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White Paper on Biodiversity and Nature

June 2024

A photograph of a bumblebee on a white clover flower in a green field. The background is a soft-focus green field with other white clover flowers.

Nordea
ASSET MANAGEMENT

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Introduction

Biodiversity loss is a systemic risk and one of the biggest global challenges of our time. As nature is being depleted at rates unprecedented in human history, and as we face the irreversible loss of flora and fauna, habitats and vital crops, biodiversity is an increasingly important topic.

Research by the World Economic Forum (WEF) has found that USD 44 trillion of economic value generation – more than half of the world's total GDP – is moderately or highly dependent on nature and its services¹. At the same time, WEF estimates that nature-positive transitions could generate up to USD 10.1 trillion in annual business value and create 395 million jobs by 2030².

As the single largest asset manager in the Nordics, at Nordea Asset Management (hereinafter "NAM", "we", "us" or "our") we acknowledge our role in attempting to prevent biodiversity loss and channelling capital flows towards nature-positive solutions. As such, we have been working actively with our portfolio companies to address this since we endorsed the UN Principles for Responsible Investment in 2007³.

1) Source: [World Economic Forum](#). 2) Source: [European Commission, The Economics of Ecosystems and Biodiversity](#). 3) Descriptions of active ownership activities in this document refer to actions taken on behalf of the funds managed by Nordea Investment Funds S.A. and Nordea Funds Ltd. Depending on specific client requests, such actions may also be taken on behalf of clients to whom Nordea Investment Management AB provides portfolio management services, subject to individually negotiated agreements.

Biodiversity and nature

The concept of biodiversity refers to the plethora of life forms found on our planet, and is paramount to the functioning and sustainability of ecosystems. It encompasses the tremendous array of species, genetic diversity within species, and the diverse ecosystems that exist across the Earth.

Biodiversity is a fundamental component of life on Earth and plays a vital role in shaping our environment. Biodiversity is essential for the stability and resilience of ecosystems. Ecosystems are complex webs of interdependent organisms in which each species has a unique role to play. Any biodiversity loss, even the loss of a single species, can have a cascading effect on the entire ecosystem, disrupt the balance and potentially lead to ecosystem collapse.

Numerous initiatives have been agreed at the international level to respond to the risk of biodiversity loss. At the EU level, the European Commission has adopted an EU Biodiversity Strategy for 2030, as part of the European Green Deal. In addition to the initiatives to address biodiversity directly, there are several existing or upcoming legislative initiatives that address biodiversity loss drivers directly. These include the EU Deforestation Regulation⁴ (aimed at reducing deforestation outside the EU), the Revision of the Packaging and Packaging

Waste Directive⁵ (promoting recycling, reducing PFAS and promoting plastic substitution solutions) and the Revised Urban Wastewater Treatment Directive⁶ (improving wastewater treatment and reducing polluted wastewater from industries).

The global agenda of the UN's Sustainable Development Goals (UN SDGs) also includes the protection of ecosystems and halting biodiversity loss⁷. The UN SDGs are based on the UN 2030 Agenda for Sustainable Development, consisting of 17 goals related to various social and environmental issues that are crucial for ensuring sustainable development. Several of them are at risk due to biodiversity loss.

On 19 December 2022, the Kunming-Montreal Global Biodiversity Framework⁸ was agreed at the COP15⁹. The framework stipulates certain goals and targets as a global response to the biodiversity crisis. The framework specifically addresses the important role of financial institutions, and at NAM we are committed to helping to fulfil these targets through our investments and by engaging with investee companies through active ownership.

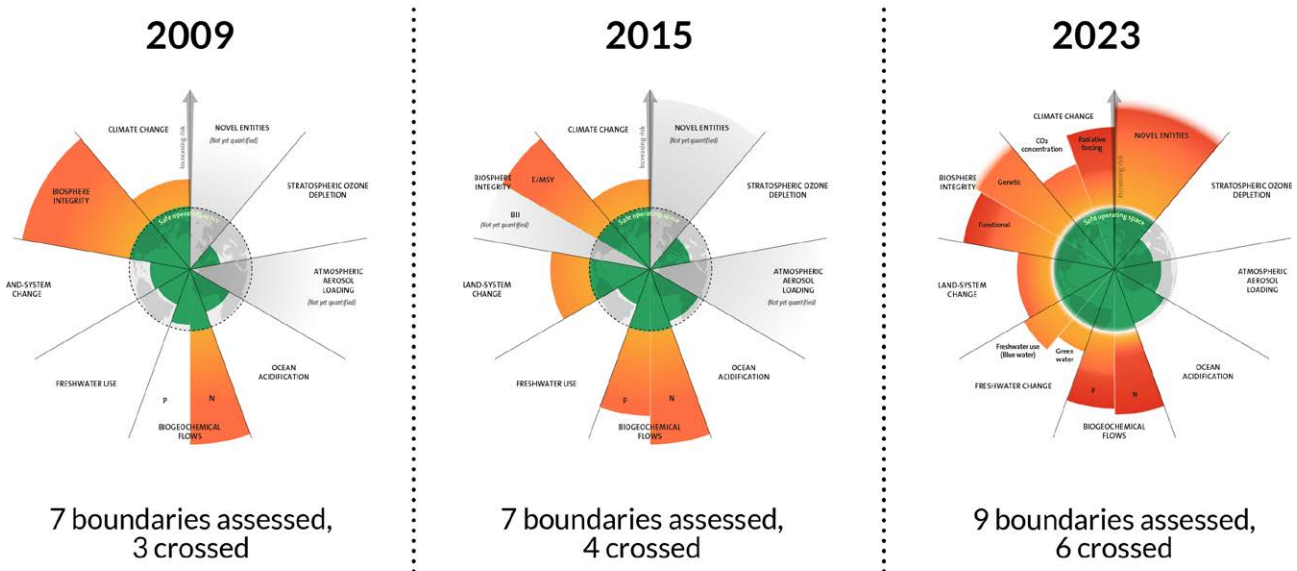
4) [European Commission: Regulation on Deforestation-free products](#). 5) [European Parliament \(2024\): Revision of the Packaging and Packaging Waste Directive](#). 6) [European Council \(2024\): Urban wastewater: Council and Parliament reach a deal on new rules for more efficient treatment and monitoring](#). 7) SDG 15 aims to: "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss". 8) [UN Environment Programme \(2022\): Convention on biological diversity](#). 9) The 15th Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity (CBD) refers to an international meeting that brought together governments from around the world. The CBD is the international legal instrument for "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources", and has been ratified by 196 nations.

