

How does ecological risk relate to commercial risk?

Summary note of a conference held on 3 – 4 October 2024

Background

On 3 – 4 October 2024, business leaders, scientists, academics and non-profits came together at the Royal Society to discuss how trends in environmental decline are leading to new risks to business models and investments. The event took place just weeks before the biodiversity COP (COP16) opened in Cali, Colombia and the climate COP (COP29) began in Baku, Azerbaijan, where nature would also be firmly on the agenda.

Businesses are ever more aware of the risks of ignoring the nature crisis and its intrinsic links with climate change as their supply chains suffer the consequences of a warming, increasingly unstable world. The coming into force of new rules and regulations, led by the EU Corporate Sustainability Reporting Directive, are likewise pushing biodiversity up the corporate agenda.

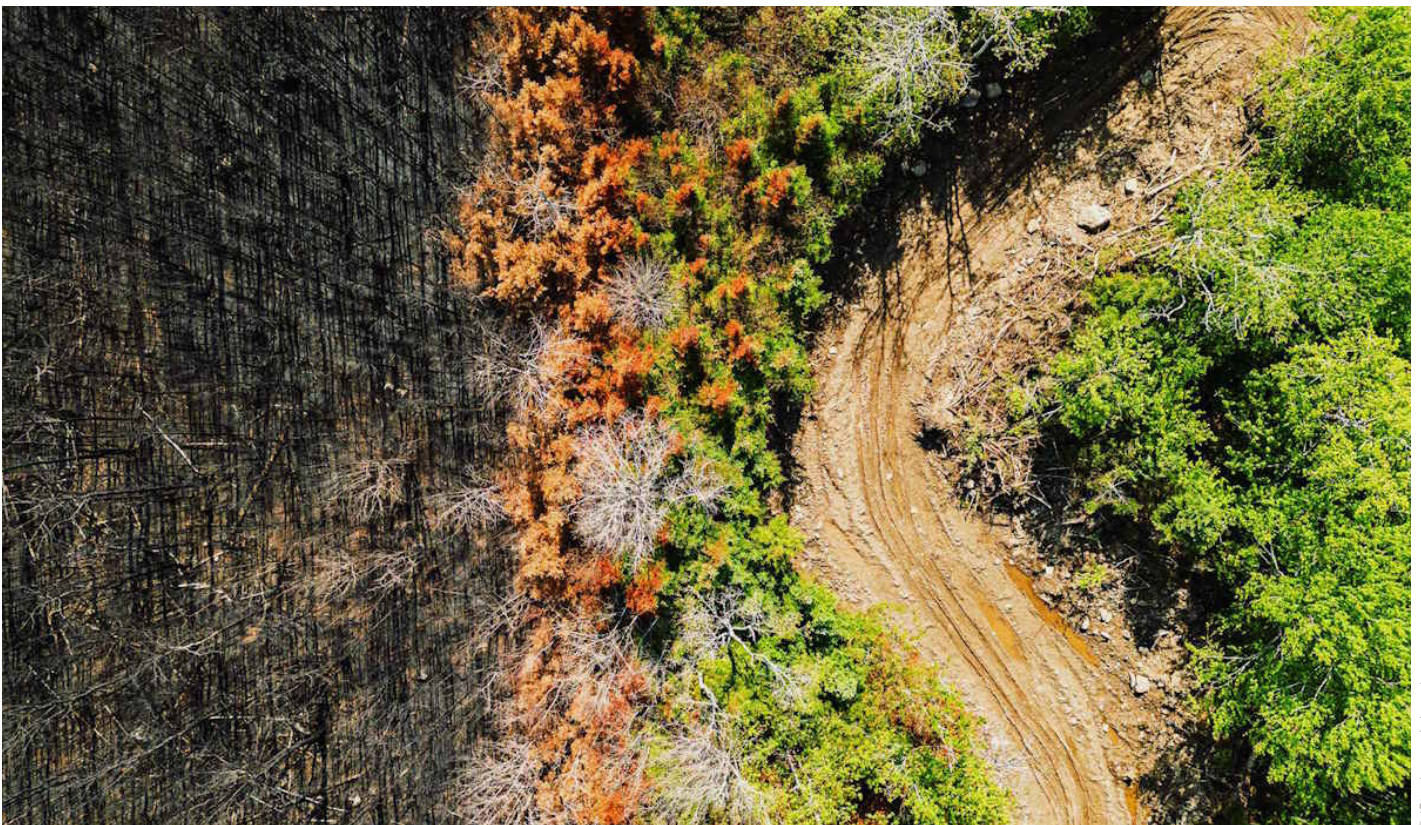
The conference was designed to help business leaders grappling with ecological risks by addressing three questions:

- Why should I care?
- What should I care about?
- What can I do about it?

This note provides a summary of some of the key messages that were delivered over the two days and is not intended as a verbatim record.



To view the recording of the event and associated materials, scan the QR code or visit royalsociety.org/ecological-and-commercial-risk



1. Why should I care?

The idea that nature and the economy are inseparable is not new. The independent review on the economics of biodiversity¹ by Sir Partha Dasgupta FRS, University of Cambridge, produced for the UK Treasury in 2021, insisted that nature was a “blind spot” in economics. The review made it clear that the world could not afford for nature to remain absent from accounting systems or continue to be largely ignored by decision makers.

Change has been slow, however, and most businesses are only starting to understand and act on the interlinkages between ecological and commercial risk. Speakers outlined a plethora of reasons why companies should be concerned about the collapse of nature and biodiversity.

Dr Tony Juniper CBE, Chair of Natural England described the commercial risk linked to ecological risk as “massive” and said it would become “very expensive”. He said there was “lots of emphasis on economic growth and not on growing nature — if we believe the science, the prerequisite for growing the economy is to grow nature at the same time.” After more than 20 years of expert studies and “carefully constructed datasets,” Juniper said the world was “still struggling to do right thing” on biodiversity. Private sector actors “reliant on nature” are failing to act in line with the challenge at hand he said, underlining the importance of “connecting wisdom and science to practice”.

“There’s no business on a dead planet.”

Paul Polman, business leader, and climate and equalities campaigner.



Above: Paul Polman, business leader, and climate and equalities campaigner.

Business leader, and climate and equalities campaigner Paul Polman said businesses had no choice but to understand and act on ecological risks with their very existence threatened should the destruction of nature continue. “Most businesses understand there’s no business on a dead planet. We destroy nature, we destroy ourselves,” he warned. Polman dismissed the idea that a price could be put on nature’s worth to business — “our entire life is based on nature; nature needs business, business needs nature.”

Because the world risks tipping towards extinction

Every business should care about the destruction of nature as it threatens the existence of humanity, warned many speakers. Professor Carl Folke from the Stockholm Resilience Centre drew attention to research by his institution showing the world has already passed, or is close to passing, various Earth system tipping points, with rapid changes to nature and society forecast. “We are intertwined with the planet,” he said. “If the living system does not work, we won’t be able to be here.” Growth and profit in such circumstances would be a largely moot point.

1. Dasgupta P. 2021 The Economics of Biodiversity: The Dasgupta Review. HM Treasury, London.
<https://www.gov.uk/government/collections/theeconomics-of-biodiversity-the-dasgupta-review> (accessed 18 October 2024)

Because of the business risks and opportunities

As Polman suggests, by ignoring ecological risks, business leaders are putting their companies at risk. A January 2024 study from PwC² revealed that almost half of CEOs do not believe their firms will be viable in ten years' time if they continue on their current paths.

Dr Nicola Ranger, Director of the Resilient Planet Finance Lab, and Senior Research Fellow at the Environmental Change Institute, University of Oxford, highlighted the 2023 *Green Scorpion* report³, of which she was lead author. It found that shocks to the global economy related to biodiversity loss and ecosystem damage could cost global supply chains upwards of \$5 trillion. "Any business that says it can't see nature [as a risk] is not looking in the right place," said Ranger.

