For employee benefit consultants and employers only

Why biodiversity matters for DC scheme members

AEGON

The nature and scale of the challenge

‘Nature is the most valuable asset class on the planet. Yet, we refuse to value it properly.’
Robert Gardner, co-founder and co-CEO, Rebalance Earth

The risks of climate change and biodiversity loss are intricately interwoven in the crisis facing the Earth’s fragile ecosystem. While there’s been a much-needed focus from DC pensions on climate risk in recent years, biodiversity and nature related risks are now emerging as critical issues for major employers with workplace schemes.

However, this risk is still poorly understood. The current ecological emergency of biodiversity loss and the degradation of nature is possibly one of the most overlooked risks facing society, investors and thereby major workplace schemes and their members.

Quickly recognising and responding to the challenge is critical. More than half of the world’s GDP – US$44 trillion – is dependent on nature[1]. Yet, since 1970, the Earth’s wildlife populations have fallen by almost 70%[2] – a result of rapid deforestation, excessive human consumption, and pollution, among other causes. The negative impact of biodiversity loss on vital areas like wild pollination, marine fish stocks, and timber from native forests could mean global GDP in 2030 is US$2.7 trillion lower than projected levels.[3]

Biodiversity loss could also lead to missed opportunities: given that 75% of all global food crops rely on animal pollination and 70% of cancer drugs are either inspired by, or based on, nature, the loss of biodiversity will have a huge effect on the food manufacturing, healthcare and pharmaceutical sectors.[4] Meanwhile, the Dutch National Bank estimates that the economic damage caused by biodiversity loss could be up to US$4.5 trillion per year.[5]

Such potential economic impacts are very likely to have material implications for pension funds.

Biodiversity and nature-related risks are not discreet: they are pervasive, and they can rapidly escalate to have a major financial impact. The Institute and Faculty of Actuaries (IFoA) has highlighted the profound social, economic and financial risks posed by biodiversity loss, stating that the disappearance or decline of the variety of living things on our planet was ‘global and systemic’. The IFoA also argued that biodiversity loss threatens the health of ecosystems that provide services to the economy, and have major implications for the population’s health, longevity, and their finances.

In fact, biodiversity loss will directly affect all global financial markets, from equities to bonds, which has huge ramifications for pension fund investment strategies. For example, the world’s first biodiversity-adjusted sovereign credit ratings, developed by Cambridge University, show how ecological destruction affects public finances – driving major sovereign downgrades, debt crises and soaring borrowing costs as early as 2030. Among just the 26 nations included in the study, a partial ecosystem collapse of fisheries, tropical timber production and wild pollination – as simulated by the World Bank – would lead to downgrades that would increase annual interest payments by up to US$53 billion a year leaving many nations at significant risk of sovereign debt default and bankruptcy.[6]

$53bn

Potential increase in annual interest payments on sovereign borrowing costs

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Nearly half of the customers surveyed by Aegon believe impacts on nature, including biodiversity, to be important considerations when investing in a company

What is biodiversity

Defining terms is important in any discussion of complex themes if a full understanding is to be achieved. Here we offer concise definitions of the main terms used in the paper:

Biodiversity

All varieties of life on Earth, from plants and animals to microorganisms like bacteria. These species and organisms work together symbiotically in ecosystems. Biodiversity matters because it supports everything in nature that humans need to survive, including food, clean water, fuel, medicine, and shelter.

Natural capital

The world's resources of natural assets including geology, soil, air, water, and all living things.

Businesses, economies, financial systems, and societies are currently heavily exposed to these nature-related risks. Fallout from ecosystem destruction has the potential to materially and adversely affect businesses, the broader economy and pension portfolios. Integrating these nature-related risks into strategic decision-making is becoming an essential element of managing risk and return for DC pensions.

