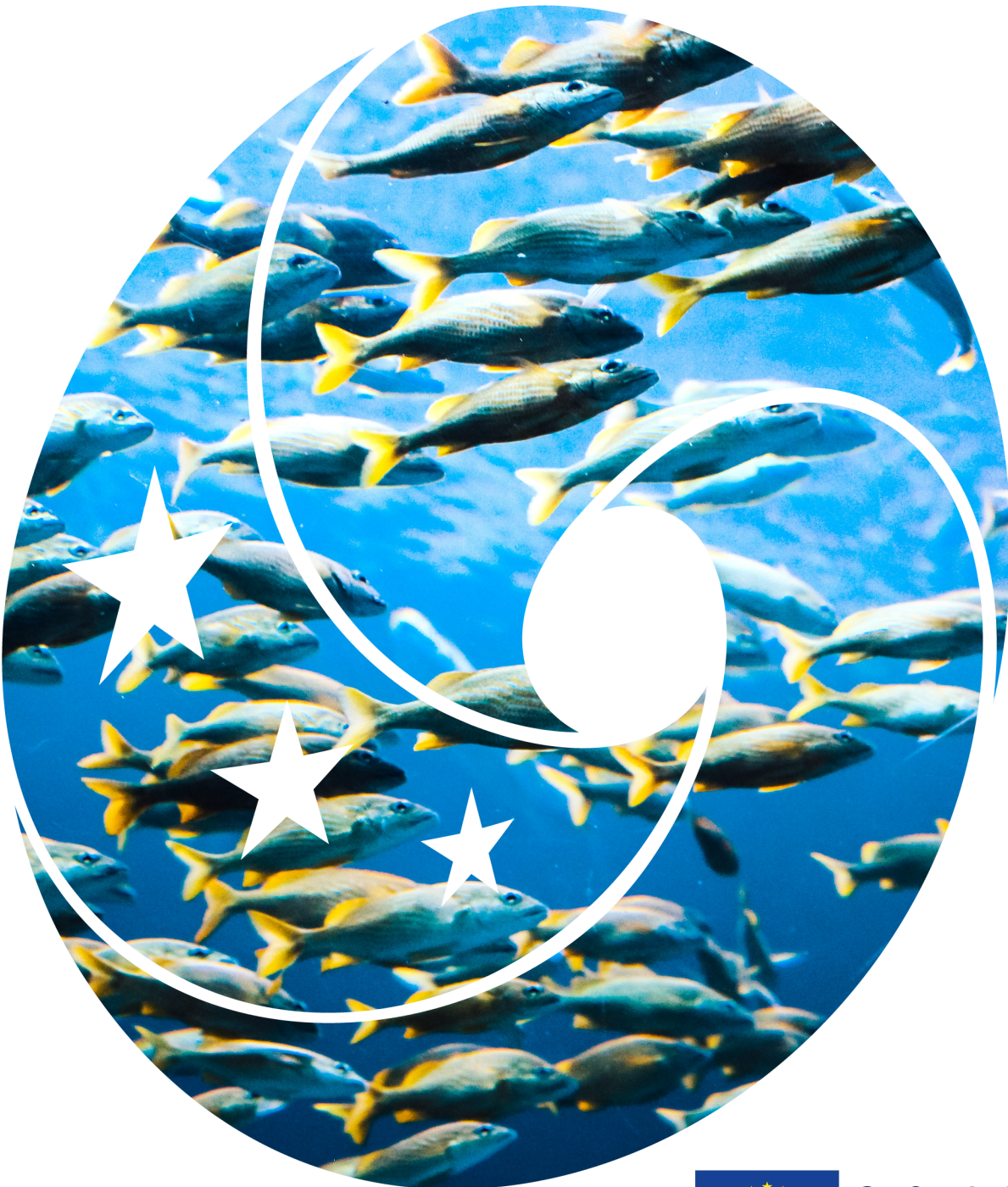




**biodiversa+**  
European Biodiversity Partnership

EUROPEAN PARTNERSHIP

# Draft guide on the Business and Biodiversity landscape for European Research & Innovation



Co-funded by  
the European Union

## Document Information

<b>Grant Agreement number:</b>	101052342
<b>Project acronym:</b>	Biodiversa+
<b>Project full name:</b>	The European Biodiversity Partnership
<b>Biodiversa+ duration:</b>	7 years
<b>Biodiversa+ start date:</b>	<u>Start date:</u> 1 <sup>st</sup> October 2021
<b>For more information about Biodiversa+</b>	Website: <a href="http://www.biodiversa.eu/">http://www.biodiversa.eu/</a> Email: <a href="mailto:contact@biodiversa.eu">contact@biodiversa.eu</a> Twitter: @BiodiversaPlus LinkedIn: Biodiversa+

<b>Deliverable title:</b>	Draft guide on the European Research & Innovation landscape on Business and Biodiversity
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<b>Work package title:</b>	WP3 Nature-based solution and Business and Biodiversity
<b>Task or sub-task title:</b>	T3.1.2
<b>Lead partner:</b>	IFD

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## What is Biodiversa+

Biodiversa+ is the European co-funded biodiversity partnership under Horizon Europe, supporting excellent research on biodiversity with an impact for policy and society. It was jointly developed by BiodivERsA and the European Commission (DG Research & Innovation and DG Environment) and was officially launched on 1 October 2021.

Biodiversa+ aims at making the bridge between science, policy and practice as part of the European Biodiversity Strategy for 2030.

Biodiversa+ currently gathers 81 research programmers and funders and environmental policy actors from 40 European and associated countries to work on 5 main objectives contributing to a sustainable ecological transition in Europe:

1. Plan and support research and innovation on biodiversity through a shared strategy, annual joint calls for research projects and capacity building activities
2. Set up a transnational network of harmonised schemes to improve monitoring of biodiversity and ecosystem services across Europe
3. Contribute to high-end knowledge for deploying Nature-based Solutions and valuation of biodiversity in the private sector
4. Ensure efficient science-based support for policy-making and implementation in Europe
5. Strengthen the relevance and impact of pan-European research on biodiversity in a global context

More information at: <https://www.biodiversa.eu/>

## Acronyms

ALIGN	Aligning Accounting Approaches for Nature
ARCADIS	Global consulting services company
CBD	Convention on Biological Diversity
CEO	Chief Executive Officer
CI	Conservation International
COP	Conference of the Parties
CSDR	Corporate Sustainability Reporting Directive
EC	European Commission
EEA	European Environmental Agency
ESG	Environment Social Corporate Governance
EIB	European Investment Bank
ESRS	The European Sustainability Reporting Standards
GBF	Global Biodiversity Framework
GGKP	Green Growth Knowledge Partnership
GDP	Gross National Product
GGKP	Hosting the Green Growth Knowledge Partnership
GHG	Green House Gas
IBAT	Integrated Biodiversity Assessment Tool
ICF	Global consulting services company
IFD	Innovation Foundation of Denmark
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IUCN	International Union of Conservation of Nature
JRC	Joint Research Center
KCBD	Knowledge Centre for Biodiversity in EU
KPI	Key Performance Indicator
MEA	Multilateral Environmental Agreement
MEP	Multidisciplinary Expert Panel
NBSAP	National Biodiversity Strategy and Action Plan
NCA	Natural Capital Accounting
NCFA	Natural Capital Finance Alliance

NGO	Non-Governmental Organization
OECD	Organization for Economic Development
SBTN	Science Based Target Network
SDG	Sustainable Development Goals
SEE – EA	System of Environmental Economic Accounting – Ecosystem Accounting
SEIP-CS	Spatially Explicit Information on Production to Consumption Systems
SMART	Specific, Measurable, Achievable, Relevant and Time-bound
SME	Small and Medium-sized Enterprises
SPOTT	Sustainability Transparency Toolkit
SFDR	Sustainable Finance Disclosure Regulation
SRIA	Strategic Research and Innovation Agenda
TEEB	The Economics of Ecosystems and Biodiversity
TNFD	Task Force for Nature related Financial Disclosures
TRASE	Intelligence for Sustainable Trade
UN	United Nations
UNCCC	United Nations Convention on Climate Change
UNCCD	United Nations Convention on Combat Desertification
UNEP	United Nations Environmental Program
VBAG	Value Balancing Alliance Governance
WCMC	World Conservation Monitoring Center
WBCSD	World Business Council for Sustainable Development
WHO	World Health Organization
WWF	World Wide Fund for Nature
ZSL	International Conservation Charity

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## Introduction

### Why this guide?

This guide has been developed to try and assist research and innovation within the rapidly developing field of taking biodiversity and its functioning into account in the private and financial sectors. The guide aims to contribute to increase our knowledge by providing an overview of different policy instruments, initiatives and actors. As biodiversity have finally come high on the business agenda (see below) both within the EU and globally the field is under rapid development and any mapping on this theme will need regular updating. Hence, this first draft version of the guide, is seen as a living document during the lifetime of the Biodiversa+ partnership.

The guide is intended to be useful for researchers and agencies among the Biodiversa+ partners but may also have broader use by parties within the European landscape on business and biodiversity and others. It's the hope that the guide may also help the research community to identify Biodiversa+ opportunities for joint programming and collaborations within this field and for all stakeholders to navigate in a rapidly developing business and biodiversity landscape.

A bit of history: The economic growth paradigm has come at a cost for nature and multiple anthropogenic drivers and pressures negatively affect biodiversity and many ecosystem services (IPBES 2019, 2022). Worldwide, nature is declining at rates unprecedented in human history – and the reduction in species abundance and distribution as well as the rate of species extinction is accelerating and a marked reduction in genetic diversity (Exposito-Alonso et al. 2022) with grave impacts on ecosystems, climate, health, economy and society (IPBES 2019).

The value of biodiversity and the ecosystem services it provides has far from been included in key decision-making processes (IPBES 2022). This leads to the undervaluation of biodiversity and the “business as usual” scenario has continued regardless of these severe negative biodiversity impacts. At least up to recently biodiversity may have received the least priority among sustainability issues managed within large companies (Schaltegger et al., 2022).

Moreover, the value of biodiversity continues to be underrated (World Economic Forum 2020, IPBES 2022) and therefore biodiversity concerns are often considered unimportant or even disturbing in economy, trade policy and development decision-making. Investment decisions in different sectors regularly have failed to take their potential impacts on biodiversity into account or to recognize the potential contribution that biodiversity is making to their desired achievements. In parallel, it is increasingly recognized that biodiversity loss is not decoupled from economic growth (IPBES 2019, Dasgupta 2021), and that the current economic model continues to contribute to loss of biodiversity (IPBES 2019, 2022).

The focus on biodiversity in the businesses and financial sectors is, however, finally increasing. According to the World Economic Forum, biodiversity loss represents an unprecedented systemic portfolio risk for investors because an estimated \$44 trillion of economic value generation is moderately or highly dependent on nature and the services it provides. Biodiversity loss has recently been ranked as one of the top risks for continued economic development (World Economic Forum 2022). Moreover, The

Kunming-Montreal global biodiversity framework for 2030 does signal a policy turning point and includes targets directly addressing the private and financial sectors (Convention on Biological Diversity, 2022).

New policies and law regulations will increasingly require private and financial sectors to account for, and disclose their risks, impacts and dependencies on biodiversity, with increasing focus on compliance to those policies (see examination of EU and global policies, chapter 1).

Overall, the answer to the challenges of biodiversity loss calls for transformative change in our society, policies, economies and technological capacities and changes in how we think act and measure success (IPBES 2019, 2022; Dasgupta 2021). The global biodiversity assessment from IPBES (IPBES 2019) states that it is still possible through societal change to turn negative biodiversity trends. At the same time, reports from e.g. the IPCC (2022) underline that the 1.5 C target is increasingly growing out of reach contributing to putting biodiversity under continuously increasing pressure because the changing climate is a key driver to the loss of biodiversity surpassed on a global scale only by land and sea use and exploitation (IPBES 2019). Moreover, the world population is expected by the UN to continue to grow to about 10 billion in 2050 (United Nations 2017) putting biodiversity and the environment under even higher pressure.

Almost any business will have an impact on biodiversity, although the scale of this impact will vary. Business impacts may also only become apparent further up or down the supply chain. Moreover, businesses may have an impact on biodiversity in other countries, often without realizing or accounting for this in their decisions (e.g. IPBES 2019, EU Business and Biodiversity Platform 2023).

The EC presidency (European Commission 2019) has summed up the crisis from an EU perspective: “Climate change, biodiversity, food security, deforestation and land degradation go together. We need to change the way we produce, consume and trade. Preserving and restoring our ecosystem needs to guide all of our work. We must set new standards for biodiversity cutting across trade, industry, agriculture and economic policy”. Overall, “those who act first and fastest will also be the ones who grasp the opportunities from the ecological transition”.

Transformative change involves all actors of society, including governments, citizens and businesses depending upon and affecting biodiversity and nature and in complement to approaches already applied, new and systemic paths need to be explored and promoted (Eggermont 2021).

## Background

The diversity of the policy landscape relevant for addressing the impacts and dependencies of the private sector on biodiversity has increased enormously within the last years. A number of important new policies and laws within the EU and global policy frameworks have a direct bearing on businesses and the financial sector.

Also the risk for business from degradation of nature and the environment has been become increasingly clear (e.g. Dasgupta 2021) and the number and variety of private sector biodiversity initiatives, pledges and alliances are growing fast becoming an important and powerful voice in environmental decision-making. However, there are also business opportunities appearing.



Moreover, private business initiatives and/or at policy messages are in some instances now far ahead of their national governments in terms of both requesting high levels of policy ambition and the need for obligatory and transparent obligations in national and international policymaking and legislation.

In addition, the number and approaches of supporting guidance, tools and methods to assess business impact and dependencies as well as business risks relying on biodiversity (Figure. 1) is rapidly developing as well although quality is a constant issue.

