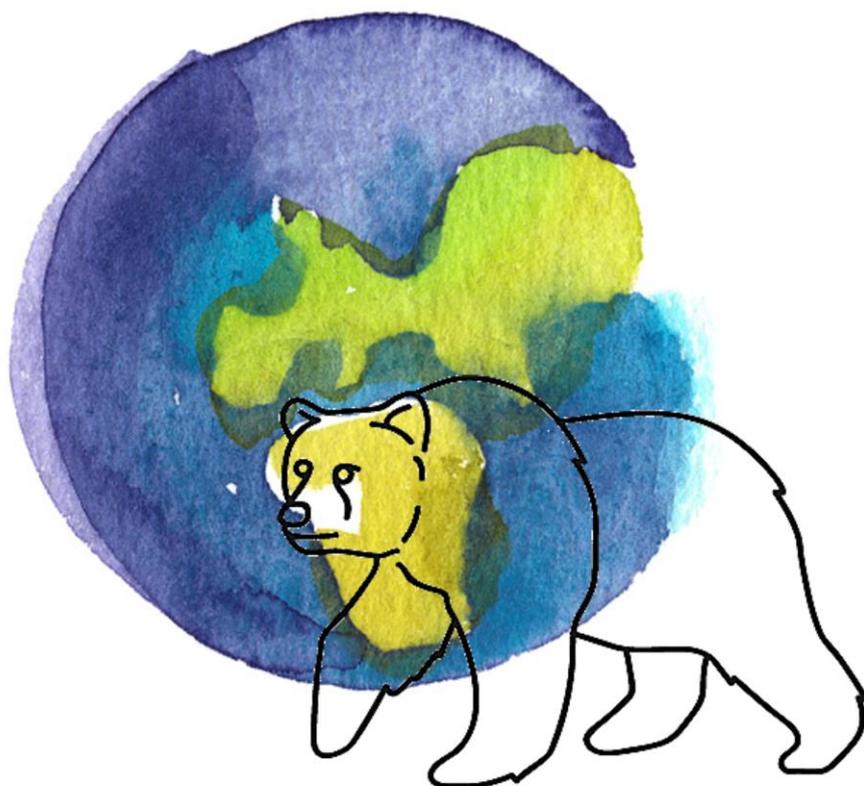


White paper

Biodiversity approach for our proprietary investments

A pathway towards protecting and restoring biodiversity

January 2024



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1. Introduction

Biodiversity, or the variety of life on our planet, is declining at an unprecedented rate. Healthy ecosystems provide essential services such as food, clothing, and medicines, and more than half of global GDP depends on nature and its ecosystems. Deteriorating ecosystems pose a severe risk to our society and economy. This white paper examines the impact of biodiversity loss on society, the economy, and businesses, and focusses on NN Group's proprietary investments.

Biodiversity loss

The acceleration of biodiversity loss is not just a standalone risk, but rather a complex issue with interconnected social and environmental implications. For instance, human rights, including the right to food, clean air, clothing, clean water, and healthcare outlined in Article 25 of the UN Universal Declaration of Human Rights, are fundamentally linked to healthy ecosystems. As biodiversity loss intensifies, it poses a growing threat to human rights, especially for indigenous and local communities who depend on their local environment.

Moreover, the collapse of critical ecosystems is also threatening to accelerate climate change, as about half of the greenhouse gases produced by human activity are absorbed by land and ocean ecosystems, which act as natural carbon sinks and provide 'nature-based solutions' to climate change. However, processes such as species extinction, ocean acidification, and deforestation are reducing the capacity of ecosystems to form these carbon sinks, increasing global warming and our vulnerability to it. Simultaneously, climate change is becoming a significant driver of biodiversity loss.

It is no surprise that both the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) stress the need to understand the interplay of planetary boundaries, particularly climate and biodiversity loss, to increase sustainability. Scientists emphasize that a global focus on climate change alone is insufficient. Therefore, addressing biodiversity loss is essential to achieving sustainable development goals and protecting our planet's health and well-being.

About this white paper

At NN Group, we recognise the urgent need to address biodiversity loss. As a signatory of the Finance for Biodiversity Pledge, we are committed to contributing to the conservation and restoration of biodiversity through our proprietary investment portfolio. This white paper provides an overview of our efforts to protect and restore biodiversity, highlighting the initiatives we have taken to integrate biodiversity in our investment strategies.

Chapter 2 examines the importance of biodiversity loss to our society, economy, and businesses. In Chapter 3, we describe the impact assessment we have conducted for our proprietary investment portfolio. Chapter 4 explains how biodiversity fits with our ongoing work, and Chapter 5 outlines our biodiversity roadmap. We believe that collaboration and innovation within our company and the broader financial industry are key drivers in achieving our future goals.

While integrating biodiversity in investment strategies is a relatively new field, we are exploring synergies in engagement, impact measurement, and ESG integration to promote biodiversity across our investments. We recognise that we are dependent on the development of new methodologies, data, and technology to achieve our objectives.

This white paper updates our stakeholders on our progress and initiatives to address biodiversity loss. By sharing our approach, we aim to inspire and encourage others to join us in preserving the environment and promoting biodiversity for future generations. We welcome your feedback on this white paper as it helps us to continuously improve our approach.

2. What is biodiversity loss and why is it important to us?

International legal and regulatory frameworks

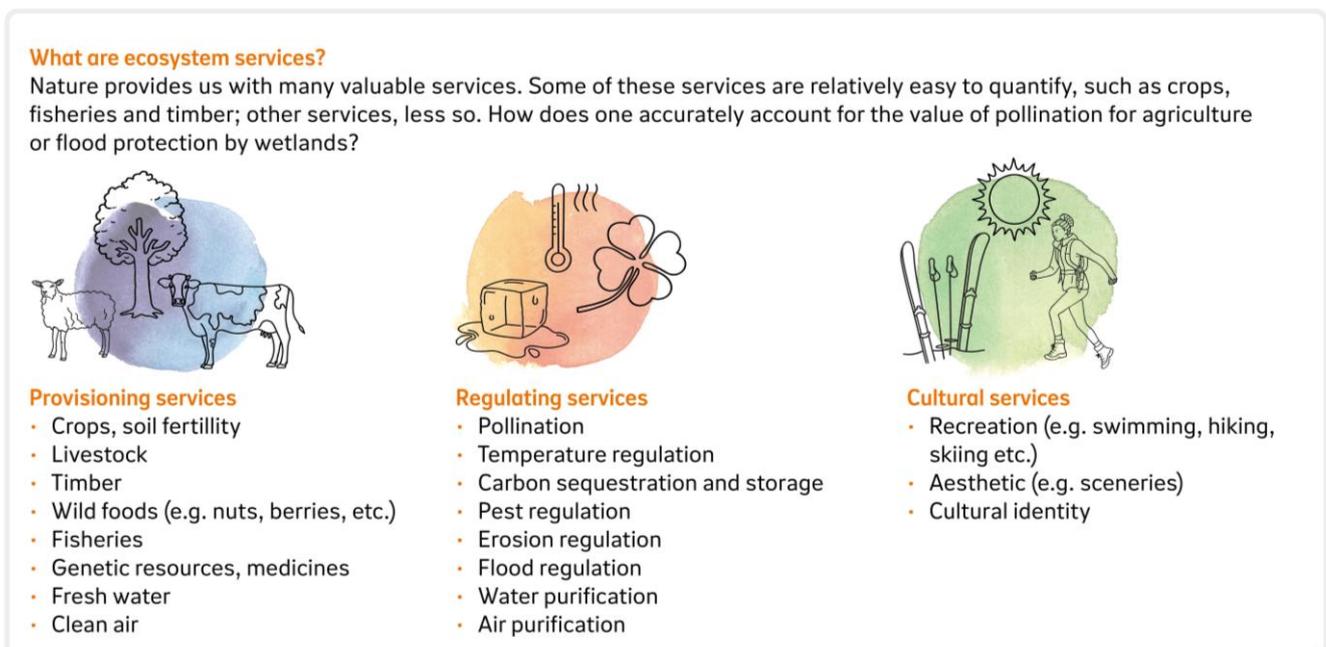
Biodiversity refers to the genetic variation among living organisms and the ecological systems of which they are a part. Without it, the ability of nature to provide vital ecosystem services on which human society, economies and other species rely can be jeopardised. Typically, ecosystem services are divided into three main categories. Firstly, provisioning services such as the supply of food, raw materials, and fresh water. Secondly, maintenance and regulation services, which refers to the natural processes that preserve a stable atmosphere and make sure water, soil and air quality are maintained while diseases and pests are controlled. Finally, there are also cultural services, which refers to the non-material benefits that result from human interaction with the natural environment such as recreation, inspiration, and cultural or spiritual identity.

In recent years we have seen more and more studies conclude that the health of these ecosystems that are so vital for the way our society functions, is in serious decline. In 2019, the Intergovernmental Science Platform on Biodiversity and Ecosystems (IPBES) conducted the most comprehensive study of nature to date and concluded that the state of ecosystems is

declining at a rate unprecedented in human history. The IPBES researchers found that an average of 25% of species in assessed animal and plant groups is threatened suggesting that around 1 million species face extinction, many within decades. This represents a rate of species extinction 10 to 100 times faster than the global average of the past 10 million years and without action it will even accelerate further.