Since nature-loss is systemic and may well be irreversible, it should be a concern for any long-term investor. Given the strong links between biodiversity and climate change mitigation, it's very likely that pension funds will not meet their 2050 climate targets if they do not consider biodiversity. Well-functioning land and ocean ecosystems are the world's biggest carbon sinks, absorbing around 60% of global carbon emissions to date.[7] Destruction of biodiversity undermines nature's ability to regulate emissions, which has significant repercussions for climate change mitigation and long-term financial stability.

Research from Aegon's pension scheme members indicate they increasingly care about the impact of human activity on the natural world, and they want to see positive change to mitigate and reverse nature loss and biodiversity degradation.[8]

Research conducted by Aegon reveals that two-thirds of members are concerned about risks related to nature including events such as droughts, wildfires, flooding, deforestation, and high temperatures.[9] Indeed, concern for the environment is more prominent than for social factors – such as human rights or data protection – or governance factors such as anti-corruption measures. Nearly half of the customers surveyed by Aegon believe impacts on nature, including biodiversity, to be important considerations when investing in a company.[10]

Pension schemes have a vested interest in mitigating actions that stoke inflation through adverse biodiversity impacts. While UK pension schemes have immediate concerns – such as the cost-of-living crisis and persistently high inflation, which has the potential to lead to poorer outcomes for members.

The supply chain disruption and price volatility caused by nature risk, such as soil quality depletion, over-use of pesticides, loss of pollinators like bees, and lower crop yields, are major contributors to the current rapid food price inflation experienced by UK consumers.[11] Recent academic case studies have demonstrated that the countries which would suffer the biggest economic losses because of rising prices are large, well-developed economies that import a lot of pollinated crops like Germany, Japan, and the UK.[12]

Balancing pension scheme members' financial needs as inhabitants of planet Earth, including their future quality of life, is paramount. In line with their mission to provide for their members' future, pension schemes have a clear opportunity to invest for a better world in keeping with their values and members' best interests.

In the light of the potential risks posed by loss of biodiversity, the pensions industry, inclusive of all major pension schemes will need to consider how it can best deploy assets under management to protect savings, which should help with the post-retirement quality of life for any pension scheme member. Such actions are arguably in the best interests of members in terms of outcomes, wellbeing, and engagement.

The main causes and effects of biodiversity impact

While extinctions are a normal and expected part of the evolutionary process, the current rates of species population decline and extinction are enough to cause concern about the important ecological functions that support human life on Earth, such as a stable climate, predictable regional precipitation patterns, and productive farmland and fisheries.

Changes in land and sea use

Deforestation, habitat destruction and degradation through over-intensive use of these ecosystems.

Climate change

Shifts in temperature, rainfall and wind flows caused by increased levels of greenhouse gases. Evidenced by intense heatwaves, forest wildfires, glacier loss, extreme flooding. Climate change can intensify biodiversity risks and biodiversity loss contributes to climate change.

Overexploitation of organisms and habitats

Overexploitation of animals, plants and ecosystems in harmful ways such as poaching, unsustainable logging and overfishing. Evidenced in areas such as fish stock collapse.

Pollution of soil, water, and air

Release of harmful substances, such as sewage and phosphates into ecosystems. Evidenced by algal blooms in rivers like the River Wye in England and Wales, soil exhaustion and plastic waste in the oceans. The nitrogen and ammonia pollution crisis in the Netherlands, the world's most intensively farmed country, is a case in point.

Spread of invasive species

Non-native species of plants, animals and other organisms can cause chaos when they enter existing finely balanced habitats. The arrival of the Asian hornet in the UK, which is a voracious predator of honeybees, is one example. Another is ash dieback, a devastating invasive fungus from Asia that threatens to destroy 80% of the UK's ash trees[13] and is predicted to cost the UK economy £15 billion.[14]

$500bn

Additional global GDP through the digitalisation of the agriculture sector

The food industry: potential risks and opportunities

Calibrating the risks:

The global food industry is both the biggest culprit and the biggest victim in terms of biodiversity and nature-risk. This 'double materiality' makes it a clear focus for investment action.

