



Focusing on a nature positive future

An introduction to nature for investors

March 2022

Looking to nature

In this research paper, which is the first in a two part series, we provide an introduction to nature for investors. Climate change is an issue that justifiably receives a lot of attention from investors, but nature, an associated and equally important topic, is increasingly receiving attention in its own right.

Below, in this summary page, we set out the key takeaways from this paper.

How do we define nature and nature positive?

Nature embodies both living organisms (biodiversity) and non-living matter, such as water, soils or rocks. **Biodiversity** is defined as all living organisms, including plants, animals and insects.

Nature positive is the idea that **humans can live harmoniously with nature**, in a way that enriches biodiversity, whilst alleviating global risks, such as climate change and pandemics.

Why the increasing focus on nature?

We are seeing the acceleration of a nature breakdown. Humans are using natural resources at an unsustainable rate and our demands of the planet are three times what it can sustainably support.

There will be significant **economic costs to inaction** on nature. According to the World Bank, by 2030, global GDP could decline by >2% a year, under current rates of nature degradation. The time to act is now.

What is the right course of action?

We are facing a **\$4.1 trillion** nature financing gap to 2050, to meet nature related policy goals, according to the UN Environment Programme.

Thankfully, there is already momentum. Global governments are negotiating a post-2020 biodiversity framework, that is set to be agreed by May 2022. This will lead to a nature equivalent of the climate focused Paris Agreement, which investors should look to engage with.

To meet these nature-related policy goals, financing will need to increase four-fold by 2050. Both governments and investors will play a key role and should be engaging with the issue.

There are several investor collaborative initiatives focused on nature. These are tackling various aspects of a nature positive future, from nature-related commitments, to disclosure frameworks, and stewardship. Investors should seek to understand the impact of nature degradation on their portfolios and take steps to mitigate the risks and capture the opportunities that arise from the collective action that we expect to see in the coming decades.

In our second paper in the nature series, due for release during summer 2022, we will make the investment case for nature based-solutions and how investors can integrate nature within their portfolios.

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How do we define nature and nature positive?

A nature positive future

There is increasing attention on nature as an issue for investors, both in its own right and as a response to the global emergency of climate change. Our relationship with nature is deteriorating, with the widespread destruction and degradation of nature, on which we depend.

Nature positive is the idea that humans can live harmoniously with nature, in a way that enriches biodiversity, whilst alleviating global risks, such as climate change and pandemics (World Economic Forum).

This introductory paper is the first in a two-part series. In this paper, we provide an introduction to nature for investors, and in particular, why nature is an important concept for investors, today.

In our second paper in the nature series, due for release during summer 2022, we will make the investment case for nature, by addressing how investors can integrate nature within their portfolios.

Nature (or natural capital)

Nature includes both living organisms (biodiversity) and the non-living matter upon which they depend, including water, soils and rocks.