In fact, the Planetary Boundaries Framework, developed by environmental scientists at the Stockholm Resilience Centre, shows that the pace of global biodiversity decline is crossing environmental limits that are critical for humanity's safe operation. The latest update to this framework, published in September 2023, revealed that six out of nine planetary boundaries are currently being trespassed. Prolonged crossing of these boundaries poses significant risk of irreversible environmental changes. Analyses of the framework suggest that biosphere integrity, like our definition of biodiversity, and climate change are highly integrated phenomena that are connected to all other planetary boundaries. This means that solving the climate crisis requires halting and reversing biodiversity loss and vice versa.

Figure 1: Categories of ecosystem services

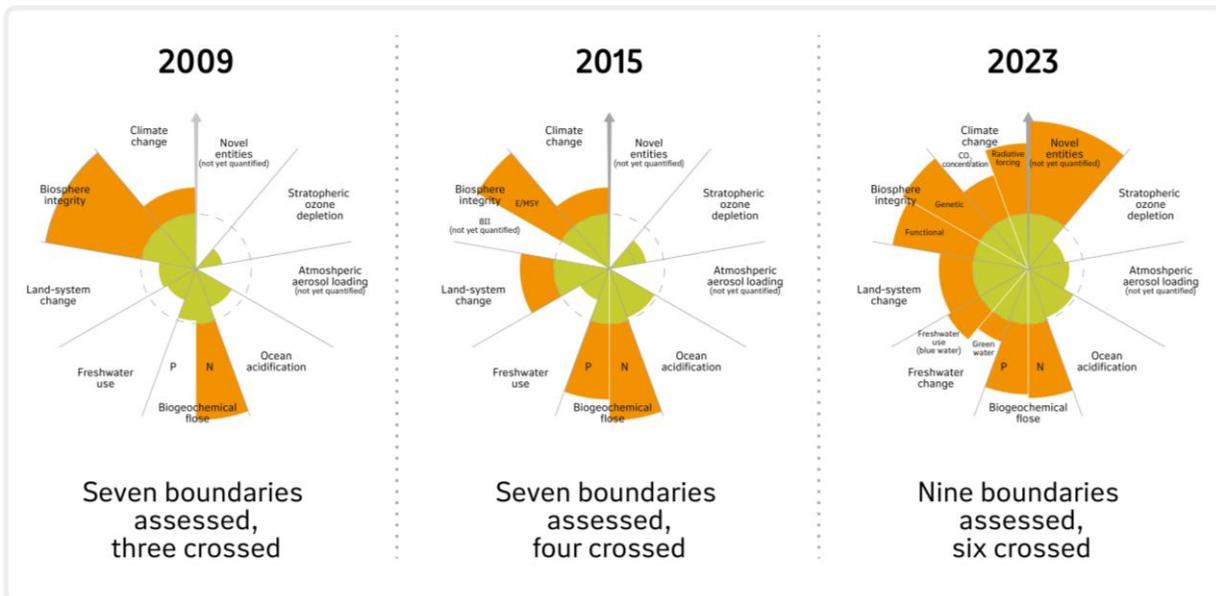


Source: Based on European Environment Agency

The global economy depends on the healthy functioning of ecosystems, which is why the loss of biodiversity has serious implications for our organisation. The double materiality concept helps us understand how biodiversity impacts our organisation as a financial institution. From an inside-out perspective, our financing activities can contribute to key drivers of biodiversity loss through the production processes of the companies we invest in. On the other hand, from an outside perspective, the companies we finance and insure also depend on ecosystem

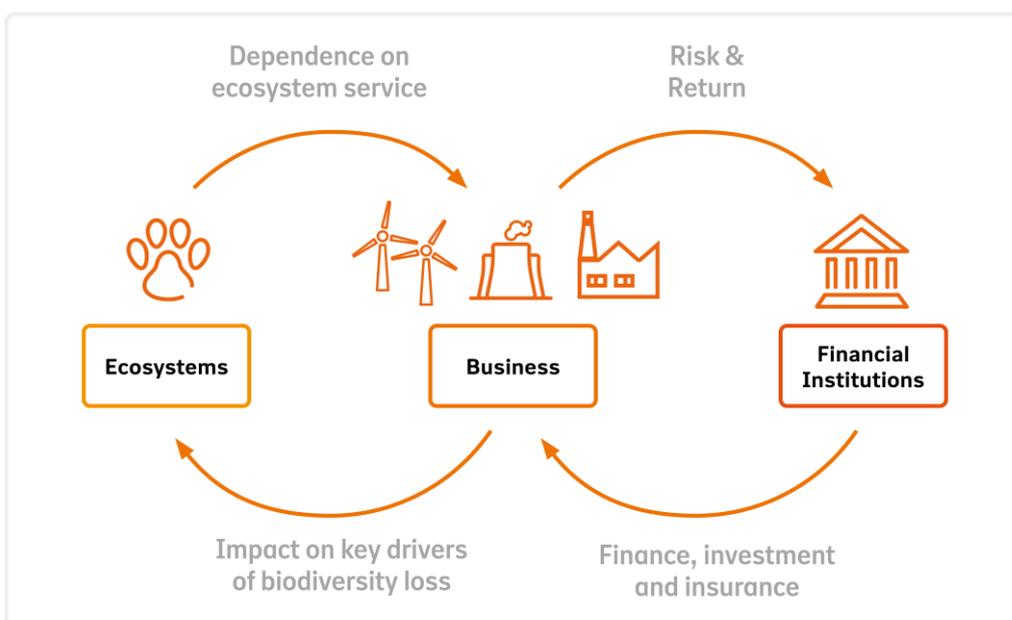
services to operate. This interdependence highlights the social, economic, and financial risks associated with biodiversity loss. By understanding these interactions, we gain a better understanding of both the social economic, as well as financial risk associated with biodiversity loss.

Figure 2: Evolution of the 9 planetary boundaries as defined by the Stockholm Resilience Centre



Source: Stockholm Resilience Centre

Figure 3: Double materiality in a biodiversity context



BOX 1 | IPBES and the concept of ‘key drivers of biodiversity loss’

In May 2019, IPBES published their landmark Global Assessment Report on Biodiversity and Ecosystem Services. The report was the result of 3 years of work by over 400 experts from around the world, to get the most comprehensive picture of the state of global biodiversity up to then. In the report IPBES identified five main drivers of biodiversity loss:

- **Changes in land and water use:** As human populations expand and demands for food, housing, and other resources increase, the natural habitats of many species are being destroyed or degraded. This is especially true for forest and ocean habitats.
- **Natural resource use and exploitation:** Many species are being hunted or over-harvested for food, medicine, or trade. This includes animals like elephants, tigers, and rhinos, as well as fish and other marine organisms.
- **Climate change:** Rising temperatures and other climate-related changes are altering the natural ranges and life cycles of many species. This can lead to declines in populations or even extinction.
- **Pollution:** Chemicals and other pollutants are being released into the environment at unprecedented rates. These pollutants can have a range of negative effects on wildlife, from poisoning to altering reproductive cycles.
- **Invasive species:** Non-native species that are introduced into new environments can have devastating effects on local wildlife and ecosystems. Invasive species can outcompete native species for resources, spread diseases, and alter habitats.

Nature-related issue	Impact driver	Definition
Changes in land and water use	Terrestrial ecosystem use	Examples include area of agriculture by type, area of forest plantation by type, area of open cast mine by type, etc.
	Freshwater ecosystem use	Examples include area of wetland, ponds, lakes, streams, rivers, or peatland necessary to provide ecosystem services such as water purification, fish spawning, areas of infrastructure necessary to use rivers and lakes such as bridges, dams, and flood barriers, etc.
	Marine ecosystem use	Examples include area of aquaculture by type, area of seabed mining by type, etc.
Natural resource use and exploitation	Water use	Examples include volume of groundwater consumed, volume of surface water consumed, etc.
	Other resource use	Examples include volume of mineral extracted, volume of wild-caught fish by species, number of wild-caught mammals by species, etc.
Climate change	GHG emissions	Examples include volume of carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), Sulphur hexafluoride (SF ₆), Hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), etc.
Pollution	Non-GHG air pollutants	Examples include volume of fine particulate matter (PM _{2.5}) and coarse particulate matter (PM ₁₀), Volatile Organic Compounds (VOCs), mono-nitrogen oxides (NO and NO ₂ , commonly referred to as NO _x), Sulphur dioxide (SO ₂), Carbon monoxide (CO), etc.
	Water pollutants	Examples include volume discharged to receiving water body of nutrients (e.g. nitrates and phosphates) or other substances (e.g. heavy metals and chemicals)
	Soil pollutants	Examples include volume of waste matter discharged and retained in soil over a given period
	Solid Waste	Examples include volume of waste by classification (i.e., non-hazardous, hazardous, radioactive), by specific material constituents (e.g. lead, plastic) or by disposal method (e.g. landfill, incineration recycling, specialist processing)
Invasive species	Disturbances	Examples include decibels and duration of noise, lumens, and duration of light, at site of impact
	Biological alterations/interferences	Examples include number of non-native and invasive animals or plants released by species, area of agriculture with genetically modified organisms or reduced genetic diversity, number of animals at risk of catching cattle-transmitted disease by species, etc.