The nine planetary boundaries

One of the concepts for assessing various components of the intactness of Earth are the planetary boundaries. The concept refers to a set of nine critical Earth system processes or boundaries that, if crossed, could lead to irreversible and abrupt environmental changes with severe consequences for human societies and ecosystems. These planetary boundaries represent critical thresholds that must be respected to maintain Earth's stability and the conditions necessary for human civilisation to thrive¹⁰. Naturally, the global economy and thus our investments tie in with these boundaries, and crossing them may thus expose our investments to risk and uncertainty. As a financial institution with global operations, we have a key role to play, not only in assessing how our

investments are linked to the risk of crossing boundaries, but also in harnessing opportunities by rechanneling financial flows towards companies committed to operating within them and by actively engaging with our investee companies. By understanding and respecting these boundaries, societies can work towards achieving sustainable development and ensuring a safe and resilient planet for future generations.

The figures below show how research on the planetary boundaries has developed over the years, and we are now able to measure and quantify all the boundaries. According to this model, we have already moved out of the safe operating space for six of the nine boundaries.



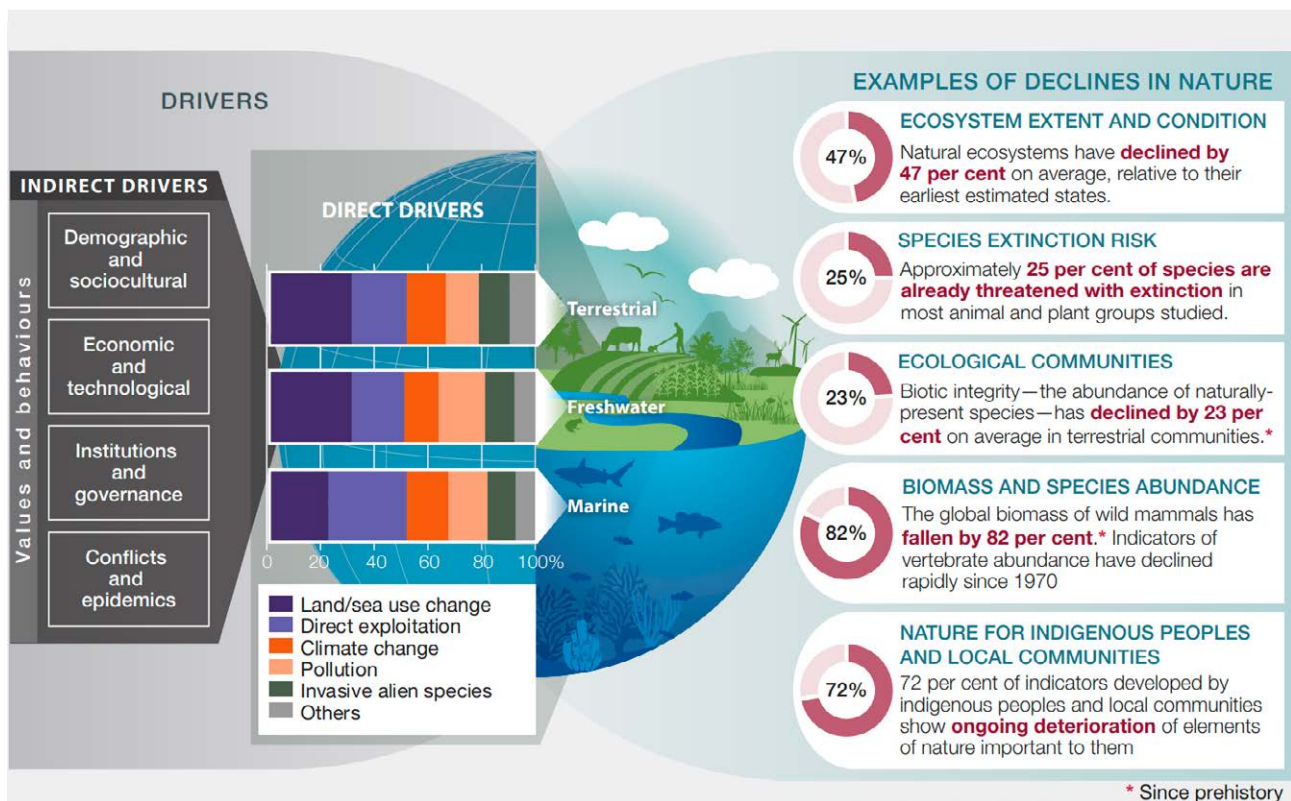
Source: Stockholm Resilience Centre (Azote for Stockholm Resilience Centre, Stockholm University. Based on Richardson et al. 2023, Steffen et al. 2015, and Rockström et al. 2009 - CC BY-NC-ND 3.0).

10) Source: [Stockholm Resilience Centre](#).

Drivers of biodiversity loss

Drivers of biodiversity loss refer to the factors that directly or indirectly influence the state of and changes in biodiversity. These drivers can be natural, such as ecological processes and geological events, or human-induced, resulting from human activities. Understanding the drivers of biodiversity is crucial for addressing the causes of biodiversity loss and implementing effective conservation strategies¹¹.

These drivers may have a direct or indirect impact on biodiversity loss. It is often easier to make a clear connection to direct drivers' impact on biodiversity and ecosystems, for example deforestation, pollution, climate change, use of natural resources and invasive species¹². It is often harder to quantify the impact of indirect drivers on biodiversity and ecosystem changes, but there is undeniably a connection. Indirect impacts such as socioeconomic and demographic trends and developments, for example, influence consumption patterns and hence the environment¹¹.



Source: IPBES (2019): Global Assessment Report on Biodiversity and Ecosystem Services.