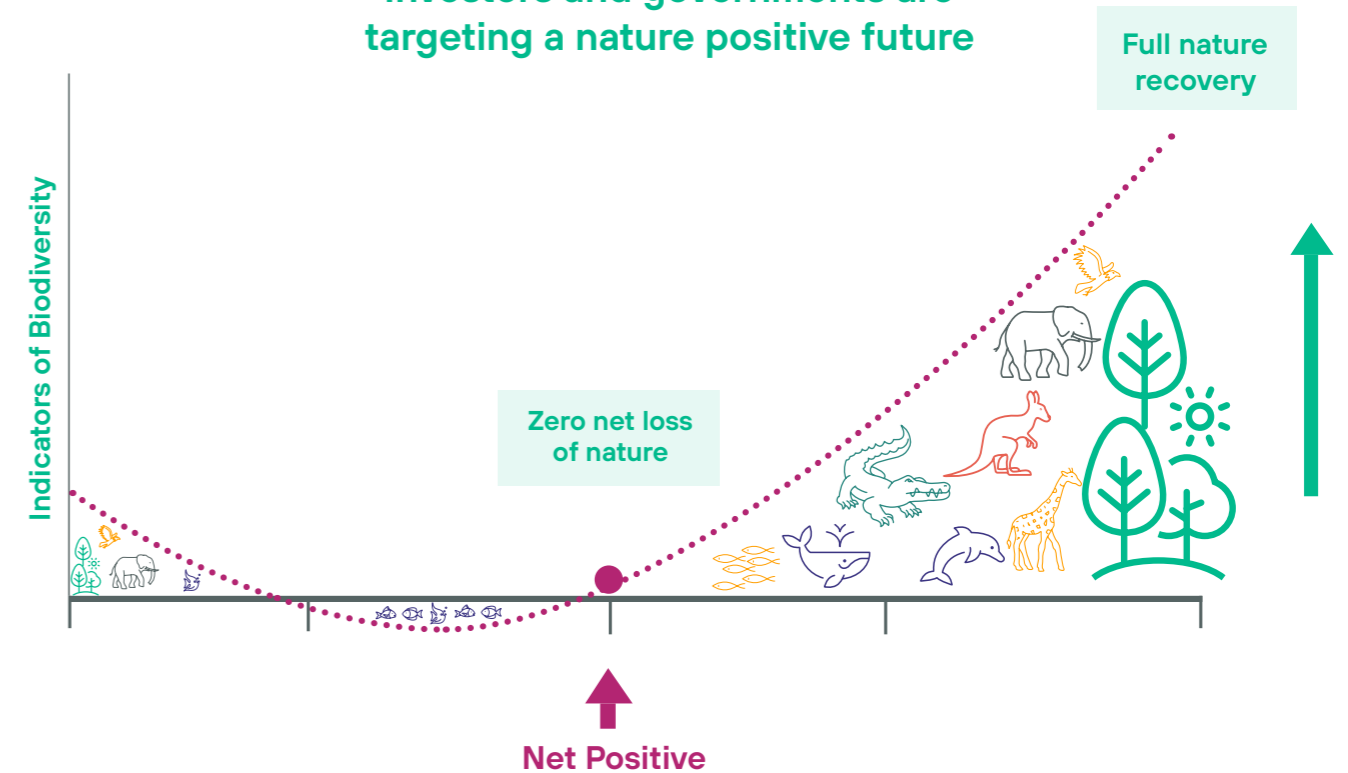
Biodiversity

Biodiversity represents all living organisms, including plants, animals, and insects. Biodiversity measures include the diversity of ecosystems (e.g. oceans, freshwater, coastal and mountainous regions), the diversity of species (the variety of species within an ecosystem) and the diversity within species (the differences which exist amongst individuals of the same species).

Nature-based solutions

Describes actions to protect, sustainably manage and restore ecosystems, which aim to provide simultaneous benefits to both humans and biodiversity. Nature-based investments are typically focused on conservation efforts within, for example, forests, oceans or wetlands.

Investors and governments are targeting a nature positive future



Source: Nature Positive

Why should investors care about nature?

The physical cost of a nature breakdown

The nature breakdown is something we increasingly can't ignore.

We are seeing the acceleration of a nature breakdown. Humans are using natural resources at an unsustainable rate and our demands of nature are three times what the planet can sustainably support (Footprint Network).



The health of nature and biodiversity requires our attention

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, the international scientific body responsible for assessing the health of global biodiversity and ecosystem services, finds evidence of dramatic ecosystem decline. It notes 75% of land has been significantly altered, 66% of oceans are experiencing collective negative impacts, and >85% of wetlands area have been lost. The rate of global species extinction is accelerating and is currently up to 1,000 times the average rate (over the past ten million years).



Nature provides vital services for humans and other living organisms

Some ecosystem services are essential to life on our planet, such as air regulation, with plants providing us with clean air to breathe. Keystone species also play an essential role in shaping the ecosystems in which they live. For example, bees (of which there are estimated to be ~20,000 species) provide pollination services for the ongoing survival of plant species, as well as providing humans with crop pollination benefits estimated at over \$200 billion (World Economic Forum, Helmholtz Association of Germany Research Centres). Some nations currently invest in re-habilitating declining bee populations, such as the billions being spent by the United States government.