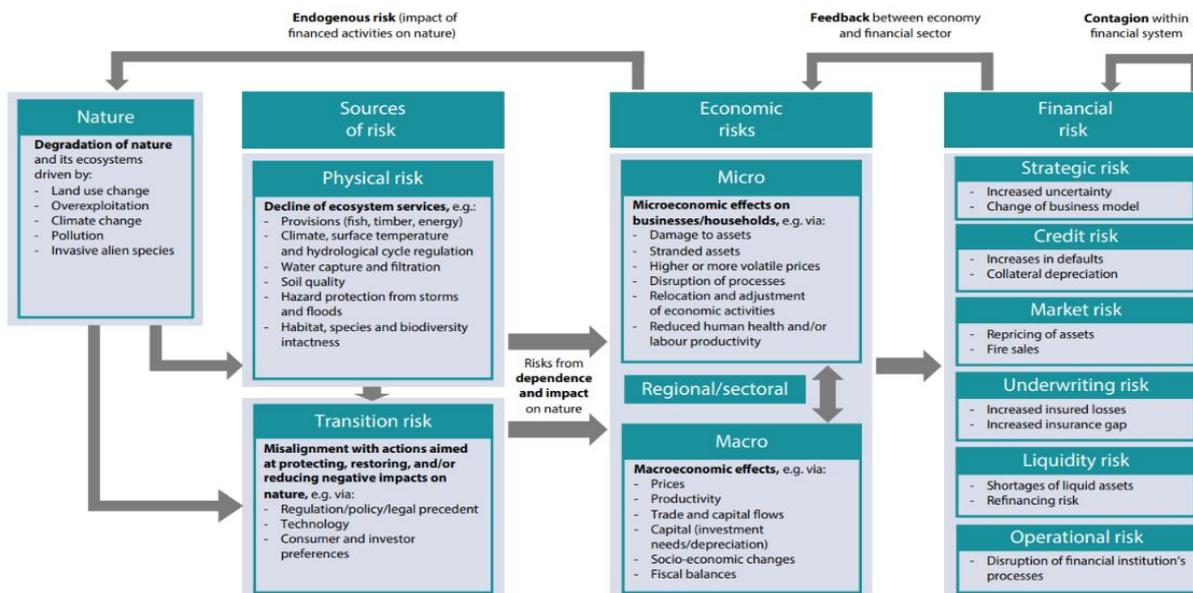
Source: Encore, National Capital Coalition

Understanding nature-related financial risks: physical and transition risks

Assessing the relationship between nature and financial risk can be challenging, but investors can build upon frameworks developed for assessing financial risk related to climate change. Nature-related risk, such as climate risk, includes physical and transition risks. Physical risks in this context are related to the extent to which businesses depend on nature ('outside in') and can be characterised as the direct physical impact of a collapsing eco-system service. Take, for instance, the inability of a power utility to cool its facilities due to water shortages. Transition risks are a consequence of the impact that businesses have on nature ('inside out'). Industries with high impact on biodiversity loss are most at risk of facing tighter regulatory or litigative pressures. In addition, these businesses are most vulnerable to changes in technology and consumer preferences because of efforts to reduce the impact on biodiversity loss.

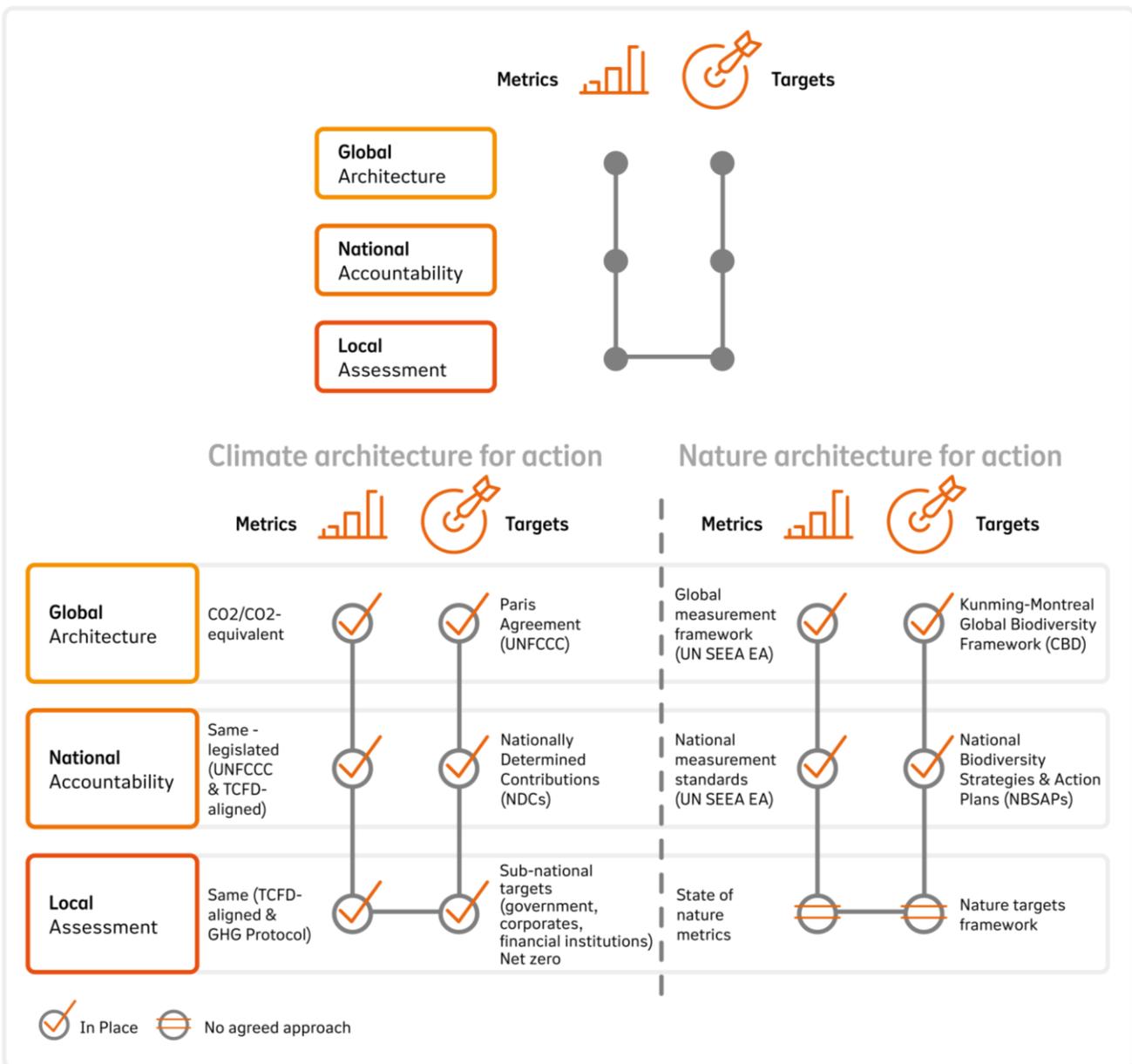
As can be seen in figure 4, these nature related risks, can result in a multitude of effects ranging from increased underwriting losses to liquidity and credit risk. Understanding how we impact and depend on biodiversity is thus crucial not only from a social, but also from an economic perspective.

Figure 4: How nature related risk links to financial materiality



Source: Network of Central Banks and Supervisors for Greening the Financial System (NGFS) adapted from Swartzman, r.et al (2021) A 'Silent Spring' for the Financial System? Exploring Biodiversity-Related Financial Risk in France

BOX 2 | The Kunming-Montreal Global Biodiversity Framework and the emergence of measurement and reporting architecture for nature



Source: Derived from TNDF (2023)

The adoption of the Kunming-Montreal Global Biodiversity Framework (GBF) in 2022 during the UN Convention on Biological Diversity (CBD) marked a historic moment, which some referred to as the 'Paris moment for nature'. The framework aims to guide countries in their efforts to conserve and sustainably use biodiversity, as well as to govern a fair distribution of the benefits derived from nature.

The GBF comprises of twenty-three targets to be achieved by 2030 (as listed below), which should put global society on a path towards achieving four overarching goals by 2050. These goals include halting human-induced species extinction, promoting the sustainable use of biodiversity, ensuring equitable sharing of benefits, and closing the biodiversity finance gap of USD 700 billion per year.

Key 2030 targets from the GBF:

- Protecting and managing at least 30% of the world's land, coastal areas, and oceans. Currently, only 17% of land and 8% of marine areas are protected (Target 2)
- Restoring 30% of terrestrial and marine ecosystems (Target 3)
- Halving global food waste (Target 16)
- Phasing out subsidies that harm biodiversity by at least USD 500 billion per year (Target 18)
- Mobilising at least USD 200 billion per year from public and private funding sources (Target 19)
- Increasing financial flows from developed to developing countries to at least USD 30 billion per year
- Requiring transnational companies and financial institutions to monitor, assess, and disclose risks and impacts on biodiversity through their operations, portfolios, and supply chains (Target 15)

Following the failure to achieve the previous Aichi Biodiversity Targets, the Global Biodiversity Framework (GBF) has placed additional emphasis on making targets quantifiable, and countries are required to monitor and report on a wide range of development indicators. As a result, we expect to see an increase in national policies aimed at protecting nature, with countries developing National Biodiversity Strategy and Action Plans (NBSAPs).