In impact terms, the global food supply chain is responsible for 90% of deforestation in the tropics[15], 70% of freshwater use, water and soil pollution, species loss, and 30% of greenhouse gas (GHG) emissions[16]. A total of 40% of all land has now been converted for food production.[17]

For example, food groups are cutting down huge swathes of rainforest for palm oil production. In Brazil, agriculture and land use are responsible for about two-thirds of the country's GHG emissions.[18]

Targeted investment in the food industry has the potential to be transformational, both in terms of planetary benefit and member outcomes.

According to the United Nations, 14% of the world's food production is lost before it is sold to retail customers, with another 17% wasted subsequently.[19] So, currently, while agriculture is responsible for a quarter of humankind's greenhouse gas emissions, a third of the food we grow never ends up on our plates.

Maximising the opportunities:

Taking meaningful action is not as intractable as it may seem. Global food production is highly consolidated and increasingly concentrated: From an investment universe of over 250 public companies, just 31 food, beverage and tobacco producers account for 12% of biodiversity impact.[20] The same report revealed that 250 of the MCSI Index companies may be responsible for 73% of biodiversity impact.[21]

Investment in, and engagement with, these producers can significantly influence transformational change and transition to less nature-intensive business models. A relatively small number of major corporate players have the power to help remedy the biodiversity crisis, should they be motivated to do so. Engaging with the worst performing stocks on a biodiversity scorecard, including those involved in controversial sectors such as palm oil and tobacco production, can help to provide accountability and encourage transition away from unsustainable practices.

There are also myriad opportunities to invest in companies that tackle these issues. Investing in agroforestry could be an effective strategy. Agroforestry is the integration of food crops with shrubs to enhance yields, increase biodiversity and mitigate harms such as soil erosion, while soil management can prevent soil degradation and improve resilience. There is great scope for investment in companies focused on tackling this squandering of vital resources. For instance, an estimated US$500 billion of additional global GDP could be added by the digitalisation of the agriculture sector by 2030.[22]

The upside of positive action

While the narrative on nature risk understandably tends to focus on the downside, it is important to emphasise the very positive aspects of investing in natural capital and to document the growing momentum towards nature positive investment strategies.

For example, the World Economic Forum suggests that companies that develop nature-positive solutions to protect biodiversity have the potential to create US$10 trillion in business opportunities and 395 million new jobs by 2030.[23] Given that pension scheme members retiring at 65 can expect to enjoy an average of 20 years of retirement[24], these long-term impacts are very relevant to trustees' decision-making today.

Business models focused on nature conservation are gaining traction and becoming attractive and accessible to a wider range of investors. Investable solutions designed around themes such as water stewardship, natural resources management and environmental protection are gaining traction as ways of mitigating biodiversity decline.

Despite the significant risks, investment funds focusing on the transition to a nature-positive world have already been developed. Several biodiversity equity funds have been created by major asset managers. These typically invest in companies that are leaders in preventing biodiversity loss through their own operations or which are developing innovative solutions to counter biodiversity loss.

Rather than taking a traditional sectoral or geographic asset allocation, these funds focus on themes such as land pollution, marine exploitation, and deforestation. The companies in which they invest could be involved in areas such as soil remediation, circular economy materials recovery, or smart renewable energy-powered irrigation systems.

Similarly, metrics are positive net impact-based such as measuring megatons of waste recycled, hectares of forest protected, or species increases.

The impetus of regulatory initiatives and frameworks

A new wave of voluntary and regulatory drivers and global initiatives in the biodiversity sphere is creating a robust framework in which pension providers must operate. Until recently, the absence of reliable, consistent data on biodiversity was a major obstacle to effective private sector and pension fund investment in this area.

