

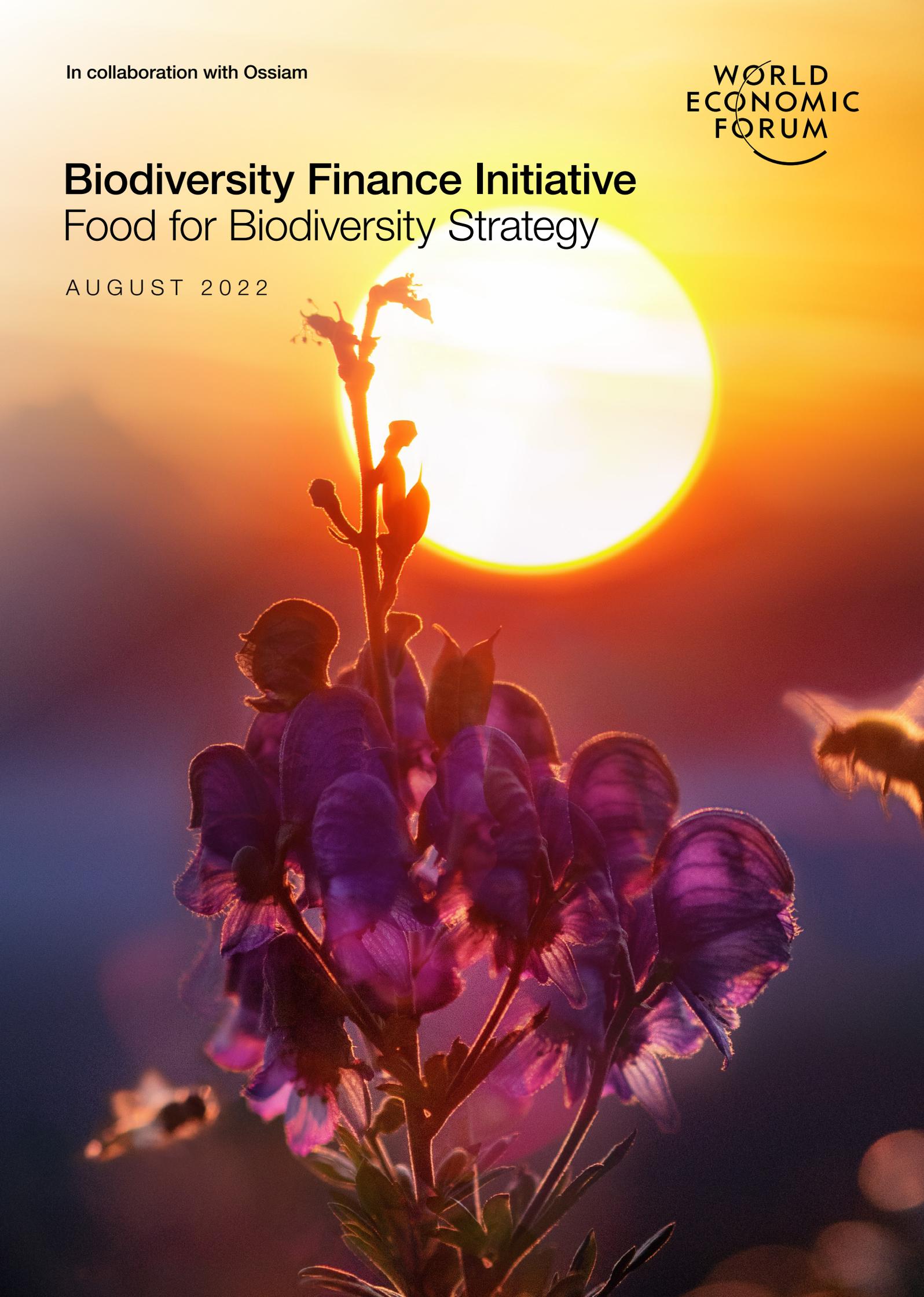
In collaboration with Ossiam



Biodiversity Finance Initiative

Food for Biodiversity Strategy

AUGUST 2022



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This strategy has a sustainable investment objective, in accordance with the EU classification.