Furthermore, we anticipate an increase in company disclosure, as Target 15 of the GBF requires companies and financial institutions to disclose their nature impacts in corporate reporting. This requirement has prompted the International Sustainability Standards Board (ISSB) to develop guidance on incorporating nature into climate-related disclosure (IFRS S2), and the EU Corporate Sustainability Reporting Directive (CSRD) has already established guidelines for detailed corporate reporting on biodiversity.

While there is no agreed approach on nature metrics and targets, two key initiatives have emerged to help companies assess their impact on nature. The Taskforce on Nature-related Financial Disclosures (TNFD) and Science Based Targets for Nature (SBTN), which are the nature equivalents of TCFD and SBTi respectively, have released guidance this year to assist companies in their efforts.

3. ENCORE assessment

We have conducted an impact assessment to gain a better understanding of the interrelations between our investment portfolio and global ecosystems. For this purpose, we used ENCORE, a web-based platform that helps businesses and organizations assess and manage their impacts and dependencies on biodiversity and ecosystem services. Through this tool, we were able to assess the extent to which our corporate exposures within our investment portfolio are impacting the key drivers of biodiversity loss and on which ecosystem services the portfolio is depending.

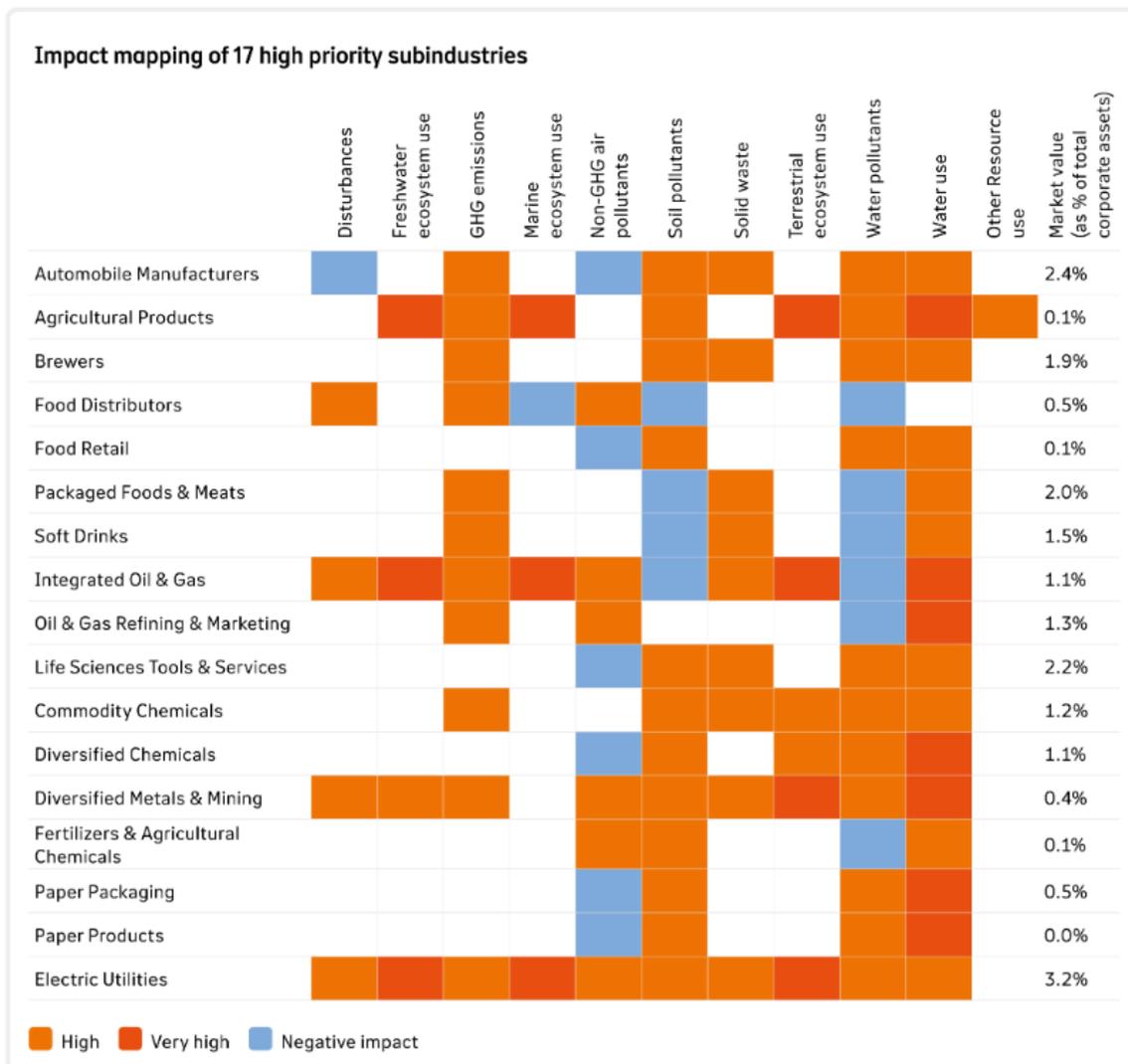
Our analysis focused on our corporate investment portfolio, which comprises of corporate fixed income and listed equity, representing roughly 20% of our total proprietary assets with a

total value of approximately EUR 32 billion as of 31 May 2023. Using ENCORE, we assessed the impacts and dependencies of our portfolio across 167 sub-sectors connected to 11 drivers of biodiversity loss and the 21 ecosystems they depend upon. This allowed us to gain a comprehensive understanding of how our corporate exposures impact biodiversity and ecosystem services at a sub-sector level.

Impact

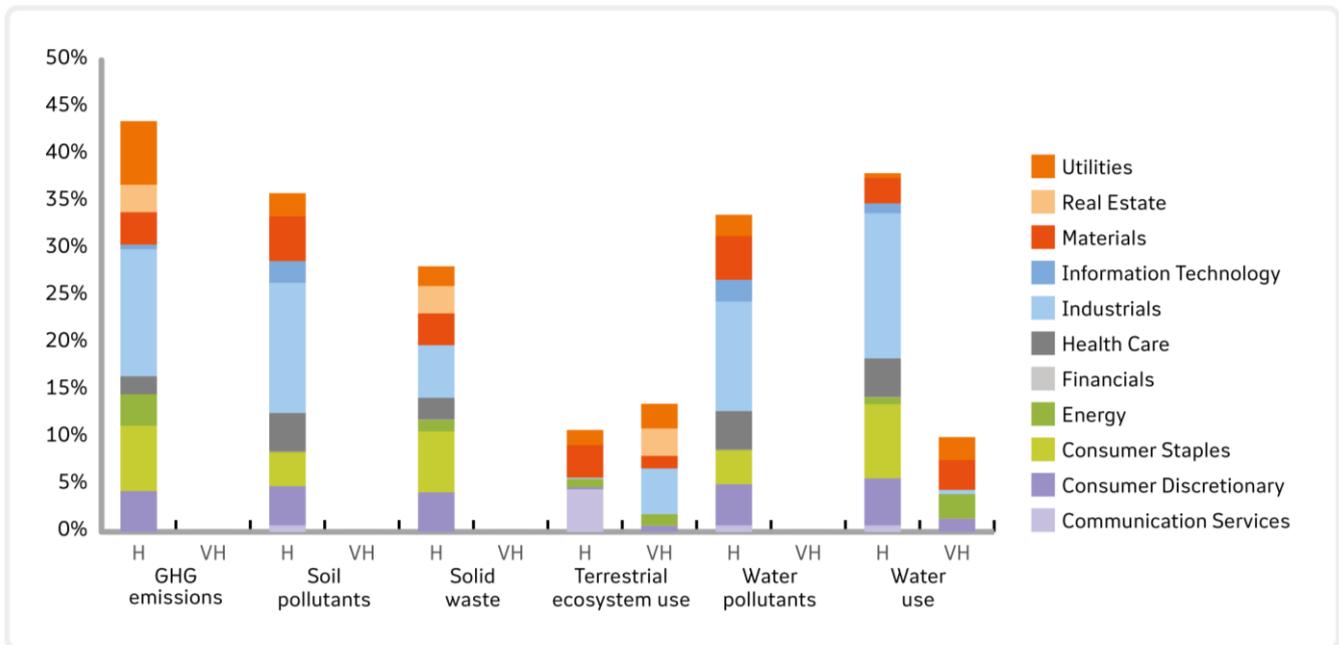
Figure 5 shows how this works in practice. It illustrates how our investments in 17 selected sub-industries affect the 11 drivers of biodiversity loss¹. We selected this sample, because these sub-industries align with the 10 priority sectors identified by Finance for Biodiversity, which together account for about 20% of the

Figure 5: Illustration of impact mapping for NN’s corporate investment portfolio



¹ Note that in a previous section we spoke about five key drivers of biodiversity loss. This is still correct; however ENCORE subdivides some of the main drivers identified by IPBES. Pollution for example is categorised into Non-GHG air pollutants, Soil Pollutants, Water pollutants and Solid Waste.