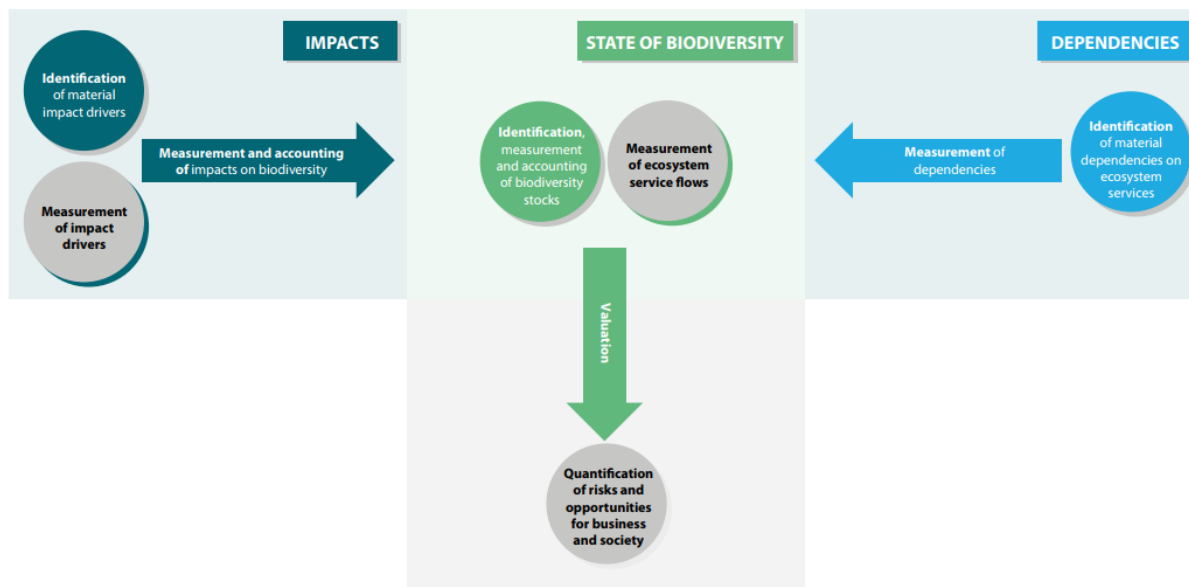


Figure 1: Standard Natural Capital/Accounting Process (UNEP-WCMC, 2022)

One guiding example is the Navigation Wheel initiated by the EU Business @ Biodiversity Platform in 2018 developed by ICF and ARCADIS (Lammerant et al. 2022). A large number of reports have also been published about, or including proposed biodiversity indicators in business assessments. IUCN published e.g. earlier a comprehensive document on the development and use of biodiversity indicators applications for business through the value chain from the site and landscape level to third-party performance assessment and rating of biodiversity management and performance (Addison et al., 2018).

Good quality data and indicators are certainly needed to assess and monitor impact, risks and dependencies, however, data input and indicators will differ dependent on sector, supply chain and locality. Furthermore, the question about geographical scale, baseline and real impact seem far from solved at the moment.

No one approach fits all. Just one of the main challenges at this point is that e.g. different methodological approaches generate different outcome to the same questions. Joshua Berger at CDC Biodiversite in the Navigation Wheel (Lammerant et al. 2022) has provided two illustrative theoretical examples. One is the planned development of an undisturbed grassland. The grassland has a few dozen species no endangered and is situated far from human activity. Different assessment methods provide e.g. very different results in terms of proposing developing the grassland for agriculture or conservation for biodiversity. Methods using biodiversity intactness results in clear warnings losing undisturbed nature. Species focused methods may on the contrary inform that few species and no threatened ones are lost

and thirdly methods dealing with ecosystem services may conclude that since the grassland is remote a number of services such as its recreational value is of limited value and thus loss of ecosystem services may be limited. In any case the potential ploughing of the grassland in question will result in loss of ecological functions and destruction of natural habitats and species populations (Lammerant et al. 2022 p. 47).

Another theoretical example given by Berger in Lammerant et al. (2022) is on the transformation of two patches of forest to farmland. One (A) with many species including endangered ones and the other (B) with much fewer species and only a single endangered. Intact methods will consider both forest equal because both are undisturbed. Species focused methods will favor cutting down the species poor forest and results from ecosystem service assessments may depend on the beneficiaries to the forests and the locations of forest for human opportunities. These two theoretical examples just illustrates some of the complexity at the practical level and the need of careful approaches to biodiversity and businesses questions (see also chapter 4).

Biodiversity is usually divided into three general categories (genetic diversity, species diversity and ecosystems – see Figure 2). Most tools and frameworks consider species, and a number of frameworks include habitats and ecosystems and increasingly ecosystem services as well as (Stephenson & Carbone 2021, Lammerant et al. 2022, Align project, see chapter 3). Still our knowledge is limited and for example key aspect of genetic diversity is almost entirely lacking (see also UNEP-WCMC, 2022).

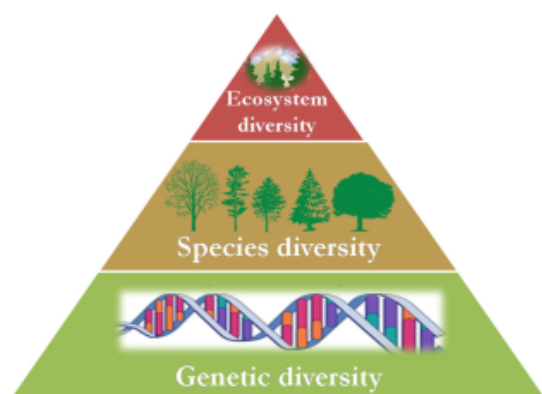


Figure 2: Three levels of biodiversity, from genetic, to species (or organismal) and ecosystem diversity (source: Nonić & Šijačić-Nikolić, part of the Encyclopedia of the UN SDGs)

As disclosure and reporting requirements are settled according to relevant policies and legislation, the selection of data input and tools/methods to obtain the quality and required type of output are critical for private and financial sectors. The requirements on disclosure and reporting provides the requirement of at least a starting point needed to address these challenges and monitor and adjust and revise approaches.

The involvement of different research disciplines (other than natural sciences) is also needed in order to create holistic approaches to understand the field of biodiversity and to create the change within the businesses themselves. Impact and dependencies differ between businesses and specific guidance is appearing. Moreover, SME's has limited capacity to deal with issues compared to the larger and

international companies. This leads to different needs and demands for networking, support and guidance.

## 1. Global and EU policy framework for business and biodiversity

Agreements and policy targets are increasingly seeking to push for disclosure of impacts and dependencies on biodiversity. In the years towards 2030 the Kunming-Montreal Global Biodiversity Framework and the SDG's are setting the scene at the global policy level (see e.g. also UNEP-WCMC, 2022). Based on previous experiences the delivery towards targets will be more closely followed by the CBD than previously including the requirement of intermediate status assessments and milestones and more detailed sets of indicators. In Europe an ambitious green EU policy framework is supporting its implementation. A focus on the need to document, report and disclose biodiversity information is key in this regard. Implementation is largely undertaken at national level hence these global and EU policy targets should increasingly influence national and local levels. Focus in this current chapter is to provide an overview of the most pertinent policy initiatives at EU and global levels (see Figure 3).

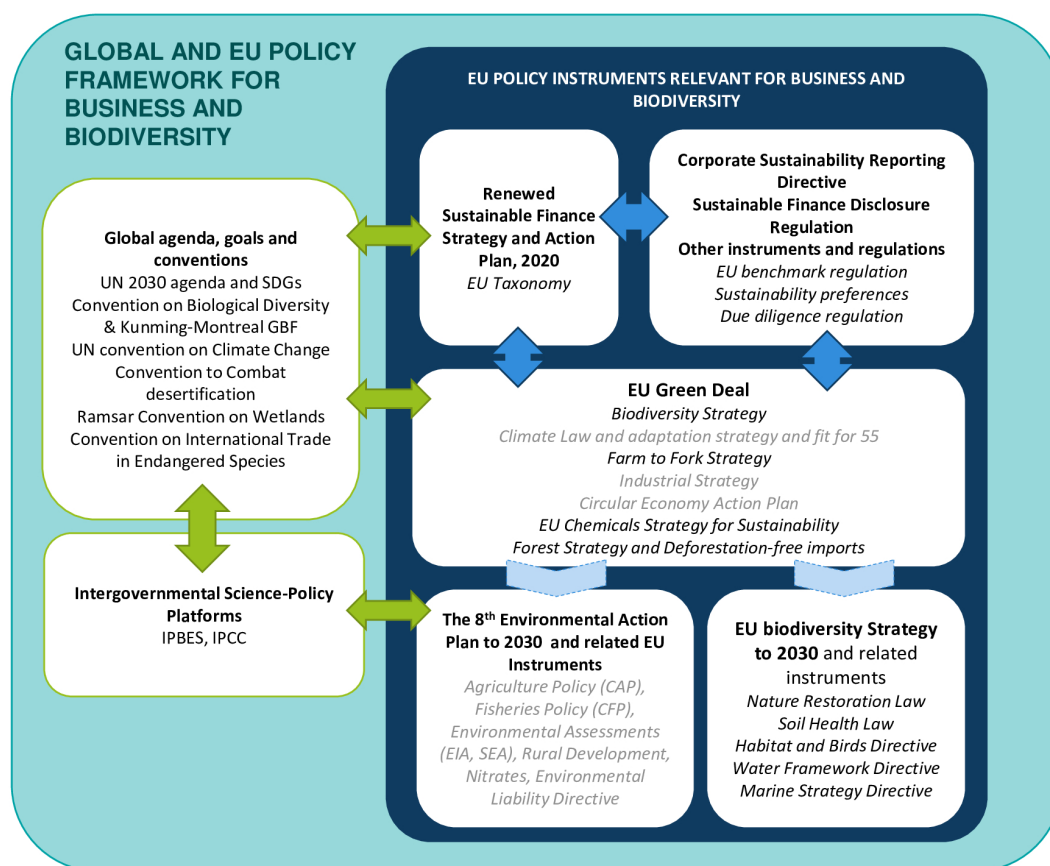


Figure 3: Global and EU policy framework for business and biodiversity.

## 1.1. EU policy instruments relevant for business and biodiversity

### 1.1.1. Renewed sustainable finance strategy and implementation of the action plan on financing sustainable growth

The Action Plan on sustainable finance communicated in 2018 (Figure. 4) forms part of a broader connection between finance and explicit needs of the European and the global economy (European Commission, 2018, updated May 2020). It is part of the EU implementation of the Paris Agreement and the Sustainable Development Goals 2030 (European Union, no date (e)). The Action Plan includes ten key actions and has three main objectives: 1) An approach to reorienting capital flows towards a more sustainable economy (under which the EU Taxonomy falls), 2) to address and mainstream sustainability into risk management and 3) fostering transparency and long-termism (European Commission, no date (c)). These objectives aim to initiate sourcing of private finance to assist sustainable economic growth and to handle risk stemming from environmental, social and governance (European Commission, no date (c)) and prompt action reforms.

Moreover, it is in line with the commitment in the Action Plan to phase out environmentally harmful subsidies at national level, and making the best use of market-based instruments and green budgeting tools in doing so and in supporting businesses and other stakeholders in developing standardised natural capital accounting practices. More information [here](#).



Figure 4 : EU Action Plan on Financing Sustainable Growth

### *EU-Taxonomy*

The EU-Taxonomy forms part of the first action reform in the finance strategy action plan (described above), with an aim to establish an EU classification for sustainable environmental activities (European Commission, no date (c)) by measures which promote a climate-neutral and environmentally sustainable economy. It is implemented through delegated acts (see below). The Taxonomy is essentially set up to prevent greenwashing and classifies economic activities contributing to meeting environmental objectives and is in this regard a tool for reporting and disclosing sustainable investments.

The Regulation is the activity under the EU-Taxonomy that specifies the six environmental objectives, which are elaborated in delegated acts on: 1) Climate change mitigation, 2) climate change adaptation, 3) the sustainable use and protection of water and marine resources, 4) the transition to a circular economy, 5) pollution prevention and control, and 6) the protection and restoration of biodiversity and ecosystems (European Union, 2020). Moreover, the Taxonomy Regulation contains four overarching conditions that have to be included by economic activity to meet the criteria and be categorized as sustainable. These include 1) making a substantial contribution to at least one of the six objectives, and at the same time 2) doing no significant harm to any of the other five environmental objectives. Moreover, 3) complying with minimum safeguards is necessary, and 4) complying with the technical screening criteria to be set out in the Taxonomy delegated acts for the objectives (European Union, 2020, 2023).

For the time being the EU has published criteria on climate through the Climate Delegated Act (July 2022) while some first criteria for non-climate environmental objectives have been adopted and is expected to enter into force in January 2024. The delegated act on protection and restoration of biodiversity covers for example three themes (July 2023) namely: Nature conservation, Nature restoration and Nature tourism. Other important themes pertaining to biodiversity are at this point missing and with no timeline has been given for their inclusion at the moment. However, the Taxonomy intend to provide knowledge on all biodiversity-relevant sectors including agriculture, manufacturing, transportation, energy, construction, and communications and prompt a screening of their activities in relation to the environmental objectives (European Commission, no date (c)). Similarly, the other non-climate delegated acts cover activities, which contribute to the relevant objective but the full range of criteria to include all relevant activities have not yet been established.

Companies that fall under the scope of the CSRD have to report in their annual reports to what extent their activities are covered by the EU Taxonomy (Taxonomy-eligibility) and to what extent they comply with the criteria set in the Taxonomy delegated acts (Taxonomy-alignment). Companies that do not fall under CSRD can decide to disclose this information on a voluntary basis. Reporting obligations under the Taxonomy and timelines are set out in the Disclosures Delegated Act, which specifies content, methodology, and presentation of information. The reporting covers companies with more than 500 employees, which involves 11.700 companies across the EU (Neosfer, 2022). In 2024, reporting will become mandatory regarding eligibility and alignment of the environmental objectives for the previous calendar year (Neosfer, 2022).

More information [here](#).

### 1.1.2. The European Green Deal

The European Green Deal is an overarching policy framework in the European green transition and the platform for a number of political initiatives that links to biodiversity and sustainable use including the EU Biodiversity Strategy for 2030 with e.g. the Nature Restoration and Soil Health Laws (see Figure 5). Moreover, the Farm to Fork Strategy and the Forest Strategy and Deforestation-free imports are important elements.

The European Green Deal especially brings attention to climate change adaptation and mitigation and points to the fact that environmental degradation is an existential threat to Europe and the rest of the world. It carries a vision for a new growth strategy to transform the EU into a modern, resource-efficient and competitive economy with three overall objectives: 1) no net emissions of greenhouse gases by 2050, 2) economic growth is decoupled from resource use, and 3) no person or place is left behind, guided overall by a vision of turning climate and environmental challenges into opportunities (European Union, 2023). The action programme reiterates the EU’s long-term vision to 2050 of living well, within planetary boundaries (see annex 1).

EU Policies and Action plans like Financing Sustainable Growth including the EU-Taxonomy are aligned to the European Green Deal. The European Green Deal and its related actions are expected to shape the different sectors including energy, transport, industry, finance, construction, food, tourism, and digital industries and markets for decades to come and as such offers opportunities for businesses and financial markets to engage in transformative change and actions.

More information [here](#).