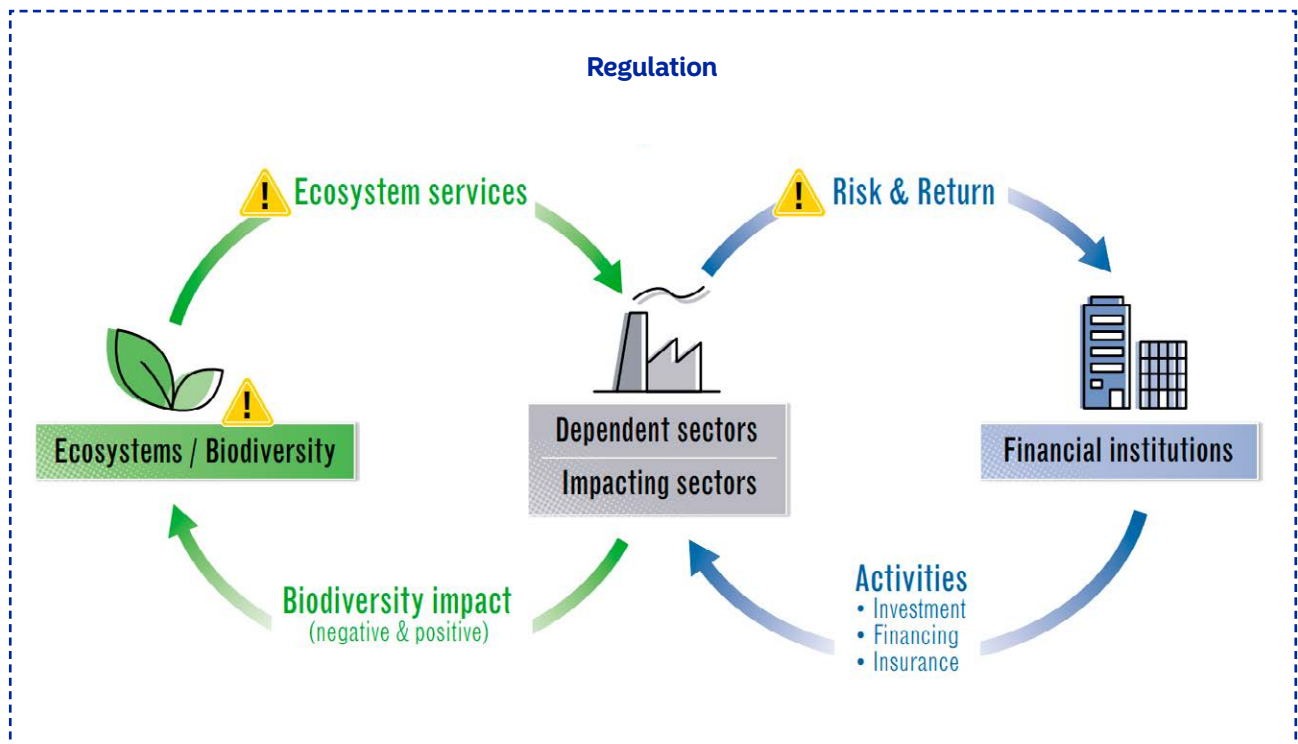
11) IPBES: Models of drivers of biodiversity and ecosystem change. 12) UN Environment Programme: Five drivers of the nature crisis.

The figure below illustrates how financial institutions are connected to ecosystems and biodiversity. Financial institutions might invest in companies in “impacting sectors”, which have a potentially negative impact on biodiversity, and this may lead to an adverse impact on companies in the “dependent sectors”. Understanding this dynamic will allow financial institutions to properly incorporate the respective biodiversity risks into their investment decisions.

Reporting on double materiality means that companies have to report not only how sustainability issues might give rise to financial risks for the company (financial materiality), but also the company’s own impacts on people and the environment (impact materiality). For example, Company A may report that

reduced pollination from bees could have a financial impact on its future earnings. On the other hand, Company B might report that its product could have an adverse impact on bees’ ability to pollinate.

As a responsible investor, NAM considers the principal adverse impact of investment decisions (that is, the environmental and social impact of investment activities) and sustainability risk (that is, the material negative impact of ESG issues on the value of investments) so as to capture the full scope of the double materiality concept. This is to ensure that we fulfil our fiduciary duty and contribute to sustainable development, as expected by our clients and society at large.



Source: Finance for Biodiversity Foundation (2022): Act now! Guide on biodiversityintegration.

Biodiversity – our approach

This section describes our current activities related to biodiversity and our progress in fulfilling our commitments under the Finance for Biodiversity Pledge, as well as our ambitions going forward.

As highlighted previously in this paper, biodiversity loss can have far-reaching economic implications, including reduced productivity, heightened vulnerability to climate change and loss of ecosystem services in agriculture, forestry, fisheries and aquaculture. By recognising and valuing biodiversity, we strive to contribute to the long-term stability and resilience of the systems on which our economy – and, ultimately, our investments – depend.

Biodiversity loss can pose significant financial risks across investment portfolios. We invest across a vast number of sectors and geographies and, consequently, our portfolio is exposed to a wide range of biodiversity risks and opportunities. To protect our assets and ensure long-term sustainability, we need to adequately assess and manage these risks. The following sections describe our progress in further analysing the potential impact of biodiversity loss and dependencies on ecosystem services in different sectors, which helps us to make informed investment decisions and mitigate risks associated with declining biodiversity, and also to focus our engagement initiatives.

Our commitment to biodiversity is set at the top. Our Senior Executive Management bears overall responsibility for defining our approach to ESG/sustainability. Daily responsibility for implementing our Responsible Investment Policy and our active ownership and engagement framework is held by our Responsible Investment team. Senior Management Representatives, including NAM's CEO, are also members of the ESG committee¹³, which oversees the strategic delivery of NAM's biodiversity commitments.

Biodiversity has been one of our ESG focus areas for many years, and biodiversity loss prevention is one of our four core areas of interest. We commit to taking potential negative effects on biodiversity into consideration in investment decisions and may engage with investee companies that exhibit high biodiversity risks. NAM is involved in several investor initiatives related to Biodiversity and Nature, which aim to educate investors on biodiversity risk, as well as support them in their biodiversity risk management by means of engaging with issuers and policymakers.

We seek to integrate ESG factors including Biodiversity risks and impact, as described above, in our investment decisions ensuring that all portfolio managers have access to relevant ESG data and information. In our ESG scores of companies,

biodiversity is a material risk according to the [SASB risk map](#). Currently, few companies have comprehensive reporting on biodiversity risk and impacts, and they have not performed any extensive risk assessments. Where relevant, NAM engages with companies to obtain disclosures on their assessment of biodiversity risks and impacts and actions taken to reduce any adverse impact on biodiversity.

Following the introduction of the Sustainable Finance Disclosure Regulation (SFDR) in 2021, at NAM we have enhanced our capabilities for considering biodiversity loss drivers through the consideration of [Principal Adverse Impact](#) (PAI) indicators. The PAI indicators address several different biodiversity loss drivers¹⁴. The SFDR requires financial market participants to disclose PAI for investments on the basis of sustainability factors, by reporting on specific indicators. One of these indicators concerns activities that adversely affect biodiversity-sensitive areas. We use an internally developed monitoring system to consider impact. Issuers identified as outliers on the biodiversity-related indicator may be subject to further analysis to ascertain whether they are managing their biodiversity impact adequately, as well as to assess potential active ownership actions. Our assessment can then potentially trigger engagement or exclusion.

