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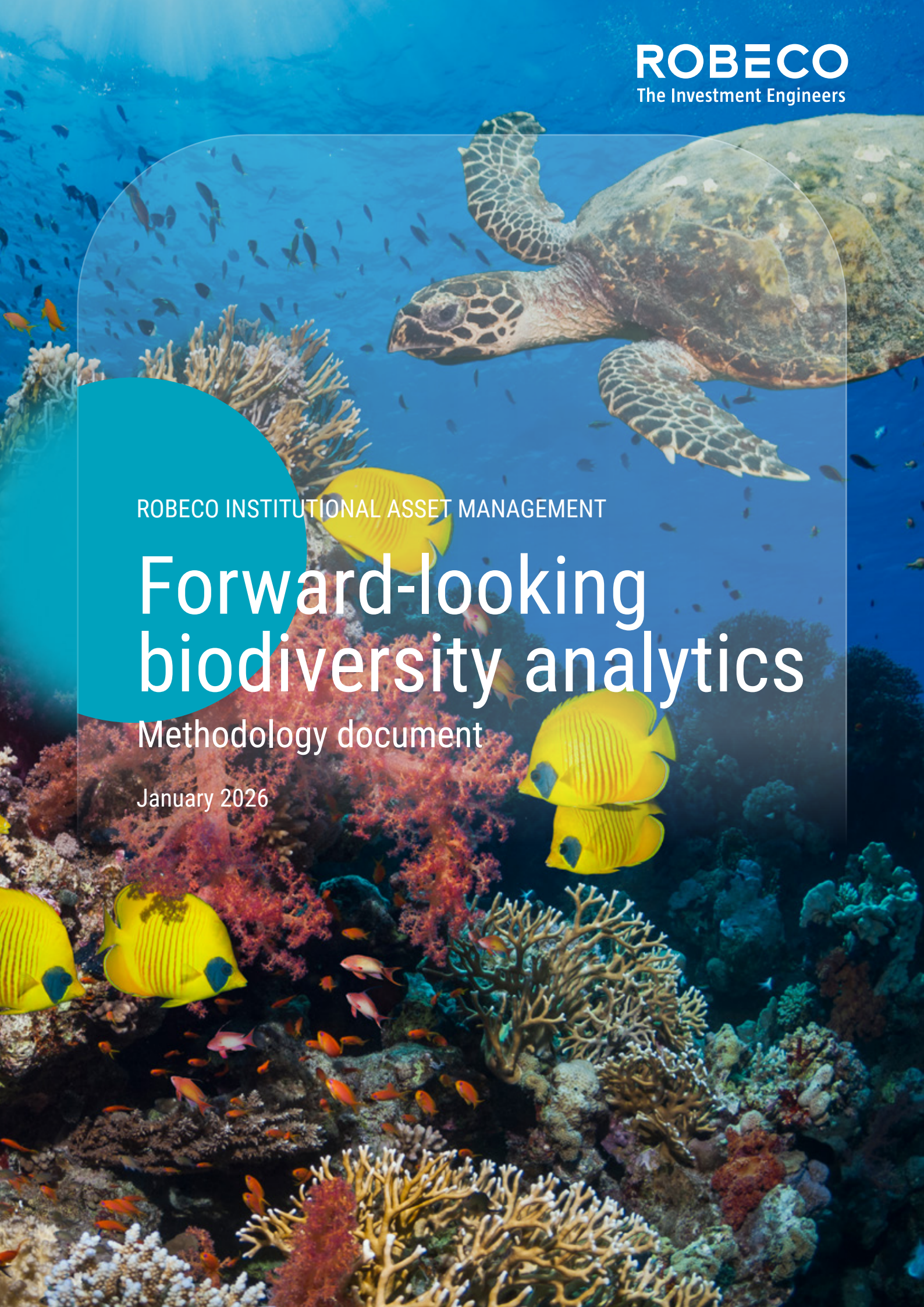
The Investment Engineers



ROBECO INSTITUTIONAL ASSET MANAGEMENT

Forward-looking biodiversity analytics

Methodology document

January 2026

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1. Introduction

Nature is under unprecedented pressure from the adverse impacts of human production and consumption. The progressive deterioration of natural capital poses systemic risks to the global economy and, by consequence, to investment portfolios. Against that background, in 2022, governments agreed in the Kunming-Montreal agreement to develop national policies to halt and reverse nature loss by 2030 and work towards a nature-positive global economy by 2050.