Ecosystem services

The nature-related services from which humans receive benefit, including: provisioning services (food, water, timber, fossil fuels); regulating services (air and water filtration, bacterial decomposition, pollination by bees, flood control); cultural services (recreation, tourism and artistic inspiration); and, supporting services (that support life e.g. photosynthesis, nutrient cycling, the water cycle and soil creation).

Keystone species

Species which help define the characteristics of an ecosystem. In the absence of a keystone species, the ecosystem would take on a fundamentally different state.

Planetary boundaries

The Earth's systems, such as the climate and freshwater systems, and the boundaries at which human interference with these systems becomes unsustainable (or a tipping point occurs). Scientists have conducted research on these planetary boundaries, finding that we are beyond sustainable levels for many of these systems, with negative implications for both nature and humanity.

Circular economy

A model of global production and consumption driven by the sharing, re-use and recycling of resources. This is to decouple growth from the use of natural resources.



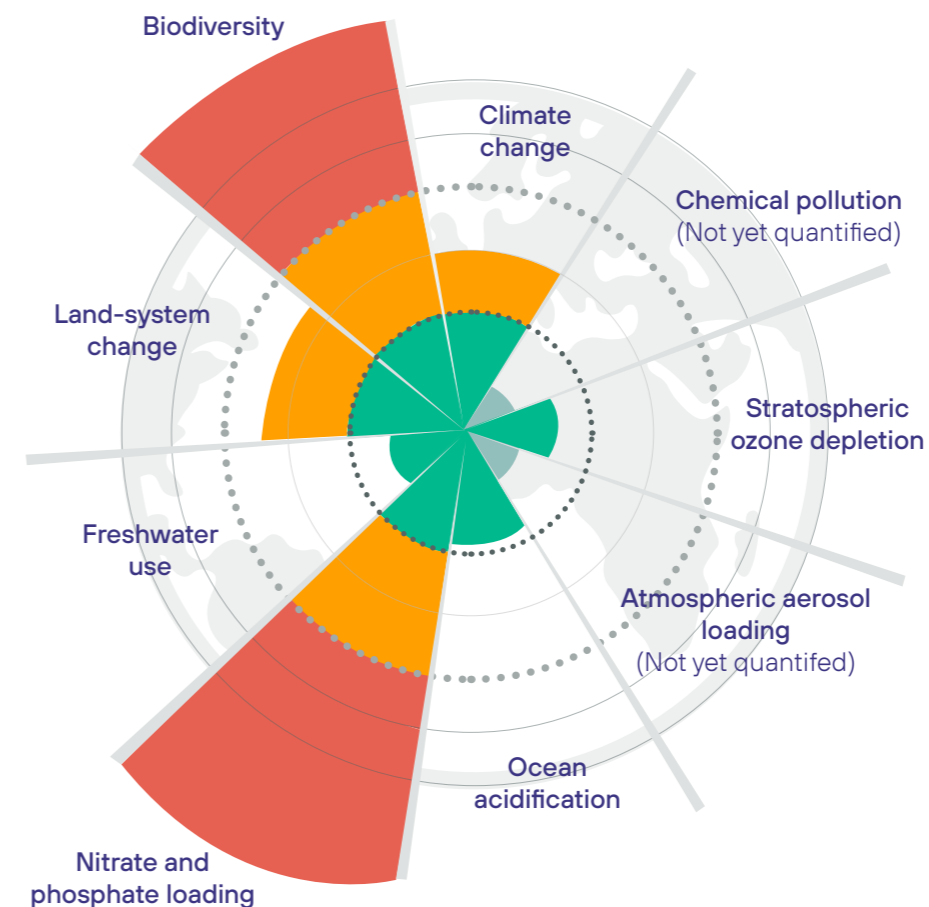
Focusing on climate change alone is too narrow a focus to bring about a nature positive future

Climate change is just one of the ways in which humans are significantly altering our planet. Whilst nature and climate are clearly interconnected (see page 9), we need a holistic view of our nature-related impacts and dependencies, to overhaul the ways in which we interact with nature. This thinking has led to the concept of a circular economy, whereby global production and consumption patterns are decoupled from the use of natural capital resources, with a focus on shared use, re-use and the recycling of resources.



