

2024

# Navigating nature

Opportunities for the investor of tomorrow

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# Why should investors care about nature?

**Nature is so important for everyone, everywhere, and for everything we do.**

As of last year, six of nine “planetary boundaries” have now been transgressed, increasing the risk of irreversible environmental damage.<sup>1,2</sup> Global wildlife populations have declined by an average 69 per cent in the past 50 years and around 1 million animal and plant species are now threatened with extinction, many within decades.<sup>3</sup> The scale of the problem is daunting.

So, why should this issue matter to investors? As a global asset manager, Aviva Investors recognises the significant investment risks and opportunities that derive from our portfolios’ interactions with nature. Understanding potential exposure to nature-related risks, and addressing them, is crucial to safeguarding the long-term value of investments.

We see the enormity of the challenge but we also see solutions. Investors who are engaged with, understand, and can identify nature-related risks and opportunities are better positioned to make investments that are focussed on harnessing nature to enhance resilience and adaptability. We believe this can ultimately contribute to long-term profitability and growth for investors. Additionally, direct investment into nature-based solutions projects that aim to enhance biodiversity and deliver social outcomes, alongside carbon sequestration, has the potential to provide attractive returns whilst tackling key sustainability issues.

**Mirza Baig**

Chief Sustainable Investing Officer,  
Aviva Investors



1. A framework that outlines the limits within which human activity can be considered sustainable, See: Katherine Richardson, et.al., [“Earth beyond six of nine planetary boundaries”](#), Science Advances, Vol 9, Issue 37, September 13, 2023.
2. [“Planetary boundaries”](#), Stockholm Resilience Centre, 2023.
3. Rosamunde Almond, et. al., [“Living planet report 2022 – building a nature positive society”](#), WWF, 2022.



We have developed innovative solutions such as data analytics tools to support our efforts to deliver investment outcomes for our clients. These solutions allow us to better identify, evaluate and track nature-related risks and opportunities across portfolios and provide our clients with data on the nature-related “footprint” of their investments.

We have integrated nature into the core of our firm’s “holistic stewardship” plans. Working together with companies to reverse biodiversity loss is a key part of this approach.<sup>4</sup> In addition to our existing engagement programmes, we are excited to have launched our new Nature Engagement Programme. As part of this, we have selected globally significant players across our credit and equity portfolios that have substantial impacts and dependencies on biodiversity and forests, and which we hope can demonstrate leadership on this issue and catalyse systemic change across their respective industries.

To date, many sustainability initiatives have tended to focus on climate change, whilst not sufficiently recognising the interdependence between climate and nature. However, it is imperative to recognise that biodiversity loss is a critical driver of the climate crisis, just as climate change is a driver of biodiversity loss.<sup>5</sup> As a result, the state of nature is critical to the climate crisis and protecting and restoring nature is crucial beyond climate considerations.

This is why I am particularly excited about the launch of our innovative carbon removals approach, which looks at high integrity nature-based solutions that seek to sequester carbon. We believe this kind of approach can play an integral role in responding to net-zero emissions ambitions, whilst also aiming to deliver biodiversity and nature benefits. Our Natural Capital Transition Global Equity Strategy, is approaching its three-year anniversary and continues to aim for sustainable outcomes by supporting companies that help reduce human impacts on nature.

Whilst substantive challenges remain, we believe nature can present significant opportunities for investors looking to position their portfolios for the future economy. These opportunities are there to be grasped by investors willing to look for them, and we are

asset managers like ourselves can support our clients to deliver on their investment goals, whilst contributing to the vital work of protecting and restoring our most precious asset nature. This publication shows how.

## Protecting and restoring nature is crucial beyond climate considerations.

ready to take the lead in providing clients with the products and solutions in line with their sustainability preferences. We will continue to develop and refine our approach as data, modelling and policy and regulation matures in this fast-moving and dynamic space.

Finally, we are committed to working in partnership with investors to exchange views and progress action on the increasingly pressing challenges that protecting nature presents. Much remains to be done. But we believe that through responsible stewardship and a thoughtful approach to investment,

4. Refer to “Unlocking long-term value through stewardship” section for further detail.

5. Eduardo Brondizio, et. al., [“Global assessment report on biodiversity and ecosystem services”](#), IPBES, 2019.

# 1

## Introduction

# Introduction

**Our society, economies and financial systems are embedded in nature, not external to it. Healthy ecosystems are a prerequisite for the sustained flow of ecosystem services that business and finance depend on to generate financial returns.**

But the science is clear that nature is deteriorating globally. Biodiversity is declining faster than at any time in human history, and the biosphere is being altered to an unparalleled degree. Nature loss is also intimately connected to the world’s response to the climate crisis, with biodiverse ecosystems helping to mitigate climate change and enhance climate adaptation efforts.

As an asset manager, this matters to us. We not only recognise our role in supporting governments and society in achieving nature-related goals such as aiming to reverse biodiversity loss by 2030, but we also have to consider nature for our investments and clients.

Nature-related risks present investment risks, either by directly impacting private and public market investments, or by contributing to broader risks to financial stability. But nature, and the transition towards a nature-positive economy, can also offer significant investment opportunities. Investors who pay greater

attention to these trends can ensure they are positioned well ahead of incoming regulation and create and invest in opportunities such as biodiversity credits, which can capitalise on the transition towards a low-carbon, people inclusive and nature-positive economy.<sup>6</sup>

This publication sets out the actions Aviva Investors is taking to understand nature-related risks and opportunities in order

**But nature, and the transition towards a nature-positive economy, can also offer significant investment opportunities.**

to deliver outcomes that meet the needs and preferences of our clients. It also illustrates the actions we take with the aim of supporting nature-related global goals such as the Kunming-Montreal Global Biodiversity Framework (GBF) and unlocking long-term value for our clients through stewardship.<sup>7</sup> We recognise that the nature-business-finance nexus is a dynamic and evolving space, posing challenging and multi-faceted issues

and opportunities for investors and asset managers. Like us, our clients are increasingly seeking tools and solutions to help them meet their own nature-related goals and ambitions, as well as meeting their investment objectives.

Whether it is through our data and analytics capabilities, direct investment in projects that deliver for nature, climate and people (e.g. nature-based solutions) or our capacity

as stewards to use our influence across multiple levels of the financial system to support nature-positive outcomes, we continue to work in partnership with our clients to identify and shape solutions that aim to meet their needs.<sup>8</sup> We also have a range of nature-related products and capabilities that we offer to deliver on their specific and varied sustainability preferences.

6. Refer to section on “Biodiversity risk solutions” within the “Identifying and addressing nature-related risks” section for further detail

7. [“Kunming-Montreal - global biodiversity framework”](#), Convention on Biological Diversity, December 2022.

8. Nature-based Solutions address societal challenges through actions to protect, sustainably manage, and restore natural and modified ecosystems, benefitting people and nature at the same time. See: [“IUCN global standard for nature-based solutions : first edition”](#), IUCN, 2020.



# Highlights

<p><b>Nature Engagement Programme</b></p> <p>In 2024, we launched this 3-year programme focussing on biodiversity loss attributed to deforestation and ecosystem conversion in three key sectors – oil and gas and mining; consumer staples and banking.</p>	<p><b>Voting</b></p> <p>We formally incorporated biodiversity into our voting in 2022. In 2023, we supported 83 per cent of the nature-related shareholder proposals that we voted on and sanctioned 117 companies with poor nature-related policies.</p>	<p><b>Isle of Mull Project</b></p> <p>In May 2023, we acquired an established afforested area of land on the Isle of Mull extending to 2,035 hectares with new planting approvals for 800 hectares of mostly native broadleaf woodland. Over the lifetime<sup>9</sup> of this project, we aim to sequester an estimated 226,000 tonnes of carbon.</p>
<p><b>Investor Initiative on Hazardous Chemicals</b></p> <p>Since 2021, we have mobilised a group of investors to target 54 manufacturers of hazardous chemicals and have seen notable progress in the industry.<sup>10</sup></p>	<p><b>UK Biodiversity Net Gain Compliance within real estate</b></p> <p>In 2023, our Private Markets team began conducting biodiversity site audits at a range of assets across our portfolio.</p>	<p><b>Convention of the Parties, (COP15)</b></p> <p>We attended in 2022 as part of our support for a positive and ambitious outcome for the UN Convention on Biodiversity framework to include the alignment of private and public financial flows to the GBF.</p>

9. The Woodland Carbon Code is the UK’s government-backed carbon code and duration can be up to 100 years from the start date. See: [“UK Woodland Carbon Code”](#) website.

10. [“Annual sustainability review 2023”](#), Aviva Investors, p.83, 2023.

# Timeline of our work on nature



Founding signatory of the UN-backed Principles for Responsible Investment (PRI), which provides an independent set of principles for responsible investment.

2006

On World Oceans Day, and in collaboration with Sustainable Fisheries Partnership and UNPRI, we launched a report designed to catalyse and guide investor engagement with seafood and aquaculture investee companies.<sup>11</sup> Additionally, we convened a UN PRI backed group of investors to engage with a selection of companies on the topic.

2015

In collaboration with WWF, we published a report looking at the role of institutional investors in protecting natural World Heritage sites from extractive activity.<sup>12</sup>

Member of European Commission High-Level Expert Group on Sustainable Finance & the Financial Stability Board’s Taskforce on Climate-related Financial Disclosures (TCFD).

2016

Aviva Investors assisted in the development of the Sustainable Development Goals (SDGs), with the Aviva-founded Corporate Sustainability Reporting Coalition playing a key role in the adoption of Goal 12.6.<sup>13</sup>

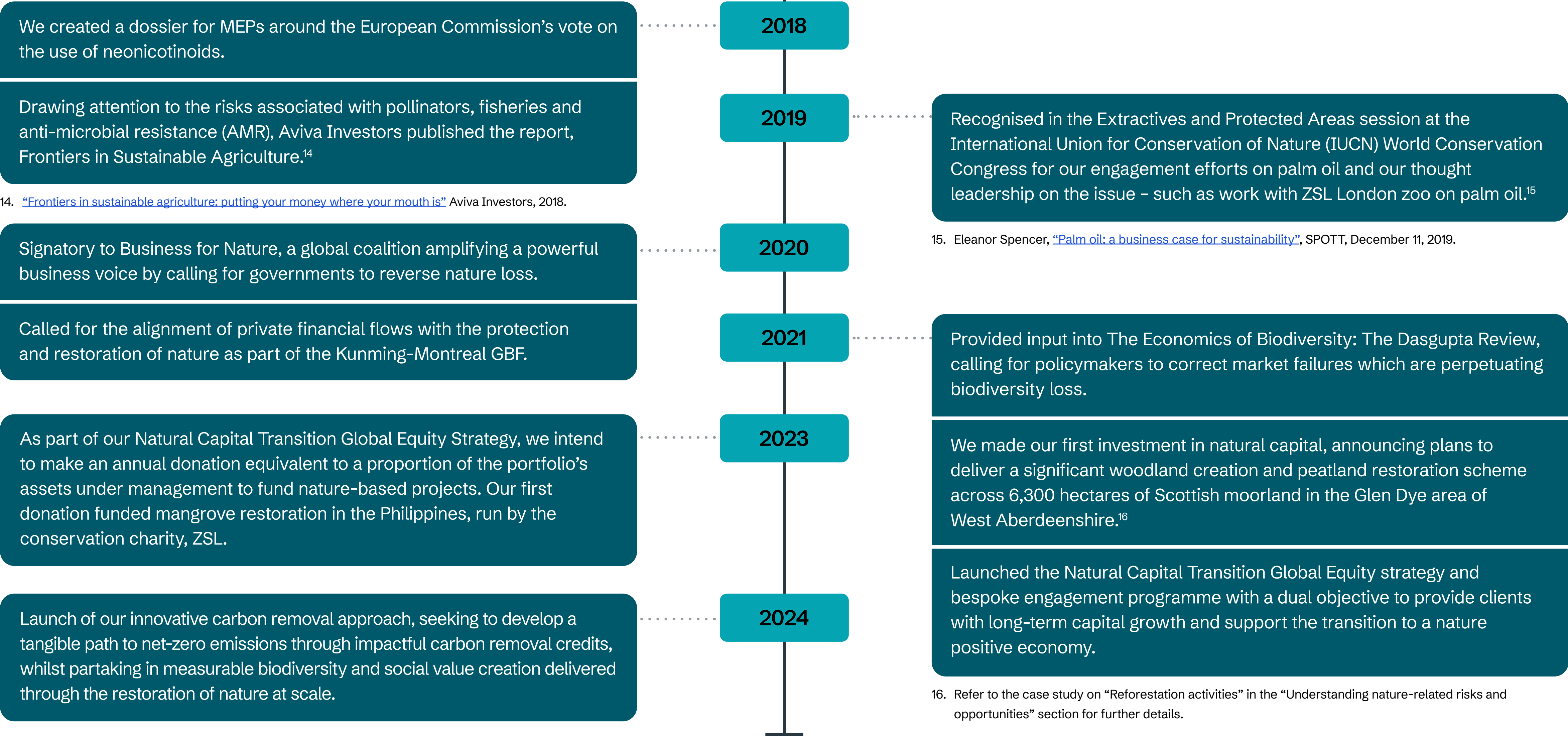
11. Blake Lee-Harwood, [“Sustainable seafood and responsible investment”](#), Sustainable Fisheries Partnership, October 2018.

2017

We catalysed and spoke at a UK Sustainable Investment Forum event, known as Beeconomics, as well as contributing a chapter to the book, The Business of Bees, on the impact of a global decline in pollinators on the average investment portfolio.

12. [“Safeguarding Outstanding Natural Value”](#) WWF, September 2015.  
13. SDG Target 12.6: Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.







# 2

## Understanding nature-related risks and opportunities



# Understanding nature-related risks and opportunities:

## The relevance of nature for investors and asset managers

The health, productivity and adaptability of nature and its biodiversity, and the access to ecosystem services it provides, is fundamental for societal and economic resilience.<sup>17</sup> Nature loss and actions to address it can present both risks and opportunities for investors insofar as action taken to address nature loss can enable businesses and financial institutions to generate cashflows and financial returns from it.

