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*Integrating Nature -
Pathways for Investors*

**Assessing Nature-related
Risk and Opportunity:
A Practical Framework
for Investors**



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Assessing Nature-related Risk and Opportunity: A Practical Framework for Investors

This paper is part of our series on Integrating Nature - Pathways for Investors. This section introduces a practical framework for investors to use to understand their nature-related risks and opportunities.

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Introduction

Analysing the exposure to impacts of economic activity on nature and/or dependencies on nature through investments can be a first step to identify sources of risk and opportunity in an investor's portfolio and is ultimately important to build long-term resilience into portfolios.

Carrying out a nature-related impact and dependency assessment is now recommended in all emerging nature-related frameworks and standards, most notably for investors:

- Target 15 within the **Kunming Montreal Global Biodiversity Framework**¹ which was agreed in 2022 is focused on corporate action and states that by 2030 "all large businesses and financial institutions should assess and disclose their risks, impacts and dependencies on nature, through their operations, supply and value chains, and portfolios".
- **The Taskforce on Nature-related Financial Disclosures (TNFD)**² notes within its 'strategy' pillar that reporting companies should "Describe the nature-related dependencies, impacts, risks and opportunities the organisation has identified over the short, medium, and long term."
- The **Finance for Biodiversity's Nature Target Setting Framework for Asset Managers and Asset Owners**³ includes a recommendation for investors to set a target within 6 months to conduct and publicly disclose an impact, dependency, risk and opportunity assessment.

¹ Kunming-Montreal Global Biodiversity Framework

² The Taskforce on Nature-related Financial Disclosures

³ Nature Target Setting Framework for Asset Managers and Asset Owners - Finance for Biodiversity Foundation

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Preparing a heatmap

Impacts

The first step in the assessment is to prepare a heatmap to identify areas of an investment portfolio or operations that have high concentrations of higher-risk impacts and dependencies and may require further analysis. This can summarise potential exposure to nature-related risk, revealing where investee companies materially depend upon or impact nature.

The data source most commonly used for heatmapping by investors is the ENCORE⁴ tool (Exploring Natural Capital Opportunities, Risks and Exposure), which is simple to interpret, publicly available and broadly comparable across sectors.

This tool maps how economic activities impact natural resources. The tool links the production processes in a sector and sub-sector to natural resources and rates their materiality based on existing literature and data. The ratings for nature-related impact consider how severely, quickly, and frequently a production process may disrupt ecosystem services or deplete natural capital stocks. The ENCORE materiality ratings use a five-point rating scale of Very High, High, Medium, Low and Very Low. They are designed for comparison of materiality across the entire economy, not solely within a specific sector.

You can either produce a heatmap for your whole investment portfolio, or you can narrow the scope by restricting the scope to priority sectors that are deemed to have the highest potential impacts on nature. For example, Finance for Biodiversity's Nature Target Setting Framework for Asset Managers and Asset Owners recommends that investors select companies which fall within priority and secondary sectors.

The 10 priority sectors (see table below) are chosen as they collectively account for approximately 70% of the estimated total biodiversity impact attributed to companies listed in the MSCI World Index⁵. The secondary list of sectors (see table on page 7) ranks lower than the priority list based on their impact on nature but are chosen as they still have potentially harmful effects on nature. The primary and secondary list of sectors included in Finance for Biodiversity's framework are aligned closely with the TNFD's priority sectors.

⁴ The tool was created and continues to be maintained and continuously improved by Global Canopy, UNEP Finance Initiative and the UNEP World Conservation Monitoring Centre. See: ENCORE

⁵ The MSCI World Index captures large and mid-cap representation across Developed Markets countries. The index covers approximately 85% of the free float-adjusted market capitalization in each country. See MSCI World Index

Priority list of sectors	Secondary list of sectors
Oil, Gas & Consumable Fuels	Construction Materials
Chemicals	Containers & Packaging
Metals & Mining	Passenger Airlines
Paper & Forest Products	Textiles, Apparel and Luxury Goods
Automobiles	Personal Care Products
Consumer Staples Distribution & Retail	Health Care Providers & Services
Beverages	Semiconductors and Semiconductor Equipment
Food Products	Gas Utilities
Pharmaceuticals	Water Utilities
Electric Utilities	Independent Power and Renewable Electricity
	Real Estate Management & Development

Table 1: A list of priority sectors which cover 30% of the total market capitalisation of the MSCI ACWI and 70% of the biodiversity impact on the MSCI World Index and a list of secondary sectors which are also considered to be harmful to biodiversity and therefore are important to consider in the target setting process.

Dependencies


Assessing an investment portfolio's dependencies on nature involves examining the extent to which the companies rely on nature and its ecosystem services to operate and generate value.