Scientists currently know of nine nature-related planetary boundaries

Many of these are in a critical state and require urgent attention, all are inter-related with our environment and nature, and only one is focused on climate change. Those approaching critical levels include the level of nitrate and phosphate pollution within our ecosystems and the extent of biodiversity loss. There are many causes for these critical states, but land use change is one major driver, with the ongoing destruction and deterioration of natural ecosystems for the purposes of agriculture and man-made infrastructure.



Nature requires our urgent attention. Scientists have defined nine planetary boundaries, of which we are rapidly approaching a critical state for at least four.

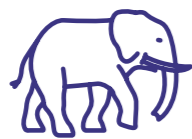
- Below boundary (safe)
- In zone of uncertainty (increasing risk)
- Beyond zone of uncertainty (high risk)

Source: edited based on Steffen et al. (2015)

Why should investors care about nature?

The economic cost of a nature breakdown

There will be significant impacts on the global economy from inaction on nature. As more than half of the world's GDP is moderately or highly dependent on nature, equivalent to \$44 trillion of global GDP (World Economic Forum).



The impacts of a nature breakdown will be severe.

We are in a stage of diminishing returns from nature and its services, given its overexploitation. By 2030, environmental degradation could mean a \$2.7 trillion loss in global GDP a year, equivalent to -2.3% of GDP annually (World Bank). This is recognised as likely being an underestimate given the study has only monitored select ecosystem services.



The impacts of nature and biodiversity loss won't be felt evenly.

Some regions and countries will be disproportionately affected. For example, Sub-Saharan Africa and South Asia could be amongst the worst affected, losing up to 9.7% of national GDP a year, by 2030 (World Bank). Primary drivers include deforestation, a decline in crop pollination services and the overexploitation of fisheries.

The annual economic cost of inaction

Nature degradation could lead to annual global GDP losses of over -2% by 2030



Source: World Bank

The knock-on impacts of a nature breakdown

Nature-related risks and opportunities will present themselves through a variety of channels, both direct and indirect.

It will be important for investors to consider nature holistically, to understand the interconnections between nature and other environmental, social and governance issues we are facing. We provide some key examples in this section.

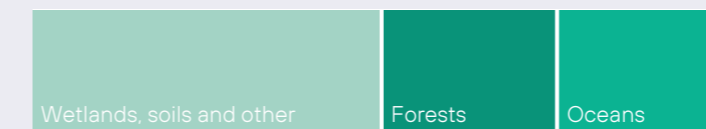
Nature and climate

Nature-based solutions can create win-wins for delivering nature and climate objectives in the portfolio. But there will also be trade-offs when investors adopt a singular focus on emissions offsetting (through reforestation) rather than a holistic view on ecosystems and biodiversity.

Forests play an important role but can't be the sole nature-based solution.

Roughly speaking, forests absorb a quarter of global emissions, with oceans absorbing another quarter, and the remainder being absorbed by soils and wetlands and other sinks. These statistics are however difficult to disentangle. For example, muddy soils account for the greatest absorption of emissions in wetlands, whilst soils also play an important role in forests.

Global carbon sinks by relative size. Only a quarter of global emissions are stored in forests.



Recognising the nature-climate trade-offs.

The Grantham Institute notes that there simply aren't enough trees in the world to offset global carbon emissions, and there never will be. Even if we maximised the amount of vegetation on Earth, we would only offset roughly ten years of greenhouse gas emissions at current rates. (An important reminder to focus on aggressive decarbonisation this decade.) The mass plantation of trees may also result in unintended consequences, such as an increasing local propensity for forest fires, or reductions in the Earth's albedo¹ (Grantham Institute).

¹ Albedo is the amount of the sun's radiation reflected back to space by the Earth's surface. Where trees are planted in e.g. arctic tundras, this could increase absorption with localised warming.