Impact assessment and target setting

NAM has been a signatory of the Finance for Biodiversity Pledge (FfB) since 2021, and is committed to protecting and restoring biodiversity through our investments by¹⁵:

1. Collaborating and sharing knowledge
2. Engaging with companies
3. Assessing impact
4. Setting targets
5. Reporting publicly on the above before 2025

The sections on Key biodiversity initiatives and Thematic engagements describe how we are currently fulfilling commitments one and two of the FfB pledge.

To enhance our assessments of the positive and negative impacts of our investments, and to enable us to set targets and report, NAM undertook a process of reviewing and assessing biodiversity data providers in 2023. In 2024, we have added one more data provider – Iceberg data lab – to ensure fulfilment of our commitment to assessing our biodiversity impact. This will support us in identifying our largest biodiversity risks at company level.

Based on this information, we are moving towards introducing targets to manage and reduce the biodiversity impact of our portfolio, in line with the commitments made under the FfB Pledge to support the achievement of the Kunming-Montreal Global Biodiversity Framework's 2030 targets¹⁶.

13) Following a firm-wide ESG project carried out in 2021–2023, in 2023 we established an ESG Committee, supported by an operational forum, to secure the governance of our ESG-related methods and principles. An ESG Operational Forum facilitates discussions and secures alignment and coordination on ESG matters across the NAM internal value chain, ensuring that the relevant decisions are brought before the ESG Committee for approval. 14) Relevant PAI Indicators: GHG emission, Impact on biodiversity, Emissions to water, Hazardous waste and radioactive waste ratio, and High water stress. 15) [Finance for Biodiversity Foundation: About the pledge](#). 16) [Convention on Biological Diversity: 2030 Targets](#).

The FfB targets will include “initiation” targets, which focus on governance, education and strategy aspects across the organisation, as well as impact and dependencies assessments to help determine priority areas. Complementing the initiation targets, which are to be achieved by year-end 2026, FfB foresees sectoral, engagement and portfolio targets, which are to be achieved by 2030 and will focus on priority sectors and the key direct drivers of biodiversity loss. We will publish our targets and the roadmap for achieving them before year-end 2024.

Biodiversity risk mapping

To enable us to improve our understanding of our biodiversity impacts and dependencies, at NAM we have mapped our holdings¹⁷ to the ‘Exploring Natural Capital Opportunities, Risks and Exposure’ (ENCORE)¹⁸ dataset. The aim is to determine:

- The proportion of our holdings that are invested in sectors with the most material exposure to impact drivers
- The proportion of our holdings that are invested in sectors with the most material exposure to dependencies on ecosystem services

This is a first step in improving our assessment of our holdings’ exposure to biodiversity risks and dependencies, and will help to focus our efforts on the most material sectors, impact drivers and dependencies on ecosystem services.

ENCORE

ENCORE is a database that highlights how businesses might be exposed to accelerating environmental change¹⁹. The data assesses solely direct impacts and dependencies, excluding supply chain impacts and dependencies from the assessment.

ENCORE provides useful insights into impacts and dependencies on ecosystem services of our holdings²⁰:

- Impact drivers are inputs to, or outputs from, economic activities, which can affect nature
- Ecosystem services are the links between nature and business. Each of these services represents a benefit that nature provides to enable or facilitate business production processes

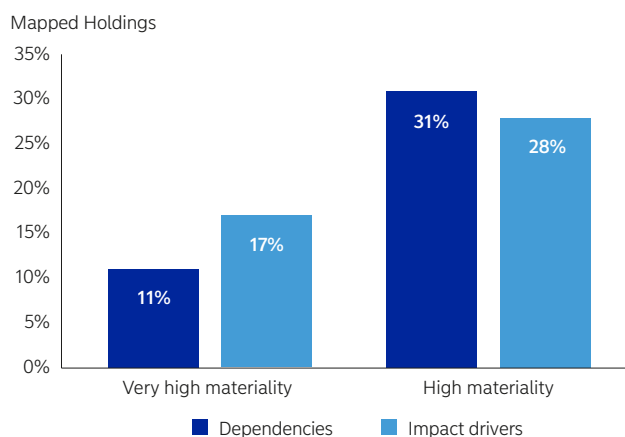
The impacts and dependencies of production processes are identified for individual sectors and sub-industries²¹, meaning that the

data can only be used as an indicator of a company’s potential impact and dependencies. Companies within the same sub-industry might have different exposure to certain production processes²¹. Furthermore, both physical site locations and individual environmental management practices are highly relevant when assessing biodiversity impacts and dependencies of a given company, hence the need to supplement ENCORE with additional research and datapoints in our biodiversity assessment.

ENCORE classifies the potential materiality of impact drivers and dependencies in five categories (very low, low, medium, high and very high)²². To have our analysis best reflect the materiality in different sectors and sub-industries, we have decided to weight the materiality assessment²³. By weighting the materiality, we will be able to assess our exposure to individual impact drivers and ecosystem services, while still accounting for their materiality for the individual sub-industries within each sector.

Relevance for NAM

NAM exposure to sub-industries with at least one impact driver or dependency classified as high or very high