Figure 6 | NN's corporate investment portfolio: Impact drivers and portfolio value by sector



value of our corporate investment portfolio. While most of these sub-industries have a significant impact on at least one driver of biodiversity loss, the specific drivers and their magnitudes vary across sub-industries. For instance, while the agricultural production has a very high impact on ‘freshwater ecosystem use’, for a brewer’s operations impact lies more in its use of large amounts of water, soil pollution, water pollution, and solid waste production.

In figure 6, we aggregate the results of all sub-industries to the corporate investment portfolio level to gain an understanding of how our total portfolio impacts the key drivers of biodiversity loss. Our analysis shows that approximately 67% of our corporate investment portfolio's value is invested in sectors that have a ‘high’ or ‘very high’ potential impact on one or more of the key drivers of biodiversity loss.

The high impact sectors include Chemicals, Food & Beverage Products, Electric Utilities, Construction, Metals & Mining, and Paper & Forestry. Companies within these sectors are at ‘high’ risk of contributing negatively to biodiversity loss through GHG emissions, water and soil pollutants, and the use of water. Additionally, there is a risk of involvement in business activities that have a ‘very high’ negative impact through terrestrial ecosystems and water use. This is particularly prevalent in sectors like electric utilities and mining, which require large amounts of water.

Meanwhile, in the construction, infrastructure, mining and agriculture sectors, the impact on ecosystems is often ‘very high’ as these industries make use of significant areas of land

(‘terrestrial ecosystem use’). As we have explained before, material impact on the drivers of biodiversity loss means that companies active in these sectors are particularly exposed to transition risk, as regulators are most likely to intervene in the sectors with the largest impact. Please note that this analysis is at sub-sector level, hence the impact of the individual companies NN Group is invested in could differ and has to be further analysed.

Dependencies

The next part of the analysis examines how the companies we invest in rely on the 21 ecosystem services that are part of the ENCORE database. Figure 7 illustrates the mapping of the 5 most dependent sub-industries in our analysis. As indicated by the mapping table, all selected sectors show a ‘very high’ dependence on surface or groundwater provisioning. Notably, our previous analysis revealed that numerous sub-industries in our portfolio had a considerable impact on water, either through usage or pollution of water sources, confirming the importance of our engagement efforts in this area.

An often-used example to explain how companies can be dependent on eco-system services, are the pollination services that are relied upon by over three-quarters of the most crucial food crops. Finally, we see that the Renewable Electricity sub-industry is also dependent on several eco-systems. This especially holds for the hydropower industry to which we do not have a large exposure. Wind- and solar energy provision is exposed to a lesser degree, but still depends to a ‘very high’ degree on climate regulation services.

Aggregating the results to the corporate investment portfolio level (figure 8), we find that 32% of our corporate investment portfolio has a 'high' or 'very high' dependency on one or more ecosystem services. The ecosystem services that our portfolio has the most exposure to are the provision of ground- and surface water, and flood & storm protection.

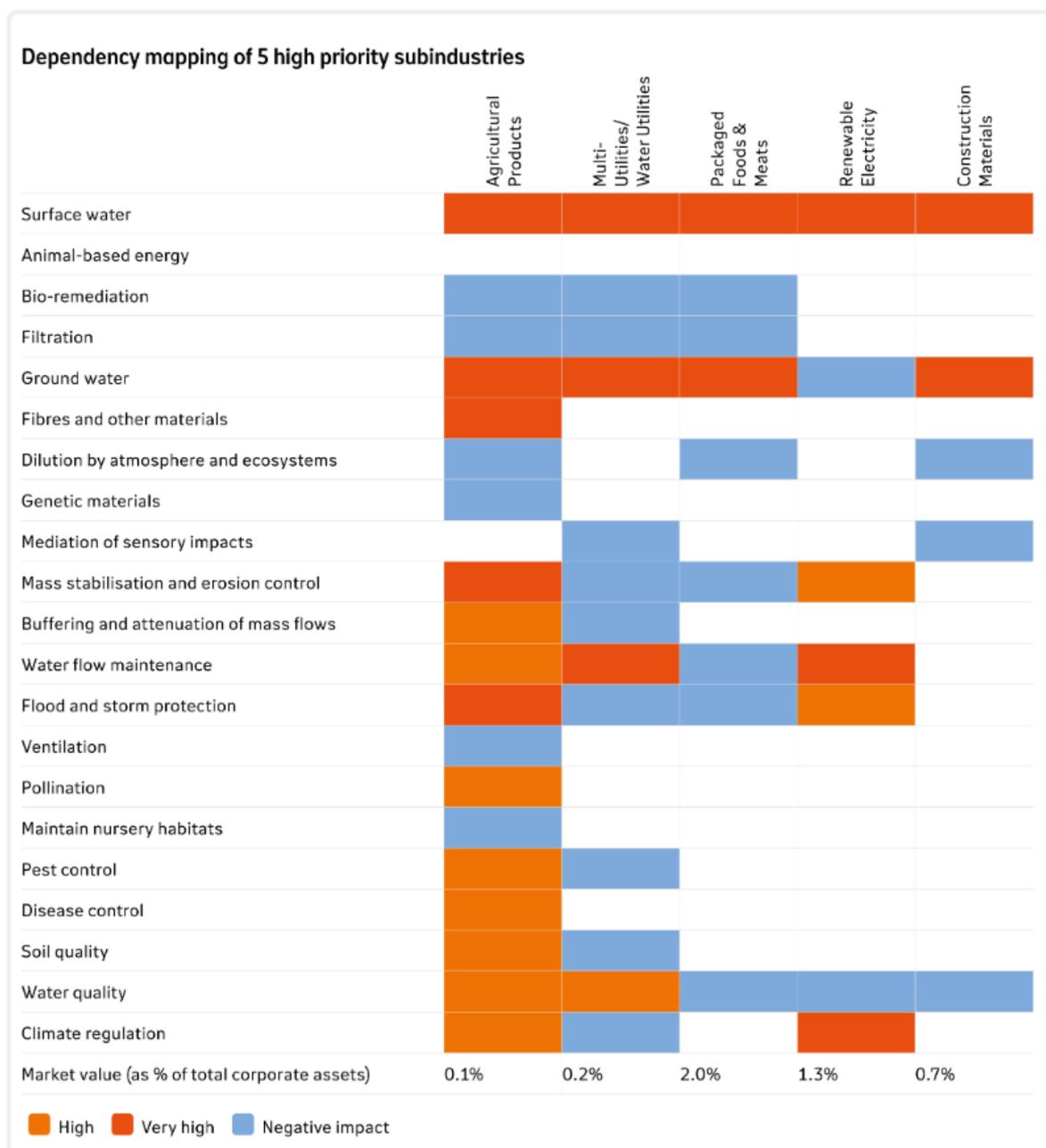
A collapse in ecosystems providing flood and storm protection poses a 'physical risk' especially to companies that rely on physical infrastructure such as those active in the Utility and Telecom sectors, while ground- and surface water is very material for the production processes of brewers and producers of food & beverages.

What we have learned from using ENCORE

ENCORE's data has helped us identify the sectors critical to our biodiversity strategy. Specifically, we have found that the provision of ground- and surface water, as well as flood and storm protection, are the ecosystem services that our corporate investment portfolio depends on most. This confirms the importance of our engagement efforts in this area.

The impact analysis has also helped us identify the sub-sectors that face the greatest risk of increasing regulatory pressure. Consequently, these are also the sub-industries where we should see the largest potential for positive impact and engagement. As discussed in the methodology and limitations section below, we

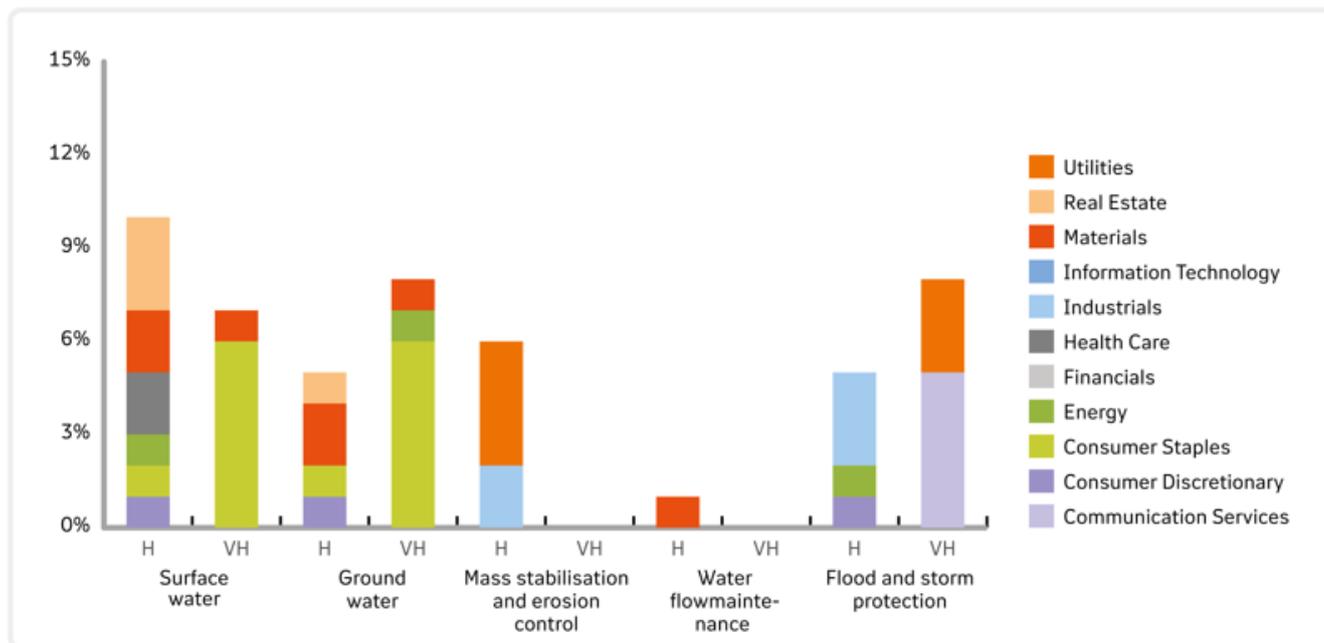
Figure 7 | Dependency on key eco-system services for 'most dependent' sub-sectors for NN's corporate investment portfolio