Nature and health

With a focus on social factors, the nature breakdown has implications for health and future pandemic risk. In 2022, the World Economic Forum global risks report deemed infectious diseases as a top risk for the global economy. Viruses, such as Covid-19, Ebola and Zika, are all examples of zoonotic viruses, which can spread easily between people and animals (Centre for Disease Control and Prevention). The continued destruction of natural ecosystems is likely to increasingly push people in contact with animals, increasing the risk of encountering such zoonotic viruses.

The world was unprepared for the Covid-19 pandemic, and the international community will need to be able to better respond to pandemics in the future. The One Health movement would argue that nature-based solutions should be central to the global response to future pandemic risks – with the health of people being inextricably linked to the health of the environment and the health of animals.

What is the right course of action?

Policy action

We are beginning to see momentum in this space, as regulators and policymakers from around the globe engage with nature policy development.

Global governments are currently negotiating a post-2020 biodiversity framework, to be agreed by May 2022. This will lead to a nature-related equivalent of the climate change-focused Paris Agreement.



We already know the rough shape of the agreement.

The first phase of negotiations on the post-2020 biodiversity framework took place in late 2021 under the UN Convention on Biological Diversity. The draft text of the post-2020 framework sets out a 2050 vision to “live in harmony with nature” inclusive of interim targets to 2030. Some of these are particularly relevant to investors, for example:

- Target 15 requiring businesses to halve their negative impacts on biodiversity and increase their positive impacts, to 2030, and;
- Target 10 on the sustainable management on agriculture and forests.



Nature is already represented in international policy.

The UN’s Sustainable Development Goals (SDGs) include goals to 2030 to protect and restore terrestrial, oceans and freshwater ecosystems, speaking to the planetary boundaries. The post-2020 biodiversity framework will however strengthen action through complementary and quantifiable targets. To the right, we set out key interlinkages between the SDGs and planetary boundaries, whilst noting this can be considered a subset of the mapping given the significant number of linkages found.



Policies are also already proliferating at regional to national scales.

The EU is a global leader in this space, having established the EU taxonomy with objectives to protect and restore biodiversity and ecosystems, as well as leading discussions on a possible biodiversity law in 2022. At a national level, 92% of Nationally Determined Contributions (NDCs)¹ include a focus on nature (World Wide Fund for Nature (WWF)), whilst France already requires investor disclosures on biodiversity-related risks and opportunities.

\$4.1 trillion finance gap to 2050

Mapping the SDGs to nature-related planetary boundaries



Investment action

We are not investing enough in nature and its services, today.

There is a \$4.1 trillion finance gap to 2050 for nature-based solutions (UN Environment Programme). Investors will need to play a role in plugging this gap.

Nature-based investments will need to triple by 2030 and increase fourfold by 2050

to combat the dual emergencies of the nature breakdown and climate emergency (UN Environment Programme). This will help to reverse the nature breakdown and move us towards a nature positive future. For example, research has found that a \$1 billion investment is associated with a -0.57% annual reduction in the proportion of threatened species (Seidl et al.).

Investments by the private sector are being dwarfed by public sector spending.

Today, investments in nature-based solutions total \$133 billion a year, with only 14% of nature-based financing coming from the private sector and the remaining 86% from the public purse (UN Environment Programme). This compares with 49% of climate financing coming from private sector sources (Climate Policy Initiative).

Investors will need to play a role in plugging the finance gap.

Portfolio opportunities span asset classes, from real asset investments in forests or agriculture, to green corporate or sovereign bond issues, sustainability performance linked loans, or equity opportunities in listed or private markets. Our second paper, due for release during summer 2022, will speak to this, focusing on real asset opportunities, which is where we see the greatest demand.²

¹ NDCs are national government plans under the international Paris Agreement on climate change, focused on decarbonisation and adapting to the physical impacts on climate change.

² Given the size of the e.g. timberland investible universe (\$200-285bn, according to estimates by Campbell Global and Stafford Capital), other solutions will be important, within real assets and across other asset classes.

What is the right course of action?

The current investor landscape

Investors are already beginning to engage with nature, with clear parallels and synergies to the climate investor movement.