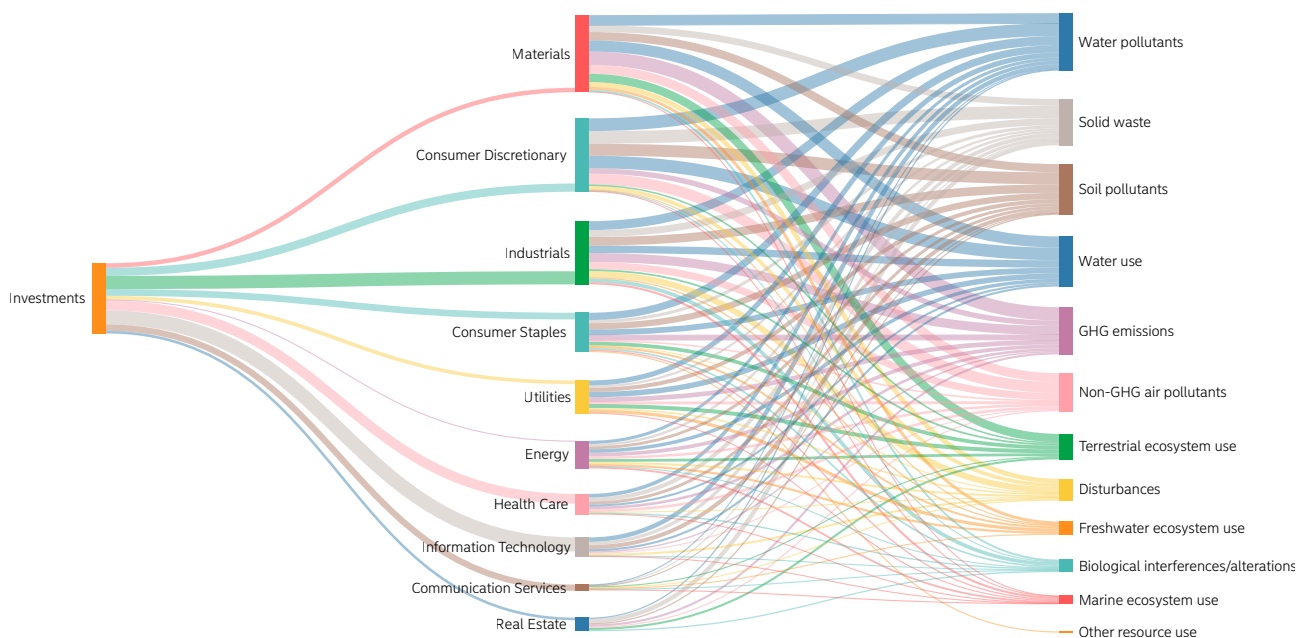


Source: NAM and ENCORE.

The chart above highlights the importance of assessing biodiversity risks. 28% of our mapped holdings are exposed to at least one impact driver or dependencies on one ecosystem service with a “very high” materiality classification, while 59% are exposed to a “high” materiality classification. The chart also shows that 42% of our holdings are dependent on ecosystem services with either a “very high” or “high” materiality classification, while 45% of our holdings are exposed to impact drivers with either a “very high” or “high” materiality classification.

17) Holdings as of 01.01.2024: Both equity and corporate bond holdings were included in the mapping. Client mandates and Sovereign bonds were not included in the ENCORE mapping. NAM was not able to map around 0.3% of the fund holdings to GICS sectors, which resulted in these not being included in the ENCORE mapping. Around 93% of NAM’s fund holdings have been mapped to ENCORE. As ENCORE only maps direct dependencies and impacts, NAM has chosen to exclude investments in the financial sector from the graphs, which represents around 34% of the mapped holdings. Including the financial sector would distort the graph due to our large exposure to the sector, while not providing any meaningful insight, as ENCORE only maps direct impacts and dependencies. The sub-industries within the financial sector have medium materiality exposure to solid waste in impact drivers and low materiality exposure to mass stabilisation and erosion control in ecosystem services. 18) ENCORE data: ENCORE Partners (Global Canopy, UNEP FI, and UNEP-WCMC) (2024). ENCORE: Exploring Natural Capital Opportunities, Risks and Exposure. [Online], [March/2023 version], Cambridge, UK: the ENCORE Partners. Available at: <https://encorenature.org>. 19) ENCORE (Exploring Natural Capital Opportunities, Risks and Exposure). 20) ENCORE: Exploring Natural Capital Opportunities, Risks and Exposure. 21) ENCORE utilises GICS Sector and Sub-Industry classification. For the purpose of the mapping, NAM had to manually map some GICS sub-industries to fit the ENCORE GICS sub-industry classification. 22) ENCORE: Materiality. 23) Weighted materiality: Very high materiality = 5, ..., Very low materiality =1.

Impact drivers



Source: NAM (holdings as of 01.01.2024) and ENCORE (model version March 2023). Sankey diagram of linking NAM exposure to GICS sectors, and the GICS sectors' link to impact drivers. Sectors are sorted by most exposure to weighted impact drivers from the top, and impact drivers are sorted by most weighted materiality from the top.

The diagram above indicates that around 30% of NAM's holdings are in the top four sectors with the most weighted material exposure to impact drivers – materials, consumer discretionary, industrials and consumer staples. The diagram also shows the top four most material impact drivers to which NAM is exposed – water pollutants, solid waste, soil pollutants and water use.

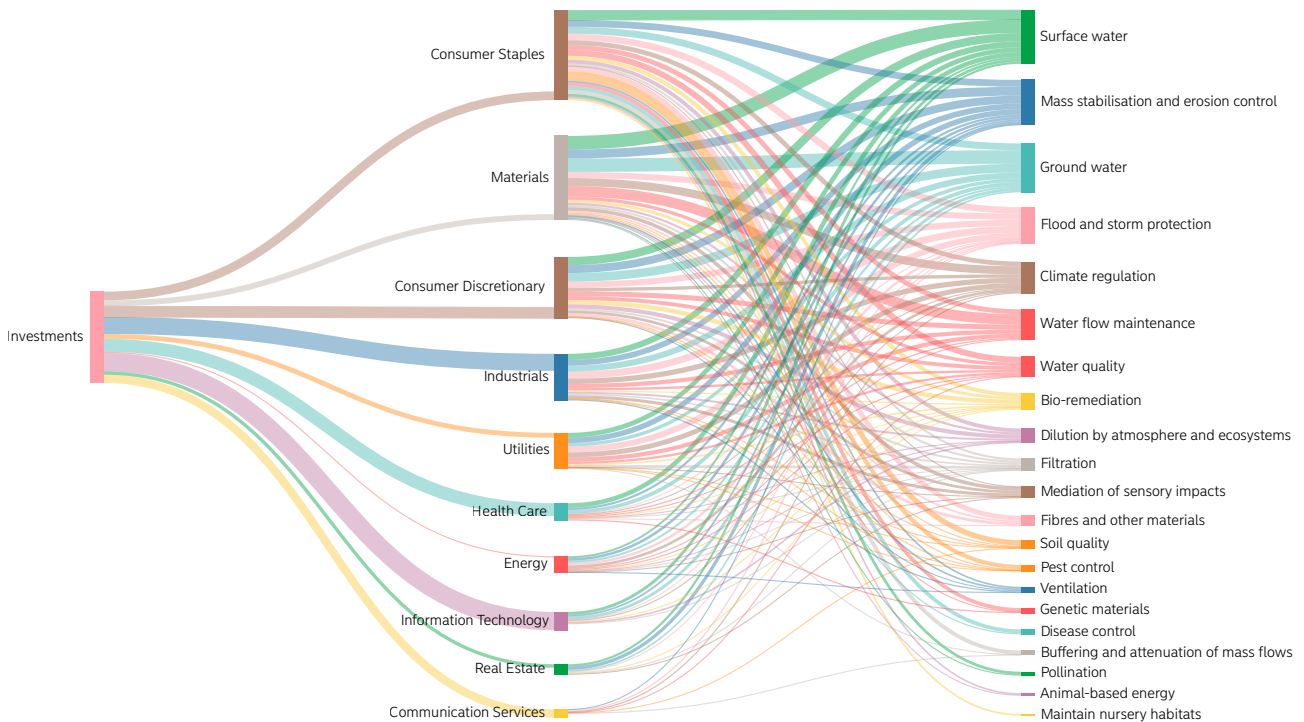
Our assessment shows that the top four sectors are exposed both through outputs as well as inputs²⁴ of their business activities. Outputs, which are related to production processes, include the generation of solid waste, water pollutants or soil pollutants, while on the input side, water usage is a key impact driver.