ESG investing methodological limits. By using ESG criteria in the investment policy, the relevant strategy's objective would in particular be to better manage sustainability risk. ESG criteria may be generated using the investment manager's proprietary models, third-party models and data, or a combination of both. The assessment criteria may change over time or vary depending on the sector or industry in which the relevant issuer operates. Applying ESG criteria to the investment process may lead the investment manager to invest in or exclude securities for non-financial reasons, irrespective of market opportunities available. ESG data received from third parties may be incomplete, inaccurate, or unavailable from time to time. As a result, there is a risk that the investment manager may incorrectly assess a security or issuer, resulting in the incorrect direct or indirect inclusion or exclusion of a security in the portfolio of a strategy.

Sustainability risk. The strategy is subject to sustainability risks as defined in EU Regulation 2019 2088 (Article 2 22) by environmental, social or governance event or condition that, if it occurs, could cause an actual or a potential material negative impact on the value of the investment.

More information on the framework related to the incorporation of sustainability can be found on the Ossiam website.

Context

Biodiversity is defined by the Convention on Biological Diversity (CBD) as the diversity of species, variation of genes and different ecosystems. It refers to all varieties of life that can be found on Earth. However, biodiversity has been declining at an alarming rate in recent years, mainly due to land use changes, pollution and climate change. Experts believe the world is in the midst of a sixth mass extinction, with biodiversity loss estimated to be 1,000 times higher than the pre-human rate (Díaz et al., 2019).

Without biodiversity, there are no ecosystems that can regulate the natural cycles (Stockholm Resilience Center, 2017). The World Economic Forum estimates that all sectors have a degree of dependency on natural capital assets and ecosystem services. This means that biodiversity loss could surpass the \$1.7

trillion yearly costs of damages caused by global warming (Evison & Knight, 2010).

Nonetheless, investors can act to halt and reduce biodiversity loss and its catastrophic consequences. On the one hand, investors can integrate biodiversity loss into their investment process. This would enable them to align their investments' biodiversity footprint with an environmentally sustainable objective. On the other hand, investors, as stewards of responsible investment, can incorporate biodiversity into their activities and collaboratively urge organizations to preserve biodiversity. In practice, investors may initiate dialogues with companies and sovereigns, encouraging them to monitor and manage their impact on biodiversity.



The food sector and biodiversity

The agri-food sector has a significant impact on biodiversity. The industry is responsible for a quarter of greenhouse gas (GHG) emissions and exploits half of the world's habitable land (Ritchie and Roser, 2020). It is also a sector highly dependent on biodiversity services. For instance, the almond industry depends on bee pollination. The increasing use of pesticides and lack of flowering plants have caused the loss of bee colonies in California. Without bees on their farms, almond producers have been forced to import bee colonies from other places (TNFD, 2022).

Demographic trends and changing consumer preferences present an increasingly challenging obstacle to reversing the industry's biodiversity footprint. Food demand is expected to keep growing as the global population rises (Roser, 2013). Furthermore, consumer preferences shifting to include a larger share of proteins of animal origin (Ritchie and Roser, 2013) may lead to a larger environmental footprint.

Limits to the existing approaches on biodiversity integration

In recent years, the tools and metrics used to measure biodiversity loss were incomplete and incompatible with the traditional tools used by investors to measure a company's or a portfolio's current or future performance. They could not be used for extra-financial screening (Finance for Biodiversity Foundation, 2022). Consequently, the

financial sector had mostly invested in biodiversity through projects, where it could measure the biodiversity outcomes pertaining to local ecosystems, or via a thematic approach aimed at companies offering product or services that could stop or even reverse biodiversity loss.