### Nature loss and actions to address it can present both risks and opportunities for investors.

Nature-related risks and opportunities can have financial effects for an organisation through changes to the following:

- i. revenue, expenses and capital expenditure (for example, implementing nature-based solutions for flooding, or not doing so, can have financial implications for firms);
- ii. access to and cost of capital (through, for example re-ratings for credit risk or insurance premiums where better positioned to address nature-related risks); and

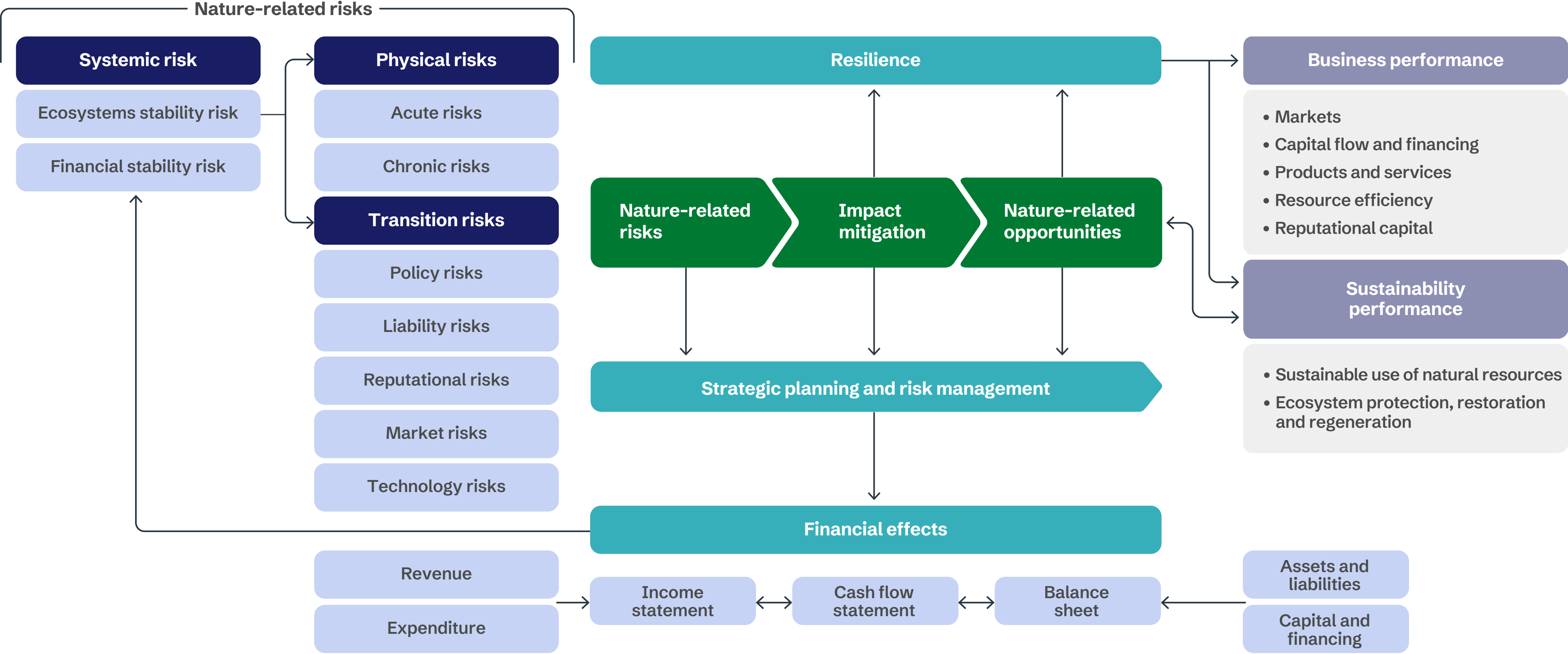
- iii. carrying amount of assets and liabilities on the balance sheet. These transmission channels can have a positive or negative effect on credit, operational, market, liquidity, liability, reputational and strategic risk (Figure 1).

We believe nature-related opportunities can deliver enhanced business performance and value creation. For affected companies, improving models, enablers and solutions will require modest or considerable adjustments to business models and procurement.

We believe that many nature-related risks and opportunities – some of which are potentially material – are under-represented in current valuations. For example, risks arising from corporate dependencies on ecosystem services, such as a beverage company’s need for clean water, or an agricultural producer’s dependence on pollination, are not well translated to material changes in share prices. Nevertheless, investors that aim to identify and act upon nature-related risks and opportunities early can potentially benefit and enhance investment outcomes as well as supporting the transition to better nature outcomes.

17. Professor Sir Partha Dasgupta, “[The Economics of Biodiversity: The Dasgupta Review](#)”, GOV.UK, February 2021.





**FIGURE 1.** Providing an overview of the links between nature-related risks, business performance and financial effects for an organisation.  
Note: For illustrative purpose only. Source: [“Recommendations of the Taskforce on Nature-related Financial Disclosures”](#), Taskforce on Nature-related Financial Disclosure, p.39, September 2023.



# Nature-related risks for investors

Investments can be subject to nature-related risks which may impact negatively on financial performance. Categories of potential nature-related risks are set out below:

Risk	Description	Potential impact on investments	Illustrative example
Physical (localised)	A risk resulting from the degradation of nature and consequential loss of ecosystem services. These can be acute (e.g. natural disasters) or chronic (e.g. water scarcity).	Investment in companies not addressing their dependency on nature and ecosystem services can result in increased physical risk, which may result in increased expenditure and reduced profit.	Loss of green space and trees surrounding social housing investment results in increased surface run-off and increased flood risk.
Systemic (entire system)	A risk arising from the breakdown of the entire natural system, rather than the failure of individual parts. These can be risks to a financial system or the breakdown of natural systems. Physical and transition risks interacting within all sectors can contribute to systemic risks.	All sectors are dependent on nature, resulting in a potential impact on investments; however, there is potentially a greater impact on investments with increased dependencies on nature and ecosystem services.	Investments with agri-supply chains linked to food crops dependent on pollinators (Brazil nuts, cocoa beans and fruits) would be significantly impacted by a collapse of pollinators, resulting in reduced yield production and revenue for investors.
Transition	A risk arising from misalignment with actions aimed at protecting, restoring and/or reducing negative impacts on nature.	Investments better positioned to transition and reduce their negative impact on nature will potentially be subject to less transition risk.	Opex requirements to change operational processes in relation to agricultural supply chains (e.g. reduction of pesticide use).

Risk	Description	Potential impact on investments	Illustrative example
Legal and policy	A sub-set of transition risk resulting from changes in policy or regulation.	Investments in companies not prepared for the transition may be subject to increased costs, or monetary fines or even stranded assets, which in turn may create reputational risk.	UK Biodiversity Net Gain legislation requires all new real estate developments to deliver a measurable improvement in biodiversity.
Technological	A sub-set of transition risk arising from new technology that financially affects the company.	Investments in companies that do not transition into using new technology may be subject to increased costs and lower efficiency compared to competitors, and potentially increased reputational risk	Technology available for biodegradable packaging offering alternative to single-use plastics can improve efficiency and reduce costs as well as reducing impact on nature.
Reputational	A sub-set of transition risk arising when consumers move away from a brand tied to harmful practices	Investments in companies with poorly implemented sustainability policies or those engaging in greenwashing will potentially be subject to greater reputational risk.	A news report alleging a company used suppliers engaging in deforestation may negatively impact share price and/or consumer appetite for its products or services which can impact sales/market share.
Liabilities	The risk of being held liable or responsible for action or inaction resulting in some form of loss to another actor.	Investments engaging in activities harmful to nature may be subject to greater risk of monetary fines and/or litigation costs.	Companies found liable for damages to common resources like waterways/indigenous land due to pollution or land degradation.



## Some real-world examples of nature-related risks materialising include:<sup>18</sup>

### Liability risk

An industrials company incurred a \$10.5 billion liability for polluting waterways with forever chemicals (PFAS), which cause hazards to humans and the environment. Total liability for remediations and other solutions could total \$25 billion.<sup>18</sup>

### Physical and transition risk

An automobile company was impacted by dependency on declining groundwater in its Berlin GigaFactory. This caused a 3.1 per cent fall in its share price within 24 hours after a court complaint, alongside a delay in completion of the \$5.7 billion facility.<sup>18</sup>

### Legal and policy risk

An energy company faced legal challenges to protect an endangered whale species due to its oil and gas activities in the Gulf of Mexico. Legal costs and development delays associated with this threatened up to \$49.6 million in revenue.<sup>18</sup>

Note: Categories of potential of nature-related risk, their potential impacts on investments and illustrative examples.

18. Alistair Purdie, [“When the Bee Stings Counting the Cost of Nature-Related Risks”](#), BloombergNEF, December 9, 2023.





# Nature-related opportunities for investors

**In addition to better management of nature-related investment risks, as set out previously, investing in nature themes can also potentially generate alpha. Here are examples of investment opportunities arising from nature:**

## Nature solutions

There is a need for the development of solutions that contribute towards restoring and protecting nature, which present investors with opportunities across both public and private markets. Aviva Investors' Natural Capital Transition Strategy provides clients with an opportunity to invest in and potentially benefit from these opportunities.<sup>19</sup>

## Nature transition

We believe markets will have to increasingly price in the risks posed by the impact of nature loss, the anticipated changes in regulations to protect biodiversity, and the growth in consumer awareness and demands of companies. This process is expected to create winners and losers. Investors can potentially generate alpha by identifying the leaders of the transition, for example as these companies' share prices outperform the broader equity market. Within our Natural Capital Transition Strategy, we aim to use our proprietary Nature Transition Risk Framework to identify these winners.<sup>19</sup>

## Consumer demand

Increased consumer demand for more sustainable products across Gen Z and millennial demographics poses opportunities for first movers to capitalise before their peers in the market.<sup>20</sup> Those that take advantage of these opportunities now can potentially benefit from increased revenue as well as reputational capital (see next opportunity).

## Reputational capital

Companies actively addressing their nature-related exposure publicly have the potential to gain reputational benefits where they have an increased positive view from society and stakeholders which can potentially lead to increased revenue.

## Example of nature-related opportunity:

Increased demand for low-carbon building materials such as timber is forecasted to quadruple by 2050 as economies seek to reduce emissions in the built environment (accounting for ~ 40 per cent of global emissions).<sup>21</sup> Creation of products where forests are sustainably managed and harvested in addition to being EU Deforestation Regulation (EUDR) compliant represents an investment opportunity.

19. Refer to the 'Solutions for our clients - Public Markets: Natural Capital Transition Global Equity strategy' section for further details on this strategy.

20. Johnny Wood, ["Gen Z cares about sustainability more than anyone else - and is starting to make others feel the same"](#), World Economic Forum, March 18, 2022.

21. ["World Bank Group Forest Action Plan FY16-20"](#), World Bank, 2016.



## Resource efficiency

Investments actively addressing nature risks through enhancement of operations and business models may become more resource-efficient, which could result in increased profit margins or lower insurance premiums. For example, companies invested in sustainable management of natural resources can potentially deliver increased growth.

## Biodiversity credits

Biodiversity credits are tradable instruments that reward positive outcomes linked to biodiversity units over a period of time. Interest in biodiversity credits is proliferating, with forecasts from the World Economic Forum<sup>22</sup> suggesting the total market could potentially reach \$1-\$7 billion per year in 2030 and up to \$180 billion by 2050. Though the demand side of the market for voluntary biodiversity credits is unclear, it is likely to be an area where regulation and legal developments can align companies to address full risks across the value chain, potentially leading to an expansion of the nature and biodiversity credit market. The UK's newly introduced Biodiversity Net Gain (BNG) legislation and Australia's Nature Repair Act in 2023 provides an opportunity for developers and landowners to monetise and trade biodiversity improvements nationally. Increasingly there are pools of investors looking at nature restoration projects as a hedge against carbon price exposure in other areas of their portfolio, or purely for speculative reasons.

## Nature-based carbon removal solutions

Though never a substitute for decarbonisation, many investors will most likely need to look at carbon removal solutions to achieve net-zero emissions targets. Nature remains by far the most cost-effective and scalable carbon removal solution<sup>23</sup> at present and therefore there is an opportunity for investors to integrate nature early within transition plans, get ahead of regulation and differentiate themselves within the market.<sup>24</sup>

Returns on these projects can potentially be generated in two ways: a) through traditional real assets revenue streams such as land value appreciation and land-based commodities, such as timber; and b) through nature and carbon market revenues. Furthermore, land is a finite resource, so moving early into nature-based carbon removal solution ensures investors have access to nature restoration opportunities at scale, opening the door to new net-zero emissions aligned asset classes and hedging future carbon price movements.

There are of course risks associated with carbon removals including policy and regulatory risks, delivery and counterparty risk, climate and physical risk, price and value risk, technology and methodology risks, reversal and permanence risk<sup>25</sup> and illiquidity risk.<sup>26</sup> On the next page we share a case study on a nature-based carbon removal solution we have invested in.

22. Amelia Fawcett and Sylvie Goulard, [“How biodiversity credits can finance nature-positive outcomes”](#), World Economic Forum, January 11, 2024.
23. [“IPCC AR6 WGIII: CDR factsheet: Carbon dioxide removal”](#), IPCC, 2022
24. Refer to the ‘Solutions for our clients - Private Markets: Carbon Removal Approaches’ section for further detail on this strategy.
25. Sylvera | [Permanence in carbon credits: why it matters, and how to evaluate it](#) (December 16, 2022)
26. Refer to disclaimer for further details.

**Though the demand side of the market for voluntary biodiversity credits is unclear, it is likely to be an area where regulation and legal developments can align companies to address full risks across the value chain, potentially leading to an expansion of the nature and biodiversity credit market.**

## Case study

# Reforestation activities

**In December 2021, we made our first investment in natural capital, announcing plans to deliver a significant woodland creation and peatland restoration scheme across 6,300 hectares of Scottish moorland in the Glen Dye area of West Aberdeenshire.**

## Nature-based carbon removal solutions

Following detailed public and statutory consultation, applications were made to undertake over 3,000 hectares of new tree planting, and 1,800 hectares of peatland restoration. The restored peatland will first avoid more carbon being added to the atmosphere, followed by building further biomass, which will absorb carbon. Over the lifetime<sup>27</sup> of the project, it is expected that an estimated 1.4 million tonnes of carbon can be locked up.

Up to one third (1,000 hectares) of the replanted land will be productive conifer. The remaining 2,000 hectares of replanting will be native woodland, the design and management of which will be led by Scottish Woodlands Ltd.

Since acquiring the site, we have engaged with the local community to ensure the proposed planting plan takes their concerns into account. We have also extensively surveyed the site and submitted our planting plans for approval by Scottish Forestry. Subject to approval, we hope to start planting in 2025.

In November 2023, alongside our afforestation preparation work, we restored ten per cent of the degraded peatland area. We are currently working with Peatland Action to plan the next phase of the work. Our intention is for this project to support natural capital and carbon capture through the restoration of natural habitats and delivery of biodiversity improvements, while also adding social value to the local communities.

In May 2023, we made our second investment in natural capital, through the purchase of an established afforested area of land on the Isle of Mull which already had new planting approvals. The site extends to 2,035 hectares with new planting approvals for c.800 hectares of mostly native broadleaf woodland. Over the lifetime<sup>27</sup> of this project, we aim to sequester an estimated 226,000 tonnes of carbon. Over the projects' lifetimes<sup>24</sup>, we therefore aim to capture an estimated total of 1.6 million tonnes of carbon through natural solutions.

**Over the projects' lifetimes<sup>27</sup>, we therefore aim to capture an estimated total of 1.6 million tonnes of carbon through natural solutions.**

<sup>27</sup>. Typically, woodland carbon code model for a project of this type is having a lifetime of 100 years.



# 3

## Identifying and addressing nature-related risks and opportunities

# Identifying and addressing nature-related risks and opportunities:

## Aviva Investors' data analytics and risk assessment solutions

Investors make investment decisions based on quantitative data as well as qualitative insights. They need consistent, comparable and readily accessible data disclosed against common metrics. Nature is multi-faceted, requiring a dynamic and iterative approach to ensure a holistic understanding. As a key theme within sustainable finance, driven by science and with emerging policy, regulation and standards, this is an ever-evolving space. Data quality and availability is improving; however, significant challenges remain, such

**Whilst we recognise progress will take time, we believe that action is needed now, irrespective of imperfect data.**

as the limited availability of investment-useful data about nature-related dependencies and impacts, and the modelling capabilities to determine the financial materiality of their associated risks and opportunities. We would expect emerging disclosure and regulatory frameworks and standards to accelerate improvements of data and corporate reporting. Whilst we recognise progress will take time, we believe that action is needed now, irrespective of imperfect data.