All speakers at the event agreed that the science was bleak. Yet, there was also an understanding that action to protect and restore nature can be a significant business opportunity.

This is a "story about opportunities," about "how we can shape the world," said Marc Reinke, Head of the Sustainable Finance Office at De Nederlandsche Bank and Co-chair of the Taskforce on Nature Related Risks, Network for Greening the Financial System. For him, and others in the room, managing the risks and creating business opportunities from protecting and restoring nature should be part of normal business practice. Managing risk, in any form, is the job of institutions such as central banks, said Reinke. Whether we care about nature isn't the point — as the "guardians of monetary and financial stability, we should know if there is risk and act on it".



“Shocks to the global economy related to biodiversity loss and ecosystem damage... could cost global supply chains upwards of \$5 trillion.”

The Green Scorpion report³.



Above: Dr Nicola Ranger, Director of the Resilient Planet Finance Lab, and Senior Research Fellow at the Environmental Change Institute, University of Oxford.

Dr Nina Seega, Director at the Centre for Sustainable Finance, University of Cambridge, made a similar point about companies in general. Businesses are responsible for what's happening around them, she said, and mitigating and measuring risks is "fundamentally good business". Companies should be asking what makes good business and what their license to operate and grow is — and climate change and biodiversity loss should be part of this process. As the world continues to warm, businesses that take such a stance will become more sustainable and create longer-term, more resilient supply chains, better equipped to manage the more frequent and more extreme weather events forecast.

Others highlighted the growing interest from investors in companies implementing policies to improve their sustainability by reducing their greenhouse gas emissions and working to decrease their impact on, and ultimately help restore, nature.

2. PwC. 2024. PwC's 27th Annual Global CEO Survey. PwC, London. <https://pwc.com/gx/en/ceo-survey/2024/download/27th-ceo-survey.pdf> (accessed 18 October 2024)

3. Ranger N *et al.* 2023. *The Green Scorpion: the Macro-Criticality of Nature for Finance*. Oxford: Environmental Change Institute, University of Oxford. https://eci.ox.ac.uk/sites/default/files/2023-12/INCAF-MacroCriticality_of_Nature-December2023.pdf (accessed 18 October 2024)

“Businesses driving systemic change are also companies that are better performing financially.”

Paul Polman, business leader, and climate and equalities campaigner.

Waseem Malik, Chief Claims Officer at Aviva, said adapting to the challenges of climate change and biodiversity loss was also an opportunity for companies to innovate and come forward with new products or processes better aligned to manage the challenges at hand.

“Businesses driving systemic change are also companies that are better performing financially,” insisted Polman. During his time at Unilever, he reduced the company’s negative impacts on the environment, while generating a 290% shareholder return.

Because of the financial risk

Polman’s argument is, however, still being ignored by many businesses which continue to overlook the financial risks they are open to if they do not reduce their impacts on nature.

University of Cambridge’s Seega was one of the speakers who made clear the direct links between ecosystem services losses and financial risk. She described modelling she had carried out with HSBC on the impacts of water stress on heavy industry in south-east Asia. In this “totally possible scenario,” companies went from investment to non-investment grade.

There is “massive financial risk sitting on our books” because of the degradation of ecosystems that is not being managed or mitigated, said Seega. Lots of these problems can be alleviated if the financial system starts taking action to reduce pressure on nature, she said.

Because of reputational risk

Various speakers cautioned that companies risked harming their reputation by continuing to act in ways that harm nature. This could result in consumers turning away from a company’s products and/or the company finding it harder to recruit staff, in particular young people, who often want to know that a firm is acting in line with their convictions.