It should be noted that GHG emissions are also of significance to NAM's holdings, as this falls just outside of the top four highest material impact drivers.

ENCORE continues to develop its methodology and mapping of impact drivers to sub-industries, which means that the ranking is not static and might change as ENCORE develops its dataset.

24) Impact drivers are defined as a measurable quantity of a natural resource that is used as an input for production, or a measurable non-product output of business activity. Source: ENCORE: Impact Drivers.

Dependencies on ecosystem services



Source: NAM (holdings as of 01.01.2024) and ENCORE (model version March 2023). Sankey diagram of linking NAM exposure to GICS sectors, and the GICS sectors' link to dependencies on ecosystem services. Sectors are sorted by most exposure to weighted ecosystem services from the top, and ecosystem services are sorted by most weighted materiality from the top.

The diagram above indicates that around 30% of NAM's holdings are in the top four sectors with the most material dependencies on ecosystem services – consumer staples, materials, consumer discretionary and industrials. These are the same sectors that have the most material exposure to impact drivers, albeit in a different order. The diagram also shows the top four most material ecosystem services to which NAM is exposed – surface water, mass stabilisation and erosion control, ground water and flood and storm protection.

Disruption of ecosystem services²⁵ at the global or local level could have a significant adverse impact on a company's ability to continue its activities. From our assessment, we can see that the four sectors are highly dependent on surface water, mass stabilisation and erosion control, ground water and flood and storm protection. We also see that sectors such as materials have high dependencies on ecosystem services such as climate regulation and water flow maintenance.

25) Ecosystem services are defined as benefits that nature provides to enable or facilitate business production processes. [Source: ENCORE: Ecosystem Services.](#)

Insights

The ENCORE mapping provided useful insights, which furthers our understanding of the importance of biodiversity within our holdings.

We will use this mapping to help guide our focus within our biodiversity work. This will include focusing on specific sectors, sub-industries as well as on individual impact drivers or ecosystem services.

An example of sharpened sector focus when assessing biodiversity could be heightened attention to the industrials sector ahead of the information technology sector. Despite NAM having somewhat similar exposure to the two sectors, the assessment with the ENCORE tool highlighted that the former's impacts and dependencies on biodiversity exceed those of the latter based on weighted materiality, and thus may warrant more attention.

In addition, the analysis has enabled us to discern trends on specific themes and topics. Both in the impacts and the dependencies section, our mapping showed that the topic of "water" plays a crucial role – through usage, pollution or dependencies on different sources of water.

We will continue to analyse the ENCORE mapping to better isolate the sub-industries within different sectors with the most material impact drivers and dependencies, to be even better positioned to derive actionable insights for our engagements, company research and investment teams.

Key biodiversity initiatives

This section highlights the key biodiversity initiatives in which NAM participates.

A driver and sometimes a direct cause of biodiversity loss is deforestation. NAM is a founding and Management Committee member of the **Investors Policy Dialogue on Deforestation (IPDD)**, which was established in 2020 as a collaborative engagement aimed at initiating and coordinating public policy dialogue on halting deforestation in selected countries. The IPDD seeks to ensure long-term financial sustainability of investments in the countries in which members are invested by promoting sustainable land use and forest management and respect for human rights.

In late 2020, NAM became a founding member of the **Net Zero Asset Managers initiative**, through which we are committed to ensuring that our investments align with the objective of

the Paris agreement to limit global warming to no more than 1.5 degrees. However, there is no net zero without nature. We need to protect, conserve and regenerate the natural resources and ecosystems that support economic growth, food security, health and climate. The World Economic Forum has classified "biodiversity loss and ecosystem collapse" as one of the top 10 global risks for the next decade²⁶. Biodiversity should be treated as a systemic risk, meaning that, if we fail to mitigate the risk, the consequences will be far-reaching, pervasive and have the potential to cause the collapse of industries, economies and civilisation at large.

In 2021, we sharpened our focus on biodiversity by joining the **Finance for Biodiversity Pledge** – a commitment from financial institution signatories to protect and restore biodiversity through their finance activities and investments. Being part of this initiative has enabled us to work together with other investors and financial industry participants to set standards linked to biodiversity. In 2023, we actively participated in several working groups of the Finance for Biodiversity Pledge.

In 2022, we joined the **Investors Initiative on Hazardous Chemicals (IIHC)**. This is an investor-led initiative that encourages chemicals companies to improve transparency and halt the production of "forever chemicals". The aim of the IIHC is to reduce adverse impacts from hazardous chemicals and the financial risks with which they are associated. Chemical pollution ranks as the third greatest cause of biodiversity loss, more so than climate change. Ecologists now warn that failing to account for the negative impacts of chemical pollution will significantly undermine measures to protect biodiversity and reverse the current loss.