The transition to a nature-positive economy requires companies to align their business models with these global biodiversity goals and reduce their pressure on the drivers of nature loss. We identify two ways in which companies contribute to this biodiversity transition:

1. Biodiversity solution providers that enable the transition
   A biodiversity solution provider offers a service or product which contributes to halting or reversing one of the key drivers of biodiversity loss. In doing so, the service or product must not negatively impact any of the other drivers of biodiversity loss. Examples include: wastewater treatment, recycling technologies.

2. Biodiversity transition leaders that make the transition
   A biodiversity transition leader is a company that on a peer-by-peer basis operates with relatively less adverse impacts on nature and that in addition has robust governance, policies and targets in place to further reduce those impacts and credibly transition towards more nature-positive business models.

This document details Robeco's methodology for identifying and measuring biodiversity solution providers through our proprietary SDG framework and biodiversity transition leaders through our proprietary Biodiversity Traffic Light.

2. Biodiversity solution providers

Robeco's Biodiversity Solutions assessment aims to identify companies that are at the forefront of developing innovative products, technologies and services which enable the wider economy to halt and reverse nature loss. Biodiversity solution providers enable the transition towards a more nature-positive economy by offering services or products that enable industries or individuals to avoid or reduce adverse impacts on nature and/or to restore natural capital. In doing so, the service or product must not negatively impact any of the drivers of biodiversity loss. Examples include: wastewater treatment, recycling technologies, soil remediation, sustainable forestry management.

There are two steps in determining whether a company offers a biodiversity solution:

1. Defining which activities constitute biodiversity solutions. For this, an in-house taxonomy of biodiversity solutions has been created, based on the guidance from the EU Taxonomy.
2. Defining revenue thresholds for these activities, which companies must meet to be considered a biodiversity solutions provider, and establish whether a company meets these thresholds based on available financial data.

Both steps are embedded in Robeco's proprietary SDG framework. Well-established since a number of years, the Robeco SDG framework defines eligible business lines and sets minimal revenue thresholds for identifying which companies are making a substantial contribution to the UN Sustainable Development Goals (SDGs).

For the biodiversity solution assessment, we utilize the eligible activities and minimal revenue thresholds that are being used for assessing companies on their contribution to SDG 14 (Life Below Water) and SDG 15 (Life on Land). In addition we identify biodiversity solutions in sub-targets of SDG12 (Responsible Consumption and Production) and SDG 6 (Clean Water and Sanitation).

The thresholds are typically set at 33% but may be lower based on the level of maturity of an activity. For example, for food industries that are transitioning to nature-based solutions, relevant KPIs (e.g. plant-based protein revenues) may have a lower threshold. These thresholds will be ratcheted up over time as the nature transition unfolds.

A number of eligible business lines and corresponding revenue thresholds are provided in Table 1 below.