The collective effect of this matrix of new targets, measures and corporate reporting standards will be to do for biodiversity what the Paris Agreement and COP26 did for climate change. The key initiatives which are building momentum towards meaningful action in this area are:

- The UN Biodiversity Conference (COP15), which agreed a new accord to halt or even reverse the loss of the planet's flora, fauna, and ecosystems and to create protocols for sharing equitably the benefits from the use of nature.
- Known as the Kunming Montreal Global Biodiversity Framework, it sets a range of voluntary global targets to be reached by 2030. These milestones include conserving at least 30% of global land and sea areas and cutting global food waste by half.
- The Taskforce on Nature-Related Financial Disclosures (TNFD). The new voluntary global risk management and disclosure framework for organisational reporting and action on evolving nature-related risks. It aims to achieve a shift in financial flows toward nature-positive outcomes.
- Nature 100. A collaborative investor initiative modelled on Climate Action 100+, focused on engaging with key companies deemed to be systematically important in reversing nature and biodiversity loss by 2030.
- The Treaty of the High Seas. Agreed by all 193 UN members in June of this year, the treaty aims to take stewardship of the oceans by acting to protect them from destructive trends such as pollution and over-fishing.
- The Sustainable Finance Disclosure Regulation. The European Union's rules that make it easier for financial market participants to compare and understand the sustainability and biodiversity profiles of investment funds. In addition, the European Union adopted a new anti-deforestation law in June 2023, setting out mandatory due diligence rules for commodity products commonly associated with deforestation.
- Other important initiatives include the Science-based Targets for Nature that look to replicate the climate initiative, and the Finance for Biodiversity Pledge which has already received commitments from global asset managers managing €19.7 trillion towards protecting and restoring biodiversity globally.[25]

The famous five: recommended areas of focus for DC pension funds

The major factor that can understandably discourage pension schemes from taking necessary action on biodiversity is that the issue can seem overwhelming – it's hard to know where to start.

However, it's not just distant, high-profile habitats like the Amazonian rainforests that are being blighted, and not only rare animal species in far-off lands, such as the polar bear, that face extinction. In our own backyard, more than 90% of Britain's seagrass has been lost in the last century, yet it is 35 times more effective than rainforests at naturally capturing carbon.[26] At home, the Scottish wildcat, the turtle dove, the pine marten, and the hedgehog are all under serious threat.

The most effective, and achievable, approach can therefore be a biodiversity-friendly version of that classic injunction to think global but act local. Nick Spencer, founder of Gordian Advice, the sustainable investment consultancy for institutional investors, recommends focusing on just five core areas of nature-risk to make the process manageable and avoid being dismayed and disheartened by the sheer scale of the issue. The five categories are listed here along with examples of investment action.