Because of rules, regulations and growing legal risks

Companies wanting to avoid legal action should take nature seriously, said lawyers at the event. They detailed the growing number of climate change court cases and the increasing focus on biodiversity in them. Rules and regulations coming into force, such as the EU Corporate Sustainability Due Diligence Directive, the Nature Restoration Law and the Deforestation Regulation, could open the way for legal cases if companies do not comply, they suggested.

Attention was drawn to the June 2024 *Global trends in climate change litigation* report⁴ from the Grantham Research Institute on Climate Change and the Environment. It shows an increase in legal cases where projects sold as climate change solutions are considered detrimental to biodiversity. Lawyers likewise raised the risk of businesses being accused of greenwashing if they make over-inflated claims about protecting and restoring nature.

Rebecca Stubbs KC from Maitland Chambers added that a body of case law is being created about the expected responsibilities of company directors as societal expectations and norms change. While the obligations under the Taskforce on Nature-related Financial Disclosures (TNFD) are only voluntary for the moment, Stubbs suggested that by disclosing voluntarily, directors could create positive commercial outcomes and be able to demonstrate action on nature risks in their supply chains, should they be required to do so.

Companies should not be complacent because the outcomes of climate change cases today were often not favourable towards the complainant – they are creating case law and similar cases in a slightly different form could go the other way in the future, she warned.

4. Setzer J and Higham C. 2023. Global trends in climate change litigation: 2024 snapshot. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science, London.
<https://lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-change-litigation-2024-snapshot> (accessed 18 October 2024)

2. What should I care about and what can I do about it?

Metrics and data

The need for businesses to care about and engage with biodiversity data and metrics was an oft repeated call during the conference.

At a macro level, Dasgupta called out the continuing reliance on GDP to measure economic success. GDP is “completely useless” for the task at hand, he said. “All the attention has been on human capital; we need to move to natural capital.”

Scientists working on biodiversity metrics and data acknowledged the challenges around measuring biodiversity but argued that we know enough to avoid making things worse. Professor Andy Purvis, Research Leader at the Natural History Museum in London, highlighted the Species Threat Abatement and Restoration metric⁵ as being decision-ready for avoiding investments that increase extinction risks. Purvis also emphasised that businesses should de-intensify activities in unhealthy ecosystems, divest from businesses reducing ecosystem health and invest in nature positive actions.

To help business understand the health of the ecosystems they depend on, Professor Neil Burgess, Chief Scientist at UNEP-WCMC in Cambridge said scientists were working to create a minimum set of biodiversity metrics that would make life easier for companies. However, Burgess made it clear that someone would have to pay for this work and to ensure that the datasets were updated regularly and therefore remained relevant for businesses. Purvis also underlined the need for sustainable financing for datasets and warned businesses against using oversimplified data focused on “single numbers”.

“Foundational data should be considered as a public good.”

Cathrine Armour, Director of Data Initiatives, Taskforce on Nature Related Disclosures.

Cathrine Armour, Director of Data Initiatives, Taskforce on Nature Related Disclosures, noted the accelerated demand for data and intelligence thanks to the TNFD, the EU Corporate Sustainability Reporting Directive and the International Sustainability Standard Board standards. She suggested foundational data should be considered as a public good, with open, common licensing for nature data used for non-commercial ends.

Dr Marco Lambertini, Convenor of the Nature Positive Initiative, likewise underlined the need to build consensus around how to measure the state of nature and how it is evolving over time. Having a “viable set of common metrics will drive and help track progress,” he said, outlining the work being done by his organisation to try to fulfil this goal.

Increase collaboration with everybody

“How do we get more scientists and economists to be like doctors?” asked Dr Heather Tallis, Senior Fellow at the Center for Coastal Climate Resilience at the University of California, and Social Impact Fellow with the WWF. Too many people are “standing on the sidelines,” she said, instead of working together as they would in a medical emergency.

The need for greater collaboration and to “de-silo” conversations was echoed throughout the two days of the conference. Professor Louise Heathwaite CBE FRS, Distinguished Professor at the Environment Centre at Lancaster University and Executive Chair of the Natural Environmental Research Council, called for cross-disciplinary work between social scientists, engineers, economists and medical scientists.