find that ENCORE provides a very useful first step in assessing impacts and dependencies on nature from a top-down perspective. However, it is important to stress that further analysis is needed to assess in detail how individual companies impact and rely on nature.

appropriate production process. We carefully selected the suitable production process per company, considering multiple sub-processes and applying the prudence principle when a company was involved in multiple production processes. However, this approach could lead to inaccurate industry and

Figure 8 | NN's corporate investment portfolio: % of corporate assets dependent on ecosystem services by sector



Methodology and limitations

The ENCORE analysis was conducted to evaluate potential risks, impacts, and dependencies of our corporate investment portfolio across a range of industries. To perform the analysis, we mapped our holdings to GICS sub-industries using a proprietary industry classification system. However, it is important to note that companies can have multiple production processes that span different sub-industries, resulting in them being classified in a particular sub-industry, even if it is not their primary business activity. For instance, a company that produces both pharmaceuticals and medical devices may be classified in the pharmaceutical sub-industry, even though a significant portion of its revenue comes from medical devices.

In cases when a company is mapped to multiple sub-industries, ENCORE requires the user to manually map each company to the

sector weightings in the portfolio, which could impact the analysis performed using ENCORE.

Another important limitation to be aware of is that the ENCORE tool provides an average estimation of the impact of production processes within a sector on biodiversity loss drivers. However, this approach does not allow for assessing how individual companies impact and rely on nature. Therefore, to gain a more comprehensive understanding of the biodiversity risks and opportunities within our investment portfolio, we need to complement our top-down analysis with a bottom-up approach that involves engaging with companies to understand their specific biodiversity risks and opportunities. This allows us to gain a more comprehensive understanding of the biodiversity risks and opportunities within our investment portfolio and to make informed investment decisions that support sustainable practices and the conservation of biodiversity.

4. How biodiversity fits in our ongoing work

To further develop our biodiversity approach, we are leveraging the foundational elements that have already been established. This includes our established Responsible Investment (RI) governance framework, ESG integration model, and experience with stewardship activities like engagement. In the coming period, we plan to leverage this foundational work to improve our efficacy and grow our impact.

RI governance

Our existing RI governance framework will support the process of setting targets and implementing our biodiversity approach. Any policy updates or objectives related to biodiversity are discussed and approved by our RI Committee. The committee is chaired by the group Chief Investment Officer (CIO) and includes the Chief People, Communications, and Sustainability Officer (CPCSO) and the Chief Risk Officer (CRO), both of whom are also members of the Management Board of NN Group. Additional RI Committee members include representatives from the RI Team and Investment Risk Management. In addition to RI Committee approval, any material policy updates related to biodiversity will also require approval from the Management Board.

To promote best practices on biodiversity across the organisation, NN Group established a cross-functional Biodiversity Working Group in 2023. The working group comprises representatives from Sustainability, Responsible Investment, Bank, Risk Management, Insurance Underwriting, and other business units. In addition to overseeing internal alignment and oversight, the working group promotes knowledge exchange and raises awareness of biodiversity among NN's broader stakeholder group.

Active ownership

Active ownership is a key part of NN Group's responsible investment approach. We recognise that exercising voting rights and engaging with our investee companies promotes good corporate governance, which enhances long-term value and builds a more resilient investment portfolio.

Our engagement approach varies depending on the company case, our investment exposure, and our ability to influence positive corporate behaviour. We distinguish between Controversy and Thematic engagements and delegate most of our engagement activities to an external engagement service provider and external asset managers. Additionally, NN Group's RI team conducts collaborative engagements and/or direct engagement conversations. For additional information on our approach, please refer to NN's [Active Ownership Report](#) and NN Group's [Engagement Policy for Proprietary Assets](#).

Amongst our thematic focus areas are the topics of Biodiversity and Water. In 2023, we joined various engagement initiatives, including the Nature Action 100 initiative, Morningstar Sustainalytics' Biodiversity & Natural Capital engagement programme, and the CERES Valuing Water Finance Initiative. Through our involvement we aim to promote effective management and governance systems that mitigate risks associated with environmental challenges. Please refer to box 3 for an overview of our participation in these initiatives.

To complement these engagement initiatives, we have also partnered with Deltares, WWF, SCOR and Achmea IM in the Bridge project. This project is a continuation of our partners' 2022 report, 'Bridging the Gaps in ESG Water Data to Create Opportunities', which focused on identifying gaps in ESG data on water and steps to enable water to have a more mature place in responsible investment practices. In Phase 2, launched in September 2023, we will build on the findings from Phase 1 (2022) by focusing on two watersheds that play a critical role in global supply chains, biodiversity, and human development and are known hotspots for water stress. See box 4 for more information.

BOX 3 | NN's involvement in collective engagement initiatives

Nature Action 100

Nature Action 100



- NN Group joined the Nature Action 100 initiative in September 2023.
- Global investor program to reverse nature and biodiversity loss and encourage companies to take more ambitious actions to protect nature.
- Launched by a group of investment firms and co-led by Ceres, IIGCC, Finance for Biodiversity Foundation, and Planet Tracker.
- The initiative identified eight sectors that are systemically important in reversing nature and biodiversity loss by 2030.
- The expectations outline six actions in the areas of:
 - Ambition;
 - Assessment;
 - Targets;
 - Implementation;
 - Governance; and
 - Engagement
- We will be participating in three company engagement investor groups, with the aim of leveraging our investments to positively influence company progress on their progress in this area.

Biodiversity & Natural Capital Engagement Programme



- Morningstar Sustainalytics' engagement programme that seeks to strengthen issuers' management of biodiversity-related impacts, dependencies, and opportunities.
- Uses an outcome scorecard to guide dialogue and track progress.
- The framework includes five outcomes, with four corresponding to the core pillars of the Task Force for Nature-related Financial Disclosures (TNFD), i.e. Governance, Strategy, Risk management, Metrics and Targets. Additional outcome on disclosure aims for key information on biodiversity to be disclosed to stakeholders.
- As a participating investor, NN Group is represented by Morningstar Sustainalytics in the programme.
- We will actively monitor and/or participate in ongoing engagements with companies on NN's priority engagement list and where we have significant investment exposure.

CERES Valuing Water Finance Initiative



- NN Group joined the Ceres' Valuing Water Finance Initiative in 2023.
- This is a global investor-led effort that aims to engage companies with a high-water footprint to value and act on water as a financial risk.
- The initiative developed a water valuation framework and identified 72 companies to engage with.
- Investors encourage companies to adopt and implement the **Corporate Expectations for Valuing Water**, which sets out expectations in the following six areas:
 - Water quantity;
 - Water quality;
 - Ecosystem protection;
 - Access to Water/Sanitation;
 - Board oversight;
 - and Public Policy engagement
- We currently participate in two investor engagement groups and continue to monitor the possibilities of additional engagements based on investment exposure and potential for positive impact.

BOX 4 | Engaging food production and retail companies on biodiversity

Companies involved in agricultural value chains are highly exposed to risks from their impact and/or dependencies on biodiversity. Some companies are directly exposed by their own operations, while others are exposed through complex supply chains. As part of Morningstar Sustainalytics' Biodiversity engagement programme, NN Group's external engagement service provider seeks to promote good governance of biodiversity-related risks and opportunities to reduce negative impacts and promote nature-positive outcomes.

The programme has initiated engagement with several companies in our proprietary investment portfolio, including three companies in the food products and retailers' sector that have taken steps to address biodiversity-related risks and opportunities. Given the sector's significant (adverse) impact potential on nature and/or biodiversity loss, companies in this sector are of particular relevance to the biodiversity theme.

Based on Sustainalytics' engagements, we see that companies in the sector are at different stages in identifying and managing their biodiversity-related risks and opportunities. The first company has identified 'Land and Water' as a key materiality topic and aims to protect natural resources and find solutions for sustainable land and water use. The company has established an ESG governance structure and a policy to achieve a deforestation-free supply chain.