Table 1: Examples of biodiversity solutions

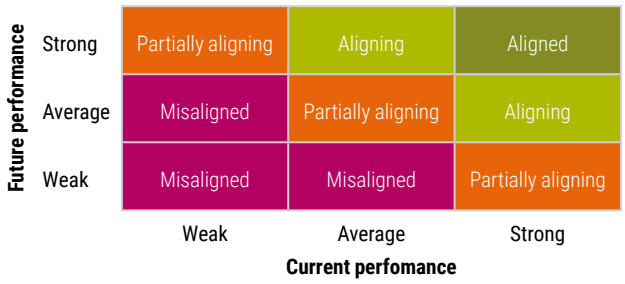
Eligible activity	SDG	Example KPIs	Revenue threshold
Green infrastructure	12	% of net rental income (or revenues) from green buildings % revenues from environmental engineering and consulting	40% 33%
Sustainable farming practices	15	% revenues from sustainable agriculture, e.g. drought resistant seeds % revenues from plant-based protein	33% 5%
Sustainable forest management	15	% fiber sourced from certified forests (FSC/PEFC)	33%
Sustainable aquaculture	14	% revenues certified ASC % revenues certified MSC	60% 80%

3. Biodiversity transition leaders

3.1 Robeco's biodiversity traffic light and its alignment categories

Robeco's Biodiversity Traffic Light provides a framework for identifying biodiversity transition leaders. The traffic light is a forward-looking metric to assess issuers based on their current impact on nature (current performance) and their future plans to mitigate this impact (future performance). Figure 1 shows how these two aspects of a company's impact on biodiversity are combined to obtain the final traffic light.

Figure 1 | Combining current and future performance to obtain the Biodiversity Traffic Light



The traffic light categorizes companies into four categories: aligned, aligning, partially aligning and misaligned. For the biodiversity transition, there is no widely accepted science- or policy-based benchmark for objectively assessing companies across all aspects of nature loss. Therefore the alignment assessment is done on a relative peer-to-peer basis for a company's current impacts on nature, combined with an assessment of its future performance on an absolute scale.

In that context, alignment means that the company is performing well relative to its sector peers in terms of its current impacts on nature, and that it has robust nature governance, policies and targets in place which ensure that the company is credibly mitigating these impacts and transitioning in line with the global goal of halting and reversing nature loss.

Table 2 | Interpretation of the Biodiversity Traffic Light categories

Alignment category	Simple interpretation
Misaligned	Laggard. Company is in a sector with a high biodiversity impact. Its current performance is weak in comparison to its sector peers, and its governance, policies and targets are insufficient.
Partially aligning	Some progress in mitigating nature loss within their operations. However, need to set better targets, put in place better governance or improve current performance.
Aligning	Good progress in mitigating nature loss within their operations. They demonstrate strong current performance, and average future performance and governance, or vice versa.
Aligned	Leader. Strong current and future performance on biodiversity, relative to their sector peers.

3.2 Sector-specific assessment of drivers of nature loss

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identifies five key drivers of nature loss[1]:

1. Land and ocean use change: Deforestation, land degradation, and changes in ocean use that lead to habitat destruction.
2. Overexploitation of natural resources: Water overconsumption, overfishing, soil depletion, and other forms of resource depletion.
3. Pollution: Untreated wastewater, pesticides, plastics, and other pollutants that harm ecosystems.
4. Invasive species: Non-native species that disrupt local ecosystems by outcompeting native species or introducing diseases.
5. Climate change: Changes in climate patterns that affect species survival and distribution.

The biodiversity traffic light assesses how companies contribute to these drivers of nature loss, and how well they mitigate their contributions. It focuses on land/ocean use change, exploitation of natural resources, and pollution. Invasive species is kept out of scope, because it cannot yet be measured in relation to company operations and supply chains. Climate change is kept as a separate assessment in Robeco's climate traffic light[2], and can be integrated at portfolio-level.

Since every industry has specific impacts and dependencies in relation to nature and ecosystems, we apply a sector-specific approach for the assessment of companies. In this, we follow the guidance from the Taskforce for Nature-related Financial Disclosure (TNFD). The TNFD has designated a list of priority sectors which are deemed to be most material in terms of their dependency and/or impact on nature. For these sectors, the TNFD has released sector guides that defined the key impacts and dependencies in that industry, and the key metrics that corporates and investors should focus on.[3]

For the majority of the TNFD priority sectors, we have developed a bespoke sector model to assess the current and future performance of companies in mitigating their contribution to nature loss. The bespoke models use sector-specific key performance indicators that build on the TNFD sector guides and its definitions of key impacts, dependencies and metrics per industry. An overview of the bespoke sector models is provided in Table 3 below.