Like us, our clients are increasingly seeking tools and solutions to help them meet their own nature-related needs and objectives. As illustrated in our timeline on [page 8](#), as a firm we have shown commitment to and integrity in nature-related issues, such as biodiversity and deforestation. We understand the complexities and believe we are well-equipped to navigate them. We have developed proprietary data analytics tools which we refer to as “Nature Risk Solutions” which can support investors and investment managers to understand their potential nature-related risks.

Investors should use both quantitative data and qualitative research to ensure a holistic approach to investment decisions. Data is a critical starting point and should provide the broadest possible base-level coverage of nature-related issues. However, data is static, has a tendency to be backward-looking, and can be subject to quality and coverage issues.<sup>28</sup> Nevertheless, and in particular in the nature-space, our Nature Risk Solutions are able to provide an indication of potential nature risks, impacts and dependencies. This data can be used as an initial indication to prompt further qualitative research and

28. As with all data used within asset management, we rely upon underlying data from third parties and it is possible that this data or even our own data may be incomplete, inaccurate or unavailable, hence the importance of using it as an initial indication to prompt further qualitative research and analysis.



analysis, which can in turn provide a deeper understanding of potential investment risks.

Our Nature Risk Solutions can be used at an investment desk level to inform issuer<sup>29</sup> selection and decisions, and support investment analysts with bottom-up and thematic research on issuers and sectors. Top-down portfolio construction can also be informed by our tools, which can provide insights into portfolio footprint and risks. The tool for private markets investments can be used as early due-diligence risk screening and help identify potential areas for restoring biodiversity on the ground.

The inclusion of aggregated scores within our Solutions provides useful portfolio footprinting insights on the composition of a portfolio and potential areas for mitigation actions. This enables insightful visualisation of the data which can support portfolio construction and asset allocation.

We recognise the limitations of data coverage within existing datasets and have data quality and coverage metrics (the latter presented by a data quality score of 1-4<sup>30</sup>) within our Solutions. We recognise that decision-useful data for investors will become increasingly available over time, and we aim to continue to innovate, enhance and expand our Solutions to enable us and our clients to better understand this topic, driven by science and aligned with regulation.

We are proud of the Solutions we have developed, and our work continues to embed these into Aviva Investors' investment processes, enhancing the insights available to our investment teams to identify and address nature-related risks and opportunities.

29. An issuer is a legal entity, for example a company or government, that develops, registers and sells securities for the purpose of raising funds, such as equity or debt.

30. 1. Where the environmental data is reported by an issuer; 2. Where it is modelled and based on reported output; 3. Where it is modelled using sales data within input/output model based on sales by activity; and 4. Where it is modelled and based on main sector's sales using input/output model.





# Deforestation Risk Solutions

**Our Deforestation Risk Solutions provide insights on the strength of a companies' deforestation policy.**

This tool provides a view as to whether listed companies have “Strong”, “Medium” or “Weak” deforestation risk policies by aggregating three different datasets (CDP Forests, SPOTT and Forest500). We have also included additional deforestation data from Trase Finance and Forests & Finance within the tool.

The tool enables users to perform issuer-level analysis and sector and peer comparisons. It also provides a time series data view to understand how a company's score has changed over time. The overarching deforestation score can also be broken down into greater granularity of data, which helps investors understand the drivers of the score for a specific company.





# Biodiversity Risk Solutions

**Our Biodiversity Risk Solutions provide insights with regard to positive and negative impacts as well as dependencies on biodiversity. We have three different tools across corporate, sovereign and private investments.**

31. PBAF | [The PBAF Standard enables financial institutions to assess and disclose impact and dependencies on biodiversity of loans and investments](#)

32. These are different ways of categorising the kinds of biodiversity impacts a company creates through it’s direct operations (Scope 1), indirectly through electricity or energy consumption (Scope 2) or a company’s upstream and downstream impacts across its value chain (Scope 3).

## Corporate Biodiversity Risk Tool

This tool provides a view on the potential negative and positive impacts and dependencies companies have on biodiversity using Iceberg DataLab data as an input. This data is based on a biodiversity footprinting approach<sup>31</sup> to quantify a company’s potential biodiversity impact and dependencies using data on a company’s revenue, business activities and related input and output data. We believe that biodiversity footprinting represents the best available form of assessment for potential biodiversity risk in public markets, in the absence of better corporate disclosure and data on biodiversity.

Akin to our Deforestation Solutions, this tool provides capabilities for issuer-level analysis. Each company is assigned three overall scores – one for positive impact, another for dependencies and another for negative impact, expressed in Mean Species Abundance, which is a metric that compares the

actual abundance of native species in a given location to their estimated abundance if the ecosystem would be in an undisturbed state. These single aggregated metrics can be broken down into sub metrics – such as Scope (1, 2 and 3) for negative impact.<sup>32</sup> These metrics provide vital interpretation of the results, as majority of negative impacts on biodiversity occur within indirectly within the supply chain (Scope 2 and 3).

We have created a rating system (1-5) for companies, with a score of 1 representing a very poor performance compared to peers within its sector, and a score of 5 indicating very strong performance. These overarching scores can also be broken down into sub-metrics to aid users to understand the drivers of the score as well as greater granularity on specific biodiversity issues.

## Sovereign Biodiversity Risk Tool

This tool identifies sovereign issuers’ potential impact on biodiversity. We use Iceberg data as an input which has four country-level biodiversity impact metrics. For each of these metrics we calculate a relative rating for each sovereign issuer compared to the performance of others within the same geographical region. Similar to our corporate model, sovereigns score between 1 (very poor) and 5 (very strong).

# Insights from our corporate Biodiversity Risk Solutions – Public Markets<sup>33</sup>

## Portfolio footprint: Negative, dependency and positive impact

Our tool provides an aggregated footprint of corporate holdings for negative impact, dependency and positive impact (see Table 1 for a hypothetical example). This footprint is expressed in km<sup>2</sup>MSA which is an indicator of biodiversity intactness as a result of land or sea use change from the presence of human activities or company operations. It shows the Mean Species Abundance per square kilometre. A negative km<sup>2</sup>MSA indicates that species have been lost; for example, a footprint of -50 km<sup>2</sup>MSA means that all original biodiversity is lost over an area of 50km<sup>2</sup> for one year.

In this example, the absolute negative impact of -0.289 km<sup>2</sup>MSA (weighted to corporate holdings) means that the companies within this portfolio potentially maintain a fully degraded area slightly bigger than twice the size of Vatican City.<sup>34</sup>

Hypothetical Portfolio Absolute footprint <sup>35</sup> (km <sup>2</sup> MSA)		
Negative impact on biodiversity		-0.289
Dependency on biodiversity <sup>36</sup>		0.168
Positive impact on biodiversity <sup>35</sup>	Reduced	0.006
	Avoided	0.073
	Compensated	We did not find evidence of investee demonstrating restoration or sequestration activities within or outside their operations

**TABLE 1.** Weighted aggregated footprint figures for corporate holdings in a hypothetical portfolio showing negative impact on biodiversity, dependency on biodiversity and positive impact on biodiversity.

33. These insights are from a hypothetical portfolio largely consisting of UK holdings. Corporate holdings within equity, credit and multi-asset portfolios are considered. This excludes cash and derivatives and multi-asset portfolios investing in a portfolio/fund managed by a third party. Data from July 24, 2024 was used for these insights.

34. Vatican City measures 0.17Km<sup>2</sup>

35. Calculated by aggregating the biodiversity footprint of companies within the portfolio (expressed in km<sup>2</sup>MSA), multiplied by the per cent market value of the holding in each company in the portfolio.

36. Most companies in the investment universe show little progress on dependency and positive contributions. This mirrors the main focus within the market on companies understanding their negative impacts, with some companies developing approaches to deliver positive impacts for biodiversity. We hope the data availability of corporate positive actions towards biodiversity increases over time with the finalisation of the Task-force on Nature-related Financial Disclosures and alignment to Target 15 of the Kunming-Montreal Global Biodiversity Framework.



Alongside the aggregated metrics, the negative impacts can be disaggregated into different pressures (see Table 2).

We can also use the tools to identify which sectors are materially contributing to the aggregate figures as well as what is driving the impacts or dependencies. To illustrate this, for this hypothetical portfolio, sectors

majorly contributing to positive impact were information technology, industrials, communication services, health care and materials. These sectors are deemed to have a positive impact due to the introduction of solutions that have a reduced negative impact compared to a reference scenario and/or finance climate and biodiversity mitigation projects.

Negative impact on biodiversity	Hypothetical Portfolio Absolute footprint <sup>37</sup> (km <sup>2</sup> MSA)
Air pollution	-0.300
Land use change	-0.300
Water pollution	-0.292
Climate change	-0.265

**TABLE 2.** Weighted aggregated negative biodiversity impact figures for corporate holdings in hypothetical portfolio by environmental factors.

37. Calculated by aggregating the biodiversity footprint of companies within the portfolio (expressed in km<sup>2</sup>MSA), multiplied by the per cent market value of the holding in each company in the portfolio.





Sector level analysis

We can use our tools to dive deeper into underlying sub-metrics to identify drivers of the overall scores, i.e. of positive impact, dependencies and negative impact. If we look at the composition of the portfolio based on how companies score against their peers for a sub-metric, we are able to identify potential emerging risks within a portfolio.

We did this for our hypothetical portfolio to understand how companies within the automobile manufacturers sub-industry were performing compared to peers with regard to negative impact across their value chains (Scope 1, Scope 2 and Scope 3). Figure 2 shows that within this hypothetical portfolio of automobile manufacturers, there is a significantly high proportion of weak performers within Scope 2 emissions.

Comparison of companies within automobile manufacturers sub-industry on their potential negative impact on biodiversity in hypothetical portfolio

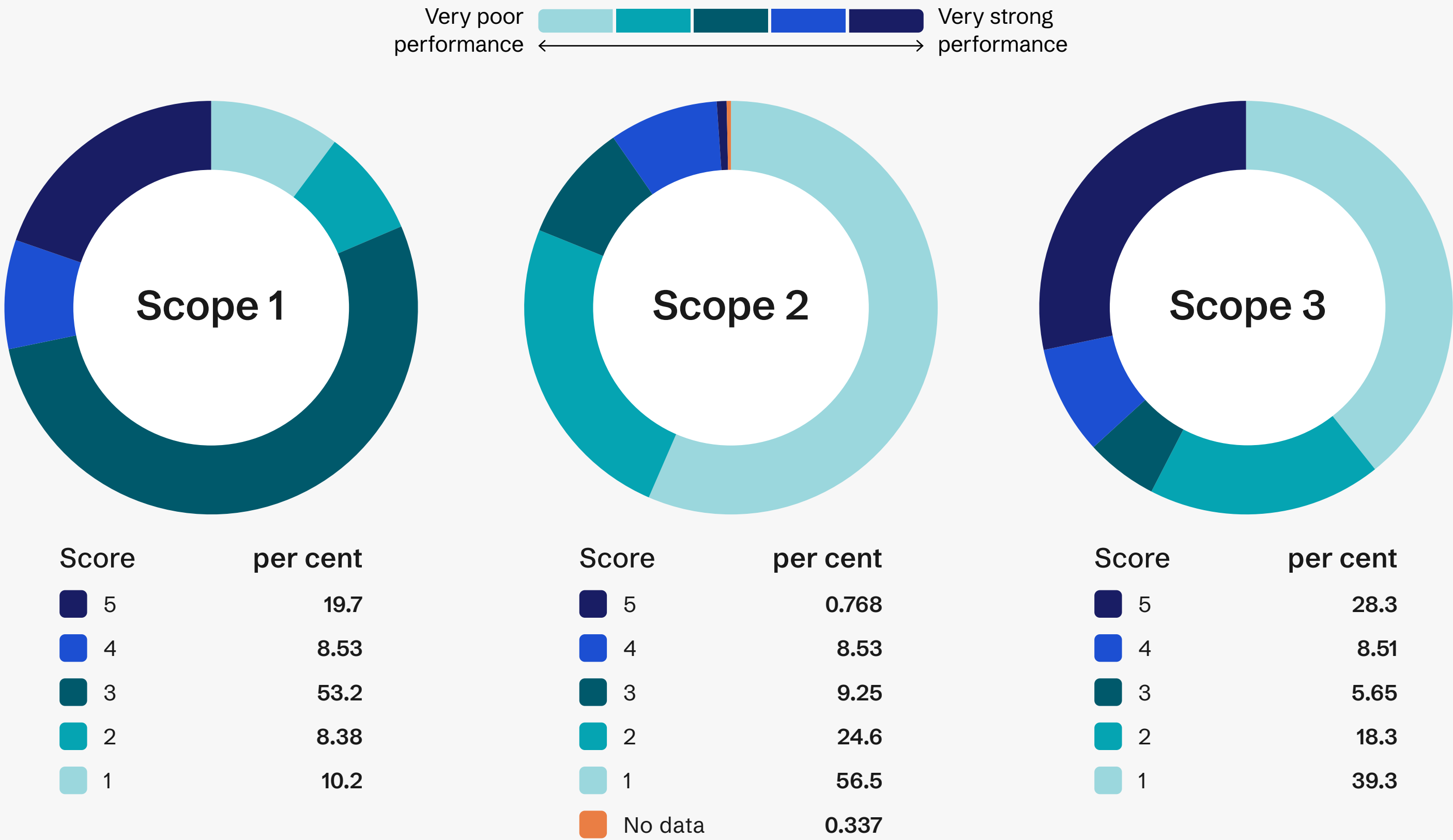


FIGURE 2. Composition of hypothetical portfolio demonstrating how strong companies within the automobile manufacturers sub-industry perform against peers for their negative impact on biodiversity across scopes 1, 2 and 3 (km²MSA)

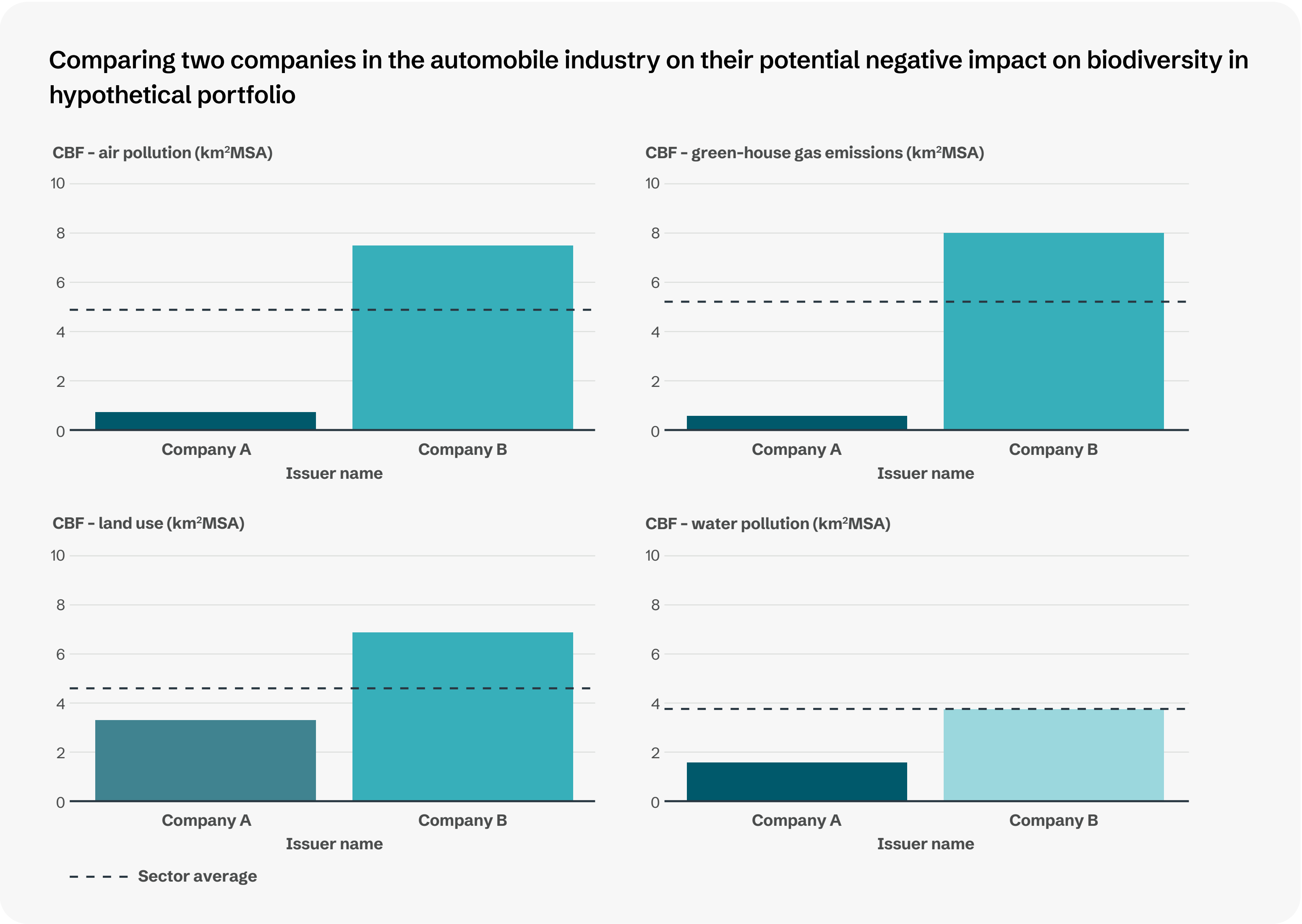


Company level analysis

We can then use the tool to look at the individual companies driving these poor scores to further understand a company’s potential footprint on biodiversity and ecosystem services and assess any potential risks to investments and identify a route for potential mitigation actions with engagement or divestment or other escalation.

