Environmental]

Top 5 global risks in terms of impact

	1st	2nd	3rd	4th	5th
2021	Infectious diseases [Societal]	Climate action failure [Environmental]	Weapons of mass destruction [Geopolitical]	Biodiversity loss [Environmental]	Natural resource crises [Environmental]
2020	Climate action failure [Environmental]	Weapons of mass destruction [Geopolitical]	Biodiversity loss [Environmental]	Extreme weather [Environmental]	Water crises [Societal]
2019	Weapons of mass destruction [Geopolitical]	Extreme weather [Environmental]	Climate action failure [Environmental]	Water crises [Societal]	Natural disasters [Environmental]
2018	Weapons of mass destruction [Geopolitical]	Extreme weather [Environmental]	Natural disasters [Environmental]	Climate action failure [Environmental]	Water crises [Societal]
2017	Weapons of mass destruction [Geopolitical]	Extreme weather [Environmental]	Water crises [Societal]	Natural disasters [Environmental]	Climate action failure [Environmental]
2016	Climate action failure [Environmental]	Weapons of mass destruction [Geopolitical]	Water crises [Societal]	Involuntary migration [Societal]	Energy price shock [Economic]

Economic | Environmental | Geopolitical | Societal | Technological

Note: The global risk assessment is completed by over 650 members of the World Economic Forum's diverse leadership communities and part of the annual Global Risks Perception Survey.

What is also important is to differentiate between varying types of risk. One often-used assessment distinguishes between physical risk (damage or threat to physical assets due to natural or climate changes), transition risk (business or investment risks on the journey towards a greener economy), and liability risk (reputational issues, breach of standards, etc.). All of these, depending on the degree of impact, can cause economic damage and lead to a realignment of portfolios and economic activity – nature loss becomes a financial risk.

These risks can affect companies (directly) and financial markets (indirectly) in a variety of ways. Disruption of production, raw material and share price volatility or capital destruction are just a few examples, which can lead to credit, market, liquidity, or business risks.[12]

Investment risks are substantial. It is estimated that ~20% of the MSCI World investment universe is directly exposed to transition risks, including "asset stranding", and at least 60% of all companies in the S&P 500 (with a market capitalisation of around USD18 trillion) are exposed to an increased physical risk of climate change.[13,14]

It is also useful to look at the issue of risk from the perspective of the type of environmental damage. WWF's Living Planet Report 2020, produced in partnership with ZSL, identifies five major threat categories for biodiversity: land and sea change, pollution, species overexploitation, invasive species & disease and climate change.[15]

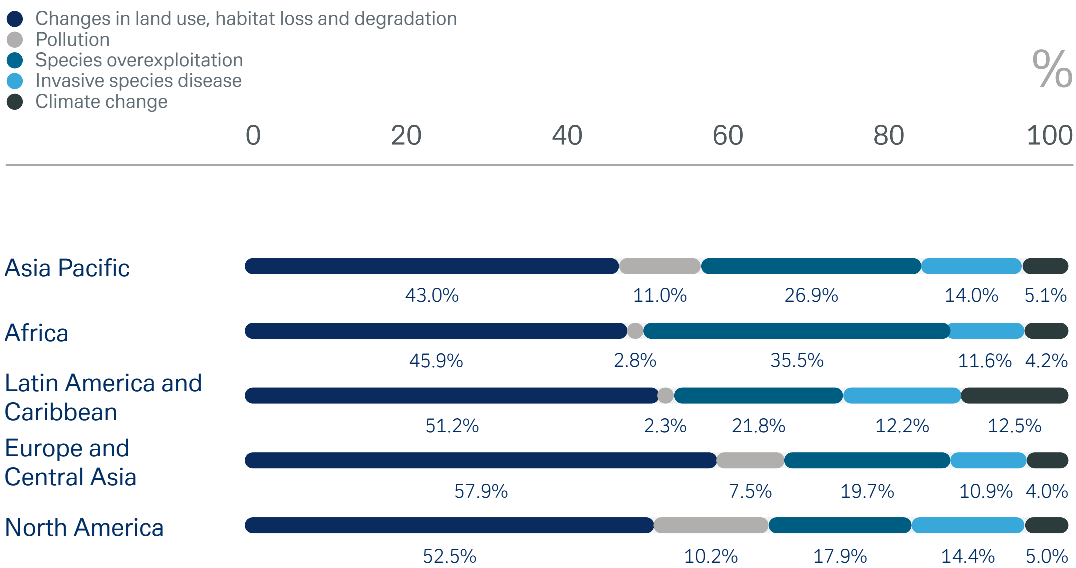
Biodiversity risks can affect companies (directly) and financial markets (indirectly) in a variety of ways.