Dependencies can be categorised based on the broad ecosystem service type they fall under and how these contribute to human wellbeing, following the Common International Classification of Ecosystem Services (CICES).⁶ These are:


- 1. Provisioning:** physical products derived from nature (e.g. water, food, raw materials).
- 2. Regulating and maintenance:** natural processes that regulate environmental conditions (e.g. air filtration, water flow regulation).
- 3. Cultural:** non-material benefits from nature (e.g. recreation, aesthetic, education).

This process is essential for understanding interactions with nature and highlights hidden exposures that may not be captured in traditional financial analysis, such as reliance on water availability or stable climatic conditions. Most importantly, it can reveal where businesses are vulnerable if these natural systems decline. A dependency on ecosystem services does not necessarily mean there is a financial risk. Where possible, in the next stage of assessment, it is important to gain a deeper understanding of the location of a company's assets, to assess whether the ecosystem can continue providing the specific ecosystem service, for example does the company operate in an area which is vulnerable to drought, while being highly dependent on water flow regulation.

⁶ Haines-Young, R. (2023): Common International Classification of Ecosystem Services (CICES) V5.2 and Guidance on the Application of the Revised Structure. Available from: www.cices.eu



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A heatmap is useful to provide comparability across sectors but this is at the expense of specificity and accuracy.

Limitations

The heatmapting stage provides a helpful snapshot of overall impacts and dependencies at the sector-level, however some drawbacks include:

- It is difficult to strike a balance between comparability and specificity. A heatmap is useful to provide comparability across sectors but this is at the expense of specificity and accuracy. For example, the ENCORE rating scale obscures the relative importance of each impact and dependency.
- It is focused on the present, rather than being forward-looking. This means that it does not adapt to the dynamic nature of environmental impacts over time.
- It does not consider dependencies and impacts that arise across the whole value chain of a given sector. The ENCORE ratings account for a sector's direct dependencies and impacts on nature, rather than accounting for the full set across the value chain, both upstream and downstream.

To summarise, heatmaps can play an important role in helping investors to identify areas of their portfolio that have high concentrations of higher-risk dependencies and impacts, but it is important that the heatmap approach is supplemented with a more detailed analysis.

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Asset tagging

The term “asset tagging” is used by the Taskforce for Nature-related Financial Disclosures to describe the next stage in the assessment process. This is where, as far as possible, data specific to individual companies is identified to determine their exposure to specific nature-related impacts and dependencies. Where data is available, this should also include location-based metrics. When a company’s location is known, their overlap with sensitive locations can be assessed to identify assets that are potentially exposed to physical nature-related risks. Some of the tools and data sources available to support investors in doing this are the Integrated Biodiversity Assessment Tool⁷ and WWF’s Water Risk Filter⁸.

The specificity of the analysis and insights gained will depend on the types of data available. Currently, companies are not generally disclosing granular data on how they are managing their nature-related impacts and dependencies. Engagement with companies can be used as an important tool to yield more granular data from companies. There are also datasets such as the NA100 Nature Benchmark which investors can refer to and Forest IQ that aggregate data on how more than 2,000 major companies are addressing their links to deforestation.

It is recommended that this stage focuses on a sub-section of an investor’s portfolio, focusing on areas where nature exposure is expected to be material, as identified in the heatmap stage of the assessment.

⁷ IBAT | The world’s most authoritative biodiversity data
⁸ WWF Water Risk Filter

This step has the potential to address some of the limitations with the heatmap approach. For example, it attempts to provide a more granular and specific understanding of the impacts and dependencies and can start to bring in data from across a company’s value chain. However, it is still focused on an assessment of risk at a point in time.

Finance for Biodiversity’s Nature Target Setting Framework for Asset Managers and Asset Owners recommends that investors define Key Performance Indicators (KPIs) to assess company performance in each priority sector. Where possible, investors should select data points with a sufficient level of coverage across portfolio companies, be objective to ensure comparability and also should be normalised by financial ratios to limit size biases.

Over the last few years, several tools and data sources have emerged to support financial institutions with their impact and dependency assessment, although several data challenges and gaps remain. The Partnership for Biodiversity Accounting Financials has recently launched version one of the PBAF Finance & Nature Toolbox⁹ in partnership with the Impact Institute to help companies understand what tools to use, for what purpose and when. Some of the data sources that can be used for this step are open source and free of charge for investors to access, whereas some are behind a paywall.

Given the current challenges obtaining good quality data for this stage of the assessment process, this process needs to be iterative, with new data being layered on over time as it becomes available.

⁹ A Biodiversity Accounting Standard for the Financial Industry | PBAF - Partnership for Biodiversity Accounting Financials

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Conclusion

In this paper we have looked at the two core stages to an impact and dependency assessment; preparing a heatmap and asset tagging. Both steps can allow an investor to set targets on the priority impact and dependency areas, using guidance such as the Finance for Biodiversity Target Setting Framework for Asset Managers and Asset Owners. In the next paper in the series, we will explore the assessment journey we have followed within Greenbank to date and share some early learnings from this work.



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