Using a physical and quantitative indicator for assessing biodiversity impact for liquid stocks

New tools have helped pioneer the integration by investors of biodiversity in their portfolios. The development of innovative biodiversity measurements has given investors the tools to measure species abundance, ecosystem intactness and ecosystem benefits (Finance for Biodiversity Foundation, 2022). Notably, experts have been able to develop robust quantitative and physical indicators that can measure the richness of a species in an ecosystem. In other words, there is a science-based metric that compares the actual abundance of native species in a given ecosystem to their (estimated) abundance if the ecosystem were in an undisturbed state, defined as the Mean Species Abundance (MSA) (Alkemade et al., 2009). This indicator goes from 0 to 1, where 1 means that

the diversity of species is intact and 0 reflects that all native species are (locally) extinct.

Frameworks have also been developed that effectively model a safe operating space for humanity to operate within earth systems, such as the planetary boundaries (Steffen et al., 2015). The planetary boundaries, developed by the Stockholm Resilience Centre, have set biosphere integrity (which considers loss and extinctions) as a core planetary boundary for the functioning of earth systems. The coupling of the planetary boundaries with the MSA provides investors with a scientific target. The target can keep the investments' footprint, from projects to portfolios, aligned with a healthy and functioning biosphere.

Financial innovation in the food space

At an industry level, innovative investment propositions are emerging. An example of such an approach is Ossiam's "Food for Biodiversity strategy", that aims to compose a portfolio of equities from one of the most impactful sectors on biodiversity, agri-food, while minimizing its footprint and keeping it aligned with the latest estimated planetary boundaries.

The investment universe is comprised of 250+ publicly listed equities that are active in the agriculture and food sector. Ossiam's portfolio construction comprises three steps to minimize the biodiversity footprint:

1. Conduct a best-in-class filter within each subsector, where the worst performing stocks on an aggregated score that considers biodiversity, GHG emissions, and environmental, social and governance (ESG) are filtered out.
2. Apply an exclusion filter to ensure stocks that are in breach of international standards of business practices are excluded from the

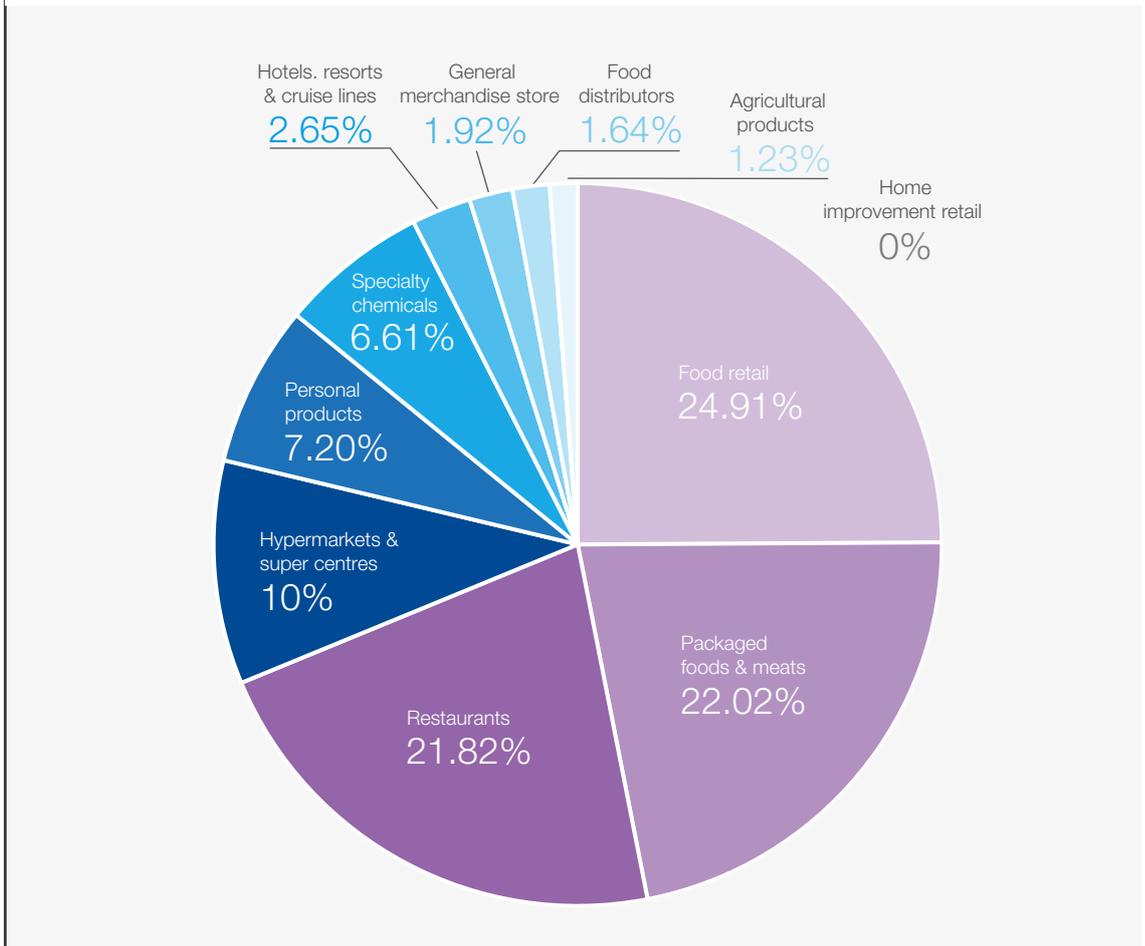
eligible universe. This is achieved by filtering out stocks of companies involved in controversial sectors such as the tobacco and palm oil production, as well as companies that are in breach of international normative standards.