WWF and ZSL also attempt to identify principal causes of biodiversity loss in each region (Europe and Central Asia, Asia Pacific, Latin America & Caribbean, Africa and North America) as depicted in Figure 6.

Headline numbers from other sources illustrate the size of the problem here. 23% of land is now degraded (e.g. the Amazon has lost 17% of its size in the last 50 years), while agricultural land use is responsible for 80% of global deforestation.[16] The ocean's "dead zones" already encompass an area larger than the UK.[17]

Figure 6: Regional threats to populations

Source: WWF/ZSL, Deutsche Bank AG. Data as of September 10, 2020.

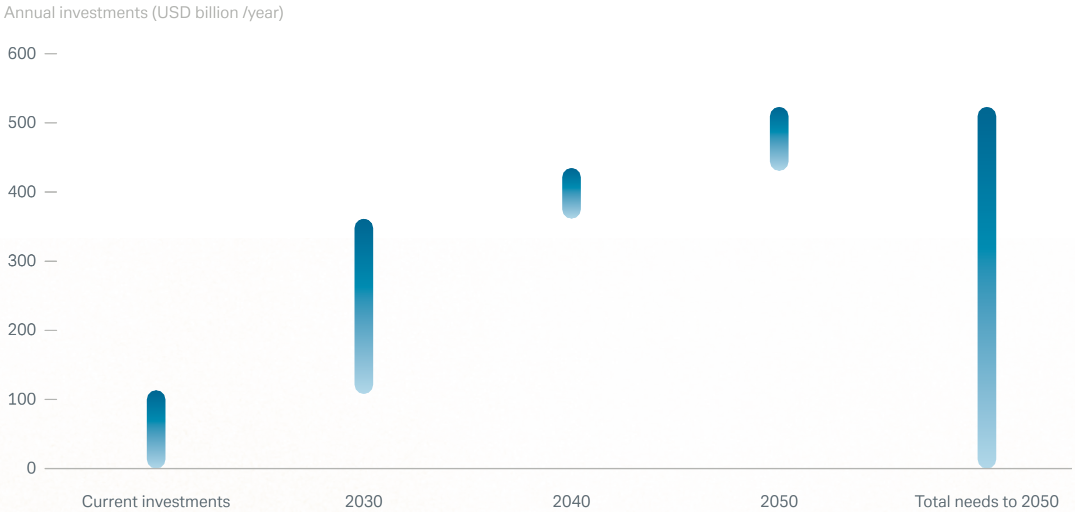


06 Closing the investment gap

Data shows that public investments in biodiversity have increased steadily since 2008 and currently represent 0.19-0.25% of global GDP.[18] Nonetheless, it is calculated (by the United Nations Environment Programme) that USD8.1 trillion of investments in natural capital are required between now and 2050 in order to sustain our natural world and at the same time successfully tackle the interlinked triple planetary crisis. The finance gap stands at USD4.1 trillion between now and 2050, and the annual investment that would be required for structural transformation (technological advancement and innovation) could reach USD536 billion by 2050, reflecting a four-fold increase from current investments (capital flows towards sustainable practises) of USD133 billion (2020) as shown in Figure 7.[19] As an example, forest-based solutions alone, including the management, conservation and restoration of forests, will require alone around USD200 billion in total annual expenditure globally.

Figure 7: Future investment needs

Source: United Nations Environment Programme, Vivid Economics, Deutsche Bank AG.
Data as of May 27, 2021.