For the TNFD non-priority sectors, which have a low or medium materiality in terms of their impact and/or dependency on nature, we have developed a default sector model. The default model is also used for a few TNFD priority sectors where we have not yet developed a bespoke sector model, such as airlines.

Table 3 | List of bespoke sector models for TNFD priority sectors

Sector	Bespoke TNFD Sector Model	
Energy	1	Oil and gas
Materials	2	Chemicals
	3	Construction materials
	4	Containers and packaging
	5	Metals and mining
	6	Paper and forest
Transportation	7	Transportation infrastructure
	8	Automobile components
	9	Automobile
Real estate and REITs	10	Real Estate
	11	Construction and engineering
Consumer durables	12	Textiles
Consumer services	13	Restaurants
Food and beverage	14	Food retailing
	15	Beverage
	16	Food products
Household and personal care	17	Personal care products
Pharmaceuticals and biotech	18	Pharma and biotech
Semiconductors	19	Semiconductors
Utilities	20	Electric, multi and Independent utilities

1. IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany.
2. https://www.robeco.com/files/docm/docu-robeco-forward-looking-climate-analytics.pdf
3. https://tnfd.global/tnfd-publications/?_sft_framework-categories=additional-guidance-by-sector

3.3 Assessment of TNFD priority sectors

For each TNFD priority sector, we assess the drivers of biodiversity loss which are most relevant for the sector as determined by the TNFD sector guides. To assess a company's efforts to mitigate these drivers, we look at the company's current impact (current performance) and assess the plans it has in place to mitigate these in the future (future performance).

Current Performance

The current performance assessment score aims to understand a company's current exposure or contribution to harmful drivers of biodiversity loss and how well they are currently mitigating them. The total current performance score ranges from 1 (weak), 2 (average) or 3 (strong). The underlying KPIs used to assess current performance are also scored in this way (scores range from 1 to 3) and an average is taken to obtain the total score. Some KPIs are deemed not applicable or not significant for certain subsectors within a sector and these do not contribute to the overall score.

As an example, Table 4 below shows the KPIs used for the food products sector. The main driver of biodiversity loss linked to the food sector is land use change, which is reflected in the current performance KPIs used to assess companies within this sector.

Table 4 | Current performance KPIs for the food products sector

KPI	Driver of biodiversity loss	TNFD
Revenues from beef and dairy and certification levels	Land use change	C1.1
Revenues from alternative protein	Land use change	C1.1
Revenues from fish farming and certification levels	All	C1.1
Exposure to deforestation risk commodities and certification Levels	Land use change	C1.1
Water consumption and 3 year trend in water stressed areas	Exploitation of natural resources	C3.0

The scoring of current performance is for the most part sector-relative, with the aim of identifying leaders and laggards within the sector. Therefore, whilst the current performance scores and traffic lights enable comparison of companies within sectors, they do not enable comparison of companies across different sectors. An "aligned" company in one sector such as Automotive Components is different to an "aligned" company within another sector such as Chemicals in terms of their absolute biodiversity impact.

Future Performance

The future performance score for a company also ranges from 1 (weak) to 3 (strong). It evaluates how the company's efforts to mitigate their impact on nature will evolve over time by assessing whether the company has robust policies, targets and good governance in relation to nature risks, impacts and dependencies. It is based on an average of the scores assigned to the underlying policies and targets we look for, which relate to the drivers of biodiversity loss captured in the current performance score.

An example of these targets is shown for the food products sector in Table 5.