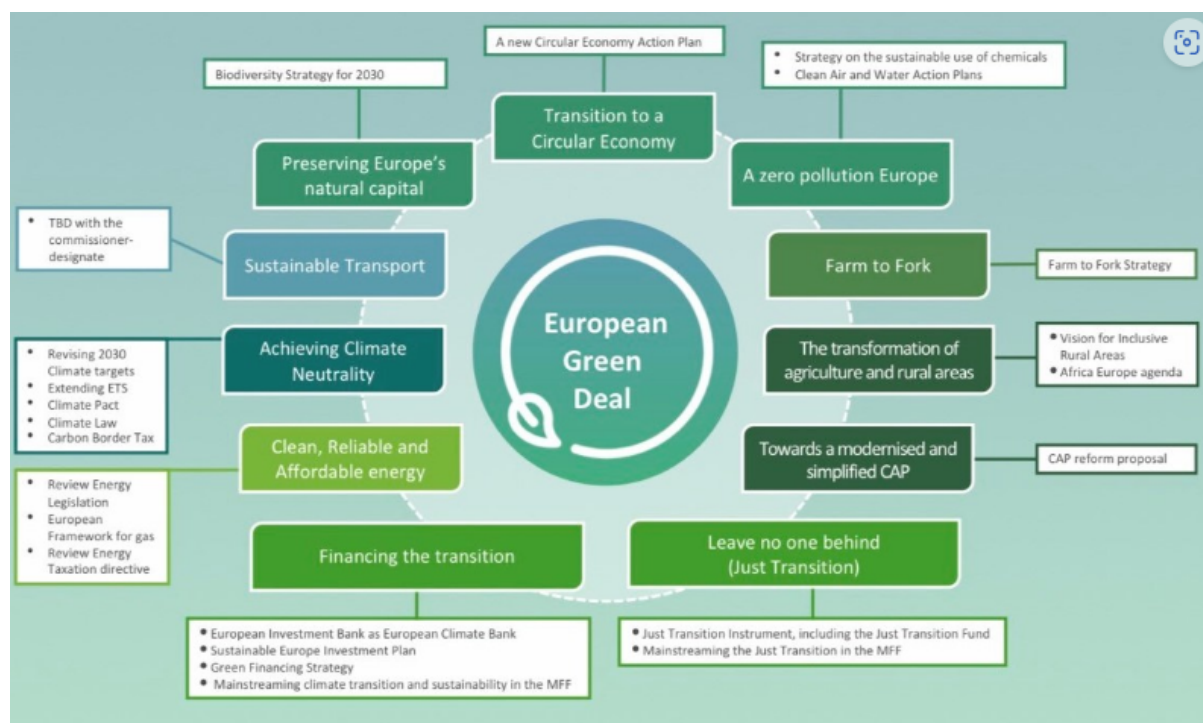


Figure 5: The EU Green Deal. EU Commission (no date (b)).

### *EU's 8th Environment Action Program 2030*

It is currently the eighth EU Environment Action Program 2030, which entered into force in May 2022 and is the legally agreed agenda for environment policy until 2030. The program builds upon the European Green Deal and aims to speed up the green transition and deliver for the SDGs to be met in 2030. It has a major focus on greenhouse gas reductions and reaching climate neutrality in 2050, on circular economy and zero pollution and protection and restoring biodiversity. Moreover, reducing environmental and climate pressures related to production and consumption mentioning a number of business sectors e.g. energy, industry, buildings and infrastructure, mobility, tourism, international trade and the food system are key. The EU Biodiversity Strategy is directly aligned with the implementation of the program.

More information [here](#).

### *EU Biodiversity Strategy for 2030*

The EU Biodiversity Strategy 2030 was launched in 2020. The strategy was delivering a set of important and ambitious targets for the EU and introducing the business case for nature. Thus the strategy underlines the dependency and impact of business on biodiversity, as well as the importance of nature-based innovation, and action to restore ecosystems and conserve biodiversity (European Commission 2021). The strategy also highlights the business opportunities from investing in biodiversity, which worldwide has been estimated worth 2-6 trillion USD a year by 2050 (TEEB 2022).

The strategy outlines biodiversity targets leading to e.g. laws on Nature Restoration and Soil Health with commitments and actions to restore degraded ecosystems across the EU and manage them sustainably (see below). Moreover, targets are on inter alia the reductions of use and risk from chemical pesticides as well as nutrient losses by at least 50% and to protect 30% of the land and sea areas for biodiversity including 10% of strict protection. Of the 25% of the EU budget dedicated to climate action, a significant proportion is envisaged to be invested in nature-based solutions and thereby biodiversity conservation as a tool to reduce GHG emissions.

The business and financial sector forms an important element of the strategy and their contribution is outlined in section 3.3 of the strategy: "Building on an integrated and whole-of-society approach" acknowledging that businesses both have an impact on nature and also provides innovations, partnership and expertise to address biodiversity loss. The EU Business and Biodiversity Platform is specifically referred to as an important knowledgebase and the importance to remove barriers for the uptake of nature-based solutions as key to job opportunities.

Following the strategy, biodiversity considerations are envisaged to be integrated into public and business decision-making at all levels and with related legislation to implement these visions.

More information [here](#).

### *Nature Restoration Law*

The proposed EU Nature Restoration Law aims to restore 20% of European degraded ecosystems by 2030 (European Commission no date (a)) and by 2050 the vision is that all ecosystems are restored. The legally binding nature of the proposed law builds on the fact that the voluntary target of the EU Biodiversity Strategy to 2020 to restore at least 15 % of degraded ecosystems was not met. This law includes specific

targets to achieve long-term and sustained recovery of biodiverse and resilient nature under the global commitments while at the same time contributing to climate change mitigation and adaptation. As such it is an EU contribution linked to the target 2 in the GBF, aiming at effectively restoring 30% of degraded ecosystems globally to enhance biodiversity, ecosystem functions, services, ecological integrity and connectivity. It is based on the result that 81% of European habitats are in poor condition and that areas also outside the Natura 2000-network need to be targeted. One of the key advocacy points from the Commission is that 1 Euro spent on restoration adds between 8 and 38 Euros in benefits. Just one example of the value of biodiversity and ecosystem services delivered by nature is that almost 5 billion Euro of the EU's annual agricultural output is directly attributed to insect pollinators (Vysna et al. 2021).

The Nature Restoration Law is supplementing existing initiatives by the Birds and Habitats Directives, the Water Framework Directive and the Marine Strategy Directive by proposing specific and legally binding targets on restoration. It is also expected to be aligned with other EU policies and to restore important ecosystem services and contribute the recovery of ecosystems fundamental to safeguard the resilience to human food systems. The proposed law insists on synergy with climate targets.

More specifically the Restoration Law aims at restoring wetlands, rivers, forests, grasslands, as habitats for the species they naturally host with the aim to increase biodiversity, secure ecosystem services and contribute to limit global warming to 1.5°C as well as reducing risks to food security. Specific targets include revised legislation covering a variety of specific habitats on a European scale and restore population levels by improving and enlarging habitat types. Other targets encompass pollinating insects, forests, urban, agricultural and marine ecosystems and river connectivity. For example it includes the identifying and removing of barriers that prevent the connectivity of surface waters, so that at least 25,000 km of rivers are restored to a free-flowing state by 2030 and to transform at least 10% of the agricultural area to high-diversity landscape features. The draft proposal provides a quite comprehensive and detailed examination of needs and targets.

EU countries are expected to submit National Restoration Plans to the Commission within two years of the Regulation coming into force, showing how they will deliver on the targets and the plan shall cover the period up to 2050. They will also be required to monitor and report on progress. Its implementation prompts a number of research questions many still to be more precisely identified to meet the targets and obligations set out in the proposed law.

The proposed law comes with comprehensive monitoring and reporting requirements including the identification of relevant indicators. It prompts also the assessment of areas of the ecosystem in good condition, in degraded condition, that were lost over the last 70 years and areas that would be most suitable for re-establishment of the ecosystem and the projected changes to environmental conditions due to climate change.

Resources to implement the law will be a major issue. At this point resources envisaged from EU sources, national funding and private sources. Member States' budget will depend on the restoration needs and on the implementation of the associated restoration measures. These costs can be reduced by obtaining funding from EU or private sources. For example, a broad range of EU funds are available for restoration and the Taxonomy Regulation 41 is expected to facilitate greater use of private funds.



Debates have been undertaken on the adoption of the Law in the European Council in summer 2023 and negotiations will be carried on in the European Parliament. Thus, its formal adoption is still pending.

More information [here](#).

### *Soil Strategy and proposed directive on soil monitoring and resilience*

Soils have so far been largely overlooked in EU policies and legislation. A change was introduced by the adoption of the EU Soil Strategy in 2021 and with a proposed directive on soil monitoring and resilience. Soils host more than 25% of all biodiversity and are the second largest carbon pool of the planet. However, over 60% of European soils are unhealthy and soils continue to deteriorate and pose a serious threat to habitats and species due to unsustainable management in combination with extreme weather events and impacted by climate change. (IPBES 2018, European Union, no date (d)) .

It is estimated that between 61% and 73% of agricultural soils in the EU is affected by erosion, loss of organic carbon, nutrient (nitrogen) exceedances, compaction or secondary salinisation or a combination of these threats (European Union, no date (d)). Soil degradation has costed an estimated €50 billion + per year due to the loss of essential services they provide and the strategy sets the long-term vision that by 2050, all EU soil ecosystems are in healthy condition and more resilient and outlines the need to restore degraded soils and enhance soil biodiversity.

A legislative rather than a non-legislative approach is deemed to be needed to meet the long-term objective of healthy soil in the EU by 2050. Thus, a proposed directive on soil monitoring and resilience – proposed in July 2023 – aims at putting in place a monitoring framework for all soils across the EU (European Union, no date (d)) and as a key element of the EU Biodiversity Strategy. The directive takes a staged approach and in a first phase focus is on setting up the soil monitoring framework throughout the EU, which will also include requirements to lay down measures to manage soils sustainably and regenerate unhealthy soils once their condition is established. In a second phase and based on the results of the first assessment stock of the progress towards the 2050 objective will be taken and a review of the directive if necessary is supposed to accelerate progress towards 2050 if needed.

As part of the proposed directive EU Member States will establish soil districts, which will constitute the basic governance units to manage soils and to take measures to comply with the requirements laid down in the Directive. Moreover, soil health assessments should be performed at least every 5 years by each state.

The scientific knowledge on soils in Europe and elsewhere is poor, however, the “Soil Deal for Europe” is one of the five EU missions and expected to contribute to considerably improve this knowledge base and more sustainable soil management and is seen as a key instrument in implementation of the strategy and proposed directive. It includes a series of important research areas on for example carbon farming, soil contamination and restoration, soil biodiversity and circular economy but also of more technical character directed towards land managers including remediation techniques, sustainable farming practises, materials and tools for advisors and spatial planners and it includes the creation of a network of 100 living labs and lighthouses to test and showcase solutions for sustainable soil management across Europe. It also promotes soil monitoring and awareness raising. Also, the CAP is envisaged to be a funding opportunity for implementation.

More information [here](#).

### *The Farm to Fork Strategy*

The Farm to Fork Strategy lays down a new approach to ensure that agriculture, fisheries and aquaculture, and the food value chain in general contributes to a green transition. It aims to reduce the environmental and climate footprint of the EU food system and strengthen its resilience, ensure food security in the face of climate change and biodiversity loss and lead a global transition towards competitive sustainability. The transition to sustainable food systems is also a huge economic opportunity for farmers, fishers and aquaculture producers, as well as food processors and food services. The Commission is currently working on the legislative framework expected to be launched at the end of 2023.

A number of elements in the Farm to Fork Strategy are aligned with the EU Biodiversity Strategy e.g. the reduction of the use and risk of chemical pesticides as well as nutrient losses by 50% and to have at least 25% of the EU's agricultural land under organic farming by 2030 and a significant increase in organic aquaculture. Moreover, the attention to the CAP is included and it is stated that the EC will also make recommendations to each Member State on the nine specific objectives of the CAP, before they formally submit the draft Strategic Plans paying particular attention to addressing the Green Deal targets, and those from Farm to Fork and the Biodiversity Strategy.

The Farm to Fork Strategy is important for biodiversity underlined alone by the fact that EU is the biggest importer and exporter of agricultural food products and the largest seafood market in the world and is seen by the EC as essential to achieve the climate and environmental objectives of the Green Deal. However, implementation of activities to obtain targets is key and funding the necessary research and innovation e.g. linked to the proposed Soil Monitoring and Resilience Directive and the Nature Restoration Law.

More information [here](#).

### *Forest Strategy and Regulation on Deforestation-free imports*

The strategy is from 2021 and replaces earlier EU forest strategies. Forests and other wooded land cover over 43.52% of the EU's land space. They are essential for many people and harbour a very rich biodiversity home to most of the species in many biological groups (IPBES 2019). Climate change has considerable focus in the strategy and one of the key roles of the strategy is to turn the forest sector from a source of greenhouse gas emissions into a carbon sink but also to integrate key forest elements of the biodiversity strategy into operationalisation.

It is stressed that primary and old-growth forests are of paramount importance for biodiversity and the provision of critical ecosystem services (Barredo Cano et al. 2021) including storing and uptake of carbon. The strategy seeks to develop, among other things, financial incentives, including for private forest owners and managers, in particular the provision of climate regulation and other ecosystem services. There are an estimated 16 million private forest owners in the EU. About 40% of EU forests are under different public ownership schemes. The strategy urges Member States to strengthen forest protection and restoration efforts in their publicly owned forests to contribute to achieve the commonly agreed EU climate and biodiversity targets. Moreover, the share of forest areas covered by forest management plans should cover all managed public forests and an increased number of private forests.

Research is still needed to adopt the most climate and biodiversity friendly forest management practices outside protected and old growth forests. In 2014-2020, the CAP forestry measures committed EUR 6,7 billion in support of EU policy targets, mostly for afforestation (27%), prevention of forests fires and disasters (24%) and investments on resilience, ecological and social functions (19%). Yet, the uptake of forestry measures has been low and guidance available limited. The need for improved monitoring both on the ground and remote sensing is stressed in the strategy as well. Member States are encouraged to set up a payment scheme for ecosystem services for forest owners and managers, in order to cover for costs and income, but information is limited.

Thus, research and innovation are key drivers in achieving the ambitious goals of the Strategy and is supported through the thematic cluster on “Food, Bioeconomy, Natural Resources, Agriculture and Environment under Horizon Europe. Examples include increased knowledge on climate change impacts, including the role of primary and oldgrowth forests and their biodiversity and climate functions, diversity of forests and genetic resources, and evidence-based and practically feasible guidance for climate change mitigation and adaptation in line with biodiversity objectives. Moreover, research on forest and soils restoration is supported including through the research and innovation mission on soil health and food and also agroforestry systems.

The regulation on deforestation free imports, May 2023, is foreseen to represent a strong and impactful piece of legislation. The aim of the regulation is to minimise the EU contribution to deforestation and forest degradation worldwide, and consequently contribute to reduce global deforestation and the contribution to greenhouse gas emissions and global biodiversity loss.