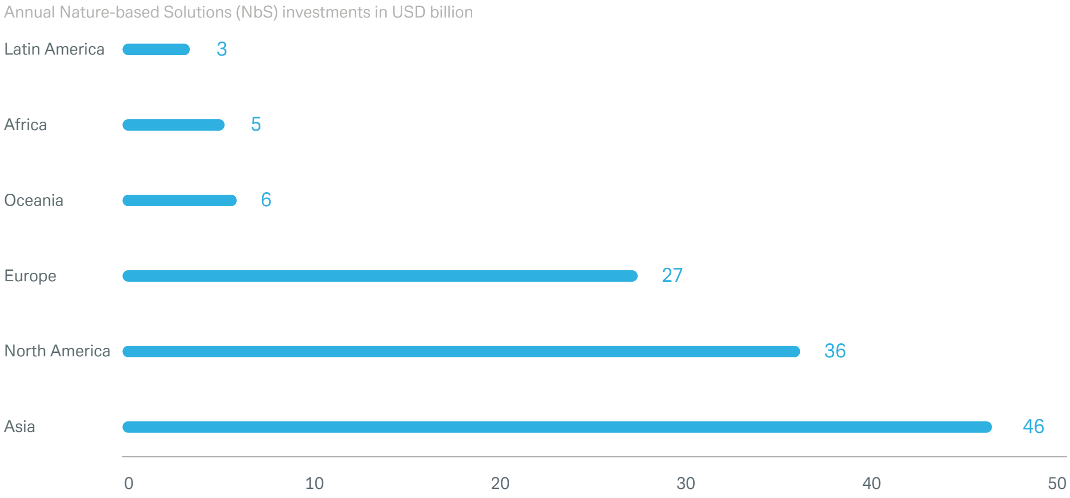


Note: Future investments are related to nature-based solutions in order to close the financing gap and accelerate capital flows while also reducing harmful incentives.

Asia Pacific as a region will require the most investment (at USD46 billion per annum on the basis of these forecasts as shown in Figure 8). The region contains 17 of the earth's 36 biodiversity hotspots, and 30% of Asia's wealth stems from natural capital – compared to 5% for the entire world as higher income countries are less dependent on natural assets.[20,21] If the investment needs are not met, by 2050 over 3 billion people may be living in areas at risk from rising sea levels – building resilience of urban populations is of importance.

Figure 8: Regional breakdown of investment needs

Source: United Nations Environment Programme, Vivid Economics, Deutsche Bank AG.
Data as of May 27, 2021.

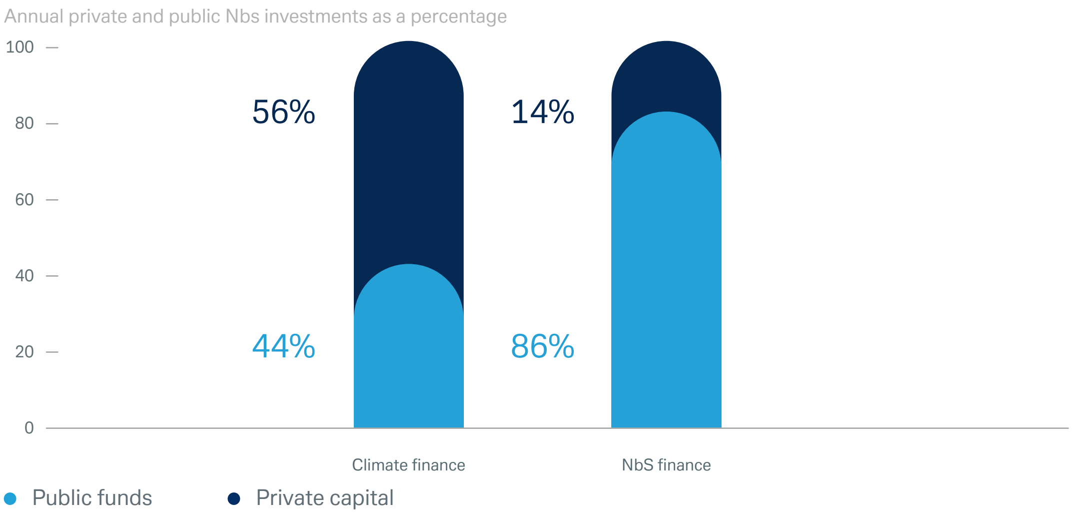


Public expenditure accounts for the majority of the investments in biodiversity to date, with private sector investments only making up 14% of nature-related financing as depicted in Figure 9.