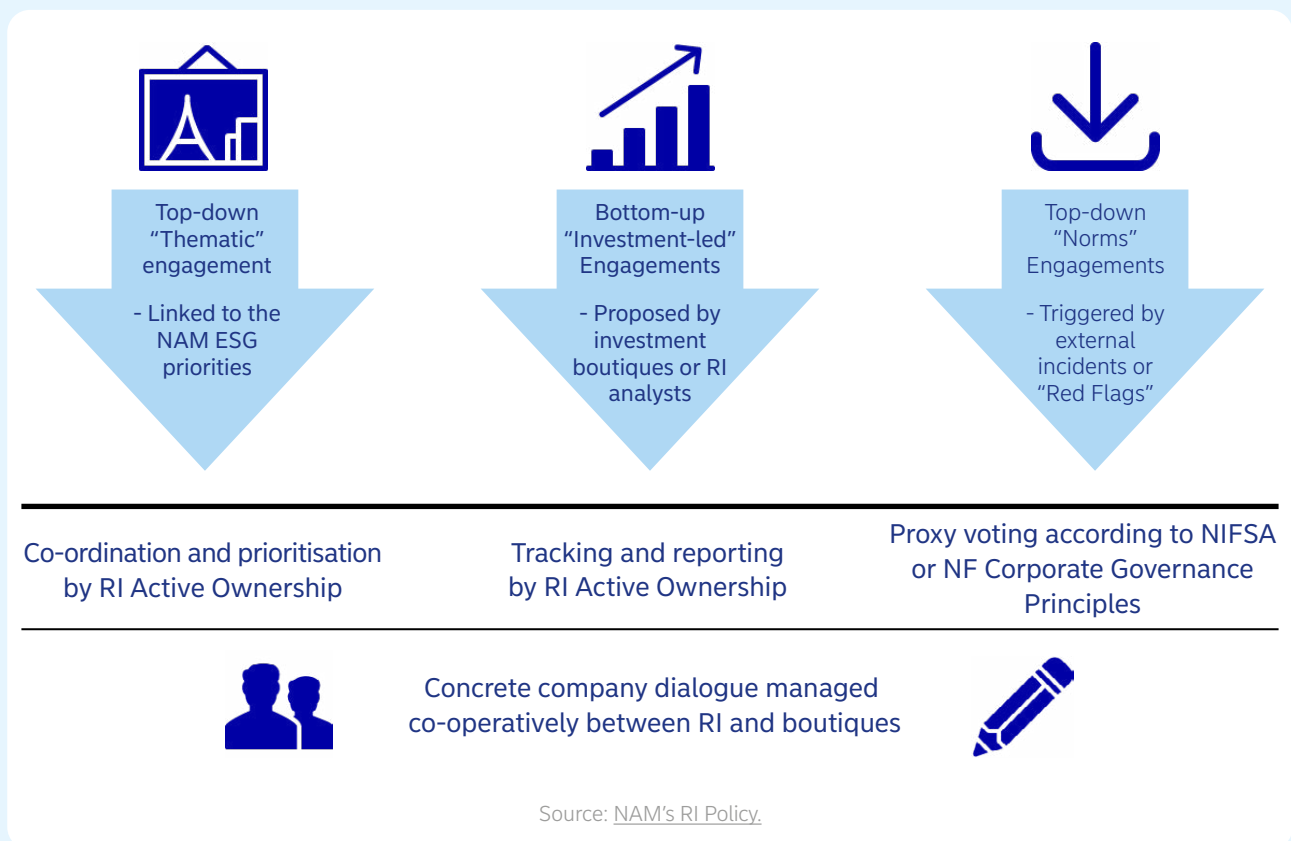
In 2023, NAM joined more than 200 institutional investors, representing USD 26.6 trillion in assets under management, in **Nature Action 100 (NA100)** – an initiative focusing on companies that are systematically important to reversing nature and biodiversity loss. The initiative has entered its engagement phase, starting with dispatching letters to 100 targeted companies that have been identified as critical for biodiversity protection and restoration. There are six actions that investors will call on companies to take concerning the areas of Ambition, Assessment, Targets, Implementation, Governance and Engagement, which are addressed in the letters. Related to the six actions are a set of indicators²⁷ that will be used to assess the nature-related ambitions and actions of the initiative's 100 companies. NAM is participating in several NA100 corporate engagements.

26) [World Economic Forum: Global Risks Report 2023](#). 27) [Nature Action 100: Nature Action 100 unveils benchmark indicators for assessing corporate ambition and action on nature](#).

Engagement/active ownership activities

On behalf of its clients, NAM undertakes engagement activities with investee companies to encourage them to improve their environmental, social and governance practices, including promoting a long-term approach to decision-making. Our

active ownership tools include voting, attending AGMs, standard setting, engagement with companies and filing resolutions. NAM's engagement with investee companies falls into three main categories, which can overlap and be applied to a given company simultaneously²⁸:



Thematic engagement related to biodiversity and nature

NAM invests globally in various industries and regions around the world. Companies' impact on biodiversity may differ significantly depending on the scope and location of their activities.

Significant drivers of biodiversity loss, as identified by IPBES and as described in a previous section, are land-use change, climate change, pollution and natural resource use and exploitation²⁹. NAM is involved in numerous thematic engagements targeting these drivers.

Land-use/sea-use change:

Relevant for companies that are exposed to deforestation, mining or agriculture in their operations or supply chain.

Pollution:

Relevant for companies that are exposed to the discharge of material (e.g. nitrogen-phosphorous or PFAS) into nature in their supply chain or manufacturing process. How products are disposed of at the end of their lifecycle may also impact the pollution driver (e.g. plastics or other non-biodegradable waste).

Natural resource use and exploitation:

Relevant for companies that rely on natural resources for their products, such as trees or marine life. The unsustainable use of natural resources and overexploitation that occur when harvesting exceeds reproduction of e.g. trees, flora and fauna, and this continues to pose a major threat to biodiversity.