This regulation lays down rules regarding forest market products as well as export, that may have a negative impact and with a focus on specific forest related commodities, namely cattle, cocoa, coffee, oil palm, rubber, soya and wood. These commodities and relevant products shall not be placed or made available on the market or exported, unless all the following conditions are fulfilled: (a) they are deforestation-free; (b) they have been produced in accordance with the relevant legislation of the country of production; and (c) they are covered by a due diligence statement.

Thus, operators shall not place relevant products on the market or export them without prior submission of a due diligence statement and companies will be required to collect precise geographical information on the location of where their commodities have been grown to be checked for compliance and through the value chain and to be reviewed at least once a year. Moreover, the operators shall carry out a risk assessment to establish whether there is a risk that the relevant products intended to be placed on the market or exported are noncompliant based on the due diligence information and product are only allowed where the risk assessment reveals no or only a negligible risk that the relevant products are non-compliant.

More information [here](#).

### *Chemical and waste legislation*

The EU already has a comprehensive and protective regulatory framework for chemicals, supported by an advanced knowledge base. To further protect human health and reduce pollution from chemicals, the EU adopted the The Waste Framework Directive and related directives are the EU's legal framework for

treating and managing waste in the EU. It comes with a larger number of directives, of which it is beyond the scope of this report.

More information [here](#).

### 1.1.3. Corporate and sustainable finance directives and regulations

#### *Corporate Sustainability Reporting Directive (CSRD)*

This directive entered into force in January 2023, modernizes and strengthens the rules concerning the social and environmental information that companies must report. It comes as a replacement for the Non-Financial Reporting Directive (NFRD) and amends the Accounting Directive by stepping up ambitions, introducing obligations in terms of harmonized reporting on sustainability. It applies to a broader set of large companies following the Accounting Directive, and listed small and medium sized enterprises (SMEs), will be required to report on sustainability (although following a different model) – approximately 50 000 companies in the EU. Through the CSRD it becomes mandatory for companies to have an audit of the sustainability information that they report. Companies that fall under the scope of the CSRD must report in their annual reports to what extent their activities are covered by the EU-Taxonomy (Taxonomy-eligibility) and comply with the criteria set in the Taxonomy delegated acts (Taxonomy-alignment). Other companies that do not fall under the scope of CSRD can decide to disclose this information on a voluntary basis e.g. to get access to sustainable financing.

These new rules will ensure that investors and other stakeholders have access to the information they need to assess investment risks arising from climate change and other environmental issues, including biodiversity loss. The first companies will have to apply the new rules in the 2024 financial year, for their reports published in 2025. Companies subject to the CSRD will have to report according to European Sustainability Reporting Standards (ESRS) comprising 12 standards of which five corresponds to the environmental objectives in the EU Taxonomy and including e.g. biodiversity and ecosystems (ESRS E4). As required by the Accounting Directive, as amended by the CSRD, the ESRS take a “double materiality” perspective meaning that companies need to report both on their *impacts* on people and the environment, and on how social and environmental issues create financial *risks and opportunities* for the company. Information must be disclosed if it is assessed to be relevant, and the so-called materiality assessment process is subject to external assurance in accordance with the Accounting Directive.

The first set of standards is expected adopted by mid-2023, based on the draft standards published in November 2022.

More information [here](#).

#### *Sustainable Finance Disclosure Regulation (SFDR)*

Comes with the aim of improving transparency and accountability in investments and thereby contribute to investment in sustainable economic activities. Investors increasingly will be made aware about the impact of companies on the environment and their plans to reduce such impacts in the future. Such knowledge will feed into the disclosure requirements under the Sustainable Finance Disclosure Regulation. By introducing the ESRS standards investors can increasingly get a reliable overview of sustainability-related risks to which companies are exposed and thereby do more environmentally friendly investments. The ESRS contain datapoints that correspond to specific information that financial

administrators and institutions need for reporting under the SFDR. If a company concludes that a datapoint deriving from the SFDR is not material, it will have to explicitly state that the datapoint in question is “not material” i.e. with no impact or risk for the environment rather than just reporting no information. Thus, SFDR includes reporting on biodiversity specific indicators (EU 2019) and requires companies to publish written policies on the integration of sustainability risks and impacts. A critical review of the SFDR have been undertaken by Eurosif (2022) e.g. proposing a number of adjustments on labelling and products (under article 8 and 9), relating to the disclosure of specific information.

More information [here](#).

### *Directive on corporate sustainability due diligence*

In 2022 European Commission adopted a proposal for a directive on corporate sustainability due diligence. In short requiring companies to report on the steps they have taken to identify, address, prevent and mitigate any adverse human rights and environmental impacts in their own operations or of third-party business relationships (including the supply chain or value chain). An essential aspect is that the proposal aims to foster sustainable and responsible corporate behavior throughout global value chains. Companies will be required to identify and prevent, and or mitigate adverse impacts of their activities on the environment, for example pollution and biodiversity loss (as well as human rights, and exploitation of workers). The proposed new due diligence rules will apply to the following companies: Group 1: all EU limited liability companies of substantial size and economic power (with 500+ employees and EUR 150 million+ in net turnover worldwide). Group 2: Other limited liability companies operating in defined high impact sectors, which do not meet both Group 1 thresholds, but have more than 250 employees and a net turnover of EUR 40 million worldwide and more. For these companies, rules will start to apply 2 years later than for group 1. Non-EU companies active in the EU with turnover threshold aligned with Group 1 and 2, generated in the EU. Small and medium enterprises (SMEs) are not directly in the scope of this proposal.

More information [here](#).

## 1.2. Global platforms, agreements and policies

### 1.2.1. UN Agenda, Goals and Conventions for Sustainable Development

#### *UN 2030 Agenda for Sustainable Development*

The 2030 Agenda for Sustainable Development, adopted by all members of the United Nations, provides a shared vision for how to achieve sustainable development within the three dimensions - economic, social and environmental. The 2030 Agenda was announced at the UN Sustainable Development Summit in New York in 2015, and the aim is to reach full implementation of the Agenda by 2030. At the core of the 2030 Agenda are the 17 Sustainable Development Goals (SDGs) that build on the Millennium Development Goals agreed upon almost 15 years earlier.

The 17 SDGs seeks to end poverty, improve health and education, reduce inequality, enhance economic growth while mitigating climate change and preserving oceans and forests. The goals recognize that social, economic and ecological development are closely linked and requires global action. A new way of viewing the economic, social and ecological aspects of the SDGs implies that economies and societies

are seen as embedded parts of the biosphere. In particular, goal 6, 13, 14 and 15 on clean water, climate and biodiversity are seen as an important foundation for achieving the other SDGs.

Achieving the SDGs therefor requires collective action across governments, civil society, private sector, individuals and communities. Private business activity, investments, and innovations are recognized as major drivers for enhancing productivity, fostering inclusive economic growth, and generating employment opportunities and are important for the implementation of the 2030 Agenda. To achieve the 2030 Agenda it will be essential that all businesses apply their creativity and innovation to solve sustainable development challenges.

More information [here](#).

### *Convention on Biological Diversity*

The need to engage with the private sector and businesses in general in order to achieve the objectives of the Convention is recognized by CBD and has materialized in a Business Engagement Program. From this program decisions to facilitate private sector engagement includes to:

- Strengthen biodiversity consideration in business operations and promote behavioral change through “mainstreaming”
- Encourage enterprises to align investments, management, and procurement policies with the conservation and sustainable use of biodiversity and ecosystem services.
- Encourage businesses & support the establishment of the Global Partnership for Business and Biodiversity and other public/private partnerships to provide a platform to facilitate tool starting, dialogue, and capacity building.
- Support the measurement and reporting of business impacts and dependencies to biodiversity by formalizing biodiversity impact reporting in their annual reports.
- Further, encourage businesses to take into account individual supply chain activity, national priorities, and conditions when conducting biodiversity assessments.
- Promote business involvement in the development, revision, and implementation of national and international biodiversity strategies and action plans.

Activities of the convention include the organization of the Business and Biodiversity Forums and the development of a Global partnership for Biodiversity sharing tools mechanisms and case studies as well as the distribution of a CBD business Newsletter. Many global initiatives among private businesses and financial institutions have emerged in recent years with an aim to become sustainable and to develop towards “nature positive” by involving companies from almost all industries and with a collected turnover of trillion USD. At COP15 in Montreal the largest turn up of businesses and financial institutions were seen and three days of side events dedicated to Business and Biodiversity Forum and to a Finance and Biodiversity Day. More information at: [Welcome to the Business Engagement Programme \(cbd.int\)](http://www.cbd.int/business)

Scientific knowledge from global IPBES assessments and the research and innovation from the Biodiversity partnership (via WP#5) and via many other channels are feeding into the CBD.

More information [here](#).

### *Kunming-Montreal Global Biodiversity Framework*

The CBD COP15 had an unprecedented representation from the private and financial sector, demonstrating a marked shift towards a recognition in the private sector of the importance of biodiversity on equal terms with the climate challenge. Prior to COP15 more than 330 business and finance institutions had called for mandatory requirements to assess and disclose their impacts and dependencies on biodiversity by 2030 (Business for Nature, 2022).

The GBF includes four goals and 23 targets and set the scene for biodiversity and related ecosystem services towards 2030. Targets 1-8 address the direct drivers of biodiversity loss including e.g. concrete targets on reducing excess nutrients lost to the environment by at least half and similarly reducing the overall risk from pesticides and highly hazardous chemicals by at least half. Targets 9-12 are about meeting peoples' needs through sustainable use of biodiversity and ecosystem services and targets 14-23 cover tools and solutions on mainstreaming biodiversity in production and consumption and across policies and sectors, including quantitative targets for mobilizing resources.

More specifically target 14-16 Mainstreaming across policies and sectors, production and consumption, target 18-20 focus on harmful subsidies, resource mobilization and capacity building. Target 14 is of special relevance for the financial sector to ensure full integration of biodiversity and its multiple values into policies and regulations across *all* sectors and to align all relevant public and private activities, fiscal and financial flows with the goals and targets of the GBF. Target 15 is of high relevance to both the financial and the business sector, stating that all companies should be encouraged and enabled to monitor, assess and disclose their risk, dependencies and impacts on biodiversity and a large transnational companies and financial institutions should be required to do so. Target 16 is on sustainable consumption and request parties by 2030 to reduce the global footprint of consumption in an equitable manner, reduce overconsumption and waste including food waste. Target 18 states that subsidies harmful for biodiversity should be identified, reformed, eliminated, and reduced by at least 500 billion USD per year by 2030, while simultaneously scaling up positive incentives for conservation and sustainable use of biodiversity (CBD 2022).

The GBF integrates biodiversity in financial policy-making and decision-making. The GBF does also come with an enhanced reporting system still to be fully developed, based on previous experiences of not achieving the Aichi biodiversity targets in 2020, by using the existing reporting tool (NBSAPs) but with milestones and status along the way and opportunities for adjustment and to a larger degree using SMART indicators. There may be a

missing link between national level and the business/ corporations. The latter gives focus on how to minimize the consequences of the actions from the companies whereas the national reporting is more focused on how to reach targets (Marit Heller pers. comm).

More information [here](#).

### *UN Convention on Climate Change*

Has set the agenda in the fight for combat climate change since its adaption as one of the three Rio Conventions in 1992. The current target agreed to by the 196 parties in Paris in 2015 was to limit global warming to less than 2 °C, and try to limit the increase to 1.5 °C. The realism in reaching the latter target is now challenged in recent IPCC reports. Climate change is a key driver to biodiversity loss (IPBES 2019) and nature-based solutions including climate measures (mitigation and adaption) will be expected to increasingly involve private businesses also contributing to enhance the effectiveness and ambitions of targets set in the nationally determined contributions of the convention. Increasing assessment, reporting and disclosure demands on climate and biodiversity at global and regional levels is expected to result in and increased sustainable interventions from companies and the financial sector and activities can often benefit both mitigation of climate change and biodiversity not to mention that contributions to reducing climate change globally will be a contribution to decrease the pressure on biodiversity globally. Still comprehensive research and innovation is needed within the cross-road of climate and biodiversity in different ecosystems and in operationalising nature based solutions.

More information [here](#).

### *Other Multilateral Environmental Agreements*

The other multi-lateral environmental agreements apart from the CBD and CCC include a number of renowned conventions of which only a selection is mentioned below. The agreements come with valuable policy frameworks and targets agreed to by a majority of the world's countries at regular global meetings. The Convention to Combat Desertification was agreed to the at the RIO meeting in 1992 with the CBD and CCC. Several of the other conventions were established before the Rio meeting in the 1970-80ies. Such as the Ramsar Convention on Wetlands Convention and the International Trade in Endangered Species of Wild Fauna and Flora (CITES). These are briefly outlined below and are all dependent on comprehensive research as an essential fundament for their functioning. It may be expected that the private sector will be increasingly recognized and involved in the work also in these conventions as is the case with for example the CBD.

#### **Convention to Combat Desertification**

As one of the three Rio conventions the CCD is acknowledging the huge importance of the private sector in a sustainably managed world. A number of business initiatives and events have been held in the auspices of this convention e.g. building your business and seizing opportunities or webinars on land-based jobs for youth. Launched at UNCCD COP15 in Abidjan, Côte d'Ivoire, the Business for Land Initiative aimed at bringing visibility to the commitments made by participating companies towards land degradation neutrality, both in supply chains and CSR activities. The Changwon Initiative Business Action Program on Land acts as a platform to bring together business partners from around the world with an interest in supporting and implementing land degradation neutrality measures. These measures include the coordination of actions to: 1) Avoid degradation of healthy land, 2) Reduce the level of land degradation through sustainable management practices and 3) Restore or rehabilitate degraded land.

More information [here](#).



### Ramsar Convention on Wetlands

This is the oldest of the modern MEAs with a focus on the world's wetlands. Most countries partners to the CBD are also partners to the Ramsar Convention. The main theme is the “wise use” of all the worlds wetlands equal to the term “sustainable use”. Under the “three pillars” of the Convention, countries commit to work towards the wise use of all their wetlands; designate suitable wetlands as Wetlands of International Importance “Ramsar sites” and ensure their effective management. Moreover, to cooperate internationally on transboundary wetlands, shared wetland systems and shared species. The designation of area based Ramsar sites comprises about 2,500 sites designated covering 2,570,000 km<sup>2</sup> in 172 countries is the largest network of protected areas in the world. The approach applied by the convention seek to promote use of wetland products and services as long as this use can be documented to be sustainable. The private business of Danone – a multi-local food and beverage company – is an example of a long-term collaboration between a private company and a MEA lasting for more than 20 years and with a focus to raise awareness, adopt best practices and facilitate scientific knowledge dissemination.

More information [here](#).

### CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora

As CITES intends to regulate trade with wild plants and animals CITES is a global regulatory framework for trade in globally threatened species between countries. It include more than 40,000 species of flora and fauna both alive and species derived products threatened by international trade. Species included are listed in appendices: [Appendices | CITES](#)

More information [here](#).

## 1.2.2. Intergovernmental science-policy platforms

### *IPBES - Science Policy platform on biodiversity and ecosystem services*

Currently 140 countries have signed into the IPBES science policy collaboration including most EU countries. One of the core activities of IPBES is the development of global and regional assessments either thematic or methodological. So far, 10 assessments have been developed bridging the gap between the scientific knowledge and decision and policy makers as well as the wider public.

IPBES assessments are requested by governments and prepared by selected experts and scientists. The IPBES Values Assessments were finalized in 2022 and is a methodological assessment with a focus on different concepts and perspectives on the various values of biodiversity. In 2022 the scope of the new IPBES assessment on business and biodiversity was agreed upon by governments to be launched already at MEP12 in 2025 (fast track). It aims at improved understanding and awareness of the dependencies and impacts of businesses on biodiversity including concepts and methodologies, tools for measuring and communicating such dependencies and impacts, that are important for enabling businesses to understand the risks (physical, transitional and systemic) and opportunities, and to assess and monitor their performance.

More specifically, the report will include an assessment of impacts and dependencies of business on biodiversity from all relevant business and financial sectors (formal and informal). It will also assess

criteria and indicators for measuring such dependencies and impacts and assess options for action by businesses and by others, including Governments, the financial sector and civil society, which interact with business. The focus will be on (but not limited to) forestry, agriculture and food systems, marine and freshwater fisheries and other uses of wild species, water resources, recreation and tourism, pharmaceuticals, energy, infrastructure and mining (IPBES 2022).

The upcoming business and biodiversity assessment will contain six chapters including exploring Business dependencies on biodiversity; Business impact on biodiversity; Frameworks, metrics and indicators to measure business dependence and impact on biodiversity; Businesses as key actors of change: options for action by business and creating an enabling environment for business: options for action by Governments, the financial sector and civil society.

More information [here](#).

### *IPCC - Intergovernmental Panel on Climate Change*

The IPCC was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options. The panel develops Assessment Reports about the state of scientific, technical and socio-economic knowledge on climate change, its impacts and future risks, and options for reducing the rate at which climate change is taking place. It also produces reports on topics agreed to by its member governments and methodology reports that provide guidelines for the preparation of greenhouse gas inventories.

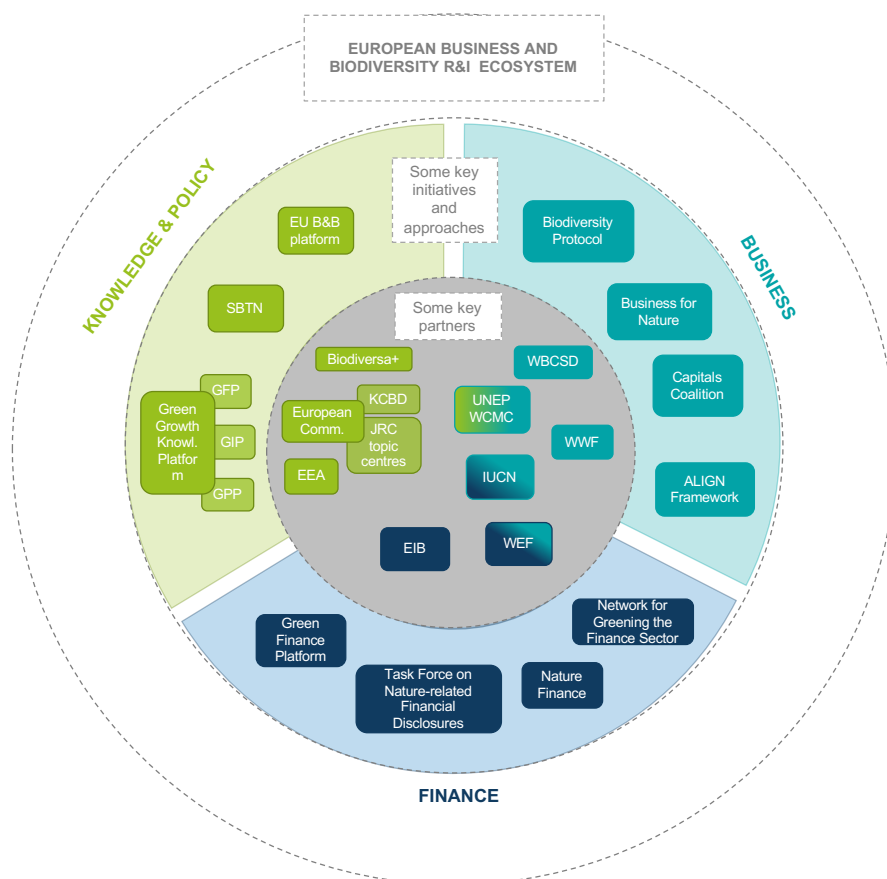
An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (IPCC 2019) was combining land use, climate change and biodiversity followed by a IPCC-IPBES workshop report on climate change and biodiversity (Pörtner et al. 2021).

The Special Report of IPCC on the impacts of global warming of 1.5°C pointed out that some impacts may be long-lasting or irreversible and moreover, the sixth IPCC Assessment Report states that restoring ecosystems will be fundamental in helping to combat climate change and also in reducing risks to food security. As stated earlier the IPBES (2019) identifies climate change a key driver of biodiversity loss and climate impact is the driver expected to increase the most over the coming decades, in some cases surpassing the impact of other drivers of ecosystem change such as changed land and sea use. Considering the urgency for taking actions on restoration of degraded ecosystems involving the private sector and based on sound scientific knowledge. For example, unsustainable agriculture drives almost 90 % of global deforestation, with more than half of forest loss being due to conversion of forest into cropland, whereas livestock grazing is responsible for almost 40 % of forest loss.

More information [here](#).

## 2. Examples of key EU and international institutions, organizations, initiatives and approaches working on business and biodiversity

Many institutions and partners coming from either the financial and business sectors or active partners in the environmental conservation spheres and have acknowledged the huge importance of business for biodiversity conservation and vice versa. To mention all is beyond the scope of this report but a selection of examples of relevant partners and stakeholders are highlighted, categorized in whether you are 1) overarching policy or knowledge institutions, 2) business or financial partners, or 3) relevant environmental institutions or NGOs. Both European and global partners are listed with a particular attention to partners relevant from a European perspective, as presented in Figure 6. Several key institutions and organizations working on business and biodiversity (inner circle of the figure) are further described in section 5.1, while examples of relevant initiatives, platforms and approaches (outer circle in the figure) are presented in section 5.2.



**Figure 6 : Representation of the European business and biodiversity research and innovation ecosystems** as presented in this guide, with examples of key partners (described in section 5.1) and examples of key initiatives and approaches working on the topic (described in section 5.2). All are organized according to the main focus of their work: policy and knowledge on business and biodiversity (“knowledge and policy”), business and biodiversity in corporate contexts (“business”), or biodiversity and business in the financial and investment sectors (“finance”).

## 2.1. Key partners

In the last few years there have been a massive movement by the private sector towards the climate agenda and becoming climate neutral and this movement is now seen in the biodiversity agenda as well. As noted by e.g. Schaltegger (2022), within recent years, private businesses and financial institutions have started to create initiatives with an aim to become more sustainable and develop towards “nature positive”.

### 2.1.1. Overarching policy or knowledge institutions

#### *The European Commission*

The EC is instrumental in driving the green transition in Europe and abroad. The large number of policies and legal framework from the EC pertaining to business and environment including biodiversity is a clear indication of this commitment in Europe. On one hand the impact on biodiversity is clearly acknowledged on the other the protection of biodiversity is also seen by the Commission as a huge business opportunity. Among many examples the Natura 2000 network is estimated to support 104,000 direct jobs and 70,000 more indirect jobs and with an expectation that the network could generate up to 500,000 more jobs (European Union 2020). Moreover, the benefits from the network is estimated to a value of 200-300 billion a year. Of the huge budget for climate action 25% is dedicated towards nature-based solutions and the example for the marine environment is that the conservation of marine stocks e.g. in terms of protected areas could increase annual profit for the sector by almost 50 billion Euro. Wetland protection could save the insurance sector 50 billion Euro annually and three of the main business sectors in the EU: Construction, Agriculture and Food & Drink highly dependent on nature and generate 7 trillion Euro annually. These business arguments were part of the promotion of the Green Deal in 2020 and “the Business case for Biodiversity”.

Horizon Europe is the European Commission’s flagship instrument for funding research, development and innovation in Europe to boost EU’s competitiveness and growth. It goes with a budget of €95.5 billion. The program facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies in order to contribute to tackling global challenges. The program supports the Biodiversity partnership among many other partnerships under Horizon Europe.

More information [here](#).

#### *The European Environment Agency*

The EEA is tasked with providing sound, independent information on the environment. It aims to support sustainable development by helping to achieve significant and measurable improvement in Europe's environment, through the provision of “timely, targeted, relevant and reliable information” to policymaking agents and the public.

The European Environment Information and Observation Network is a partnership network of the EEA and its member and cooperating countries. Through Eionet, the EEA brings together environmental information from EU countries. EEA is a key collaborator in terms of nature reporting under EU directives including the Habitat, Bird, Water and Marine Strategy directives. The business community and other

parts of civil society are important users. Information is made widely available through the EEA website and forms the basis of both thematic and integrated environmental assessments at country and EU level.

More information [here](#).

### *The EC Joint Research Centre*

JRC is the science and knowledge service of the EC to carry out research and provide independent scientific advice and support to EU policy. The JRC is also an active player in the global arena, involved in strategic international cooperation gathering partners, working on a diverse range of scientific fields. Such agreements, which are mostly bilateral with public and private research organizations, universities and national and international bodies, allow sharing of infrastructure, laboratory equipment, data materials as well as transferring knowledge.

Another example is the JRC's support to the Danube Strategy, which seeks to improve the economic development across the region and boost growth and jobs through better policymaking and funding which also involves non-EU Member States (e.g. Moldova, countries in the Western Balkans, and part of Ukraine). The international relations in the context of research projects focus on key priority countries (USA, Brazil, China, India, Japan), international organizations (e.g. UN, OECD, WHO, World Bank) and regional entities (e.g. African Union Commission) where sharing of knowledge bring benefits to the JRC and the global scientific community.

A specific example is the dissemination of the “Smart Specialization” concept, which can act as a driver of place-based economic transformation agendas globally led by innovation. JRC learning processes open up avenues for collaboration, as well as new business and investment opportunities. The concept allows to tailor research and innovation policies to national, regional and local contexts as a contribution to achieving the SDGs.

More information [here](#).

### *The European Knowledge Center for Biodiversity*

The Knowledge Centre for Biodiversity supports policymaking by developing tools that support the implementation of the EU Biodiversity Strategy, including its global dimension; Identifying, filtering and structuring relevant information and making it accessible bringing together researchers, policy-makers, NGOs, industry and citizens. As mandated in the EU Biodiversity Strategy for 2030, the Commission established in 2020 the KCBD in close cooperation with the EEA with an aim to 1) track and assess progress by the EU and its partners, including in relation to implementation of biodiversity-related international instruments, 2) to foster cooperation and partnership, including between climate and biodiversity scientists; and 3) underpin policy development. The KCBD is co-chaired by DG Environment and the JRC and it is steered by a committee with members from four other EC services and the EEA.

More information [here](#).

### *The European Biodiversity Partnership*

The European Biodiversity Partnership includes 81 partners and 40 countries (4 August 2023) and support research on biodiversity with an impact on society and policy. It is supported by the EC and

includes a number of annual international biodiversity research calls for supporting research projects and building up capacity for implementation. The partnership implements a number of work packages whereas WP 3 is a contribution to high-end knowledge for deploying nature-based solutions and valuation of biodiversity in the private sector. The present report is a deliverable under this.

More information [here](#).

### 2.1.2. Business or financial associations and partners

#### *World Business Council for Sustainable Development*

WBCSD is a global, CEO-led community of over 200 global businesses with an aim to collectively accelerate the system transformations needed for a net zero, nature positive, and more equitable future. Their approach is to engage with executives and leaders from business and elsewhere to share practical insights on the obstacles and opportunities in tackling the integrated climate, nature and inequality sustainability challenge. Activities include co-developing “how-to” CEO-guides, providing science-based target guidance including standards and protocols; and by developing tools and platforms to help leading businesses drive integrated actions to tackle climate, nature and inequality challenges across sectors and geographical regions. WBCSD members are companies from all business sectors and all major economies, representing a combined revenue of more than USD \$8.5 trillion and 19 million employees. The global network of WBCSD includes 70 national businesses. WBCSD has since 1995 worked with member companies along and across value chains to deliver business solutions to these issues.

More information [here](#).

#### *World Economic Forum*

The WEF aims to engage the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas. It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland. The Forum strives to demonstrate entrepreneurship in the global public interest while upholding standards of governance. The WEF is hosting the annually global meetings in the city of Davos in Switzerland and also behind the annual Global Risk Report. The 2023 Risk Report lists biodiversity loss and ecosystem collapse as one of the fastest deteriorating global risks over the next decade. Hence, biodiversity is now at the core at WEF and the Davos meetings in terms of securing continued human development. The forum blends and balances many kinds of organizations, from both the public and private sectors, international organizations and academic institutions.

More information [here](#).

#### *The European Investment Bank*

The EIB is one of the world’s main financiers of climate action and environmental sustainability. The EIB is an important partner in the transition towards a new growth strategy and playing a leading role in the implementation of the Sustainable Development Goals. EIB has a focus on sustainable development in their activities and all projects will have to meet Environmental and Social Standards.

More information [here](#).

### 2.1.3. Environmental institutions or NGOs

#### *UNEP-WCMC*

Based in Cambridge WCMC is engaged in working with businesses and financial institutions to address the biodiversity crisis. Focus is on enabling and empowering leaders across all sectors of the economy to take action for nature by supporting businesses, financial institutions and governments with relevant knowledge, tools and capacity to measure and account for their impacts and dependencies on biodiversity. Taking an economy approach, WCMC works to ensure biodiversity is represented in economic reform agendas including blue economy, green economy and circular economy approaches, as well as efforts to move beyond GDP and develop wealth economies (WCMC website 2022).

WCMC is involved in the development of several methods and tools to facilitate business better monitoring their potential and real impact including e.g. IBAT, ALIGN and ENCORE. Moreover, WCMC supports reformation of policies as well as legal, planning and accountability frameworks to align financial flows and to create incentives aiming at nature-positive and carbon-neutral outcomes. A part of the WCMC website is dedicated to this work [Home - Sustainable trade systems that benefit people and nature \(tradehub.earth\)](#)

More information [here](#).