Private sector finance for biodiversity can vary in intent as well as scope and it is worth defining exactly what it is. A World Bank Group definition describes it as the "raising, provision, or management of private capital to conserve, restore, sustainably use, or avoid a negative footprint on biodiversity and ecosystem services". Such financing can be used to "have a positive impact or reduce a negative impact on biodiversity and ecosystem services, and sustain the services these systems provide". The World Bank also distinguishes between two dimensions to private finance for biodiversity. "Firstly, investors are looking for investment opportunities arising from the conservation, restoration, and sustainable use of nature, or 'finance green'. Secondly, investors are trying to direct financial flows away from projects with negative impacts on biodiversity and ecosystem services, and towards projects that mitigate negative impact or pursue positive environmental impacts as a co-benefit."[22]

Figure 9: Nature-based Solutions (NbS) and climate finance

Source: United Nations Environment Programme, Vivid Economics, Deutsche Bank AG.
Data as of September 13, 2021.

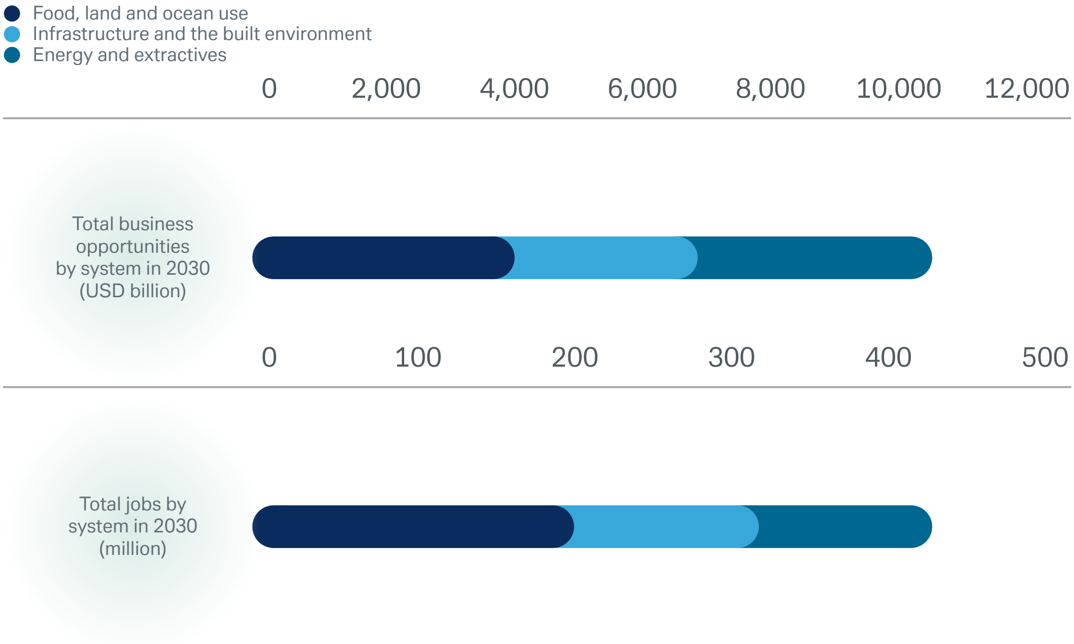


Note: The percentage numbers show the annual investments for private capital and public funds on a relative basis.

It remains important not to lose sight of the economic opportunities. This transition to a nature-positive global economy could generate up to USD10.1 trillion in business value and 395 million jobs by 2030 as depicted in Figure 10, while increasing the resilience to future shocks.