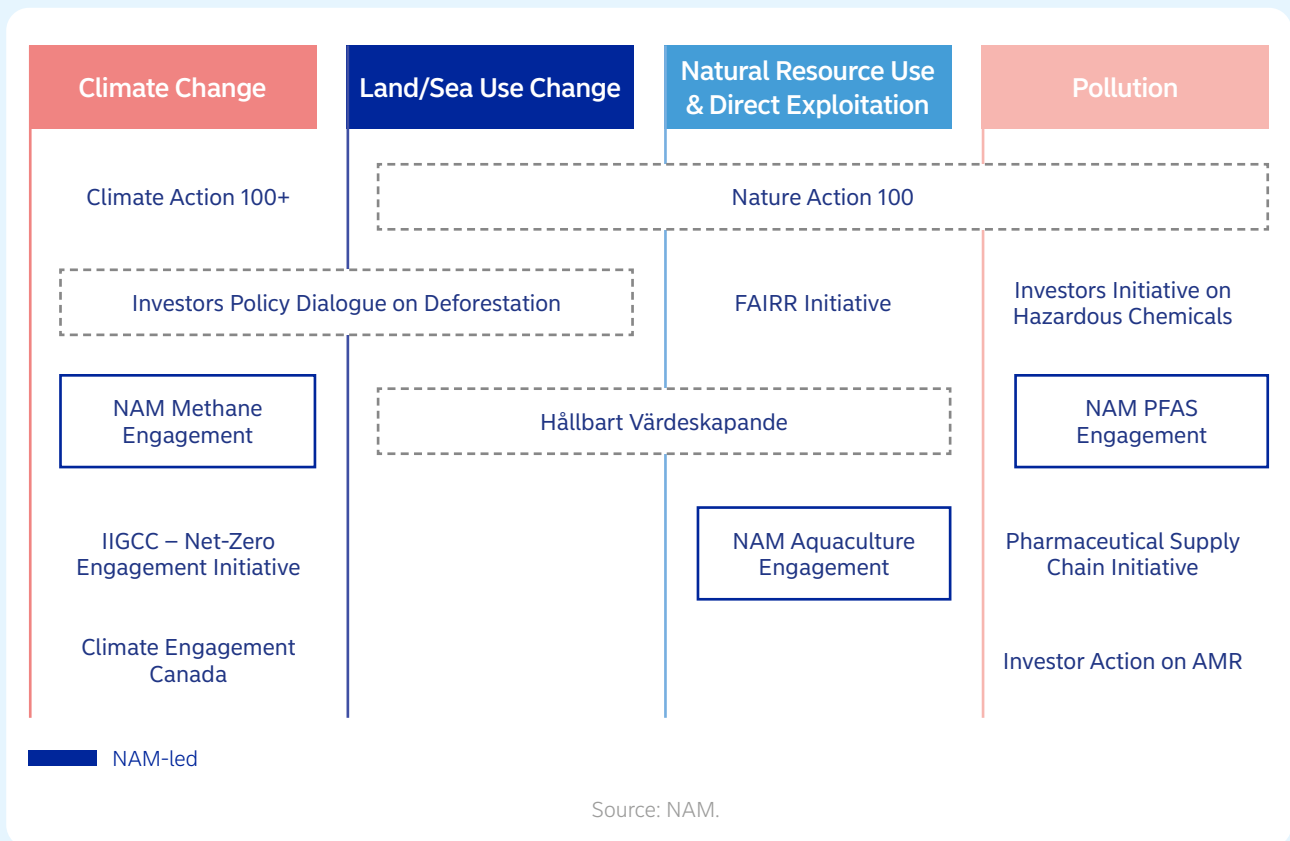
28) [NAM's RI Policy](#). 29) [IPBES: Models of drivers of biodiversity and ecosystem change](#).

Climate change:

Relevant for every company in all regions of the world. The impact of climate change on biodiversity is well established, as a changing climate and weather pattern threatens the functioning of ecosystems and thus the existence of species and entire ecosystems. Rising atmospheric CO₂ concentrations leading to higher ocean temperatures and ocean acidification are expected to have profound effects on marine ecosystems, particularly coral reefs and marine communities near the ocean

floor. Climate change creates warmer and drier conditions, leading to more droughts and a longer wildfire season and thus heightened risks of wildfires around the world.

The table below shows how a selection of NAM’s thematic engagements address the different biodiversity loss drivers identified above. For more detailed information regarding the individual engagements, please see our Responsible Investment Annual Report³⁰.



30) NAM's Responsible Investments Report 2023.

Risk Management

NAM continues to attempt to mitigate risks of biodiversity loss. We do so through the engagement initiatives described in the previous section. However, we may exclude companies in which, already now, we can ascertain excessive risks to biodiversity (often associated with significant activities connected to biodiversity loss drivers).

Engagement

As an active owner, NAM prioritises engagement as the primary mechanism to address biodiversity risks. Academic research of the importance of biodiversity and companies' impact on biodiversity loss drivers, as well as dependencies on ecosystem services, continues to evolve. Through engagement, we ensure that investee companies are aware of our expectations as shareholders, and we will also be able to identify which entities are forerunners and which are laggards. The knowledge gained will furthermore inform our ESG research and enable us to guide our portfolio managers.

Exclusions

NAM may exclude selected companies because of their involvement in activities associated with biodiversity loss drivers or mismanagement of their risks within biodiversity loss drivers³¹.

- NAM excludes all companies with substantial and sustained exposure to coal mining, with a 5% revenue threshold on thermal coal and a 30% revenue threshold on total coal (including metallurgical coal)
**Targeting biodiversity loss driver (as defined by IPBES):
Climate change and land-use change**
- NAM excludes companies with substantial and sustained exposure to oil sand with a 5% revenue threshold. The extraction of oil from oil sand is the highest cost and most carbon-intensive hydrocarbon
**Targeting biodiversity loss driver (as defined by IPBES):
Climate change and land-use change**

- NAM excludes all companies involved in arctic drilling with a 0% revenue threshold
**Targeting biodiversity loss driver (as defined by IPBES):
Climate change and sea-use change**
- NAM has excluded several companies because of their exposure to deforestation in the Amazon
**Targeting biodiversity loss driver (as defined by IPBES):
Land-use change**

Investment strategies focusing on specific areas such as climate, environment etc, may encompass additional exclusions as part of the investment objective. These exclusions are product-specific.

NAM's expectations of investee companies

One of the main challenges that NAM and the financial industry face in terms of assessing impact on biodiversity is the lack of quality data on individual investments.

NAM encourages companies to assess their direct and indirect dependencies and impact on biodiversity and to act on these assessments. NAM expects strong governance of these risks as well as mitigation commitments from the companies. We expect companies to have a strategy and to set short-, medium- and long-term targets in relation to their mitigation efforts.

Lastly, NAM expects companies to improve transparency and start reporting on their biodiversity risks, preferably through reporting initiatives (e.g. TNFD³², CDP³³ or GRI Biodiversity Standard³⁴). For some companies, reporting on biodiversity will also become a regulatory requirement (e.g. CSRD³⁵). Many of these reporting standards are still under development. However, we recommend that, already now, companies start assessing their risks and updating their organisation's knowledge on the topic.

31) See NAM's [RI Policy](#) & see NAM's [exclusion list](#). 32) [tnfd.global/](#) 33) CDP (2022): [Bridging the SDG data gap for biodiversity and nature](#). 34) [Global Reporting Initiative \(2024\): Topic Standard Project for Biodiversity](#). 35) [European Commission: Corporate sustainability reporting](#).

Going forward

In the second half of 2024, NAM will prioritise fulfilling commitments set forth in the Finance for Biodiversity pledge, which were described in a previous section. We will continue to fully onboard and integrate our new biodiversity data provider, which will further enable us to measure our biodiversity impact. Together with the insights from the ENCORE mapping, this will support us in developing relevant biodiversity targets. We will publish our targets and the

roadmap for achieving them before year-end 2024, and report on progress annually starting in 2025.

We will harness the knowledge gained to further inform our ESG research, and provide deeper guidance on the topic to our portfolio managers. We will intensify our existing engagements and, if necessary, develop new thematic engagements.



Nordea
ASSET MANAGEMENT