#### *International Union for the Conservation of Nature (IUCN)*

IUCN has been a leading authority in global biodiversity conservation and sustainable use for more than the last 70 years and is extensively supported by governments and private funds. It has spearheaded a large number of initiatives including the global Red List on threatened species and other policy directed initiatives. It has been one of the frontrunners in the field of business and biodiversity for many years and with the production of several important guidance documents: [Business, finance and economics | IUCN](#)

Guidance is e.g. provided within the sectors of tourism, agriculture, fisheries and aquaculture, extractive energy and infrastructure among others. The commitment of IUCN to the business and biodiversity agenda is set in their introductory paragraph: *“Human wellbeing depends on nature and economic development can no longer come at nature’s expense. IUCN works to help countries mainstream nature into economic decisions, including making the private sector part of the solution for people and nature.”*

Steering the current work of IUCN is its Nature 2030 program working towards a just world that values and conserve nature dealing with all the major ecosystems as well as climate.

More information [here](#).

#### *World Wide Fund for Nature (WWF)*

The whole foundation of the establishment of WWF was based on linking biodiversity conservation to business and financing organizations. WWF is today one of the largest conservation NGOs and active in 100+ countries. Its relationship to the private sector has developed over time and WWF has now teamed up with a number of the largest global companies in addressing the biodiversity crisis including e.g. Coca-Cola, Warner Bros and a number of others. Also guidance documents are developed in partnerships of WWF and private companies or by WWF alone. As an example best practices in Setting Science-based

Targets in the Seafood sector was launched November 2022 with the Ocean Stewardship Coalition. WWF is active at the policy level as well and is steadily launching new initiatives including e.g. eight reasons for businesses to engage and care about biodiversity and the WWF Risk Filters on Water and Biodiversity. Moreover, a biodiversity [guide for business](#) was launched in 2022:

More information [here](#).

## 2.2. Key business and biodiversity initiatives and approaches identified

A number of key initiatives related to knowledge and approaches are listed in Tab. 1 and treated in the text.

Selected initiative	Link to resource
<b>Knowledge Platforms and Support</b>	
The EU Business @ Biodiversity Platform	<a href="#">Business and Biodiversity (europa.eu)</a>
<b>Initiatives and approaches for business</b>	
Business for Nature	<a href="#">Business For Nature</a>
Science based Targets Network	<a href="#">Science Based Targets Network</a>
ALIGN	<a href="#">ALIGN</a>
The Biodiversity Protocol	<a href="#">The Biodiversity Protocol</a>
Capitals Coalition	<a href="#">Capitals Coalition</a>
The World Benchmark Alliance	<a href="#">The world Benchmark Alliance</a>
<b>Initiatives mainly for the financial sector</b>	
Finance for Biodiversity	<a href="#">Finance for Biodiversity</a>
The Task Force on Nature-related Financial Disclosures	<a href="#">The Task Force on Nature-related Financial Disclosures</a>
Green Finance Platform	<a href="#">Green Finance Platform</a>
Nature Finance	<a href="#">Nature Finance</a>
Network for Greening the Financial Sector	<a href="#">Network for Greening the Financial Sector</a>

Tab. 1: Overview of selected initiatives treated in the text



## 2.2.1. Knowledge Platforms and support

### *The EU Business @ Biodiversity Platform*

This important knowledge sharing platform is a facility where businesses and other parties may share experiences, learn from their peers, and voice their needs and concerns. It is initiated and supported by the EC with the aim to work with and support businesses and other stakeholders integrate natural capital and biodiversity considerations into business practices.

The mission of the Business @ Biodiversity Platform is: “Every business impacts on, and depends on, nature to some degree, and as a result will experience risks and/or opportunities. These impacts and dependencies create costs and benefits not only for the business, but also for society. The members of the platform agree that there is much to gain both for nature and for businesses from better understanding the interlink between business activities and nature.”

It comes with the two main specific objectives of:

- Supporting the development of methods, criteria and standards that enable to account for the value of biodiversity and the services derived from nature into business decisions including for example natural capital accounting;
- Foster the integration of biodiversity and natural capital into decision-making process of a critical mass of businesses and financial institutions who take action to do “no harm” on biodiversity and improve their resilience.

The Platform aims to strengthen the business and biodiversity link in especially six priority sectors: Agriculture, Food supply, Forestry, Non-energy extractive industry, Finance and Tourism. Concrete activities include best practices publication; workshops on the EU 2020 Biodiversity Strategy and its implementation; webinars e.g. on the GBF implications to business and biodiversity, benchmarking workshops; roundtable meetings on issues of interest and an award scheme.

More information [here](#).

## 2.2.2. Initiatives and approaches for Business

### *Business for Nature*

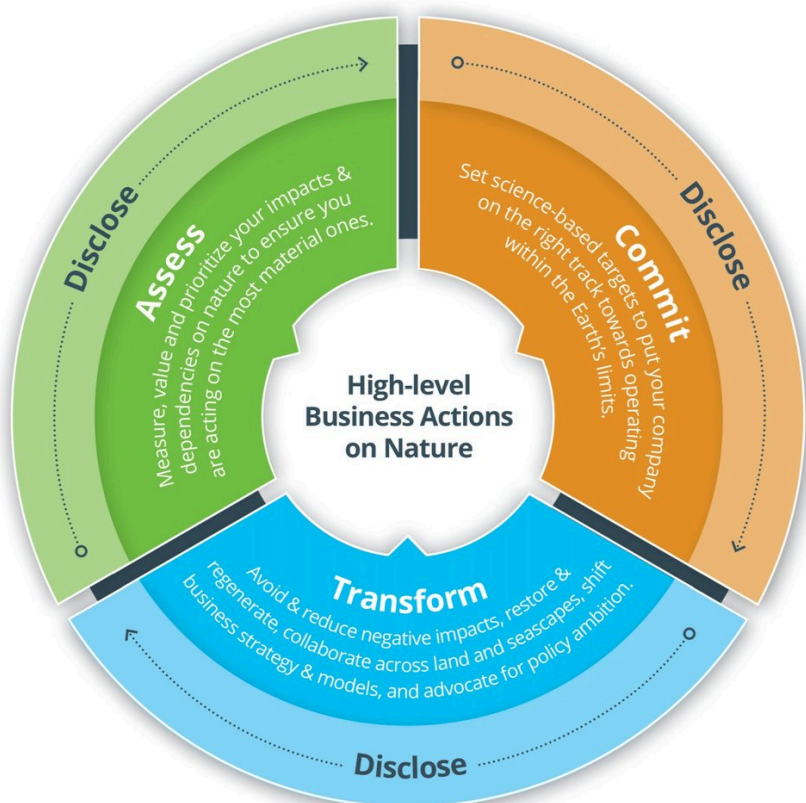
Business for Nature is a global coalition that brings together private sectors business and NGOs including conservation organizations. Business for Nature aims at demonstrating and amplifying a credible business voice on nature calling for governments to adopt policies to reverse nature loss. The European Commission, Gordon and Betty Moore Foundation (via the World Economic Forum’s Nature Action Agenda), the MAVA fund it. Business for Nature is hosted at Rockefeller Philanthropy Advisors.

The coalition includes about 80 international and national partners (January 2023) from different sectors, sizes and geographies and promotes companies to commit and act to reverse nature loss, and advocates for greater policy ambition (see also Figure 7). A Strategic Advisory Group has been established to ensure that the work is grounded in real business and is intended to act as ambassadors for the coalition. Business for Nature had an ambitious “make it mandatory” campaign up to and under the CBD COP15

meeting in Montreal especially targeting large and transnational companies in order to create fair competition among businesses under a motto “business as usual is over”. Business for Nature link up to other frameworks such as the SBTN and NCP etc.

In general, the response from Business for Nature on the outcome of the GBF was that the framework was satisfactory from their perspective seen in the light of the prevailing circumstances. The coalition links up with a row of current global biodiversity literature from the global report of IPBES (2019) and the Living Planet Index report of WWF etc. and have been outspoken in the media supporting the adoption of the EU Nature Restoration Law. Here is a quote of the CEO of the Business for Nature coalition Eva Zabey as an example: “We welcome today’s vote by the Environment Committee of the European Parliament supporting the EU Nature Restoration Law. Businesses and investors need clarity and a regulatory framework that encourages, incentivizes and rewards positive actions on nature. An ambitious law would be a significant step forward in our collective journey to preserve and restore the health of our planet.”

More information [here](#).



**Figure 7 :** From Business for Nature. A note on alignment: These actions have been developed in collaboration with leading organizations. They build on existing action frameworks and guidance, including the Natural Capital Protocol, *the Science Based Targets for Nature Initial Guidance for Business*, *World Business Council for Sustainable Development (WBCSD) building blocks 'what nature positive means to business'*, BfN Steps to becoming nature positive, Taskforce on Nature-related Financial Disclosures (TNFD) framework (currently in beta version).

### *Science Based Targets Network*

A collaboration of 60 global environmental agencies and mission-driven businesses – Global Commons Alliance - with an aim to transform economic systems and protect the global commons including biodiversity in all ecosystems. The SBTN align themselves with the goals and targets of the global Rio conventions of CBD, CCC and CCD and with an overall objective to stay within Earth limits and at the same time meet society's needs. One key element is the work to develop and adopt science-based targets within capital markets. The guidance provided by the network is based on these “measurable, actionable, and time-bound” objectives. This SBTN initial guidance defines five distinct steps in the process of setting nature science-based targets; these are Assess, Measure, Prioritize, Act, and Track. The three latter come with specific support and guidance for companies.

The network contains a collection of the leading scientists and sustainability expertise, was originally build for climate action, and has been expanded to include targets for biodiversity. Setting targets through the Science Based Targets Network means a company should be confident of doing enough to help restore balance to the global commons and harness the opportunities this presents. The methods and targets are being built on existing tools, approaches, and platforms. To be a member of the Corporate Engagement Program of the network cost a one-time fee and with a business commitment to initiate the setting up of science-based targets. Signed up companies comprise a long list and include for instance Ikea, Chanel, Coca Cola, Lenovo, Loreal, Shell, Bestseller and many others.

More information [here](#).

### *ALIGN*

The framework was released at CBD COP15 in Montreal in December 2022 during the biodiversity and business summit. It is led by the UNEP-WCMC, the Capitals Coalition, Arcadis, ICF and WCMC Europe and aims to create a standard on corporate biodiversity measurement and valuation funded by the European Commission. To measure business impacts on biodiversity, this framework recommends 1) identifying and measuring impact drivers and pathways, 2) implementing methodologies to measure business impacts based on four characteristics: A) spatial precision, B) accuracy of measurement, C) responsiveness to mitigation, and D) feasibility to apply at scale, 3) identification of ecosystem service dependencies, and 4) valuation of impacts and dependencies. It is intended to be applicable at the global scale and for all sectors.

The EC support to Align is stressed at their website: “The Align project has published recommendations bringing more clarity on ‘what’ elements of biodiversity to measure and ‘how’ to assess impacts and dependencies on biodiversity in a business context. This document, developed through a consensus building process with many of the leading experts on the topic, provides the technical basis to support many evolving policies and standards. It aims to support wider reporting, disclosure and target setting initiatives and standards and drive the harmonization of natural capital accounting within Europe and beyond.”

Align has supported a number of initiatives to maximize synergies with the broader sustainability measurement and disclosure efforts. One of its strength is the benefits provided from intensive business engagement. Align has also worked to develop guidance that is sector specific, with the end goal of providing robust and fit recommendations for businesses.

The future of this project, incorporating accounting format to track performance against targets over time is expected to be developed in the subsequent transparent project. This associated project will develop standardized natural capital accounting and valuation principles for business (Capitals Coalition, 2023).

Technical criteria on how to measure biodiversity are provided with a gradient ranging from good to best practices. Thus, Align does operate with technical criteria on “good” and “best” practice (UNEP-WCMC, 2022). By providing a gradient of technical criteria, the Align framework gives businesses an achievable way to start their assessments and improve over time. However, it is important to note that legally imposed minimum standards may exceed lower tiers of the Align technical criteria. While this framework includes guidance on selecting indicators, determining impact pathways, completing measurements, identifying dependencies, and completing the valuation process, it is still a high-level framework. Hence, businesses will still need select the appropriate tools and methodologies. The Align framework use materiality as a concept in order to prioritize efforts and attention of companies to focus on those activities and associated biodiversity impacts and dependencies that are most relevant or “material”. Materiality is a dynamic concept that can change over time and is dual in nature referred to as “double materiality”. The Align framework considers both societal materiality and financial materiality when assessing biodiversity impacts; from a corporate or financial institution perspective, a biodiversity-related issue.

More information [here](#).

### *The Biodiversity Protocol*

The Biodiversity Protocol developed to improve decision-making by providing companies with an accounting and reporting framework to support consolidate their biodiversity impact data across value chains and jurisdictions. It is the National Biodiversity and Business Network of South Africa and the Endangered Wildlife Trust, whom initiated the protocol in 2018. The framework support companies develop their biodiversity impact inventory and associated Statements of Biodiversity Position and Performance. It comes with guidance on scoping i.e. defining the appropriate organizational and value chain boundary; developing biodiversity impact inventory; determining biodiversity impacts, accounting for net changes in biodiversity; applying a Biodiversity Accounting Framework to build Statements of Biodiversity Position and Performance and account for biodiversity gains and losses over time and on disclosure.

Guidance promote three main steps: 1) biodiversity impact inventory development, 2) biodiversity measurement and accounting, and 3) validation, verification, reporting and disclosure. (Endangered Wildlife Trust, 2020). The biggest difference between the Biodiversity Protocol and the Align Project is the lack of inclusion of dependence measurement and valuation implications. The protocol has been supported by the EU Business @ Biodiversity Platform, and is meant to be applied at a global scale and to all sectors (Endangered Wildlife Trust, 2020). The Biodiversity protocol was one of the initial biodiversity impact measurement and accounting frameworks. This framework supports the recording and consolidation of net biodiversity impact data over time, which is useful for businesses as it allows biodiversity targets and performance assessed over a specified period. Moreover, the protocol details the development of an impact inventory from a business perspective, including organizational and value chain issues. As the Align framework, the Biodiversity protocol does not provide one specific methodology

to follow but rather recommends certain approaches for impact measurement and valuation. It is up to businesses to figure out and select appropriate indicators, methodologies, and their values.

More information [here](#).

### *Capitals Coalition – Natural Capital protocol and the Food System Transformation*

The Natural Capital Coalition is a global collaboration of more than 400 initiatives and organizations and the WBCSD. Their ambition is: *“Our ambition is that by 2030 the majority of businesses, financial institutions and governments will include the value of natural capital, social capital and human capital in their decision-making and that this will deliver a fairer, just and more sustainable world.”* In the perspective of the coalition natural capital is one of several other commonly recognized forms of capital. Others include financial, manufactured, social and relationship, human, and intellectual capital. Natural capital is seen as fundamental in supporting all other forms of capital providing the resources with which we build our societies, economies, and institutions, and ultimately regulates the environmental conditions that enable human life.