1.Deforestation

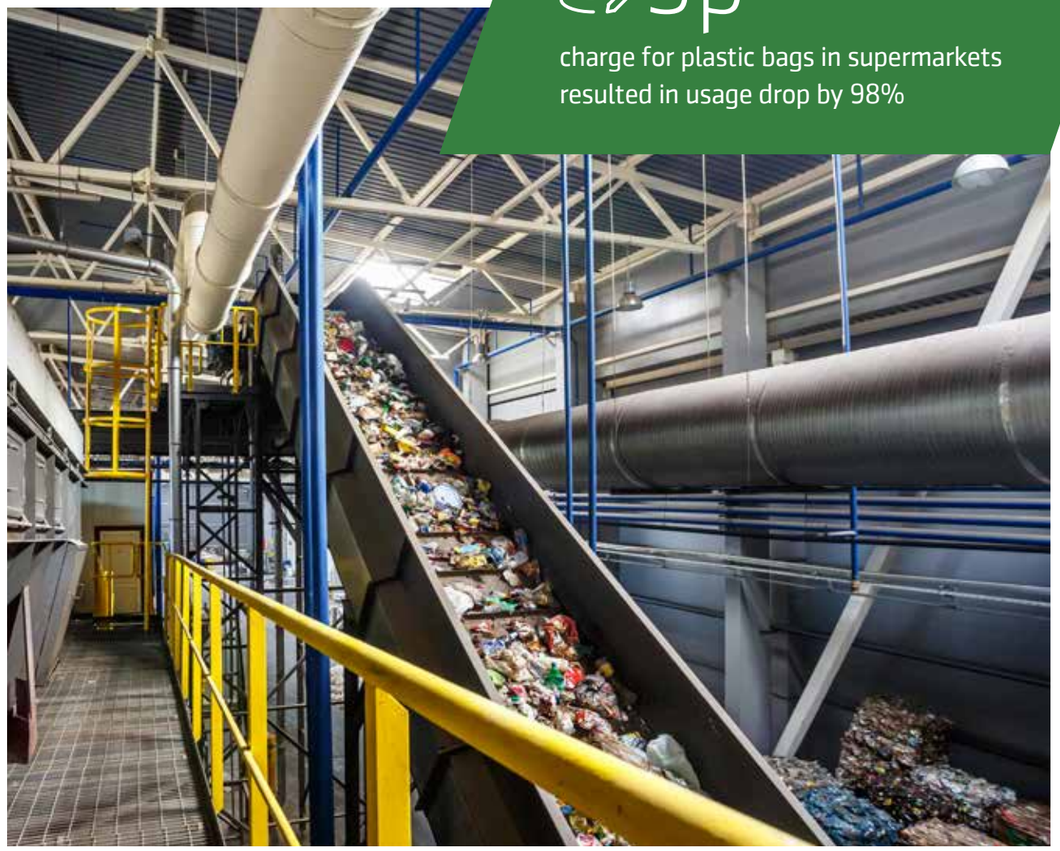
Stop cutting down natural forests, especially rainforests. Forests are literally vital – they are home to 70% of the world's land animals and plant species – so pension schemes can usefully think in terms of targeting 'deforestation-free financing'.[27] Deforestation accounts for 15% of all greenhouse gas emissions and drives habitat loss which is a major cause of viruses jumping from wildlife to humans.[28]

Research reveals that £2 in every £10 that individuals save into UK pensions is linked to companies and financial institutions with high risk of deforestation, where failures would jeopardise many schemes' ambitious commitments to achieve net zero.[29]

More than £300 billion of UK pension fund investment is in companies and institutions that could act positively to reduce the destruction of the world's forests. Engagement and active stewardship in such areas can meaningfully reduce the loss of forests.[30]

£2 in £10

of UK pensions is linked to institutions with high risk of deforestation



5p

charge for plastic bags in supermarkets resulted in usage drop by 98%

2. Agriculture

Invest in bee-friendly production. Sustainable agriculture looks to produce the food we need while supporting the environment that the food is grown in. The food industry supply chain is highly dependent on bees. Bees contribute at least €22 billion each year to the EU's agriculture industry since 80% of crops and wild plants depend on them for pollination.[31]

3. Water usage

Water is essential to life so invest accordingly. The Valuing Water Finance Initiative shows how investors can prioritise water risk and opportunity through a series of clear science-based steps. Companies can take steps to use water more wisely and sustainably.

For example, clothing retailers are sourcing from suppliers in the developing world who use only recycled water in textile manufacture, saving billions of litres of freshwater annually.[32]

4. Marine

Fish where the fish are. Around a third of the world's fish stocks are overfished, often illegally, while bycatch – unwanted catches that are dumped by commercial fishing fleets – account for 10% of all catches, or some 9.1 million tonnes a year.[33]

Nine of the world's biggest fishing companies, with combined turnover of $30 billion have signed up to the Seafood Business for Ocean Stewardship (SeaBOS) initiative, which is committed to eradicating illegal fishing and to preventing overfishing.[34]

5. Plastics and packaging

Support the circular economy by tackling plastic pollution at source and investing in recycling. It is estimated that by 2050, on current trends, there will be more plastic in the ocean than fish.

Since the UK introduced a 5p charge for supermarket plastic bags in 2015, usage at main retailers has dropped by 98%, equivalent to seven billion plastic bags being removed from circulation.[35]

The role of Master Trusts

The ‘LEAP’ approach, as outlined by TNFD, can be used by Master Trusts to identify and manage nature risks and opportunities

Master Trusts have the scale and, in many cases, the in-house expertise and resource to engage effectively with this complex topic and to discharge their fiduciary duties. They provide a platform for effective action from a governance and investment perspective.