We provide an example of this in Figure 3 for Companies A and B. This example shows Company B has a larger negative footprint on biodiversity compared to Company A, due to its increased pressure on each driver: air pollution, greenhouse-gas emissions, land use change and water pollution.

**FIGURE 3.** Negative Impact Enterprise (km²MSA) for air pollution, green-house gas emissions, land use change and water pollution for Company A and Company B within the automobile manufacturers sub-industry. The data has been transformed to a scale of 0-10





# Biodiversity Risk Solutions

To understand our interactions with biodiversity within private market investments (standing real assets, real estate developments and infrastructure equity), we use the third-party tool - Integrated Biodiversity Assessment (IBAT).

## Private Markets Biodiversity Risk Tool

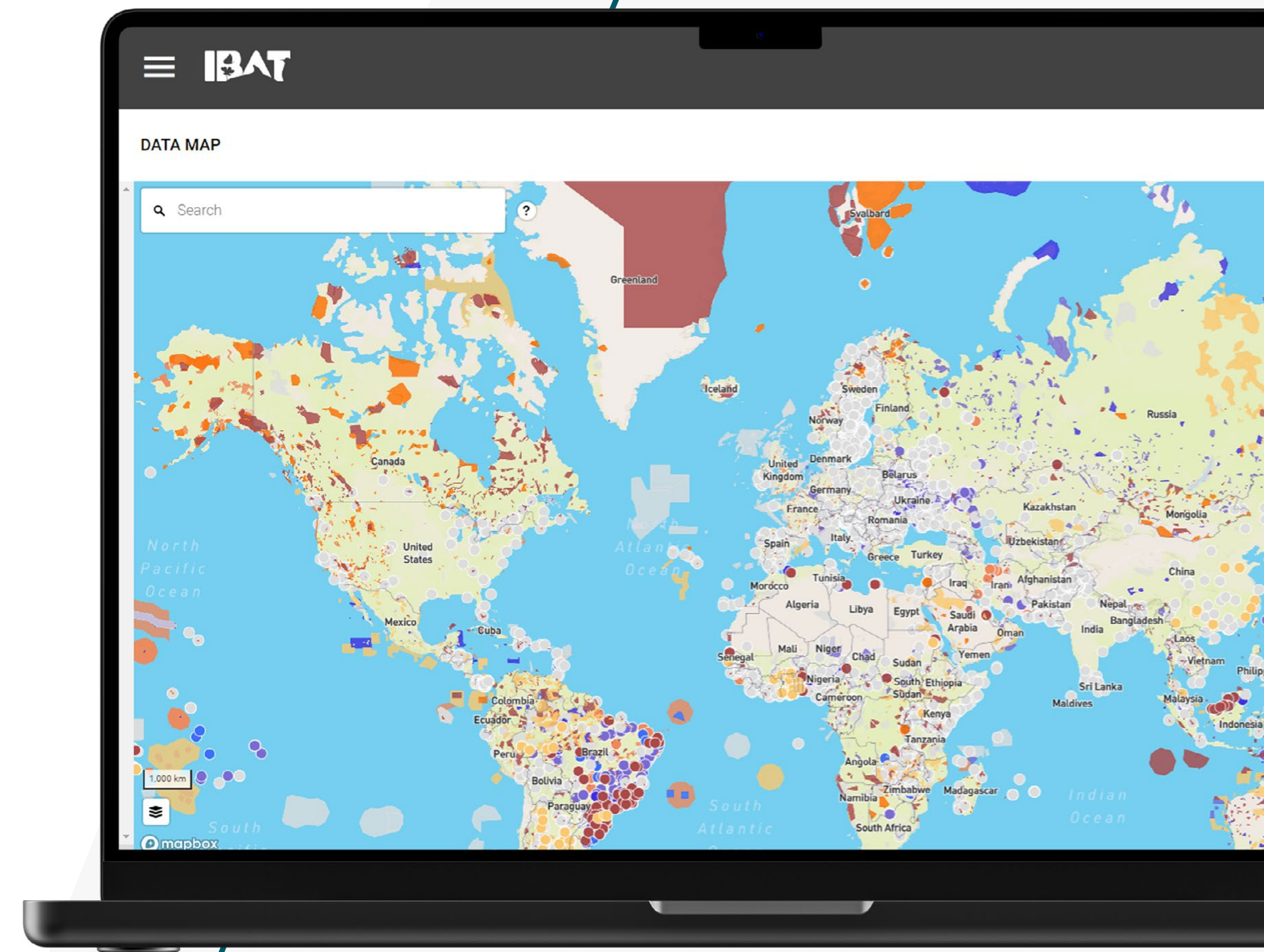
Integrated Biodiversity Assessment Tool (IBAT)<sup>38</sup> is a spatial tool which aggregates three global biodiversity datasets:

- World Database on Protected Areas
- World Database on Key Biodiversity Areas
- IUCN Red List of Threatened Species

IBAT provides reports and data downloads for physical assets and identifies whether assets are within a

defined proximity to Protected Areas, Key Biodiversity Areas, and IUCN Red List species. Multi-Site Reports can be run on each portfolio of assets using a pre-defined buffer for key biodiversity areas and protected areas, and a 50 km buffer for IUCN species. There is also the option of running more detailed reports (e.g. Species Threat Abatement Reports) for further investigation to identify opportunities for positive biodiversity actions on the ground.

38. IBAT | [Integrated Biodiversity Assessment Tool](#)



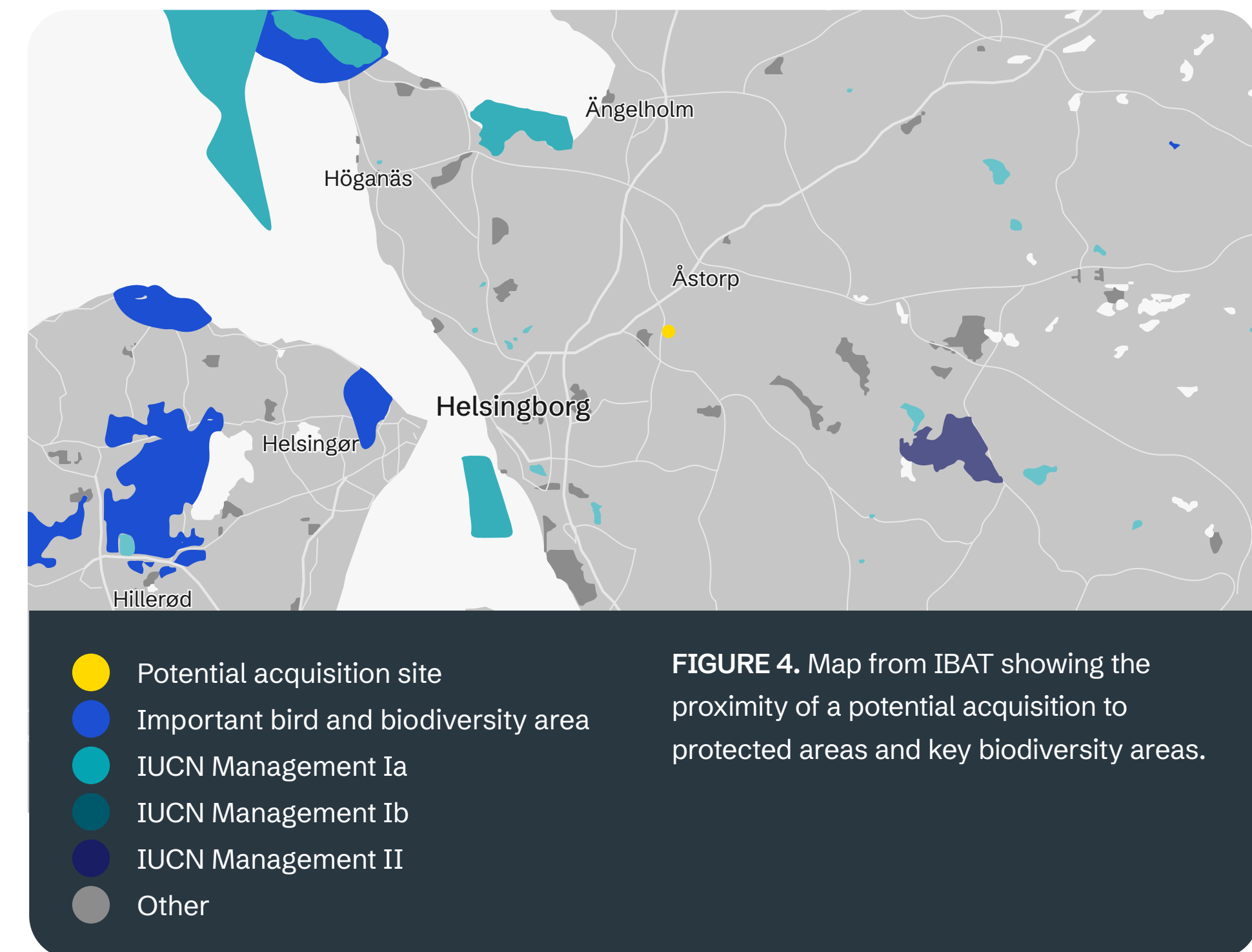


# Insights from our Biodiversity Risk Solutions – Private Markets

**The third-party Integrated Biodiversity Assessment Tool is a geospatial tool which identifies assets in a defined proximity to protected areas,<sup>39</sup> key biodiversity areas<sup>40</sup> and species on the IUCN red list.<sup>41</sup>**

We used IBAT to make an initial assessment of our exposure to biodiversity-important areas, flagging areas of potential risks to be investigated further. The Private Markets team has used IBAT to assess two potential acquisitions in real estate equity and has run IBAT reports on our standing real estate, real estate developments and infrastructure equity assets to identify the proximity of these investments to important areas for biodiversity. Over 450 assets were assessed with the IBAT tool, with the total capital value exceeding £11.9 million. Assets were primarily located in the UK, though the analysis also included assets in Denmark, Germany, Ireland, the Netherlands and Norway.

One acquisition on which we have run IBAT is shown opposite. The map displays the IBAT databases and the red dot represents the acquisition site. This map and accompanying report went to the Investment Committee along with other environmental, social and governance (ESG) due diligence information. Since the acquisition site is not within 1km of any key biodiversity areas, protected areas, or threatened species, no additional action was taken. In the event Aviva Investors acquires a development site in close proximity to key biodiversity areas or protected areas, we can engage with development teams, landscapers and ecologists to mitigate the impact on the local ecosystem.



Development sites are particularly useful to analyse, as they represent key opportunities for influence. However, the databases included in IBAT are global and have inconsistent resolution, so additional data collection is

required. IBAT therefore provides a useful starting point to evaluate potential risk exposure to biodiversity, which can then be supplemented with other resources such as in-person ecological site surveys.

39. Protected planet | [World Database on Protected Areas](#)

40. KBA | [Key Biodiversity Areas](#)

41. IUCN | [IUCN RED List](#)

# 4

## Unlocking long-term value through stewardship



# Unlocking long-term value through stewardship

Understanding the role that finance can play in stemming and reversing nature loss, we recognise the role we can play in supporting governments and society in achieving the nature-related goals of global initiatives.

We believe stewardship is a key vehicle to mobilise action towards supporting nature-positive outcomes – such as using best efforts to end deforestation, and halting and reversing biodiversity loss, as well as seeking to maximise long-term sustainable returns for our clients through engaging with our holdings to drive nature-positive practices. Aviva Investors has engaged on nature for decades and our stewardship strategy utilises various engagement approaches across different Levels of influence to aim to drive change across the system (see Figure 5).

Aviva Investors has increased our engagement activity in this area at a micro level with individual companies over the last few years, with dedicated engagement programmes under Finance Sector Deforestation Action (FSDA), our Natural Capital Engagement Programme and our recently launched dedicated Nature Engagement Programme. Recognising the power of working collectively with others, we participate in a range of collaborative engagements with fellow investors, governments and other financial actors.

FIGURE 5. Levels of influence of holistic stewardship

- Direct – Level 1**  
Through our private markets business, we have the opportunity to develop property, infrastructure and nature-based projects that seek to deliver strong risk-adjusted returns and align with social and environmental objectives.
- Issuer – Level 2**  
Refers to our stewardship as carried out among owners of shares and bonds, where we engage in constructive dialogue to gather insights to inform our investment decisions as well as voice our support for more sustainable practices.
- Sector – Level 3**  
Refers to engagement across industries to address structural problems that discrete interactions with individual companies will not fix.
- Value chain – Level 4**  
Relates to value chains, as some solutions may have to come from collaboration between, for example, companies responsible for significant carbon emissions and those that rely on their products.
- Country – Level 5**  
Refers to country-level stewardship, conducted through dialogue with governments, including policymakers at finance ministries, central banks and climate departments



**International institutions – Level 6**  
Refers to international action. Global challenges such as climate change are not constrained by physical borders, so effective stewardship efforts must also have an international reach. Much of this work is led by Our Sustainable Finance Centre for Excellence, which engages with global policymakers, standard setters and other changemakers with the intention of accelerating system-wide reform to correct material market failures.

Note: We undertake engagement at each level, but the process may not apply to every holding in every fund. Refer to product prospectuses for further information.