The benefits of natural capital (e.g., fresh water) are seen as interlinked with the other forms of capital. The integration makes it in the eyes of the coalition impossible to completely separate any one form of capital from the others, and considering trade-offs between them will be part of any decision. One of the products from the Capitals Coalition with a direct bearing on biodiversity is the Natural Capital Protocol. It is a decision-making framework that enables organizations to identify, measure and value their direct and indirect impacts and dependencies on the natural capital. It is designed to support generate credible, and actionable information that business managers need to inform decisions by including how we interact with nature: [Natural Capital Protocol – Capitals Coalition](#)

An explicit list or specific tools or methodologies is not given because the choice of tools may depend on business context, resources, and needs. It is not a formal reporting framework and does therefore not assume or require that assessment results are reported or disclosed externally, however, it does provide a standardized process, but remains flexible in the choice of measurement and valuation approaches used. It also means that results may not be comparable within or between different businesses and applications.

Moreover, a comprehensive online course material has been developed by the coalition free of charge if you register at their website. The material comprises a blend of videos, discussions, interviews and written material in four modules: **Module 1:** The Role of Businesses in addressing the great challenges of nature loss, climate change and inequality. **Module 2:** Better managing risks and opportunities by adopting a capitals approach. **Module 3:** Getting started with a natural capital assessment: Defining the objective and determining the appropriate scope. **Module 4:** Measuring and valuing impacts and dependencies to integrate natural capital in decision-making. The aim of the course is to introduce businesses employees to the Capitals Approach and help them to get started with integrating natural, social and human capitals into business decision-making. The course has been supported by We Value Nature, a collaboration between ICAEW, WBCSD, IUCN & Oppla, with the support of Nature<sup>2</sup>Squared. [Valuing-Nature-Curriculum-Final.pdf \(capitalscoalition.org\)](#)

Furthermore, focus in the coalition is among others on the food sector, which makes good sense as agricultural sector and related land use is the largest driver on biodiversity (IPBES 2019). The TEEBAgriFood for Business project aims to develop guidance to enable the sector to adopt a capitals approach to build resilience, mainstream best practice, protect biodiversity and contribute to a more sustainable food system. [Food System Transformation - Capitals Coalition](#)

This initiative brings together scientists, economists, policymakers, business leaders and farmers organizations with an aim to undertake and apply holistic assessments of agricultural systems, practices, products and policies. Through its work, the initiative highlights the need for organizations in the food system to better understand their impacts and dependencies on natural, social and human capital, and provides guidance. A new project is supported by the EU, the Capitals Coalition and UNEP with the overall goal of building resilience, mainstreaming best practice, protecting biodiversity and contributing to a more sustainable agriculture and food sector in seven partner countries involving: Brazil, China, India, Indonesia, Malaysia, Mexico and Thailand.

More information [here](#).

### *The World Benchmark Alliance*

The World Benchmarking Alliance was launched in 2018 and in 2021 the scope of their circular transition work was expanded to cover biodiversity. The alliance works for change in the way business impact is measured to boost motivation and stimulate action for improved sustainability including greater understanding, transparency and accountability of business impact on the environment.

The work of WBA is a response to the SDGs and seven transformations that need to take place to put society and the worldwide economy on a more sustainable path to achieve the SDGs. Their work includes a series of benchmarks assessing 2,000 of the world's most influential companies, ranking and measuring them on their contributions to the SDGs. Thus, the intention of the "nature transformation" of the WBA is to examine impacts of business contribute to stable and resilient ecosystems with a focus on the planetary boundaries (see annex 1) and to undertake benchmark assessments to measure and track corporate performance with a focus on how companies are reducing their impact and contributing to restoring ecosystems.

The 2023 Nature Benchmark results of WBA showed that *"although some companies are taking significant steps to transition to sustainable production, the overwhelming majority do not yet really understand how they affect and rely on nature. There are worrying gaps in key areas such as water use, ecosystem conversion and respecting local communities' rights. This has serious consequences for both the planet and people, particularly in developing countries, where many of the world's biodiversity hotspots are located, and where issues such as water scarcity and biodiversity loss are often felt most acutely."*

Moreover, the 2023 benchmark result on nature finds that – according to their criteria - only 2% of the biggest 350 companies within Food and Agriculture in the world currently disclose their environmental impacts.

More information [here](#).

### 2.2.3. Initiatives mainly for the financial sector

As for the business sector the development of tools and methodologies is still in its early development. The World Economic Forum concluded for example, that there is little guidance on how biodiversity could be quantified and best integrated into investment decision-making (WEF, 2022).

#### *The Finance for Biodiversity*

The main aim of the finance alliance is to reverse nature loss before 2030. The foundation is active in the press and closely follows environmental policy initiatives. A biodiversity pledge has been established comprising 140 financial institutions from 23 countries as signatories. On the EU Nature Restoration Law the alliance in June 2023 was in the media to officially support a strong law and legally binding restoration targets. Moreover, in case of deep sea mining in June 2023 partners in the alliance were ahead of the political level. In a proposal by the Norwegian government to open up an area the size of Germany to deep-sea mining - ratified by the Parliament - Norway would become the first country to extract metals from its sea floor. The reaction from the Norwegian bank "Storebrand" and others in the alliance was going against this proposal. Although the bank and the alliance acknowledged that minerals were needed (amongst those some in the ocean bottoms) to combat climate change and for the transition to a green economy, the message from the bank was that there is a growing recognition that a sustainable energy transition cannot be built at the cost of destroying nature. Thus, their position was that at present, no robust, precautionary approach exists to safeguard the ocean against the potential ecological impacts of deep-sea mining. Storebrand would therefore not invest in companies involved in deep-sea mining until more scientific knowledge are available on the impacts of such activities and that alternative solutions already exist.

The Finance for Biodiversity Pledge of the alliance is a commitment of financial institutions to protect and restore biodiversity through their finance activities and investments. The pledge consists of five steps financial institutions commit to take: 1) Collaborating and sharing knowledge, 2) Engaging with companies, 3) Assessing impact, 4) Setting targets and 5) Reporting publicly on the above before 2025 (see also United Nations Environment Programme 2023). The pledge has a 100+ signatories (1 May 2023).

More information [here](#).

#### *The Task Force on Nature-Related Financial Disclosures*

Its mission is to develop and deliver a risk management and disclosure framework for organizations to report and act on evolving nature-related risks, with the ultimate aim of supporting a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes. TNFD is market-led, science-based and government-endorsed, and consists of a number of institutions and groups that make up the TNFD Alliance. The TNFD framework has been championed by the WWF and identified as one of the dominant standards and tools for corporate biodiversity efforts in the future (see e.g. Global Canopy and Vivid Economics 2020).

In March 2022, the first beta version of the framework was released for an 18-month process of market consultation. The institutional setup of TNFD comprises a number of knowledge hubs including a Technical Research Network (representing knowledge and research partners supporting the technical

development of the framework), a Development Finance Network (pulling in the global expertise of bilateral and multilateral public development banks and development finance institutions, particularly from their social and environmental investment and impact measurement experience in emerging markets) and a Standards Network (pulling in the expertise of a range of disclosure mechanism design and advocacy organisations and standards setting bodies).

The Beta v0.4 is expected to be released in autumn 2023. As indicated a unique aspect of the TNFD framework is that the taskforce itself is corporate based rather than research or science based, consisting of 40 senior executives from financial institutions, corporates and market service providers. The framework is created for global corporate and financial institutions and include a disclosure framework and a risk and opportunity assessment approach (LEAP) for organization to report and act on nature-related risks and opportunities (TNFD, 2023). The disclosure framework provides guidance for all sectors with respect to governance, strategy, risk management, and metrics and targets based on an assessment of nature-related dependencies and nature impacts (TNFD, 2022). The LEAP approach was developed to incorporate nature considerations into enterprise and portfolio risk management. This approach involves different steps such as to a) locate your interface with nature, b) evaluate your dependencies and impacts, c) assess your risks and opportunities, d) prepare to respond to nature-related risks and opportunities, and e) report to investors (TNFD, 2022).

Like both the Align framework and Biodiversity protocol, this project examines direct and indirect impact drivers. It also assesses dependencies like the Align framework but takes it a step further by incorporating these dependencies into longer-term risks including physical, transition, and systemic risks. However, this process is geared towards investors and lenders, and so the overall framework is different from Align and the Biodiversity Protocol. As the TNFD framework is market driven, the actual uptake and implementation of this tool by corporate and financial institutions appears especially credible. Since this framework is dynamic and was created to align with future sustainability standards and other frameworks, future policy requirements will help further refine it.

More information [here](#).

### *Green Finance Platform*

This knowledge partnership is a global community of policy, business, and finance professionals and organizations committed to collaboratively generate, manage and sharing knowledge on the transition to an inclusive green economy. The alliance comprises three knowledge platforms - the Green Policy Platform, Green Industry Platform, and Green Finance Platform – and offer access to research, case studies, guidance, and tools aimed to empower policy makers and advisors, SMEs, banks, insurance, and investment firms to make decisions about how to green their operations. The Green Forum includes discussions on global topics and the ability for users to create dedicated groups focused on specific themes, initiatives, and projects. The Platform host the initiative on *Valuing nature and people to inform business decision-making* [Valuing Nature and People to Inform Business Decision-Making | Green Finance Platform](#)

More information [here](#).



### *Nature Finance (formerly Finance for Nature)*

The Finance for Biodiversity Initiative (F4B) was established in 2019 with support from the MAVA Foundation and there are about 130 signatories (January 2023). Its vision is to align global finance with nature positive and equitable outcomes. Nature Finance works with policy advocacy, market engagement and innovation and to scale up nature positive activities. The website contains information on financing and biodiversity.

More information [here](#).

### *Network for Greening the Financial Sector*

NGFS is a group of central banks, which on a voluntary basis, share best practices and contribute to the development of environment and climate risk management in the financial sector. The NGFS brings together 127 central banks and supervisors. A Conceptual Framework for the nature-related financial risks was launched in September 2023 to guide action by central banks and financial supervisors. The Framework is intended to help central banks and financial supervisors navigate the complexities and challenges associated with assessing and addressing nature-related risks and to contribute to defining nature-related risks and understanding them better, identifying and assessing nature-related financial risks, and outlining next steps including the alignment with policies on environmental sustainability.

More information [here](#)

## 3. Tools and methodological initiatives

This section gathers and presents different examples of tools and methods related to business and biodiversity, often related to or developed by institutions and initiatives presented in other sections of the guide. These tools and methods are non-exclusive, and organized in two broad categories, tools and methods for managing biodiversity in business (section 6.1.1) and tools and methods for managing biodiversity in the finance sector. In addition, to facilitate the navigation of this directory of tools and methods, these have been tagged against a set of keywords as regards their main objective(s), i.e. tools and methods for

- **Measuring impacts** from business on biodiversity
- **Assessing dependencies** of business on biodiversity
- **Natural Capital Accounting** for integrating biodiversity in business
- **Framing actions** for business and biodiversity

An understanding of what reporting information is required is key when selecting tools. While the reviewed frameworks provide overall guidance, they do not recommend specific tools required. This places a large responsibility on business and financial institutions to select the appropriate tools and methods.

The level at which the business conducts the assessment (on a portion versus the entire supply chain, a specific product, etc.) will also dictate which tool is used, as some tools are more suited to the supply chain versus a financial portfolio or specific site.

Overall, the tools mapped in this study had similar approaches depending on the intent for either a biodiversity footprint/impact assessment, or a natural capital valuation output. The main difference between the two processes is that natural capital also considers dependencies and takes the impact assessment a step further to quantify the risks and opportunities for business. For businesses in selecting a tool or framework it is essential to know what the objective is in order to make the appropriate choices.

### 3.1. Tools for managing biodiversity in business

#### Biodiversity Measurement Navigation Wheel for Business

Tags: Measuring impacts; Framing actions

The Biodiversity Measurement Navigation Wheel for Business includes a decision-making framework to assist companies in selection of the appropriate tools and methods involving seven selection criteria: business context, biodiversity pressures, biodiversity ambition, biodiversity scope, metrics, level of efforts and relevant sector. The last version also includes a biodiversity scoring system and measurement approaches for ecosystem services.

The report provides an overview of 29 measurement approaches including 24 biodiversity approaches and five on ecosystem services. The approach works by eliminating the approaches that do not fit with the preferred selection criteria (see Figure 8).

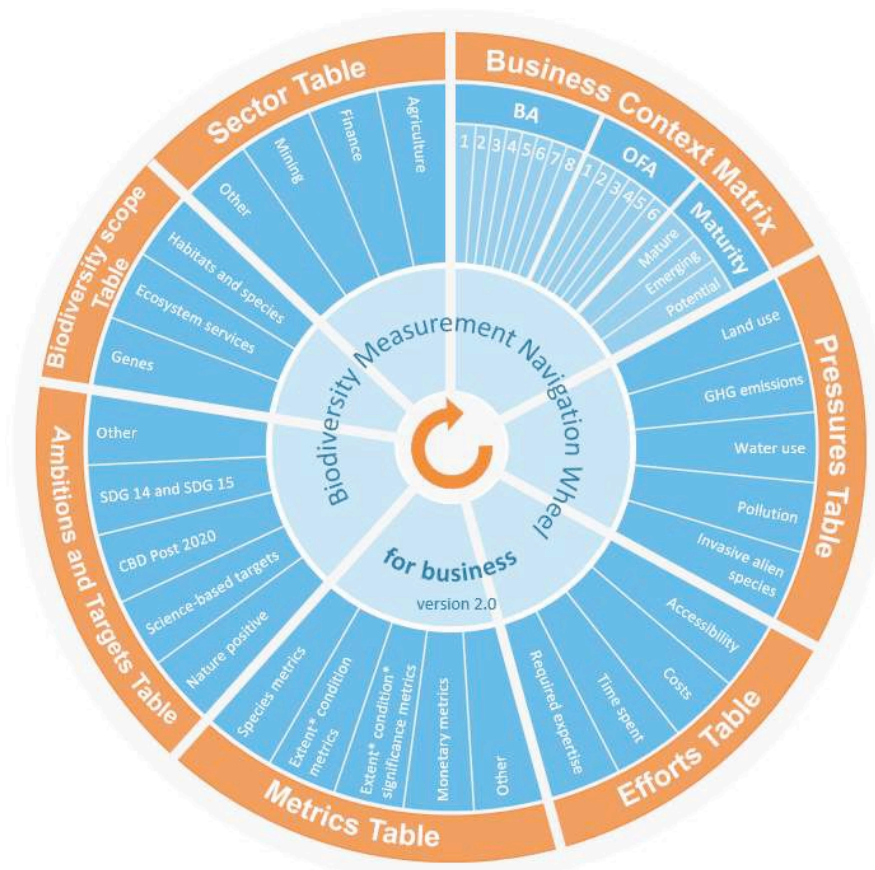


Figure 8: The Biodiversity Measurement Navigation Wheel for Business (Lammerant et al. 2022) including the seven main criteria for business assessment. These revised version includes inter alia business sectors.