The ‘LEAP’ approach, as outlined by TNFD, can be used by Master Trusts to identify and manage nature risks and opportunities:

- **Locate** our interface with nature: what assets do we have and where and how do they interface with ecosystems?
- **Evaluate** our dependencies and impacts: what environmental assets and ecosystem services do we have a dependency or impact on? What is the size and scale of that dependency and impact?
- **Assess** our risks and opportunities: what risk management and mitigation approaches should we be taking and what nature-related opportunities can we identify for our business?
- **Prepare** to respond to these nature-related risks and opportunities: What strategy and resource allocation decisions should be made? What targets and progress metrics should be put in place? How should we report this?

Once the LEAP process has been followed, the next step is to undertake focused engagement opportunities with those holdings that are already in place.

Securing a nature positive world that combines DC scheme members’ future financial wellbeing with their mental and physical wellbeing, DC workplace schemes are increasingly turning to a ‘cathedral thinking’ mindset. This takes a very long-term view that looks beyond the present, or even the current generation, to consider the needs of children, grandchildren and beyond.

But it also acknowledges that if pension schemes are to realise their potential as a force for good in creating a world worth retiring in, then urgent and unprecedented action on nature and biodiversity loss is required now. Master trusts are well-placed to advance this vitally important agenda.

What can pension providers do?

The core purpose of pension schemes is to help members achieve a lifetime of financial security, ensuring comfort and dignity in retirement. That requires careful financial planning, but it also involves taking account of the impact these investment decisions have on people and the planet they live on.

Major employers and their pension schemes are looking to raise their game on nature action and commit to achieving much more. A recent major study revealed that more than 60 per cent of UK pension funds are not invested in natural capital solutions, despite growing awareness of biodiversity risks.[36]

While the scale of the emergency can seem overwhelming, major employees, trustees and providers have agency. There are five significant actions that they can take to improve their understanding of biodiversity exposures in their investment portfolios and to make their investment strategy more nature positive.

1. Commit time and resources to building their knowledge and awareness about the risks and opportunities presented by biodiversity and nature-related risks. This can be done in a structured way with support from external consultant experts.
2. Identify and assess biodiversity risks and opportunities in their portfolio, considering available data and qualitative assessments. Materiality can be used to prioritise analysis and future action, looking at key risk sectors, biodiversity hotspots or size of investments.
3. Agree appropriate management approach based on risks and opportunities identified. Providers may consider formalising their strategy in a policy, sharing their approach or commitment publicly. The approach should be appropriate to the structure of the scheme and include all levers available, for example, asset manager oversight and engagement, voting guidelines, industry group collaboration, and policy advocacy.
4. Implement and revise strategy, in line with science, regulations, industry best practice and market developments. Schemes may wish to report on progress as per voluntary frameworks and guidelines, in addition to engaging with members on this topic.
5. Consider new investments in natural capital or nature-based solutions providing value for money for members. These may include specialist biodiversity impact funds or funds that seek to invest in companies transitioning their business models to win in the nature transition.

The investment of that £3 trillion held in UK pension funds has a substantial influence, for good or ill, so good stewardship is vital. By understanding and taking ownership of the nature impact of their pension schemes, trustees can engage effectively with their asset managers on these vital issues. Together they can work collaboratively to ensure that their capital is deployed in ways that benefit biodiversity, the ecosystem, the economy, and their members, both now and in a potentially better future.

$3trn

held in UK pension funds has a huge influence on environmental impact

‘Humanity is waging war on nature. This is senseless and suicidal. The consequences of our recklessness are already apparent in human suffering, towering economic losses and the accelerating erosion of life on Earth.’