However, we are acutely aware that companies do not operate in a vacuum. They are part of a complex ecosystem of suppliers, customers and partners, all operating under the policy and regulatory landscape shaped and enforced by governments, which in turn operate within a complex set of intergovernmental frameworks and agreements. Consequently, there is a limit to how progressive an individual company can be with respect to nature-related practices and activities. For example, the commercial drivers may be misaligned with the pace of transition required to deliver the goals of the Kunming-Montreal GBF and expecting companies to take action to deploy practices in a manner which conflicts with their commercial objectives is not sustainable nor desirable.

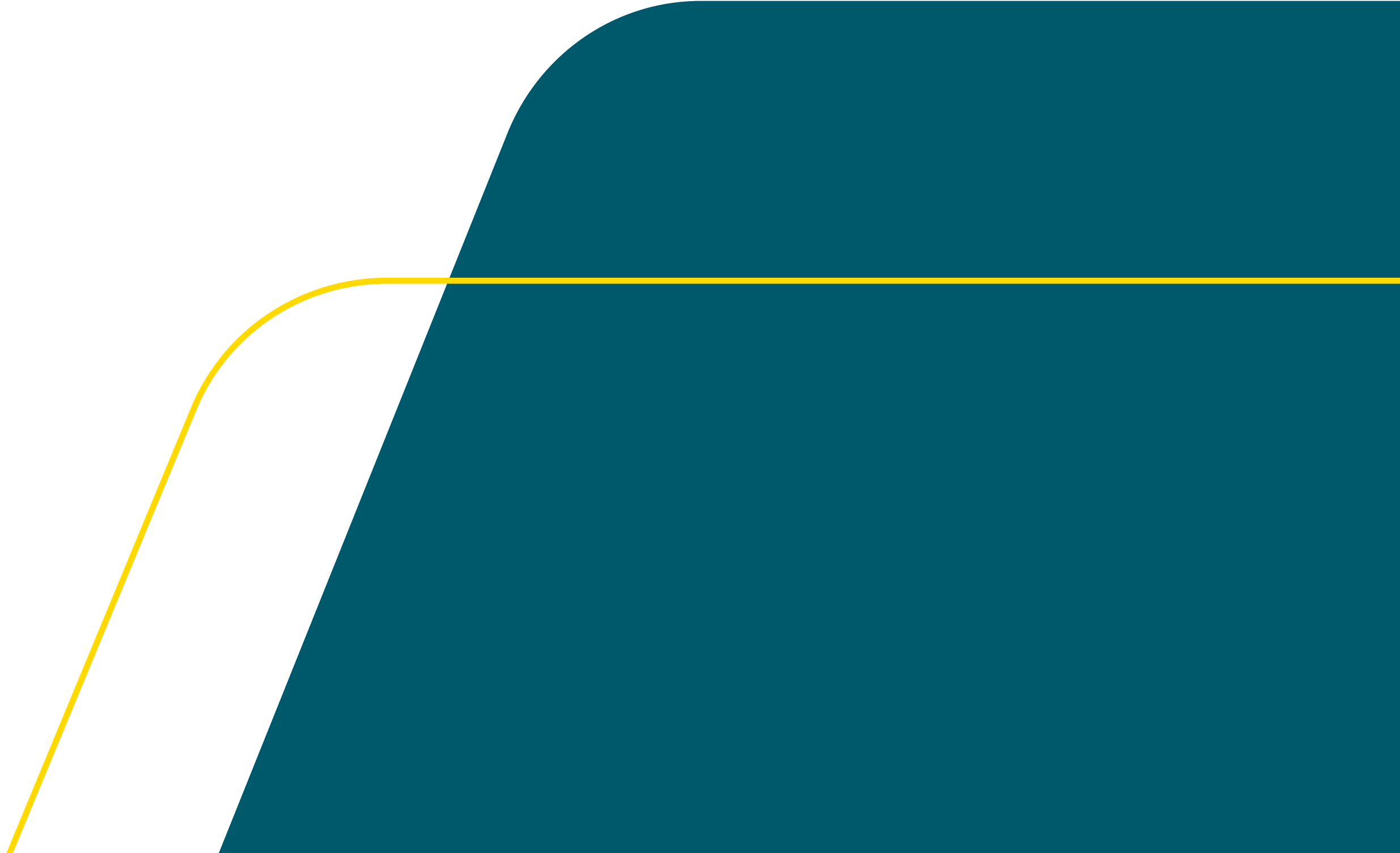
Recognising this, Aviva Investors considers it imperative that investors augment company dialogue with meaningful and impactful engagement at a macro-level with institutions, agencies and governments that are responsible for establishing the rules of the market, and creating the right incentives to drive change, and correct market failures (we refer to this as “Macro Stewardship”). As part of this work, we were involved in negotiations leading to and during the United

Nations’ Fifteenth Conference of the Parties on the Convention for Biological Diversity (COP15) in 2022, which culminated in the landmark agreement of the Global Biodiversity Framework (GBF), which set out 23 interim targets by 2030 and four overarching goals by 2050.

We refer to this multifaceted approach to engagement as Holistic Stewardship and believe it to be the most effective way we can deliver the positive investment outcomes for our clients, as well as to support the change required to help deliver our client’s nature-related objectives. Our engagement approach also allows us to deliver better outcomes for our clients, with the insights gained from our dialogue with issuers informing our investment decision making and the use of our escalation levels where appropriate.

The following sections provide examples of our activity that supports the goals of the GBF and in turn support long-term sustainable returns for our clients.

We are acutely aware that companies do not operate in a vacuum. They are part of a complex ecosystem of suppliers, customers and partners, all operating under the policy and regulatory landscape shaped and enforced by governments, which in turn operate within a complex set of intergovernmental frameworks and agreements.





# Nature-related stewardship in Public and Private Markets

## Natural Capital Engagement Programme<sup>42</sup>

### Level 2 3

This programme, launched in 2022, focuses on the companies linked to our Natural Capital Transition Strategy, which aims to contribute towards reversing the devastating trends that fuel the degradation and loss of nature, fostering a transition towards a nature-positive future. It has three specific expectations (see right), which align with the Science Based Targets Network (SBTN) and Kunming-Montreal GBF goals and ambitions. We assess companies’ performance annually, categorising them from Level 1 (most aligned) to Level 5 (least aligned). A detailed overview of our escalation strategy can be found in our Annual Sustainability Review.<sup>43</sup>

In 2023, progress among our expectations was encouraging. Below is a case study on AstraZeneca, a healthcare sector leader in addressing biodiversity risks and dependencies and who has set ambitious targets for waste, water and biodiversity loss.

## Expectations for companies

- 1 Identify and disclose significant biodiversity impacts and dependencies across their value chains;
- 2 Set ambitious, SMART targets for the most material biodiversity impacts; and
- 3 Show progress on critical, company-specific, unaddressed impacts on nature.

42. This programme is linked to the active engagement strategy of our Natural Capital Transition Global Equity Strategy. More information on this Strategy can be found in the “Sustainability solutions for our clients” section.

43. Aviva Investors | [Annual Reviews](#) (2023, see p.117)

## Healthcare case study AstraZeneca

### Issue

The operations of companies in this sector can impact the environment through water and soil pollution, significant water usage, emissions of air pollutants, waste from packaging, amongst other effects.

### Action

In 2022, we contacted AstraZeneca to discuss its approach to managing these risks. Our initial meeting in early 2023 was constructive – we encouraged the company to begin phasing out single-use, non-recyclable plastics. It also confirmed it was preparing to report in line with the TNFD recommendations.

### Outcome

AstraZeneca has made substantial progress. It has pledged to set Science-based Targets (SBTs) to halt and reverse biodiversity loss from its direct operations and those within its supply chain by 2025, working with partners to protect and restore ecosystems. Improvements include introducing a target on water use and committing to zero deforestation or ecosystem conversion for “key forest-risk commodities” by 2025. It has confirmed it will be an early adopter of TNFD and published a Biodiversity Position Statement. Further commitments include developing further SBTs for nature targets.



Nature Engagement Programme

Level 2 3

In 2024 we launched a three-year Nature Engagement Programme which will solely focus on addressing biodiversity loss linked to ecosystem conversion and deforestation within Aviva Investors’ portfolios across three key sectors – mining and oil and gas, consumer goods, and banking – which are fundamental to address forest loss and the nature crisis. We aim to encourage companies to do more to eliminate deforestation and ecosystem conversion, and to act towards halting and reversing biodiversity loss from their supply chains and financial activities by 2030.

Using a variety of data points, including our Biodiversity and Deforestation Risk Solutions detailed above, augmented with qualitative analysis, we selected 15 globally significant players across Aviva Investors’ credit and equity portfolios with substantial impacts and dependencies on biodiversity and forests. These companies have the opportunity to demonstrate leadership behaviours, catalyse systemic change across their respective industries aligned to the GBF and ultimately improve the resilience of our planet.

Our programme sets our sector specific expectations, developed internally as well as in consultation with external stakeholders, aligning with existing global best practice guidance for addressing deforestation and ecosystem conversion, and nature-related impacts and dependencies. Our expectations of the companies we engage with fall into five broad categories:

We will monitor companies’ progress annually, and score companies across five levels accordingly: Laggard; Limited; Active; Progressive; Leader. In addition, an annual assessment will determine potential escalation in engagement and voting activities, in collaboration with our investment teams.

Category	Description
1. Strategy and commitment	Setting a timebound commitment to achieve deforestation-free and ecosystem conversion-free supply chains (date dependent on the sector) and set time bound commitment to achieve nature and biodiversity positive actions by 2030
2. Risk assessment	Conducting a deforestation risk assessment and biodiversity impact and ecosystem service dependency assessment
3. Risk management and monitoring	Development of risk management and traceability mechanisms to monitor and manage deforestation and biodiversity impact and ecosystem service dependencies
4. Opportunities	Setting and implementation of goals towards avoiding and minimising impacts on biodiversity and encouraging restoration activities to promote natural ecosystem regeneration
5. Human rights	Ensure processes are in place to respect human rights and expectation of Free Prior Informed Consent with clear implementation

TABLE 3. Categories of expectations.



## Circular Economy Stewardship Programme

### Level 2 4

In 2024 we launched a stewardship programme with the objective to encourage some of our larger active holdings in the telecommunications and hardware manufacturing sectors to improve the takeback, refurbishment and resale of mobile phones, tablets and laptops, and to improve the circularity of their design, including repairability and longevity. We will be monitoring companies' progress against our recommendations annually over the next three years using an assessment framework similar to those used by the engagement programmes discussed, scoring companies across five levels accordingly: Laggard; Limited; Active; Progressive; Leader. In addition, the annual assessment will determine potential escalation in engagement and voting activities, in collaboration with our investment teams. To date we have had meetings with ten companies, and we plan to report on the progress of this engagement strategy in 2025.

## Water Stewardship Programme

### Level 2 3 4 5

In 2024, we started to engage with 12 companies in the UK food value chain that buy from UK farms, seeking to partner with them to support farmers to reduce water pollution by improving farming practices. We will be monitoring progress annually against a bespoke assessment framework, which we will use to determine if escalation via voting or additional engagement is warranted. This engagement follows previous engagement throughout 2023 with Severn Trent, both independently with the CEO and collaboratively as part of the Investor Forum Water Project, to address water pollution and improve the health of British rivers, (see our Annual Sustainability Review 2023).<sup>44</sup>

44. [“Annual sustainability review 2023”](#), Aviva Investors, p.84, 2023.





Voting

We set out our expectations in our Global Voting Policy relating to nature and biodiversity and are likely to hold management to account where we have concerns with the company’s approach to biodiversity, including specific approaches on deforestation and hazardous chemicals.

In 2022, we strengthened our approach and now vote against management resolutions at companies with significant exposure to commodity-driven deforestation risk that lack robust policies and targets on reducing deforestation. This is informed by third party data and qualitative analysis. We also tend to support shareholder resolutions relating to addressing biodiversity concerns where we hold similar views.

Voting Data	2022	2023	2024
Per cent of nature-related shareholder resolutions supported	88	83	86
Number of companies sanctioned on nature	83	117	52 <sup>45</sup>

Examples of nature-related shareholder resolutions in 2024<sup>46</sup>

Amazon.com Inc  
& Plastic

May 2024

We supported a shareholder proposal to issue a report on how Amazon could reduce its plastics footprint and set overall plastic packaging reduction targets.

Restaurant Brands  
International Inc  
& Water

June 2024

We supported a shareholder proposal to carry out an assessment to identify the water risk exposure of the company’s supply chain.

General Motors Co &  
Deep Sea Mining

June 2024

We supported a proposal requesting disclosure of policies on the use of deep-sea mined minerals in production and supply chains.

45. The number of companies sanctioned this year on nature issues has dropped since 2023. This reflects a restricted target list of companies due to observed progress on deforestation policies. We have also taken a nuanced approach to escalation to our direct engagement with key companies.

46. Aviva Investors| [Aviva Investors Voting Activity Record](#)



Engagement

Nature-related Substantive Engagements <sup>47</sup>	2022	2023	2024 H1
Number of company engage ments	300	250	76
Number of Sovereign engagements	4	4	11

Our substantive engagements, where we have had targeted and tailored conversations, include a variety of nature-related issues. These span biodiversity management, disclosures, circular economy, lobbying and public policy. Dialogue also includes impacts on biodiversity from specific activities such as hazardous chemicals, land use & forestry, water conservation and sustainable food systems. We also conduct non-substantive engagements which are non-tailored. An example in 2023 included co-signing approximately 2,500 letters requesting annual public disclosure to the CDP Water and Forest questionnaires.

Additionally, in January 2023 our CEO Mark Versey sent a letter to over 1,500 chairs of companies we invest in (and some that we don’t but still want to influence) on three priorities, one of which was reversing nature loss. The letter suggested companies start by carrying out an assessment of impacts and dependencies on nature.<sup>48</sup>

47. The table shows the number of interactions with issuers, not the number of issuers engaged.

48. Aviva Investors | [Fairness, climate action and nature protection](#) (October 18, 2023)





Collaborative engagements

Aviva Investors is proud of our long track record of participating in collaborative investor initiatives on biodiversity. Our efforts range from highly proactive, for example, founding and chairing the Investor Initiative on Hazardous Chemicals; to active, for example, leading calls with companies with other investors such as the FDSA; to a more of a supporting role, such as in the Principles for Responsible Investment Spring initiative.

Highlights of our collaborative engagement can be found on the following pages. We have also collaboratively engaged across other nature themes with more details of these engagements can be found within our Annual Sustainability Review on our website.<sup>49</sup> Themes include soy production and deforestation, deforestation risk in banking through the FSDA, reduction of plastic packaging and waste.