3. Set as its objective the minimization of the portfolio MSA to financial and extra-financial requirements. The process will optimize the MSA indicator within the minimum threshold needed to remain within the planetary boundaries while also performing an improvement of Sustainable Development Goal (SDG) scores compared to the food sector, and an absolute carbon footprint reduction compatible with a 2°C alignment scenario.

The systematic quantitative approach selects a concentrated and stable portfolio of 50 companies (as of 29 April 2022), which is balanced between the sub-sectors of the whole food supply chain.



FIGURE 1 Sector allocation of the Food for Biodiversity strategy (as of 29 April 2022)



Sources: Datastream, Ossiam



Results

The extra-financial performance of the Food for Biodiversity strategy significantly outperforms the investment universe (capital-weighted portfolio of the food industry) in biodiversity footprint, ESG scores and carbon footprint.

The biodiversity impact (MSA/size) of the portfolio composition is 86% lower than that of the investment universe (as of 29 April 2022). The results show that the portfolio has a negative biodiversity impact, even though a neutral or

positive impact would be desired. Current practices of the food sector and a methodology limited to considering negative impacts does not enable a positive outcome for the portfolio.

The ESG score is improved thanks to the best-in-class filter. In addition, total GHG emissions are reduced due to the carbon footprint reduction objective and the inclusion of carbon emissions as a variable of the MSA.

FIGURE 2 Simulated biodiversity impact, ESG score and total GHG emissions for the Food for Biodiversity strategy and its investment universe (as 29 April 2022 for biodiversity impact and ESG score; as of 28 February 2022 for total GHG emissions)