There are several investor collaborative initiatives focused on nature. These are tackling various aspects of a nature positive future, from nature-related commitments, to disclosure frameworks, and stewardship.

We highlight some initiatives targeting momentum in key areas, with a focus on collaboration, and monitoring and disclosure.

Collaboration



Investor commitment: The Finance for Biodiversity Pledge by 84 financial institutions, representing nearly £11 trillion in assets, is committing to take ambitious action on biodiversity and reverse nature loss in this decade.



Stewardship: The World Bank is calling for a Nature Action 100 to articulate a clear industry vision for nature-related engagements with companies. This is focused on corporate engagement, awareness and education, reporting and measurement, and policy advocacy.

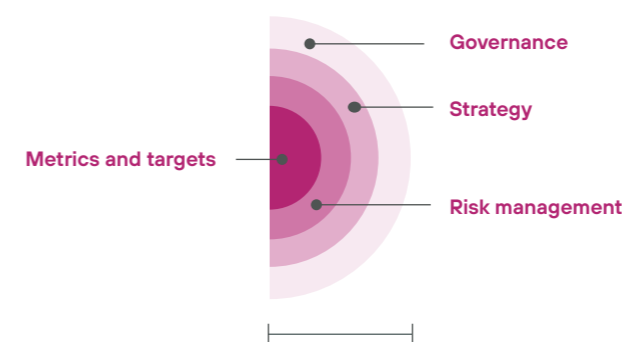
ShareAction has however found that none of the world's largest asset managers has a dedicated policy on biodiversity, whilst just 11% reference the need to mitigate negative impacts on nature within their investment policies. There is therefore still a very significant way to go within the industry.

Monitoring and disclosure



Disclosure framework: The Taskforce on Nature-related Financial Disclosures (TNFD) is developing a framework for disclosing nature-related risks and opportunities. The technical working group set out the four pillars for monitoring and reporting (which align with the Taskforce on Climate-related Financial Disclosures (TCFD)), as well as the need to ensure an understanding of the impacts, dependencies and financial risks and opportunities arising from nature across these pillars.

TNFD: Investors disclosing nature-related risks and opportunities



Nature-related risks: In each of the above pillars, the organisation must consider its impacts on nature, dependencies on nature, and the resulting financial risks and opportunities.



Science basis: The Science Based Targets Network (SBTN) is developing guidance for science-based nature targets focused on land use, freshwater use and ecosystem integrity. Whilst the Science Based Targets Initiative (SBTi) is developing science-based emissions targets for forests, land and agriculture (FLAG), taking into account emissions offsetting opportunities.

Emissions offsetting.

The removal of greenhouse gas (GHG) emissions from the atmosphere. This can include avoiding future emissions (through low carbon technology), or otherwise removing existing emissions from the air (using technologies or natural approaches). Offsetting opportunities provide companies and investors with the opportunity to reduce current or future emissions. Such opportunities can be accessed via bilateral agreements or international carbon trading systems.

Where to Next?

This paper is the first in a two-part nature series.



It has set out an introduction to nature for investors. We have covered the concepts of how we define nature and nature positive, why nature is an important issue for investors to engage with, and what the course of action is, from a policy and investment perspective.

There is a clear need for investors to mobilise, with the nature breakdown reaching a critical state and putting our global economy at risk. From an analysis of the policy environment and investor initiatives, we can see the world is already on the move, but much remains to be done to avert a nature breakdown.

Investors will need to play a role in financing nature-based solutions.



In part two of this nature series, due for release during summer 2022, we will set out the investment case for nature-based solutions. This will cover how investors can integrate nature within their investment portfolios.

We will seek to focus on the best-in-class approaches for nature integration, across the client journey, from beliefs and policies, to the implementation of strategies, and monitoring and reporting. This will think about not only how to address the development of a nature integrated investment strategy, but implementation of possible nature-based investment solutions, and stewardship or collaborative actions to engage on nature.



Contact us

Please contact your Isio consultant or our ESG team, if you are interested in discussing this important topic further.



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