Investor Initiative on Hazardous Chemicals (IIHC)<sup>50</sup>

Level 2 4

We led a multi-year collaborative engagement initiative, creating and chairing the Investor Initiative on Hazardous Chemicals (IIHC), which launched in September 2022, and now comprises 66 investors with over \$12 trillion in assets under management or advice. The IIHC aims to reduce the adverse impacts of hazardous chemicals and thereby its members’ exposure to the financial risks to which they are linked. In November 2023, we sent a third annual letter to 50 chemical manufacturing companies, asking them to increase transparency of the names and volumes of hazardous chemicals manufactured globally, publish a time-bound phase out plan of persistent chemicals from production and develop safer alternatives for hazardous chemicals. Further information on our progress is available on our AI Annual Sustainability Review 2023.<sup>51</sup>

Finance Sector Deforestation Action (FSDA) Level 2 3

Aviva Investors is part of this investor working group, which was set up in 2021 to focus on the implementation of the Financial Sector Commitment Letter on Eliminating Commodity-Driven Deforestation. The FSDA has identified priority companies and financial institutions to engage with on deforestation risk. Aviva Investors has led engagements with ten companies, as well as supporting additional engagements alongside other investors. Our expectations for these companies have been made public<sup>52</sup> and a progress report on our activities has been released.<sup>53</sup> In 2024, we have been co-leading on the development of expectations for commercial and Investment Banks, as detailed.<sup>54</sup>

49. [“Annual sustainability review 2023”](#), Aviva Investors, p.8, p82, p85 2023.  
50. chemsec | [Investor Initiative on Hazardous Chemicals \(IIHC\)](#)  
51. [“Annual sustainability review 2023”](#), Aviva Investors, p.83, 2023.  
52. FSDA | [FSDA Investor expectations of companies](#) (Sep 16,2022)  
53. [Finance Sector Deforestation Action \(FSDA\) Progress Report 2024 - Climate Champions \(unfccc.int\)](#) (June 25, 2024)  
54. IIGCC | [FSDA Investor Expectations for Commercial and Investment Banks makes the case for eliminating deforestation](#) (Sep 03, 2024)



### Working with FAIRR (on Sustainable Protein)

#### Level 2 3

In 2023, we participated in FAIRR's (Farm Animal Investment Risk and Return)<sup>55</sup> Biodiversity, Waste & Pollution, Sustainable Aquaculture, and Regenerative Agriculture programmes. The Waste & Pollution FAIRR engagement targets ten publicly listed pork and chicken producers, and two fertiliser companies.<sup>56</sup> We led the engagement with Darling Ingredients in 2023 and engaged with Cranswick in 2023 and 2024. The aim was to encourage producers to conduct meaningful risk assessments around their management of manure and animal waste and put in place action plans to reduce their impact on biodiversity.

This engagement has revealed companies are in the early days of adopting nature as a strategic focus. Continued engagement on this issue is therefore vital to drive nature-positive outcomes and we intend to expand our work on this into our own farm water pollution engagement strategy.

### Collaborative Investor Initiative using Satelligence data

#### Level 2 3

Satelligence is a geodata-analytics company using satellite data to measure company-specific deforestation. In 2020, Aviva Investors joined ACTIAM and other investors, in total representing €1.8 trillion in assets, to engage with companies on this data to help them achieve deforestation-free supply chains and with an overarching aim to reach net-zero deforestation by 2030.

We engaged in conversations with leading companies such as L'Oréal, Nestlé and Procter & Gamble, which are going well beyond policy and putting in place monitoring and verification systems for their palm oil supply chains. A number of companies, such as Procter & Gamble, are adding satellite data to track and investigate incidents at suppliers to their toolbox, a practice we are encouraging others to consider. Further information on this initiative can be found in the AI Responsible Investment Annual Review 2021.<sup>57</sup>

### Nature Action 100 (NA100+)

#### Level 2

In 2023, we joined NA100+, a global collaborative investor initiative to encourage greater ambition and action to reverse nature and biodiversity loss. Investors participating in the initiative engage companies in key sectors deemed systemically important in reversing nature and biodiversity loss by 2030. We have chosen to lead the engagement with Amazon in 2024, as we think that due to the company's global reach, its impacts on nature are likely substantial and currently under-addressed.

### PRI Spring

#### Level 2 3

In 2024, we signed the PRI Spring investor expectation statement, as an Endorser, signalling support for the initiative's objectives and strategy. In its first phase, the Spring initiative will focus on forest loss and land degradation, through engagement on responsible production and sourcing of forestry commodities, as well as supportive public policies.

Aviva Investors has joined regional subgroups of the Consumer Countries to explore ways we can collectively engage with UK authorities to communicate investor interest in deforestation, and on UK legislation and EU due-diligence frameworks.

55. [FAIRR \(Farm Animal Investment Risk and Return\)](#)

56. [FAIRR | Waste & Pollution Engagement \(2023/24\)](#)

57. ["Annual sustainability review 2023"](#), Aviva Investors, p.18, 2023.



Advocating for ambitious new action on plastic

Level 2 4

We have co-signed three public statements since 2022 the Finance Statement on Plastic pollution;<sup>58</sup> As You Sow’s investors call for a global treaty on plastic pollution;<sup>59</sup> and the Dutch Association of Investors for Sustainable Development (VBDO) investors statement on plastic packaging.<sup>60</sup>

Additionally in 2024 we led an engagement with Britvic as part of the VBDO initiative, encouraging the company to improve its performance on plastic. Further information on our past engagements on plastic can be found in the 2023 AI Annual Sustainability Review 2023.<sup>61</sup>

The Investor Policy Dialogue on Deforestation (IPDD) Initiative

Level 5

This initiative brings together international and national asset managers, and other stakeholders such as local NGOs and academics to engage with sovereigns on deforestation. In March 2024, we began attending the IPDD working group meetings for Brazil, Indonesia and Consumer Countries. This year, the Indonesia group has been monitoring pledges around palm oil, mining, agriculture, forestry, social issues and nature-based targets. The Brazil group has focused on Brazil’s role as G20 chair, planning for its hosting (of) COP30, and on its growing leadership role in other forums such as the BRICS.

Setting out our expectations to sovereigns

Level 5

In February 2023, Aviva Investors CEO Mark Versey wrote to 49 finance ministers and central banks to highlight our sustainability priorities, including the importance of reversing nature loss. Specifically, he encouraged finance ministries to pay particular attention to aligning financial flows with the GBF and integrating biodiversity within and across all levels of government. Further information is available on our 2023 Annual Sustainability Review.<sup>62</sup> Of the three years we have sent annual sovereign letters 2023 saw the most responses from recipients.

Previously, we met with representatives from emerging and developed markets to discuss ESG theme bonds, including Uruguay’s forestry policy team on KPIs linked to their ESG bonds – further information can be found on our AI Responsible Investment Annual Review 2022.<sup>63</sup>

UK Biodiversity Net Gain Compliance within real estate

Level 1

Biodiversity Net Gain (BNG) legislation came into effect in the UK in February of 2024 and requires all new developments to deliver a measurable improvement in biodiversity (“net gain”) following the completion of a building. We are preparing to comply with this legislation as and when we have developments that fall in scope. This will include conducting ecological surveys and designing habitat restoration and creation plans that guarantee the biodiversity net gain for at least 30 years.

In 2023, our Private Markets team commissioned biodiversity site audits at a range of assets across our portfolios. These audits included ecological assessments, habitat and species surveys, proposals for restoring and creating habitats, and cost estimates for implementing improvement plans. This preparatory work has improved our understanding of the interplay between real estate and biodiversity.

58. UN environment programme | [160 financial institutions representing 15.5 USD trillion combined assets call for an ambitious international treaty to end plastic](#) (April 19, 2024)

59. As You Sow | [Investor Call for a Global Treaty on Plastic Pollution](#) (March 2, 2022)

60. VBDO | [Investors call for urgent action to reduce plastics from intensive users of plastic packaging](#) (May 3, 2023)

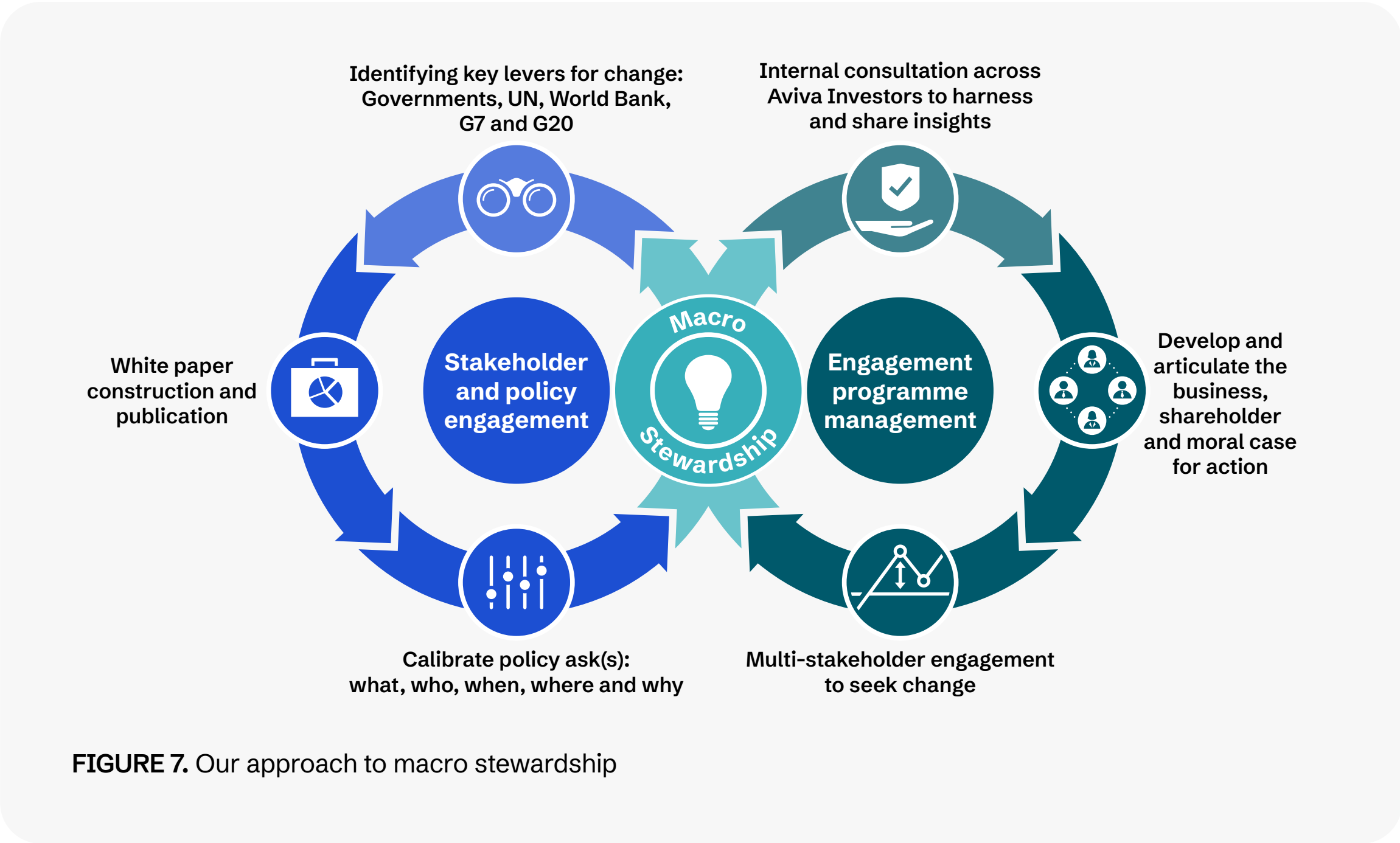
61. [“Annual sustainability review 2023”](#), Aviva Investors, p.85, 2023.

62. [“Annual sustainability review 2023”](#), Aviva Investors, p.86, 2023.

63. [“Annual sustainability review 2023”](#), Aviva Investors, p.91, 2023.



# Macro stewardship



**FIGURE 7.** Our approach to macro stewardship

## Kunming-Montreal GBF

### Level 5 6

We contributed to the Business for Nature coalition’s collective feedback to the proposed UN Convention on Biodiversity (CBD) post-2020 framework, suggesting the need for effective and widely used environmental impact assessments, a “biodiversity tax” and nature accounting, as well as recognition of the importance of ambitious biodiversity targets and monitoring. This feedback also called for the CBD framework to incorporate a provision to align financial flows with the protection and restoration of nature.

At COP15 we encouraged governments to develop a harmonised policy approach to tackle the rapid decline of ecosystems and habitats. We called on governments to align financial flows with global biodiversity goals; strengthen National Biodiversity Strategy and Action Plans (NBSAPs) to successfully implement the GBF and deliver biodiversity targets; establish regulatory environments that enable financial institutions to address biodiversity risks and opportunities; and remove harmful subsidies.

At COP28, we extensively engaged with key policymakers and negotiators to advocate for the consideration of meaningful financial system reform, including within the outcome text. During these events, we highlighted the need for mandatory transition plans that would include nature-related impacts for companies globally, and for alignment on metrics, which should then support transition plans at the level of countries and the international financial architecture. We were pleased to see financial system reform reflected strongly in the COP28 outcome text.

At COP16 in Cali, Colombia, we will continue to advocate for high-ambition implementation of the GBF goals and ambitions. We will seek to build on our support for the delivery of global nature goals through embedding protection and restoration of nature alongside a just climate transition in national and private sector transition plans that implement the goals of both the Kunming-Montreal GBF and the Paris Agreement.



Advocating for ambitious new action on plastics

Level 3 5

In 2022 we supported As You Sow’s call for a global treaty on plastic pollution and were delighted to see UN member states agree on a mandate to negotiate a legally binding global instrument to end plastic pollution in March 2022.<sup>64</sup> In May 2023, Aviva Investors, along with 189 other co-signatories with approximately US\$10 trillion assets under management or advice, supported the Dutch Association of Investors for Sustainable Development (VBDO) to publish an investor statement calling for urgent action to reduce plastics from intensive users of plastic packaging.<sup>65</sup> Additionally in 2023 we bilaterally wrote to the sovereign members of the High

Ambition Coalition, asking them to maintain a harmonised high level of ambition for legally binding obligations across the lifecycle during the global plastics treaty discussions.

In April 2024 we co-signed an investor statement<sup>66</sup> convened by the PRI, calling on governments to agree an ambitious International Legally Binding Instrument (ILBI) that sets a clear objective to end plastic pollution, supported by binding rules and obligations for governments to address the full lifecycle of plastic. The ILBI provides an opportunity to establish a similar policy mandate to the Paris Agreement and the GBF with regard to eliminating plastic pollution and supporting financial sector action on climate and biodiversity goals.

Intersection of antimicrobial resistance (AMR) with climate change and biodiversity

Level 5 6

In November 2022, we published a report on how biodiversity loss and climate change are accelerating existing antimicrobial resistance and called for immediate action from global policymakers to tackle the overuse of antibiotics, through the formation of a dedicated intergovernmental panel, modelled on the Intergovernmental Panel on Climate Change.<sup>67</sup> In 2024, the UK Government, the Kingdom of Saudi Arabia and the European Commission agreed to over £20 million of funding for this idea.

64. As You Sow | [As You Sow Investor Call for a Global Treaty on Plastic Pollution](#)  
65. VBDO | [Investors call for urgent action to reduce plastics from intensive users of plastic packaging](#) (May 3, 2023)  
66. UNEP FI | [Statement from the private financial sector to the member states negotiating the international legally binding instrument \(ilbi\) to end plastic pollution](#)  
67. Aviva Investors | [Antimicrobial Resistance](#) (2022)



**Advocating for greater consideration and actions on nature within UK and EU policy making**

**Level 5**

In 2023, we responded to the UK’s Environmental Audit Committee’s inquiry<sup>68</sup> into the role of natural capital in the green economy. We emphasised the importance of stopping existing financial flows from harming nature and exploring the role of sector-specific policies to reduce nature-harming finance, as well as the role of public funding and public bodies to make natural capital projects easier to invest in. Building on this, and as part of our roadmap for Boosting Low Carbon Investment in the UK,<sup>69</sup> we also developed a range of policy recommendations<sup>70</sup> for the UK Government that we believe can unlock investment in nature restoration projects, such as creating high-integrity UK nature markets, growing seed funding in nature-based investment schemes, and building on the Glasgow Leaders’ Declaration on Forests and Land Use and the Kunming-Montreal GBF by developing sustainable agricultural practices and land use, including the introduction of a coordinated land-use framework and targeted strategies

to address barriers to investment, such as workforce skills gaps, in woodland and peatland projects.