The second company recognises biodiversity as a material risk and opportunity and has established a strategic approach to addressing key biodiversity issues. The company has set science-based targets for nature and has identified and developed metrics and performance targets. However, an important shortcoming is the lack of expertise among the company directors on nature-related risks and opportunities.

The third company is at an earlier stage in its biodiversity monitoring process, building its team's capacity on biodiversity, and exploring initial risk assessments. The company has a position statement in relation to how it approaches biodiversity and has focused on deforestation in key commodities.

While each company is at a different stage in assessing its impact on biodiversity and its biodiversity dependencies, each has recognised its importance to their business and stakeholders and is taking steps to strengthen their approaches. Through Sustainalytics' programme and our direct engagements in programmes such as Nature Action 100 or the Ceres Valuing Water Initiative, NN Group will continue to encourage sector-specific goals and targets for the companies in our proprietary investment portfolio for enhanced alignment with our biodiversity ambitions.



BOX 5 | Biodiversity-climate nexus

NN Group has taken steps to strengthen efforts in investor initiatives in water and natural capital by joining the Bridge project. This research project complements NN's membership in the Ceres Valuing Water Finance Initiative and aims to deepen the collective understanding of water-related risks. Together with other participants Deltares, Achmea Investment Management, SCOR and WWF, NN wants to encourage a shift in how investors understand and consider context-specific, water-related risks.

The study will focus on critical watershed areas in Sao Paulo (Brazil) and Chennai (India), which have been experiencing water stress for a prolonged period. Chronic water shortages, caused by water scarcity and drought conditions, have resulted in severe shortages in these areas, negatively impacting businesses and local communities. As climate change intensifies, drought conditions are expected to worsen, posing significant challenges for businesses operating around these water basins. In both areas, a broad range of economic activities is represented, such as the agricultural and manufacturing sectors in Sao Paulo, and technology, textile, and automobile manufacturing industries in Chennai. Due to the interconnectedness of global supply chains, local water issues can have an impact on global commodities and businesses as well.

The Bridge project aims to develop a new approach to mapping water-related risks by combining current and future basin water risks, such as water scarcity, droughts, or floods, with water-related performance of companies. This includes how companies manage or impact water resources, including how they use, conserve, or pollute water. By applying more location-specific tools and conducting a systems analysis of cascading risks, the study aims to bridge the gap between location-specific risks and portfolio-wide risks. This approach will provide investors with a unique perspective to engage with investee companies on water-related performance in the future, and to better understand the long-term financial implications of water risks to their portfolios.



ESG integration

NN Group believes that ESG factors, such as biodiversity loss, can have a material impact on the long-term performance of our proprietary investment portfolio. Therefore, we require external asset managers to incorporate ESG risks, including biodiversity risk, in their investment analysis for our assets. As such, in both public and private markets, our asset managers consider specific ESG risk factors, including the impact an investment has on biodiversity, in their investment analysis.

In our public market portfolios, our asset managers use a materiality framework to identify the most relevant ESG risk factors for a particular sector. Nature-related risks are highly relevant for sectors such as Agriculture, Consumer Products, and Paper & Pulp. For these sectors, our asset managers consider risk factors such as raw material sourcing, pollution, water and wastewater management, and ecological impact and land use.

However, in sectors such as Technology, our asset managers consider other issues to be more material according to the materiality framework. For example, data privacy and cybersecurity are deemed to be more critical factors in the Technology sector. By using a materiality framework, our asset managers can effectively prioritize ESG risks and opportunities in each sector, enabling us to make informed investment decisions that support sustainable practices and the conservation of biodiversity.

In the private domain, where ownership tends to be larger, there is often capacity to directly engage with borrowers. This allows us to understand their exposure to new risks and their approach to mitigating those risks. We find that engaging with borrowers is most effective during the pre-funding phase of an investment. In our Real Estate portfolio for example, biodiversity criteria are assessed as part of the green building certification process during the acquisition due diligence process. For instance, the

BOX 6 | Example of ESG integration and biodiversity in private debt

An example that shows how the assessment of biodiversity impact can be part of the investment analysis, is a recent investment in a solar project located in Spain for our proprietary private debt portfolio. The NN-appointed asset manager completed a so called Do No Significant Harm (DNSH) analysis in the pre-funding phase of the investment. During the assessment it analysed whether the investment complied with DNSH requirements on several environmental objectives such as climate adaptation, water use and water stress and protection and restoration of biodiversity and ecosystems.

As part of the analysis the asset manager performed a technical due diligence and undertook an environmental impact assessment. With these additional measures, the asset manager aimed to identify the impact of the investment on the above-mentioned environmental factors, but also the financial risks as well as potential mitigating mechanisms at hands. In case of the solar project, one of such mitigating measures are specific monitoring plans for birds in relation to the transmission and distribution lines.



commonly used BREEAM certificates for new construction include modules on Land Use and Ecology, Waste, Water, and Pollution. This certification process encourages developers to incorporate sustainable land use practices, habitat protection, and the creation and enhancement of long-term biodiversity in the construction site and surrounding areas.

The primary objective of ESG integration is to mitigate the impact that ESG-related risks, such as biodiversity loss, have on the value of NN Group's assets. However, this does not mean that reducing the impact of these assets on biodiversity loss cannot be achieved simultaneously. We believe that companies with the greatest impact on biodiversity loss are also the most exposed to material transition risks. For instance, the newly implemented EU Deforestation Law poses a financial risk to companies operating in the food supply chain that are unable to guarantee that their products are deforestation-free. By identifying industry leaders, investors can reduce their impact on biodiversity and dependency on it.

Investing in nature-based solutions

While ESG integration primarily focuses on assessing the financial materiality of ESG risks, at NN Group, we strive to go beyond this approach. For instance, we have set a target to increase our allocation to climate solutions to EUR 11 billion by 2030. To achieve this, we have developed a methodology for defining investments in climate solutions that align with our Paris

Alignment strategy, which is based on the guidance of the IIGCC Paris Alignment Investment Initiative. Our focus is on supporting economic activities that make a substantial contribution to climate change mitigation and adaptation. Some of these investments in climate solutions also have co-benefits for biodiversity and nature, known as 'nature-based solutions.'

For example, green bond investments accounted for 26% of our investments in climate solutions at the end of 2022. Our investments in green bonds comply with ICMA principles, which define project categories to which green bond proceeds can be allocated. Two of these categories have direct co-benefits for nature and biodiversity: environmentally sustainable management of living natural resources and land use, and terrestrial and aquatic biodiversity conservation. 43% of our investments in green bonds have allocated some of their proceeds to these two categories.

Moreover, we aim to align our investments in climate solutions within our proprietary investment portfolio with the EU Taxonomy (EUT) where possible. In addition to investing in renewable energy and energy efficiency, we seek to support other EUT-eligible activities such as forestry and agriculture. Investments in such activities have the potential to increase the planet's capacity to store carbon and contribute to climate change mitigation.

5. NN Group's biodiversity roadmap

In this chapter we outline the steps we have taken since signing the Finance for Biodiversity (FfB) pledge in October 2022. This initiative is calling on financial institutions to commit to protect and restore biodiversity through their finance activities and investments. The pledge contains of five key elements:

1. Collaborating and knowledge sharing
2. Engaging with companies
3. Assessing biodiversity impact of portfolios
4. Setting targets on biodiversity criteria
5. Reporting publicly on the above by 2025 at the latest

Collaborating and knowledge sharing

A natural first step towards meeting this FfB Pledge is collaborating and sharing knowledge. To promote best practices on biodiversity, NN Group established a cross-functional Biodiversity Working Group that has raised awareness and shared knowledge among internal stakeholders. We have also participated in external working groups, including the FfB Target Setting and Impact Assessment working groups, to contribute to industry frameworks and build internal capacity.

BOX 7 | Biodiversity-climate nexus

NN Group contributed to the 'Unlocking the biodiversity-climate nexus' report published by the Finance for Biodiversity Foundation. The report outlines the synergies and trade-offs between climate and nature in key investment and lending opportunities, including agricultural solutions, alternative energy sources, circular economy, and nature-based solutions. It also provides five key practical recommendations for financial institutions on managing the biodiversity and climate nexus in their investments and lending;

1. Finance synergy-generating solutions for the biodiversity and climate nexus and those minimising trade-offs (e.g. R&D, start-ups, innovation);
2. Identify and prioritise sectors with a high impact on biodiversity and climate;
3. Engage with companies on important nexus topics;
4. Set up sector policies, considering synergies and trade-offs between biodiversity and climate;
5. Integrate biodiversity into climate targets, policy, and reporting.

As an example, the report highlights that to limit global warming to 1.5°C and avoid the worst effects of climate change, CO₂ emissions must reach net zero by 2050, and fossil fuel production must decline. Renewable energy sources, such as solar, wind, hydroelectric, and biomass, are effective methods for decarbonising economies. However, poorly managed renewable energy projects can cause additional loss of biodiversity, such as with hydroelectricity and the potential for habitat loss. Additionally, renewable energy technologies can generate substantial biodiversity impacts during the extraction of raw materials. It is important to carefully manage renewable energy projects to minimise negative impacts on biodiversity.