Figure 10: Business and job opportunities

Source: WEF, Deutsche Bank AG. Data as of September 13, 2021.



Overall, we need to recognise the significant investment gap we face in tackling the triple planetary crisis while also emphasising that transformative change must accompany and result from the required investment in the space. So financing should not just fill in existing gaps and "tick boxes", but needs also to incorporate innovation that helps to improve (marginal) productivity, ceteris paribus. This will ensure that the transition process results in a global economy that can deliver growth using sustainable inputs, meaning that output is truly sustainable over the longer term. To start with, the value of the natural world has to be expressed in a price.

The finance gap stands at USD4.1 trillion between now and 2050, and the annual investment that would be required for structural transformation could reach USD536 billion by 2050, reflecting a four-fold increase from current investments.

07

The change process

Investment principles and biodiversity. Protection efforts will become a more integral part of the investment in our natural capital. Currently, only 17% of land and 7% of seas fall under some sort of protection.[23] International and multilateral organisations already play a major role in connecting public and private sectors in efforts to deploy biodiversity investments. For example, the Principles for Responsible Banking (PRB) were developed by the banking industry in collaboration with the United Nations Environment Programme Finance Initiative (UNEP FI).

However, biodiversity may still not be getting the focus it needs. Of the 252 total signatories to the PRB, just 24 identified biodiversity as a significant impact area, and a further six noted it as an impact area. This is significantly lower than other themes, for example climate change mitigation (152 and 10), financial inclusion (87 and 8) and human rights (36 and 10). Of the 30 signatories who cited biodiversity as an impact area, one-third to one-half have policies related to different aspects of biodiversity in place, on key themes as shown in Figure 11.

Figure 11: Commitments to biodiversity amongst PRB signatories

Source: UNEP FI, UNEP-WCMC, Deutsche Bank AG. Data as of September 13, 2021.

Note: Distribution of PRB signatories regarding their different commitments. Commitments from the 30 firms listing biodiversity as a "significant impact area" or "impact area".

These low numbers suggest that we still need to place biodiversity loss in the forefront of the global economy, policy discussions and private investments in order to establish the post-2020 Global Biodiversity Framework of the Convention on Biological Diversity (as the first negotiations will start at the global biodiversity conference later this year and next year). The goal of this convention is to reverse nature loss in the next decade and to safeguard the health of the planet.

Principles will be need to accompanied by partnership to close the investment gap. We have to re-engineer and preserve a marriage between business international organisations, academia, and international organisations.

The European Green Deal, backed by the "Fit for 55" programme, is already a step in the right direction. The next step is the upcoming October 2021 global biodiversity conference (which will be held virtually), to devise a strategy that makes it possible to preserve biological diversity and propose a transition path to a climate-neutral world.

A draft UN agreement envisages that in the next decade at least one-third of the planet should be put under nature conservation protection (the earlier Aichi targets, launched in 2010, clearly need updating). This plan also includes targets for the use of pesticides, cutting plastic waste, channelling c.USD200 billion in developing countries and reducing harmful government subsidies by USD500 billion per year.[24] UN sustainable development goals such as SDG 9 ("industry, innovation and infrastructure") and SDG 17 ("partnerships for the goals") can be seen as pointing the way forward on the need for innovation, transparency and multilateralism: the challenge now is how to convert this into concrete achievements.

Calls for partnership and system change are not new. The Brundtland report back in 1987 noted the difficulties of getting institutions to work together to achieve global and social development.[25] There are echoes of this in calls today by a range of organisations (e.g. the OECD) for policy to be coordinated and pursued more powerfully in order to preserve the environment and natural capital. These calls focus on reducing policy uncertainty, rethinking fiscal policy, and acting vigorously.[26] There is also considerable literature about the dynamics of transformation processes (e.g. "system leaps") to realize economic and social change in a short time.[27] This often focuses on the need to identify guiding principles (via consensus) and the likelihood that "intermediary" transitions (e.g. around "biodiversity") may be more complex that end-goal transitions (e.g. energy use).

In reality, environmental and natural capital are likely to become engrained in economic, investment and political agendas in three broad ways.