We provided feedback to the UK’s environment ministry, DEFRA, that its Storm Overflows Discharge Reduction Plan related to water pollution was not considered ambitious enough – it was too narrow in scope (it only gives targets for water companies), its timeline was out of touch with other environmental targets, and under the plan, half of storm overflows would still be spilling untreated sewage in 2040 as they were not in scope. Through the Investor Forum Water Project, we also raised the issue and our expectations with DEFRA, the Environment Agency and Ofwat. We gave evidence in Parliament at the All-Party Parliamentary Group (APPG) inquiry on water, sanitation, hygiene and antimicrobial resistance, drawing on our 2022 whitepaper, Permacrisis.<sup>71</sup>

We were glad to note that in DEFRA’s response to our submission and others, it modified the plan and incorporated one of our key expectations.<sup>72</sup>

In 2021, we provided input into The Economics of Biodiversity: The Dasgupta Review,<sup>73</sup> wherein we highlighted the failures of capital markets and proposed policymakers shift towards forward-leaning regulatory approaches to correct nature-related market failures, expose inefficiencies and help bring natural capital externalities onto corporate balance sheets.

**Deforestation Public letter**

**Level 6**

In June 2023, Aviva Investors publicly supported an amendment to the UK’s Financial Services and Markets Bill calling for a new mandatory due diligence obligation to prevent the financing of deforestation.

**Hazardous chemicals Public letter**

**Level 6**

Aviva Investors was a signatory of an investor letter in March 2023 to urge the EU to keep new financial reporting requirements truly sustainable.

68. Source – [Call for Evidence – Committees – UK Parliament](#)  
69. Refer to our [Boosting Low Carbon Investment in the UK Report](#)  
70. Source – Aviva Investors | [Written evidence to the Environmental Audit Committee’s call for evidence on the role of natural capital in the green economy](#) (Sep 2023)  
71. Aviva Investors | [Antimicrobial Resistance](#) (2022)  
72. DEFRA | [Toughest targets ever introduced will crack down on sewage spills](#) (August 26, 2022)  
73. [The Economics of Biodiversity: The Dasgupta Review](#)



# 5

Sustainability  
solutions for  
our clients



# Sustainability solutions for our clients

Whilst the nature crisis and its scale are daunting, it is how investors respond to it which can present significant investment opportunities. This can not only provide investors with the possibility of generating alpha and enhancing investment returns, but also allow investors to play a part in the solution to the challenge and support better nature outcomes.

Selecting the right investment partner to unlock these opportunities is vital for investors. At Aviva Investors we recognise that sustainability goals and how they sit alongside core investment objectives is unique to every client. We partner with our clients to identify and shape solutions to meet their unique needs and preferences. This can include enhanced portfolio footprinting using our tools detailed previously, which allow our clients to understand their biodiversity footprint (impacts and dependencies) and

deforestation risk through their investment portfolios, including positive impacts. We can also tailor solutions to specific needs, which can range from thematic screening for portfolios through to setting nature-related investment targets. This includes, for example, support for our clients in delivering on commitments under the Finance for Biodiversity Pledge.

Partnership is central to how we aim to deliver client-centric solutions. We strive to work with clients to understand their needs and nature-related objectives, and to develop the right solutions to meet their goals.

Page 46 shows a range of thematic strategies we currently offer, which aim to allow our clients to take advantage of nature related investment opportunities.



**FIGURE 8.**  
UN Sustainable Development Goals

## Natural Capital Transition Global Equity strategy **Public Markets**

In 2021, we launched the Natural Capital Transition Global Equity strategy, an active, concentrated, high-conviction, fundamental global equity strategy with the objective of providing clients with long-term capital growth and supporting the transition towards a nature-positive economy.

The key performance driver is bottom-up stock selection, working in tandem with the analytical resources of our sustainable investment team to capture opportunities arising from the transition to a nature-positive economy.

We aim to achieve this by investing in global companies which are providing solutions to reduce human impacts on nature or are transitioning their business models towards a nature-positive economy. This translates to investment themes that align with the principles of the UN Sustainable Development Goals (SDGs) shown in Figure 8.



## Climate Transition Real Assets Strategy Private Markets

The Aviva Investors Climate Transition Real Assets strategy aims to reach net-zero emissions within its portfolio by 2040. We measure the carbon footprint of the investments we make within the strategy, pursue ambitious efforts to decarbonise the operation and construction of existing buildings and assess the carbon impact of new infrastructure projects in which we invest. But with a majority of our investments being in infrastructure and real estate debt and equity, residual carbon emissions will remain.

Solely purchasing carbon offsets is not part of our strategy. Instead, we must find direct investment opportunities in carbon removal solutions, the most investable of which are currently forestry projects. We have therefore allocated £71.75 million<sup>74</sup> to forestry to generate carbon credits to serve as insets for any residual emissions by 2040.

74. As of April 2023.

## Carbon Removal Approaches Private Markets

Though never a substitute for decarbonisation, many investors will need to look at carbon removal solutions to achieve net zero targets and nature is a cost effective and scalable carbon removal solution. Aviva Investors' believes there is an opportunity for investors to develop a tangible path to net-zero emissions through access to impactful carbon removal credits, whilst also aiming to benefit from the potential investment opportunities that exist in the nature space.

There are exciting opportunities aiming to address the climate change mitigation priorities set out in the private sector's voluntary net-zero emissions commitments and countries' Nationally Determined Contributions under the Paris Agreement on Climate Change, as well as their efforts to achieve the SDGs, by aiming to remove carbon dioxide from the atmosphere, enhance and restore biodiversity, sustainably manage forests and have a positive effect on the communities in which they operate.

This can allow investors to potentially benefit from carbon removals whilst partaking in measurable biodiversity and social value creation delivered through the restoration of nature at scale. Opportunities in a variety of projects across the carbon dioxide removal spectrum, both nature-based and engineered, can be explored, with the aim of generating high-integrity carbon credits and providing alternative green and low-carbon investments beyond renewables. Aside from the potential nature and net zero benefits for investors, these can also uncover potential investment opportunities as we describe in the "Understanding nature-related risks and opportunities" section. Investors may want to demonstrate their impact through these investments such as biodiversity enhancement, species protection and reintroduction, improved waterway quality, employment and public access will be designed for, prioritised and measured. It is therefore vital that the investment partner embeds impact into their processes through design, prioritisation and measurement.

Selecting the right investment partner to unlock these opportunities is vital for investors. We are committed to working in partnership with our clients to understand and deliver on their specific sustainability preference and ambitions and are set up to work in partnership with clients with regards to carbon removals.

High integrity nature-based solution opportunities exist domestically and internationally. We look forward to expanding our interest to an impactful portfolio of nature based and traditional natural capital projects. We acknowledge that the climate and biodiversity crises are global challenges and as such, we will look to expand our support for clients and projects in our home and emerging markets and as a result, assess their contribution the growing climate adaptation investment gap (which derives from the fact highly impacted countries, many of which are not responsible for significant emissions, struggle to attract financing).

We are looking forward to understanding the opportunities of nature as an asset class, which includes supporting the local economy, community cohesion, and health and wellbeing.



# Awards and recognitions

## Best ESG Investment Fund 2024<sup>75</sup>

Natural Capital runner-up

## ShareAction's Point of No Returns report 2023

Highlighted Aviva Investors as a leader in biodiversity impact assessment.<sup>76</sup> Aviva Investors alongside three other asset managers received an A grade for its approach to responsible investment and has shown sharp change in performance since 2020, rising two positions to be one of the top four leaders in ShareAction's ranking.

## Deforestation case study 2023

Our work across Aviva and Aviva Investors on tackling deforestation for climate and biodiversity goals has been recognised by the Deforestation Free Finance<sup>77</sup> platform as a case study. It includes our work on deforestation risk assessments, engagement with companies and sovereign issuers and nature-based solutions.



Glen Dye, Aviva Investors first investment in natural capital for woodland creation and peatland restoration.

75. ESG Investing | [ESG Investing Awards Winners & Finalists](#) (2024)

76. ShareAction | [Worlds Asset Managers Allowing the Destruction of the Planet and its Species](#) (Jun 5, 2023)

77. [Deforestation Free Finance](#)



# Glossary

Term	Definition
Biodiversity	The variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. <sup>78</sup>
Carbon removal	The process of removing carbon dioxide from the atmosphere and locking it away for decades, centuries, or millennia. This could slow, limit, or even reverse climate change. Examples include nature-based solutions such as reforestation or technology based solutions such as carbon capture and storage from an industrial process or direct air capture.
Cumulative impact	A change in the state of nature (direct or indirect) that occurs due to the interaction of activities of different actors operating in a landscape or freshwater/marine area. <sup>79</sup>
Dependencies (on nature)	Dependencies are aspects of environmental assets and ecosystem services that a person or an organisation relies on to function. A company’s business model, for example, may be dependent on the ecosystem services of water flow, water quality regulation and the regulation of hazards like fires and floods; provision of suitable habitat for pollinators, which in turn provide a service directly to economies; and carbon sequestration. <sup>80</sup>

Term	Definition
Direct impacts	A change in the state of nature caused by a business activity with a direct causal link. <sup>81</sup>
Ecosystem	A dynamic complex of plant, animal and microorganism communities and the non-living environment, interacting as a functional unit. <sup>82</sup>
Ecosystem services	The contributions of ecosystems to the benefits that are used in economic and other human activity. <sup>83</sup>
Impacts (on nature)	Changes in the state of nature (quality or quantity), which may result in changes to the capacity of nature to provide social and economic functions. Impacts can be positive or negative. They can be the result of an organisation’s (or another party’s) actions and can be direct, indirect or cumulative. A single impact driver may be associated with multiple impacts. <sup>84</sup>
Indirect impacts	A change in the state of nature caused by a business activity with an indirect causal link (e.g. a change indirectly caused by climate change, to which an organisation’s greenhouse gas emissions contributed). <sup>85</sup>
Nature	The natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment. <sup>86</sup>

78. Convention on Biological Diversity (1992) [Article 2](#)

79. Endangered Wildlife Trust (2020) [The Biological Diversity Protocol](#).

80. Adapted from Science Based Targets Network (2023) [SBTN Glossary of Terms](#)

81. Climate Disclosure Standards Borad (2021) [Framework Application Guidance for Biodiversity-related Disclosures](#)

82. Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2019) [Global Assessment Report on Biodiversity and Ecosystem Services](#)

83. United Nations et al. (2021) [System of Environmental-Economic Accounting – Ecosystem Accounting](#)

84. Climate Disclosure Standards Board (2021) [Application guidance for Biodiversity- related Disclosures](#)

85. Capitals Coalition and Cambridge Conservation Initiative (2020) [Integrated Biodiversity into Natural Capital Assessments](#)

86. Adapted from Díaz, S et al. (2015) [The IPBES Conceptual Framework – Connecting Nature and People](#)



Term	Definition
Natural Capital	The stock of renewable and non-renewable natural resources (e.g. plants, animals, air, water, soils, minerals) that combine to yield a flow of benefits to people. <sup>87</sup>
Nature-based Solutions	Nature-based Solutions are actions to protect, sustainably manage and restore natural and modified ecosystems in ways that address societal challenges effectively and adaptively, to provide both human well-being and biodiversity benefits. <sup>88</sup>
Nature-related systemic risks	Nature-related systemic risks are risks arising from the breakdown of the entire system, rather than the failure of individual parts. Nature-related systemic risks are characterised by modest tipping points combining indirectly to produce large failures and cascading interactions of physical and transition risks. One loss triggers a chain of others and stops systems from recovering their equilibrium after a shock. Nature-related systemic risk covers more than only risk to a financial system (i.e. financial stability risk) It also covers the risks from the breakdown of natural systems (i.e. ecosystems). <sup>89</sup>
Nature-related physical risks	Nature-related physical risks are risks resulting from the degradation of nature (such as changes in ecosystem equilibria, including soil quality and species composition) and consequential loss of ecosystem services that economic activity depends upon. These risks can be chronic (e.g. a gradual decline of species diversity of pollinators resulting in reduced crop yields, or water scarcity) or acute (e.g. natural disasters or forest spills). Nature-related physical risks arise as a result of changes in the biotic (living) and abiotic (non-living) conditions that support healthy, functioning ecosystems. These risks are usually location-specific. <sup>90</sup>

Term	Definition
Nature-related transition risks	Nature-related transition risks are risks to an organisation that stem from a misalignment of economic actors with actions aimed at protecting, restoring, and/or reducing negative impacts on nature. These risks can be prompted, for example, by changes in regulation and policy, legal precedent, technology, or investor sentiment and consumer preferences. They can also arise from activities aimed at restoring nature that no longer align with, for example, revised policies. <sup>91</sup>
Nature positive	Nature Positive is a global societal goal defined as “halt and reverse nature Loss by 2030 on a 2020 baseline, and achieve full recovery by 2050”. <sup>92</sup>
Nature positive economy	Consistent with the above a Nature Positive economy is one that halts and reverses nature loss. <sup>88</sup>
Net-zero	The process of achieving net zero impact on the environment by balancing the amount of carbon emissions produced against schemes and projects that remove carbon from the atmosphere, such as nature-based solutions and or carbon offsetting.
State of nature	The condition and extent of ecosystems, and species population size and extinction risk, including positive or negative changes. <sup>93</sup>

87. Capitals Coalition (2016) [Natural Capital Protocol](#)

88. IUCN | [IUCN Global Standard for Nature-based Solutions](#) (2016)

89. Goldin, I & Mariathanas, M (2014) [The Butterfly Defect: How Globalisation Creates Systemic Risks and What to Do About It](#)

90. Organisation for Economic Co-operation and Development (OECD) | [Supervisory and Regulatory Approaches to Climate related Risks Final report](#) (Sept 28, 2023)

91. Network for Greening the Financial System (2019) [A Call for Action: Climate Change as a Source of Financial Risk](#)

92. Nature Positive Initiative | [The Definition of Nature Positive](#) (Nov 2023)

93. [Task-force on Nature-related Financial Disclosures Glossary](#), adapted from United Nations.et al. (2021) [System of Environmental-Economic Accounting - Ecosystem Accounting \(SEEA EA\)](#)



# Appendix

## Key macro stewardship focus areas to mitigate investor challenges in realising the Kunming-Montreal GBF

Successfully realising the vision of Kunming-Montreal Global Biodiversity Framework (GBF) will ultimately require reforming capital markets to transition away from facilitating nature loss to supporting nature positive outcomes. From an investor perspective, key barriers exist that if left unaddressed will hinder the alignment of financial flows with the GBF goals.

This appendix outlines Aviva Investors' key macro stewardship areas of focus and interventions to address challenges, to support investment outcomes and to realise the goals and vision of the Kunming-Montreal GBF. These interventions would ultimately need to be made by government, regulators, and policy makers, who are all stakeholders that we engage with through our macro stewardship activities.