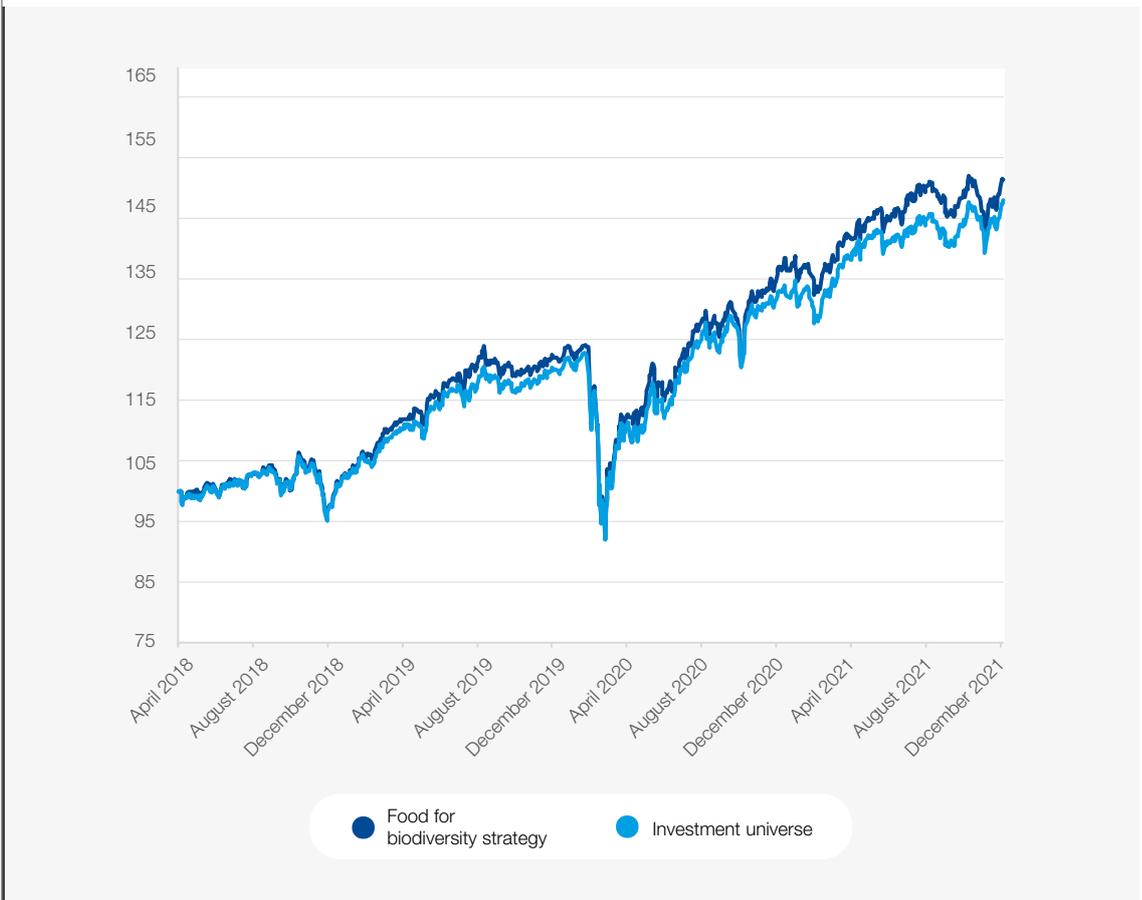
Sources: Datastream, Sustainalytics, Trucost and Iceberg Datalab

The financial performance of the Food for Biodiversity strategy may be better understood through a back-test given the short period the strategy has been implemented. The back-test considers the period from April 2018 to December 2020. From January 2021, results portray the live strategy performance.