First, following the traditional model, new global agreements on sectors that are causing particular harm to natural capital, such as fish harvesting, ocean pollution, excessive water use.

Second, the influencing of individual and corporate attitudes to biodiversity issues via social media and other channels. Increased education, creativity, and innovation can drive transformation in all sectors of society to enable this new relationship to develop and redefine sustainability.[28] This process will have a gender dimension: women put more emphasis on biodiversity and more strongly agree that their investments should have a positive impact on the world (53% of women vs. 40% of men) as discussed in our previous publication "Biodiversity loss: recognising economic and climate threats".

Third, a long-term shift in the philosophical and international legal underpinning of biodiversity debates. For example, an individual bill of rights to natural capital including nature and non-human species has also been suggested by academics.[29]

Data, technology, and disclosure are the key enablers of the first two of these steps, and will tend to reinforce each other. More disclosure requirements will increase the quality and amount of data – and technology can be used to create and develop an increasingly sophisticated set of sustainability-related data and drive deeper insights.

However, while data is important to this process, it is not the end of story. A target-based approach is likely. The conceptual framework within which we assess biodiversity preservation is likely to evolve, with direct implications for investors as well as policymakers and economists. Investors' relatively short history with ESG investing shows how new metrics and concepts can quickly become part of the investment process. Concepts such as natural capital may just be the start of a very big story.

Across all of this, we require prudent sequencing of change. We first need to understand the need for integrity of our ecosystems as a natural asset and measure the value of nature's contribution to the economy, with the aim of ensuring that the benefits are equally distributed. As we move to close the financing gap, investment not only needs to be allocated to the right areas but must also be conducted sustainably. We may incentivise further the introduction of subsidies for sustainable and "green" development and decrease those that harm environmental and societal goals. As we move through the transition period, new technologies and developments should result in innovation which in turn will increase marginal returns from investment. We have severely disrupted the environment: solutions will need to be disruptive, innovative and adaptive to make amends and preserve natural capital for future generations.

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Glossary

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

ESG stands for Environment, Social, Governance, and is the acronym most commonly used for sustainable investments. They measure the sustainability and societal impact of an investment in a company or business.

European Green Deal is a set of policy initiatives by the European Commission with the overarching aim of making Europe climate neutral in 2050.

The G20 is an international forum of the governments and central bank governors from 19 individual countries – Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom and the United States – along with the European Union (EU).

Governance (corporate governance) involves the processes of governing – whether undertaken by the government, firm, market, network – over a social system and whether through the laws, norms, power or language of an organized society.

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time-period.

MSCI World Index is a broad global equity index that represents large and mid-cap equity performance across all 23 developed markets countries.

Nature-based Solutions (NbS) are actions to protect, sustain, restore natural and modified ecosystem and also address socio-environmental challenges.

Natural capital refers to the elements of the natural environment including assets like forests, water, fish stocks, minerals, biodiversity and land.

The Organisation for Economic Co-operation and Development (OECD) has 35 member countries and has the objective of encouraging economic progress and world trade.

The Principles for Responsible Banking (PRB) is a framework for ensuring that signatory banks' strategy and practice align with the commitment society has set out for its future in the Sustainable Development Goals (SDG) and the Paris Climate Agreement.

The S&P 500 Index includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

Stranded asset relates to how environment-related factors (such as climate change policy) could strand assets in different sectors due to environmental challenges, changing resource landscapes, new government regulations, and evolving social norms.

Sustainable Development Goals (SDGs) were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030, it is a collection of 17 interlinked global goals designed to be a blueprint to achieve a better and more sustainable future for all.

United Nations Environment Programme (UNEP) is an environmentally focused authority with programmes focusing on sustainable development, climate, biodiversity, etc.

United Nations Environment Programme Finance Initiative (UNEP FI) is a partnership between United Nations Environment Programme (UNEP) and the global financial sector to mobilise private sector finance for sustainable development.

USD is the currency code for the U.S. Dollar.

World Wildlife Fund (WWF) is an organisation that is committed to conserving wildlife and endangered species.

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