To address these issues, the report recommends that financial institutions conduct environmental and social impact assessments before investing in renewable energy and biofuel projects. They can ask project managers, developers, and companies they finance or invest in to provide comprehensive life-cycle assessments and location-based analyses. Additionally, investing in companies that apply holistic environmental management systems with sustainable restoration practices can help minimise negative impacts. To further minimise negative impacts, financial institutions can use sector policies and restriction approaches. For example, infrastructure investors can choose solar and wind farms that exclude high environmental significance areas such as protected and conserved areas, World Heritage Sites, and key biodiversity areas. Finally, financial institutions can require companies or select investments or projects that use eco-labels or certified sustainability standards like the Roundtable on Sustainable Biomaterials, Bonsucro, the Round Table on Responsible Soy, and the Roundtable on Sustainable Palm Oil.

By following these recommendations, financial institutions can effectively manage the biodiversity and climate nexus in their investments and lending and promote sustainable practices in the renewable energy and biofuel sectors while minimising their environmental impact. These recommendations emphasize the importance of addressing nature and climate solutions in an integrated way and can be seen as a fundamental risk management approach.

One of NN Group’s notable achievements in collaboration is our contribution to the ‘Unlocking the Biodiversity Climate Nexus’, a guidance for financial institutions on managing biodiversity and climate in their investments and lending. NN Group was part of the writing group for this paper, along with several other banks, insurers, asset managers, and asset owners. Refer to the case box ‘Biodiversity climate-nexus’ for more information.

Engaging with companies

The second pillar of the FfB pledge relates to Active Ownership, which is one of the key elements of NN Group’s responsible investment strategy. We have placed a high priority on expanding our engagement initiatives in biodiversity, including the Nature Action 100 engagement effort, which can be considered the biodiversity equivalent of the well-known Climate Action 100+ initiative. Additionally, we have joined several other collaborative engagement efforts. Going forward, we will work on further developing our engagement efforts by setting specific targets and seeking alignment with our existing framework on climate change.

Assessing impact

Another important milestone was the ENCORE assessment of the impacts and dependencies on nature of our corporate investment portfolio, the results of which are presented in chapter 3 of this paper. By leveraging these insights, we will improve the integration of biodiversity in our risk management and ESG practices. Furthermore, these insights will be instrumental in setting targets to reduce our impact on biodiversity loss.

Setting targets

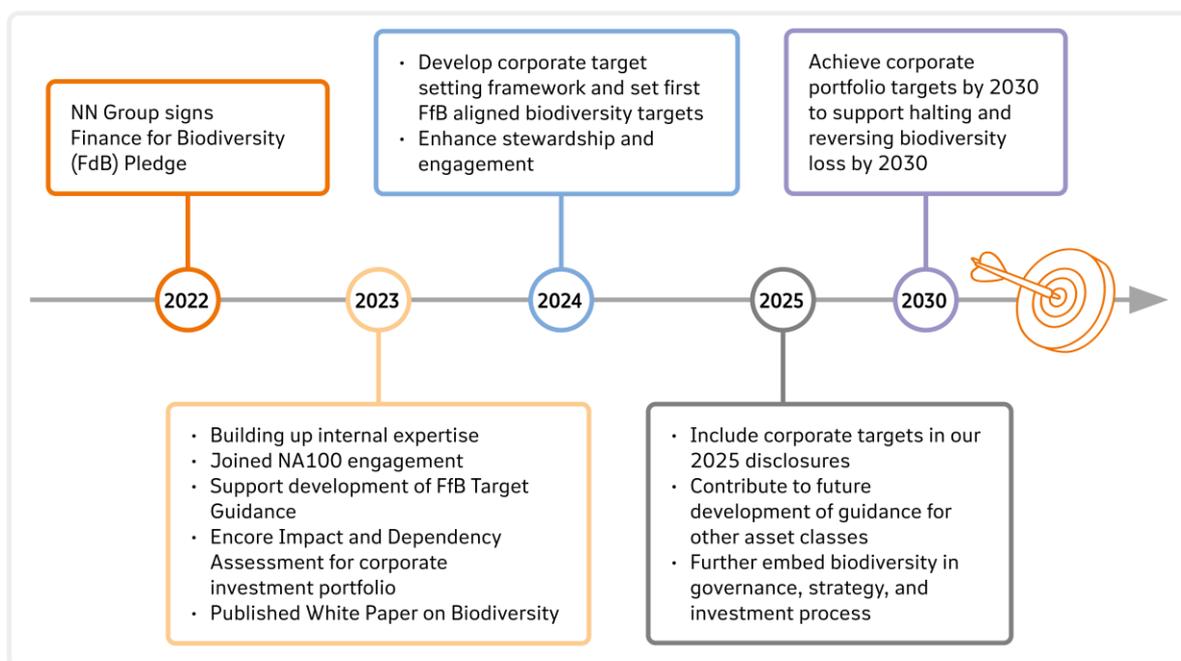
Moving forward, we will focus on setting our first targets to reduce the impact of our proprietary assets on biodiversity loss, using the FfB guidelines. In November 2023, the FfB released the beta version of the **Nature Target Setting Framework** for asset managers and owners. This framework aims to create a common language among investors and guide them towards setting credible targets on nature.

Next steps

We are dedicated to integrating biodiversity into our responsible investment strategy, building upon the foundational work we have established in ESG integration, active ownership, and impact. In 2024, we will set our first targets for our corporate investment portfolio aimed at protecting and restoring biodiversity. We will aim to report these targets by 2025 at the latest. As per FfB recommendations, we will gradually expand our focus to other asset classes.

To strengthen the integration of biodiversity in our current RI governance, risk, active ownership, and ESG integration frameworks, we will draw on the development of global frameworks such as TNFD. We acknowledge the crucial role of biodiversity in supporting resilient and sustainable societies, economies, and businesses, and we are committed to making a positive impact. We will provide regular updates on our progress, initiatives, and partnerships on our website and through reporting to keep our stakeholders informed.

Figure 9 | NN’s biodiversity roadmap for proprietary investments



Contact information

NN Group N.V.
Schenkade 65
2595 AS The Hague
The Netherlands
P.O. Box 90504, 2509 LM The Hague
The Netherlands
www.nn-group.com
Commercial register no. 52387534

For further information on NN Group's Responsible investment approach, please visit:

<https://www.nn-group.com/sustainability/responsibleinvestment.htm>

Disclaimer

This NN Group White paper 'Biodiversity approach for our proprietary investments' explores the impact of biodiversity loss on society, the economy, and businesses, and focusses on NN Group's proprietary investments. The paper also provides an update on the progress we have made since committing in 2022 to contribute to the conservation and restoration of biodiversity, as well as the initiatives we are currently employing to address biodiversity loss in our proprietary investment portfolio.

Certain of the statements contained in this White Paper are not historical facts, including, without limitation, certain statements made of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. Actual results, performance or events may differ materially from those in such statements due to, without limitation: (1) changes in general economic conditions, in particular economic conditions in NN Group's core markets, (2) the effects of the Covid-19 pandemic and related response measures, including lockdowns and travel restrictions, on economic conditions in countries in which NN Group operates, on NN Group's business and operations and on NN Group's employees, customers and counterparties (3) changes in performance of financial markets, including developing markets, (4) consequences of a potential (partial) break-up of the euro or European Union countries leaving the European Union, (5) changes in the availability of, and costs associated with, sources of liquidity as well as conditions in the credit markets generally, (6) the frequency and severity of insured loss events, (7) changes affecting mortality and morbidity levels and trends, (8) changes affecting persistency levels, (9) changes affecting interest rate levels, (10) changes affecting currency exchange rates, (11) changes in investor, customer and policyholder behaviour, (12) changes in general competitive factors, (13) changes in laws and regulations and the interpretation and application thereof, (14) changes in the policies and actions of governments and/or regulatory authorities, (15) conclusions with regard to accounting assumptions and methodologies, (16) changes in ownership that could affect the future availability to NN Group of net operating loss, net capital and built-in loss carry forwards, (17) changes in credit and financial strength ratings, (18) NN Group's ability to achieve projected operational synergies, (19) catastrophes and terrorist-related events, (20) operational and IT risks, such as system disruptions or failures, breaches of security, cyber-attacks, human error, changes in operational practices or inadequate controls including in respect of third parties with which we do business, (21) risks and challenges related to cybercrime including the effects of cyberattacks and changes in legislation and regulation related to cybersecurity and data privacy, (22) business, operational, regulatory, reputation and other risks and challenges in connection with ESG related matters and/or driven by ESG factors including climate change, (23) the inability to retain key personnel, (24) adverse developments in legal and other proceedings and (25) the other risks and uncertainties contained in recent public disclosures made by NN Group. Any forward-looking statements made by or on behalf of NN Group speak only as of the date they are made, and NN Group assumes no obligation to publicly update or revise any forward looking statements, whether as a result of new information or for any other reason. This publication contains information and data provided by third party data providers. NN Group, nor any of its directors or employees, nor any third party data provider, can be held directly or indirectly liable or responsible with respect to the information provided. This document does not constitute an offer to sell, or a solicitation of an offer to buy, any securities.