### a) Aligning nature and climate policy and transition planning

In the climate space, we have seen the Paris Agreement translated into nationally legislated net-zero goals, followed by the development of domestic policy agendas with sector-specific pathways focusing on corporate-level transition plans. A similar translation of the Kunming-Montreal GBF into national policy frameworks is still occurring, through the setting out of National Biodiversity Strategy and Action Plans (NBSAPs). But it is vital that climate and nature policy development must not be pursued in silos, and national policy frameworks and plans need to consider and embed the climate-nature nexus, to reduce complexity and fragmentation in terms of actions on these issues, which would send a clear market signal and encourage bolder action from the private sector. From an investment outcomes perspective, contemporary Investment practices lack comparable high-quality data to change company valuations based on transition alignment; therefore, they maintain the market's failure to value companies that sustain ecosystems over those that harm nature.

In order to create a truly holistic transition-focused financial system, governments, companies and financial institutions should take integrated and coordinated steps to understand and assess synergies and trade-offs between climate and nature issues. At the firm level, that would include embedding nature into net zero transition plans in order to support holistic transition planning. At the national level, it would include developing the full regulatory frameworks and legal obligations to give full and effective implementation to the GBF in parallel to understanding and assessing synergies and trade-offs between climate Nationally Determined Contributions (NDCs) and NBSAPs. This would be done in part through understanding and forming nature positive sectoral pathways, alongside net zero sectoral transition pathways.

To ultimately realise the ambition of both the Kunming-Montreal GBF and the Paris Agreement, governments, companies and financial institutions will need to develop holistic - net zero and nature-positive - transition plans that form part of holistic strategic national transition plans. There is a clear need for guidance for national and



financial architecture transition plans, alongside an annual synthesis report that monitors implementation and supports iterative, dynamic, and responsive plans that evolve with the transition.

## **b) Developing and supporting of high-integrity nature and carbon markets**

The encouragement and development of a variety of financial instruments and activities will be needed to mobilise private financial resources at the scale required, as outlined in Target 19 of the Kunming-Montreal GBF. Market mechanisms – like the creation of high-integrity nature markets – can provide innovative solutions for governments looking to mobilise private finance to support nature conservation and restoration efforts. Such a market would enable suppliers to sell the benefits of nature to individuals or organisations, through interventions such as river restoration to increase flood resilience, or woodland creation for climate regulation. These sales provide resources for, and an incentive to, protect and enhance nature. The updating of accounting standards and tax regulation to clarify the recognition of nature credits is important for investment outcomes as it catalyses and simplifies investment in nature as a standalone

asset class. Further development of this approach will result in private investment aligning with global goals such as the GBF, but also with national policies and commitments fundamental to achieving net zero. Presently, for nature markets as opposed to carbon, the biggest missing piece is demand signals from buyers (virtually non-existent on the voluntary nature market).

Building genuine international partnerships to grow interoperable, consistent, transparent and robust markets, aiming to converge voluntary carbon markets and nature markets, is fundamental. The development and global agreement of a high-integrity framework for voluntary nature markets complimented by a global credit database / tracking system to avoid double counting and ensure additionality can ultimately support increased investor demand and investments in nature-related projects. The UK's Department for Environment, Food and Rural Affairs (Defra) partnership with the British Standards Institution (BSI) on the Nature Investment Standards (NIS) programme could act as a pilot for the CBD to catalyse creation of a global framework. This programme builds on the work of the Voluntary Carbon Markets

Integrity Initiative and the Integrity Council for the Voluntary Carbon Market. The initial focus if the NIS includes an overarching standard for high integrity principles for all nature markets, specific standards for carbon, biodiversity and nutrients markets and additional areas for further scoping. A global framework would need to learn and build from the voluntary carbon market (VCM), and include among other elements, factor in how farmers and land managers can access nature, as well as strong, credible, and nationally agreed standards that demonstrate additionality. Creating high-integrity nature markets would involve continuing to develop at pace the market guidelines, market access rules, investment standards and governance arrangements for these markets.

While a framework is a necessity, it would not be sufficient in and of itself. As investors, we observe several structural challenges that currently dampen investor demand in nature-related projects, such as nature-based solutions (NbS). But we have also identified a number of potential opportunities to address these challenges and scale up market demand (Table 4), and continue to engage and advocate for these to be taken forward by policymakers.



TABLE 4. Investor-related challenges in nature-related projects, and associated mitigants and solutions

Area	Challenges	Potential mitigants or solutions
Market	<ul style="list-style-type: none"><li>• For institutional investors such ourselves , the risks for many commercial investments in NBS projects remains too high to be achieved at scale .</li><li>• The current valuation of investment opportunities does not differ substantially based on impacts on nature , as the value of protecting and restoring nature is not priced . This means there is currently very limited revenue streams from NbS for purely nature outcomes , especially in the voluntary space . Financial market participants themselves cannot correct this failure but , using their expertise , they can support regulators in identifying and correcting its causes .</li></ul>	<ul style="list-style-type: none"><li>• Tools such as blended finance , insurance-type mechanisms , and direct interventions to support the design and operation of nature-based solutions can help to overcome this barrier .</li><li>• Design and support projects that have a blend of revenue sources , diversifying and segmenting the returns generated from carbon markets , nature markets and other associated revenue streams .</li></ul>
Delivery	<ul style="list-style-type: none"><li>• Due to the nascent status of NBS the delivery risk of NBS is at times perceived to be higher than that of standard infrastructure . In other words , the functioning and outputs of standard infrastructure solutions are perceived to be easier to predict and control .</li></ul>	<ul style="list-style-type: none"><li>• Educate the market about NbS , to build capacity to manage and monitor NbS assets , and to showcase successful delivery and lessons learned .</li></ul>
Project size and quantity	<ul style="list-style-type: none"><li>• Many NbS projects are too small in scale to attract significant levels of institutional investment , since they require dedicating considerable resources to analyse each project and paying transaction costs for each .</li><li>• Even where investors are willing to allocate , the current lack of investable projects makes it difficult to deploy capital .</li><li>• Projects of this size are such a small part of portfolios that they make little to no difference to overall performance ; as such , it is hard for a portfolio manager to justify spending the necessary analytical resources .</li></ul>	<ul style="list-style-type: none"><li>• Utilise philanthropic capital effectively to scale projects up to a stage where private capital is able to be invested .</li><li>• Consolidate portfolios of small projects to become attractive for institutional investors and increase the overall scale .</li><li>• Active communication between NGO project developers and investors to understand what the information gap is and what is required in order for private investors to get comfortable with a given project . The gap is often clarity and certainty of project costs in the short to medium term .</li></ul>



Area	Challenges	Potential mitigants or solutions
Country	<ul style="list-style-type: none"><li>• Many NbS opportunities are in developing economies . But many of these projects would be in countries that are below investment grade due to a range of factors .</li><li>• Although risks are high in some jurisdictions , they are not necessarily reflective of the risks of the nature projects themselves , but rather mainly of their macroeconomic environments and condition .</li></ul>	<ul style="list-style-type: none"><li>• Multilateral Development Banks , International Financial Institutions and local development banks need to use all tools to mitigate actual and perceived risks .</li><li>• Concessional capital and first loss tranches , guarantees , blended finance , pooling to bring scale , and technical assistance and capacity building to support countries in bringing these projects to the markets in a form that will attract private capital .</li></ul>
Grants and subsidies	<ul style="list-style-type: none"><li>• Currently , to generate even the moderate returns required to catalyse private funding into nature restoration programmes , there is a heavy reliance on grant funding . The private sector can take on the bulk of financing requirements , but there will still need to be some form of government subsidy and support .</li></ul>	<ul style="list-style-type: none"><li>• Re-purposing subsidies towards nature conservation and restoration to align with GBF targets to increase certainty that those flows would be re-routed effectively .</li><li>• Clear , stable national policies that support appropriate land-use change and target project types that are not currently financially viable under current voluntary carbon and nature market conditions .</li></ul>

**c) Embedding nature into global financial architecture, regulation, and standards**

Creating a global financial system that supports the realisation of the Kunming-Montreal GBF will require fundamental embedding nature across all parts of financial architecture. This includes the global banking, regulatory and supervisory bodies that comprise the international financial architecture, from multilateral development banks, financing institutions and funds.

To support, influence and enable actions, these systemically influential financial institutions will have to evolve their mandates and responsibilities to reflect the goals and vision of the Kunming-Montreal GBF. This is important to investment outcomes as the current valuation of investment opportunities does not differ substantially based on impacts on nature, as the value of protecting and restoring nature is not priced. Financial market participants themselves cannot

correct this failure but, using their expertise, they can support regulators in identifying and correcting its causes. Contemporary examples of market participants playing a leading role in this space include the World Bank<sup>94</sup> and the International Finance Corporation (IFC)<sup>95</sup> with their drive to align public and private flows provisions in the GBF. They have an incentive to do this because, while exploiting this failure might create short-term profits, its long-term outcomes

risk undermining the market itself. The magnitude of the systemic risks involved justifies a precautionary approach, as delays will lead to a build-up of climate and nature-related risks within the financial system and increase their potential impact.

94. Elena Almeida, et. al., [“NGFS occasional papers: Central banking and supervision in the biosphere: an agenda for action on biodiversity loss, financial risk and system stability”](#), Network for Greening the Financial System (NGFS), March 2022.  
95. IFC | [Biodiversity Finance Reference Guide](#) ( May 31, 2023)



To support financial institutions in aligning their approach with the CBD, the bodies that make up the international financial architecture, particularly members of the Financial Stability Board (FSB), could review their work programmes and mandates and produce their own plans to transition their supervision and regulatory practices, as well as their operational activities, clear in the knowledge their national government stakeholders have committed to the CBD. The FSB could arguably lead this normative shift, ideally mandated by the finance ministers and central bank governors of the G21. But all other bodies within the FSB membership – the International Monetary Fund (IMF), Bank for International Settlements, OECD, BCBS, IAIS, IOSCO, International Accounting Standards Board, Committee on the Global Financial System and Committee on Payments and Market Infrastructures – should include consideration of how to reflect the goals and vision of the Kunming-Montreal GBF.

Presently, financial regulators’ mandate does not explicitly include nature with a few exceptions – for instance UK regulators have statutory principle to have regard to the Environment Act targets. This is a

fundamental issue, as it means regulators cannot take steps support a transition to a nature-positive economy without overreaching their current mandate and undermining their neutrality towards the market.

Given these far-reaching implications for economies and financial systems, it is imperative that central banks and financial supervisors embed nature into their core macroprudential, macroprudential and monetary policy work and activities. Central banks and supervisors should deliver on the actions set out in the Network for Greening the Financial System (NGFS) Conceptual Framework on Nature-related Financial Risk. This includes assessing the risk to, from and within the financial system from nature-related risks, engaging with domestic financial institutions on the identification, assessment, management, and disclosure of nature-related financial risks, and support the methodological and modelling developments in order to create nature-related scenarios.

As part of this, there also needs to be greater consideration of systemically important aspects of nature and their relevance to

financial stability. It is estimated that around 40 per cent of the planet’s land and 25 per cent of its ocean area may underpin 90 per cent of ecosystem services.<sup>96</sup> Instability in one or several of these “globally systemically important natural assets” (G-SINAs) could transmit across ecosystems and borders, potentially setting off vicious cycles, regime shifts (large, persistent changes in the structure and function of ecological systems)<sup>97</sup> and passing the point of no return (or “tipping point”) for some ecosystems. These changes can also cascade across the world, and physical, climate or ecological systems. As instability in these G-SINAs can transcend countries’ boundaries, it is important to understand their condition and connections. This underscores the need for accessible, timely and location-specific nature-related data, often in areas and regions where such data is lacking the most.

The role of these systemically important natural assets, their already concerning degradation revealed by scientific research, and the deep uncertainty associated with how these natural assets, linkages and processes work mean that the case for action is strong. Central banks and financial supervisors should

seek to better understand and identify the systemically important species, spaces and biomes central banks should focus their efforts on and translate into policy implications for central banks and finance ministries.

There continues to be rapid advances in the nature-related corporate reporting space, such as the release of the final recommendations by the Taskforce on Nature-related Financial Disclosures (TNFD). Common, consistent and comparable sustainability-related financial disclosures, such as those on nature-related issues, are useful to investors in understanding material risks and opportunities. Ensuring that nature-related corporate reporting requirements, like any sustainability-related topic, are standardised globally are vital in order to avoid fragmentation and reduce their usefulness. To this end, it is encouraging that the International Sustainability Standards Board (ISSB) have set out that they will look relevant initiatives to meet the information needs of investors as it embarks on its research project on nature.

96. Rebecca Chaplin-Kramer, et. al., [“Global critical natural assets”](#), bioRxiv, November 9, 2020.

97. [“What is a regime shift?”](#), Regime Shifts DataBase as of July 29, 2024.



# Disclaimer

## Key risks

### General

**Investment risk:** The value of an investment and any income from it can go down as well as up and can fluctuate in response to changes in currency and exchange rates. Investors may not get back the original amount invested.

**Real estate and carbon removals risks:** For investments in real estate/infrastructure, investors may not be able to switch or cash in an investment when they want because real estate/infrastructure may not always be readily saleable. Investors should also bear in mind that the valuation of real estate is generally a matter of valuers’ opinion rather than fact.

### Carbon removals risks

**Policy and regulatory risks:** changes in government policies, regulatory frameworks, and compliance requirements, which can impact project viability, funding, and long-term sustainability.

**Delivery and counterparty risk:** delays or failures in delivering the promised carbon removal services and the reliability of partners or stakeholders in fulfilling their contractual obligations.

**Climate and physical risk:** impacts of extreme weather events, changing climate conditions, and natural disasters, which can disrupt operations, damage projects and infrastructure, and affect the effectiveness of carbon removal processes.

**Price and value risk:** fluctuations in the market price of carbon credits and the uncertainty of the long-term economic value of the carbon removal project, which can affect project returns. The generation of carbon credits and positive returns from them are not guaranteed.

**Technology and methodology risk:** uncertainties and potential inaccuracies in the measurement, reporting, and verification processes, which can affect the credibility and effectiveness of the carbon removal outcomes.

**Reversal and permanence risk:** potential for sequestered carbon to be released back into the atmosphere due to factors like land-use changes, natural disturbances, or project failures.

**Illiquidity risk:** difficulty of selling an asset quickly if required without significantly impacting its price, which can limit financial flexibility and increase investment risk.

**Emerging markets risk:** Investments in emerging markets carry additional political, legal, and corporate governance risks compared to developed markets.

### Natural capital

**Equities risk:** Equities can lose value rapidly, can remain at low prices indefinitely, and generally involve higher risks — especially market risk — than bonds or money market instruments. Bankruptcy or other financial restructuring can cause the issuer’s equities to lose most or all of their value.

**Counterparty risk:** The strategy could lose money if an entity with which it does business becomes unwilling or is unable to meet its obligations to the strategy.

**Illiquidity risk:** Certain assets held in the strategy could, by nature, be hard to value or to sell at a desired time or at a price considered to be fair (especially in large quantities), and as a result their prices could be very volatile.

**Derivatives risk:** Derivatives are instruments that can be complex and highly volatile, have some degree of unpredictability (especially in unusual market conditions), and can create losses significantly greater than the cost of the derivative itself.

**Sustainability risk:** The level of sustainability risk to which the strategy is exposed, and therefore the value of its investments, may fluctuate depending on the investment opportunities identified by the investment manager.



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Where relevant, information on our approach to the sustainability aspects of the strategy and the Sustainable Finance disclosure regulation (SFDR) including policies and procedures can be found on the following link: <https://www.avivainvestors.com/en-gb/capabilities/sustainable-finance-disclosure-regulation/>

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