UN Secretary General Antonio Gutteres

References

1. Biodiversity & Nature Related Risks for Actuaries: An Introduction. Data source, Institute and Faculty of Actuaries, June 2023

2. Why Biodiversity Matters. Data source, Zoological Society of London and CACEIS Investor Services, May 2023

3. The Economic Case for Nature. Data source, World Bank, 2021

4. How can we help investors address biodiversity impacts and risks? Data source, MSCI ESG Research: Biodiversity, February 2022

5. Biodiversity & Nature Related Risks for Actuaries: An Introduction. Data source, Institute and Faculty of Actuaries, June 2023

6. Nature Loss and Sovereign Credit Ratings. Data source, Bennett Institute for Public Policy, Cambridge University, June 2022

7. Biodiversity & Nature Related Risks for Actuaries: An Introduction. Data source, Institute and Faculty of Actuaries, June 2023

8. Data source, Aegon Responsible Investment Customer Panel Survey, July 2023

9. Data source, Aegon Responsible Investment Customer Panel Survey, Q2, 2022

10. Data source, Aegon Responsible Investment Customer Panel Survey, July 2023

11. Biodiversity loss has knock-on effects on global markets. Data source, University of Reading, Trinity College Dublin, March 2022

12. Biodiversity loss has knock-on effects on global markets. Data source, University of Reading, Trinity College Dublin, March 2022

13. Adapting to ash dieback – The Woodland Trust's view. Position statement. Data source, The Woodland Trust, April 2019

14. The 15 billion cost of ash dieback in Britain. Scientific paper published in Current Biology Journal. Data source, Department of Plant Sciences, University of Oxford, Fera Science Ltd, The Woodland Trust, Sylva Foundation, May 2019

15. Data source: Stockholm Environment Institute, September 2022

16. How can we help investors address biodiversity impacts and risks? Data source, MSCI ESG Research: Biodiversity, February 2022

17. Food, Planet, Health. Healthy Diets from Sustainable Food Systems. Summary Report of the EAT-Lancet Commission, July 2019

18. Future of Food, Part 2 – Nature-based solutions and the quest for low-carbon and climate-resilient agriculture Köberle, Holtedahl, et al. Data source, Imperial College Business School, Centre for Climate Finance & Investment, November 2021

19. Food Waste Index Report. Data source, United Nations Environment Programme (UNEP), March 2021

20. Top 10 biodiversity-impact ranking of company industries. Data source, Finance for Biodiversity Foundation, April 2023

21. Top 10 biodiversity-impact ranking of company industries. Data source, Finance for Biodiversity Foundation, April 2023

22. Agriculture's connected future: How technology can yield new growth. Data source, McKinsey & Company, October 2020

23. The Future of Nature and Business. Data source, World Economic Forum, July 2020

24. National life tables – life expectancy in the UK. Data source, Office for National Statistics, September 2021

25. Data source, Finance for Biodiversity Foundation, 2023

26. Natural Solutions to the Climate Crisis, Super seagrass. Data source, The Wildlife Trusts, 2023

27. Why Biodiversity Matters. Data source, Zoological Society of London and CACEIS Investor Services, May 2023

28. Why Biodiversity Matters. Data source, Zoological Society of London and CACEIS Investor Services, May 2023

29. Cutting Deforestation from our Pensions. Data source, Global Canopy, Make My Money Matter, System IQ, February 2022

30. Cutting Deforestation from our Pensions. Data source, Global Canopy, Make My Money Matter, System IQ, February 2022

31. Live animal movements. Data source, Food, farming and fisheries, The European Commission, 2023

32. Water Stewardship and Biodiversity Go Hand in Hand. Data source, Ceres, January 2023

33. Biodiversity and fishing. Data source, The Marine Stewardship Council, 2023

34. Data source, Seafood Business for Ocean Stewardship (SeaBOS), 2023

35. Plastic bag use fell by over 98% after charge introduction. Data source, CircularOnline, August 2023

36. Natural capital and biodiversity – where are UK asset owners on their journey? Data source, Pensions for Purpose / Gresham House, June 2023

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