No company can “get their arms around” biodiversity loss on their own, said Natural England’s Juniper. Professor Robert Blasiak, Science lead at the Seafood Business for Ocean Stewardship (SeaBos), explained how SeaBos brings together scientists and CEOs to try to make the seafood business more sustainable. He suggested the key to good collaboration was creating a space where “truths can be spoken”.

5. Mair L *et al.* 2021. A metric for spatially explicit contributions to science-based species targets. *Nature Ecology & Evolution*, **5**, 836-844. doi.org/10.1038/s41559-021-01432-0 (accessed 18 October 2024)

Business leaders, including Alison Bewick, Global Head of Group Risk Management at Nestlé, stressed the need for companies to build strong supply chain relationships to better protect and restore nature. All parties need to understand why certain actions are being taken. “Go on the ground with the farmer and understand the challenges”, said Bewick.

Dr Sharon Brooks, Head of Nature Economy at UNEP-WCMC and Coordinating Lead Author of the IPBES Business and Biodiversity Assessment highlighted that local communities, especially women, are often best placed to be “stewards of nature” given their role in protecting nature, supporting local economies and their vulnerability to economic shocks.

Former IPBES Chair and Senior Adviser to the CBD COP16 Presidency Ana María Hernández Salgar, also urged increased collaboration with Indigenous peoples to ensure frameworks and actions are adapted to local cultures, and social and economic circumstances.

Define, disclose and decrease your impact

Purvis’ simplest message to businesses was to not invest where nature is depleting or at the very least, decrease their impact. Companies then need a strategy to measure this change, agreed speakers. Case studies are “beautiful to listen to” but companies need a north star, said Lambertini. “If you don’t do enough to move towards that goal, your case study is good, but not good enough.”

A December 2023 report⁶ from McKinsey shows only 6% of Fortune 500 companies have targets on nature, while an analysis from the World Benchmarking Alliance⁷ reveals that only 5% of the world’s major companies disclose on nature.

Get informed and educate others

Speakers expressed concern that people, including businesses, were unaware of the dire state of nature and of the impacts already happening because of climate change and loss of biodiversity.



Above: Dr Tony Juniper CBE, Chair of Natural England.

Juniper called for people to get out into nature to make them care about its loss, while Aviva’s Malik shared stark figures about the increase in flooding. In the last five years, one in eight houses in the UK has been flooded, he said. Yet, a lack of knowledge about this means “we continue to build in floodplains without resilience,” raising the spectre of unaffordable insurance costs and homes and buildings becoming uninsurable. He insisted the industry was ready to “help educate customers and the government”.

Mainstream nature protection and restoration

Nature degradation “needs to make its way into traditional ways of thinking about risk,” said De Nederlandsche Bank’s Reinke, with the issue becoming engrained in organisations, not simply an issue for sustainability officers. Nestlé’s Bewick said it was important to have “the right tone at the top” of a company, insisting “solid risk management starts with solid governance”.

There was also a call for companies to think longer-term, to imagine visions for the future and roadmaps to get there. This would mean ensuring industrial strategies, budgets and investment strategies are in line with climate and biodiversity goals.

6. Erben I *et al.* 2023. Companies are broadening their commitments to nature beyond carbon. McKinsey & Company. New York, USA. <https://mckinsey.com/industries/agriculture/how-we-help-clients/natural-capital-and-nature/our-insights/companies-are-broadening-their-commitments-to-nature-beyond-carbon#/> (accessed 18 October 2024)

7. World Benchmarking Alliance. 2024. Nature Benchmark 2022-2024. World Benchmarking Alliance, Amsterdam, The Netherlands. <https://worldbenchmarkingalliance.org/publication/nature> (accessed 18 October 2024)

Indeed, the importance of mainstreaming nature by bringing the climate and biodiversity agenda together was mentioned many times. Speakers outlined how nature-based solutions can help protect and restore species and ecosystems and help companies meet climate goals. Nestlé's Bewick said "climate and nature go hand-in-hand", including when thinking about reaching net zero targets. The importance, for example, of improving soil health for the sake of biodiversity and crop yields, and as a way of storing carbon was raised by various speakers. Regenerative agriculture was cited as one solution that can be a win-win for nature and the climate.