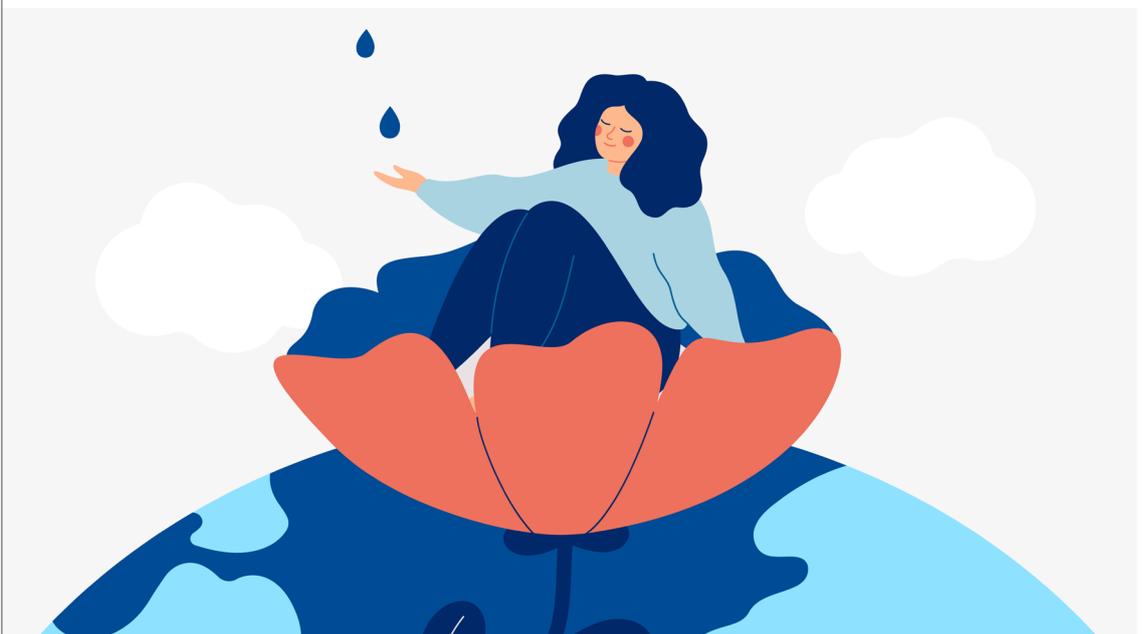
Back-tested performance results do not represent the performance of actual trading using client

assets, but are achieved by means of the retroactive application of a model. Back-tested performance suffers from several limitations, namely they are constructed based on hindsight, and material economic and market factors, as well as client will, may have affected investment decisions differently without such hindsight. Additionally, they do not reflect the impact of actual portfolio trading, which could have affected the price and availability of securities, as well as the transaction fees paid.

FIGURE 3 Simulated historical portfolio levels for the Food for Biodiversity strategy and its investment universe the food industry (data from April 2018 to December 2021 in US\$)



Sources: Datastream, Sustainalytics, Trucost and Iceberg Datalab





The way forward: Towards a sustainable food sector

Biodiversity's place in the financial sector goes beyond the investment process. Through engagement and voting, investors are in a position to drive change in organizations. Their efforts are essential to mitigate related risks and reverse the negative impact on biodiversity (Finance for Biodiversity Foundation, 2022). Moreover, investors can coordinate efforts on an ambitious sustainability agenda that could enable the provision of food for the growing human population while reversing the global terrestrial biodiversity trends by the middle of the century (Leclère, D. et al, 2020).

Modern stewardship efforts towards a truly sustainable food sector should address all aspects of ESG. In the case of Ossiam, this translates into the following engagement initiatives:

Environment: collaboration with leading experts on the ESG risks of food production through an initiative that considers the impact of protein products on portfolios, and through another initiative that promotes sustainable sourcing of feed for salmon producers.

Social: engagement programme with the food sector to promote healthy foods. Ossiam actively urges companies to embrace their role in fostering health through their products by enhancing the nutritional value of the product portfolio and through the adoption of responsible business practices.

Governance: an engagement programme on sound governance practices related to biodiversity. This initiative merges the governance expertise of a proxy voting adviser firm with Ossiam expertise on issues related to biodiversity. The objective is for biodiversity to be integrated in the governance practices of companies in the food sector. In practice, the initial stage seeks to identify the incorporation of biodiversity in the companies' remuneration policy.

Moreover to fully integrate biodiversity in the financial sector, investors need to consider two crucial challenges: data availability and a global target framework to counter biodiversity loss. As companies disclose biodiversity-related data, investors may be able to integrate this information in their decision-making process. Data availability could improve the ability to assess companies within their sectors, and to compare sectors.

Currently, there is no agreed global target to halt biodiversity loss as there is a global target to limit global warming, adopted through the 2015 Paris Agreement by most countries (United Nations, 2015). A globally accepted science-based target to halt biodiversity loss would provide a useful alignment framework for investor activities.

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