Table 5 | Future performance targets for the food products sector

Targets	Driver of biodiversity loss
Do they have a no net loss commitment?	Land use change
Do they have a deforestation free supply chain target year?	Land use change
Do they have targets to reduce water consumption?	Exploitation of natural resources
How strong is their biodiversity governance?	All

In addition to looking for targets and policies related to the drivers of biodiversity loss, we also assess the governance that the company has put in place to manage its impacts on nature. To do this we look at five criteria which result in a score of 1 (weak) to 3 (strong) on biodiversity governance:

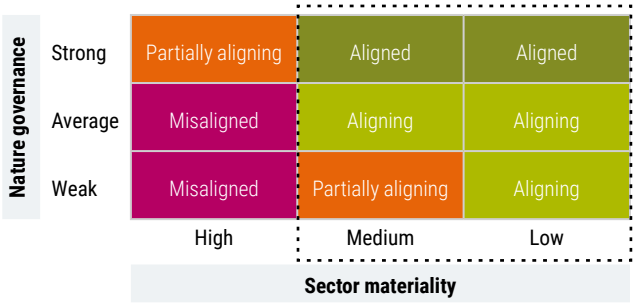
1. Does the company have a biodiversity policy?
2. Do they adopt TNFD recommendations?
3. Does the board have oversight of biodiversity?
4. Do they have a commitment to external biodiversity related initiatives?
5. Are biodiversity risk and opportunities discussed in public disclosures?

Unlike the current performance score, the future performance score takes a more absolute perspective as it is assessing whether or not a company has policies and targets in place. There is no sector-relative element to the scoring.

3.4 Assessment of non-priority sectors

We apply a default sector model for sectors which have a low to medium impact on biodiversity, as per the guidance from TNFD. The default sector model is visualized in Figure 2 below..

Figure 2 | Default sector model



The default sector model works as follows:

1. Each sector is given a starting point based on its exposure to the drivers of biodiversity loss. The starting point can be medium or low materiality. High materiality is by definition in TNFD priority sectors, which are covered through bespoke sector models.
2. We then use the company's biodiversity governance score, as described before, to differentiate between companies within a sector, based on how well they govern and manage biodiversity impact and risks.

In low-impact sectors, such as media, music and TV, companies are minimally assess as aligning (see right-hand column of Figure 2). The biodiversity impact of these sectors is limited, so companies with limited biodiversity governance in place are not penalized.

In medium-impact sectors, companies can be assessed as partially aligning, aligning or aligned (middle column of Figure 2). The workings of the default model can be demonstrated through an example from Agricultural Machinery, a medium-impact sector:

- Through their customers, companies in this industry are exposed to land use change as a driver of nature loss. While the materiality is medium only, it can still be expected from these companies that they develop related strategies and policies.
- Company A meets only one of the five governance criteria and therefore scores a 1 (weak) for biodiversity governance. This results in the company being partially aligning.
- Within the same sector, company B has a biodiversity policy and has adopted the TNFD recommendations. Therefore, as they meet two of the five governance criteria, they get a 2 for their biodiversity governance. This result in Company B being assessed as aligning, since they are making a greater effort to mitigate their impacts on biodiversity loss.
- The difference in traffic lights between company A and B demonstrates that for the non-TNFD priority sectors, the differentiation between companies within the same sector is due to how well they manage and govern biodiversity impact and risks.

3.5 Controversy screening

As a final step in the methodology, all companies are screened for involvement in pollution-related controversies. For this, we use the Robeco controversy data produced for the SDG framework. Companies involved in pollution-related controversies are penalized and receive lower scores.

4. Afterword

Biodiversity data and measurement in the context of listed equity and bonds portfolios is still in early stage. Robeco's biodiversity solutions assessment and biodiversity traffic light provide a practical approach to identifying issuers that are leading the transition to halt and reverse the drivers of nature loss in their respective industries. The model builds on guidance from the EU Taxonomy and the Taskforce for Nature-Related Financial Disclosures (TNFD). We foresee continued development of datasets, amongst other through AI tooling, which we will leverage to enhance the model. In the meantime, the model offers investors a robust approach to start integrating nature in investment portfolios.

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