Folke from the Stockholm Resilience Centre was clear that unless such a mindset was adopted rather quickly and climate and nature were seen as two halves of the same issue, getting to net zero would be impossible. Nature has been doing the "enormous service" of absorbing 56% of emissions. If nature stops absorbing carbon, as some scientists suggests is already happening, warming is likely to shoot way beyond 1.5°C, warned Folke.

Oxford University's Ranger cautioned, however, that climate and nature risks have different characteristics, and overlapping risks and impacts, meaning businesses could be "shooting themselves in the foot" and making certain problems worse if they don't take care. She urged companies to look at climate and nature impacts at both a micro and a macro level to ensure nothing was missed in terms of impacts and potential solutions.

Another way to mainstream nature would be to align financial flows and business incentives with the Global Biodiversity Framework and the Paris Agreement. COP16 advisor Hernández Salgar insisted it would be cheaper for everyone in the long run if action is taken now to prevent biodiversity loss.

Finally, Dr Ian Hudson, Head of Environment, Nature and Land at Anglo American, agreed companies often looked for a specific solution to a particular problem, but suggested a wider "stewardship" approach was better suited to regenerating biodiversity. Such a solution might take longer, but it would bring greater resilience "at a lower cost in the long run," he said. David Croft, Group Head of Sustainability at Reckitt, agreed a more ecological mindset overall was needed.

Support government action

Business can push governments to act, said various speakers. A recent survey by the We Mean Business Coalition showed 67% of the companies surveyed wanted more regulation to level the playing field. Croft detailed water reduction policies his company had implemented in India, but warned that without regulation this would not stop another firm from using unsustainable amounts of water in the same area.



Above: Panel members (left to right) Professor Louise Heathwaite CBE FRS, Distinguished Professor, Lancaster Environment Centre, Lancaster University and Executive Chair, Natural Environmental Research Council; Dr Tony Juniper CBE, Chair, Natural England; Professor Carl Folke, Chair, Stockholm Resilience Centre; Paul Polman KBE, Business leader, climate and equalities campaigner; and Professor Jane Lubchenco ForMemRS, University Distinguished Professor, Oregon State University.

Conclusion: act now

Speakers were united in the conclusion that there is already enough information and intelligence for business to act now on biodiversity loss. “Take action now,” said Dr Helen Crowley, Nature Advisor and Non-executive Director at Pollination, “There will never be a good time. Don’t wait for the perfect data.”

“The data is already sufficiently directional to say you need to go this way rather than that way,” agreed Croft. He called for more focus on “the science of change” and how businesses can make the transition happen. And rather than trying to engender change through a risk lens, Croft urged businesses to adopt a more positive narrative around “resilience”.

“There will never be a good time.
Don’t wait for the perfect data.”

Dr Helen Crowley, Nature Advisor and Non-executive Director at Pollination.

Purvis suggested companies should get started, “set a goal, monitor and then course correct” based on new metrics, as would a car’s sat nav when it receives updated information.

Despite the poor state of ecosystems, changing business practices will have an impact, said Kat Bruce, Founder of NatureMetrics – “being able to reverse degradation is the secret weapon of nature.”



Above: Panel members (left to right) Dr Nicola Ranger, Director, Resilient Planet Finance Lab, and Senior Research Fellow, Environmental Change Institute, University of Oxford; Daniella Vega, Senior Vice President for Health and Sustainability, Ahold Delhaize; Charmian Love, Global Director of Advocacy, Natura &Co; and Jo Paisley, President, GARP Risk Institute.

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