### Compass for navigating the World of Foot printing Tools

Tags: Measuring impacts; Framing actions

The guide “A Compass for navigating the World of Foot printing Tools: An Introduction for Companies and Policy Makers” (Goedicke et al. 2020) was published in 2020 by IUCN Netherlands with a focus on biodiversity footprint (see Figure 9) and a listing of 17 tools available for business to help measuring impact and frame actions. Much has already happened since this guide came but it may help to provide insight from earlier best practices and the earlier development of tools.

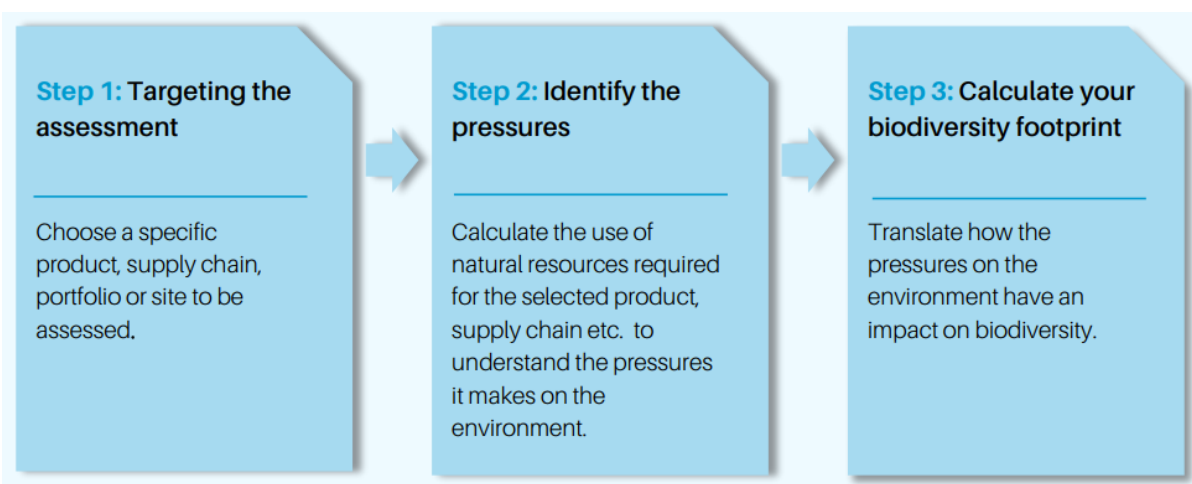


Figure 9: Steps in the process of biodiversity foot printing (Goedicke et al., 2020)

### TRANSPARENT Project

Tags: Measuring impacts; Framing action

Transparent is an EU LIFE funded project that develops standardized natural capital accounting and valuation principles for business in line with the ambition of the European Green Deal. Transparent is led by the Value Balancing Alliance – consisting of international companies and supported by pro bono consultants from four largest professional services firms (Deloitte, EY, KPMG & PwC) in consortium with the Capitals Coalition. The Transparent methodology aims to build on international accepted and harmonized principles and frameworks such as the Natural Capital Protocol, and other approaches used by international companies, such as those highlighted by the e.g. Value Balancing Alliance. The project was kicked off in 2020 and runs until 2023. The primary output aims at including the world’s first standardized methodology providing practical application guidance for corporate accountants in charge of establishing a natural capital accounting system.

More information [here](#).

### Mapping and Assessment for Integrated Ecosystem Accounting (KIP-INCA/MAIA)

Tags: Natural Capital Accounting

MAIA aims to promote and mainstream natural capital accounting in EU Member States and Norway. MAIA is using the System of Environmental Economic Accounting – Ecosystem Accounting as the methodological basis for natural capital accounting and is implemented in 11 countries, with 20 partners.

Natural capital includes both minerals and oil and gas (non-renewables) and renewable resources derived from ecosystems. Whereas methods to account for non-renewable resources are more advanced, the development and application of accounting systems for ecosystems and the services is more recent.

More information [here](#).

### SEEA

*Tags: Measuring impacts; Framing action*

In the last 10 years, an ecosystem accounting methodology has been developed, termed SEEA –EA coordinated by the United Nations Statistical Commission and involving a wide range of national accountants, ecologists, economists, spatial modelers and statisticians. Implementation of this system allows the systematic monitoring of ecosystems, and understanding the economic impacts of the degradation of ecosystems and the benefits of ecosystem rehabilitation. The SEEA is connected to economic indicators as measured with the National Accounts such as GDP, and aims for a better analysis of trade-offs and synergies between economic development and ecosystem conservation.

More information [here](#).

### WeValueNature

*Tags: Natural Capital Accounting*

We Value Nature was an EU Horizon 2020-funded three-year campaign (Nov 2018 – Oct 2021) supporting businesses and the natural capital community to make valuing nature the new normal for businesses across Europe. This included supporting the natural capital community and share research, resources and best practice, helping businesses improve their risk management, communication with investors, stakeholder engagement and anticipation of future legislation and aiming at making a difference by targeting businesses barriers.

More information [here](#).

### IBAT

*Tags: Measuring impacts*

IBAT aims at creating a risk assessment to assess biodiversity risks and incorporate biodiversity into project and planning. IBAT is a tool to assess potential biodiversity impact based on data from the IUCN Red List of Threatened Species, World Database on Protected Areas and World Database on Key Biodiversity Areas. The IBAT Alliance comprises BirdLife International, WCMC-UNEP, IUCN and CI. It comes with an online tool and with a fee it is possible to get a license and fully access the various GIS layers to assess potential impact from certain activities. The tool does provide an interesting assessment, however, does not exclude the need for a specific on-the-ground assessment if the initial assessment indicates the potential for a negative impact. Screening of biodiversity risks by the IBAT tool varies from a summary of protected areas, key biodiversity areas, and IUCN Red list species present, including

freshwater species upstream and downstream a potential project development site or a specified location (IBAT, 2023).

More information [here](#).

### *STAR - Species Threat Abatement and Restoration Metric*

*Tags: Framing action*

The STAR metric is specifically developed to quantify mitigating threats and restoring habitats (Mair et al. 2021). STAR provides an opportunity to reach science-based targets and requires information on extinction risk, threats and potential restoration area of habitats. This metric can be used to identify threat abatement actions or restoration areas to reduce extinction risk of amphibians, birds and mammals and contribute to global conservation goals. STAR can be used for screening, strategic and project planning, and tracking.

More information [here](#).

### *Value Balancing Alliance Governance*

*Tags: Measuring impacts; Framing action*

VBAG aims at enabling companies to be change makers for a sustainable future by for example making more conscious business decisions. The rationale of VBAG is to promote companies moving away from profit maximization to value optimization by taking responsibility for the impact of their actions. The VBA have this paradigm change as a core of their mission by developing and testing new methodologies to measure the value of corporate behavior and business models in real life – to translate environmental and social impacts into comparable financial data. Today, there is a wide variety of methods to assess companies' impacts on society, people, and nature. The VBA goal is to create methodologies to ensure greater sustainability, transparency, and comparability in business.

More information [here](#).

### *Act4Nature*

*Tags: Framing action*

Act4nature international is the continuation of act4nature 2018 for French businesses with international activities. It is led by EpE under a multi-stakeholder steering committee. Though aimed at global actors, it is a French collective initiative run by French partners.

It aims to be a pragmatic alliance initiated to accelerate concrete business action in favors of nature and born by businesses and stakeholders, including NGOs, academic bodies and public institutions. Committed businesses have signed at CEO-level 10 common commitments and SMART individual commitments (Specific, Measurable, Attainable, Relevant and Time-bound). A steering group composed of the partner stakeholders and businesses confirms that these individual commitments before involvement. Since 2018, several hundred companies have signed the SMART biodiversity business commitments by their CEOs.

More information [here](#).

## TRASE

*Tags: Measuring impacts; Assessing Dependencies; Framing action*

Trase aims at being at the forefront of a data-driven revolution in supply chain sustainability. It draws on the production of trade and customs data, identifying the flows of globally traded commodities at scales that are relevant to decision-making. The supply chain mapping is at the core of Trase balancing scale and data resolution. It builds on an enhanced form of material flow analysis called Spatially Explicit Information on Production to Consumption Systems (SEI-PCS) originally developed by Godar et al. (2015). It aims at systematically linking individual supply chain actors to specific, subnational production regions, and the sustainability risks and investment opportunities associated with those regions. Moreover, it identifies the individual companies that export, ship and import a given traded commodity. The aim is to cover all exports of a given commodity from a given country of production.

The starting point for applying the SEI-PCS approach to a specific country and commodity is national-level export data, linking countries of production to downstream traders and countries of import. This analysis explores material flows and associated sustainability impacts, risks and performance measures at national level, as well as providing an entry point for more detailed work on poorly studied geographies and sectors. Moreover, the approach is applied in mapping subnational trade flows, discriminating production regions down to the lowest level of government administrative unit that data and complexity of the supply chain allow. Whilst it may be possible in some contexts to link supply chains to individual farms or production areas, the core focus of Trase is on mapping to subnational regions of production.

More information [here](#).

## SPOTT

*Tags: Measuring impacts; Assessing dependencies*

Developed by ZSL, an international conservation charity, SPOTT scores annually palm oil, tropical forestry, and natural rubber companies against over 100 sector-specific ESG indicators to benchmark their progress over time. By tracking transparency, SPOTT incentivizes the implementation of corporate best practice. Investors, buyers and other key influencers can use SPOTT assessments to inform stakeholder engagement, manage ESG risk, and increase transparency across multiple industries. SPOTT assessments follow three frameworks of best practice indicators for palm oil, timber and pulp, and natural rubber companies. Each framework consists of detailed scoring criteria for more than 100 indicators divided across 10 categories. Some extractive resources sectors have created business specific tools, e.g. FrieslandCampina Biodiversity Monitor within the dairy industry and Rio Tinto's Net Positive Impact strategy within the mining sector, due to their direct high dependency on biodiversity (for a list of examples see Annex 3). Tools range widely in terms of data input requirements, from detailed information about the operation phases to general use of preloaded databases (Goedicke et al., 2020). Every tool has complementary data from datasets, sometimes the same data source is used by different tools but it varies. Moreover, methods for linking pressures with impacts are different depending on the tool used, for example between life cycle assessments versus scoring indexes (Goedicke et al., 2020).

Certain tools have been created for specific sectors for example within the agricultural sector the FrieslandCampina Biodiversity Monitor or the Cool Farm Tool have been created to measure biodiversity

impacts (Goedicke et al., 2020; WWF & Bain, 2022) or the biodiversity benchmark guides developed for the textile industry (Textile Exchange 2022).

More information [here](#).

## 3.2. Tools and methods for managing biodiversity in the finance sector

### *Guide on biodiversity measurement approaches*

*Tags: Framing action; Measuring impacts*

An important piece of guidance is the guide on biodiversity measurement approaches by Hertog et al. (2022) developed specifically for the financial sector. The Finance and Biodiversity Community, part of the EU Business and Biodiversity Platform, developed the guide with the Finance with the Biodiversity Foundation and the guide comes as an annex to the guide for Finance for Biodiversity Pledge launched in October 2022. A focus for the guide is to support the implementation of the commitments that the financial institutions have signed by joining the Finance for Biodiversity Pledge to reverse the loss of nature in 2030. It provides an assessment of seven measurement approaches and builds partly on the Navigation Wheel described above. There is an overview of the each of the seven metrics including assessments of main strengths and limitations.

### *Encore*

*Tags: Measuring impact; Assessing dependencies*

ENCORE was developed by the Natural Capital Finance Alliance in partnership with UNEP-WCMC and financed by the Swiss State Secretariat for Economic Affairs (SECO) and the MAVA Foundation. The aim of the project is to help financial institutions to understand, assess and integrate natural capital risks in their activities. In addition to the development of the information behind ENCORE, the project looked at how financial institutions can apply this information to screen their portfolios for natural capital risk and integrate the insights into their existing risk management processes. Initially, these pilot studies have been carried out with banks in Colombia, Peru, and South Africa and the Natural Capital Finance Alliance is working on broadening this approach to other parts of the world and types of financial institutions. A current phase of work is funded by the Swiss Federal Office for the Environment FOEN, and aims to further develop ENCORE to help financial institutions answer the following questions: Am I influencing biodiversity through my investment or lending portfolio? Am I harming or building the resilience of biodiversity with my investments? Is my portfolio in alignment with global/regional biodiversity targets and how much so? The NCFA is a finance sector led initiative, providing expertise, information and tools on material aspects of natural capital for financial institutions. It works to support the institutions integrating natural capital considerations into risk management processes. The NCFA Secretariat is run jointly by the UNEP Finance Initiative and Global Canopy.

More information [here](#).

## 4. Identification of knowledge gaps and capacity building needs

Research and innovation within the field of business and biodiversity is rather new and rapidly developing field which has gained tremendous focus in recent years. The Kunming-Montreal Global Biodiversity Framework in December 2023 was one important step up. Another important step will be the launching of an IPBES methodological assessment on impact and dependencies of business on biodiversity to be delivered in 2025: [Scoping report for a methodological assessment of the impact and dependence of business on biodiversity and nature's contributions to people | IPBES secretariat](#)

Some of the points in the following build upon the workshop held by Biodiversa+ in June 2023 with an aim to identify barriers and opportunities for research and innovation in the business and biodiversity landscape (Danner 2023). Full results can be found in this reference.

### 4.1. Examples of knowledge gaps in biodiversity data and approaches

In general there are huge knowledge gaps in our understanding of biodiversity and in particular species interactions and the general functioning of ecosystems and processes in nature. Just the fact that only a minor proportion of the species on earth have been scientifically described (perhaps 1.6 million) of an estimated 10-13 million species or more. The topics below provides a few examples.

Measuring impact and dependencies and risks of business on biodiversity encompass a broad range of approaches dependent on the sectors. To apply approaches and methods across or between sectors needs much more knowledge and research whether it is e.g. finance, food, cement, mining, manufacturing, or fisheries or any other sector. There are large gaps in defining approaches and level of integration dependent on the sector(s) in question.

Genetic diversity is a key aspect of biodiversity and further research is required to enhance the *application of genetic diversity metrics and tools* for measuring business impacts. This is almost entirely lacking. This lack of knowledge on genetic diversity is a general challenge and focus is usually on species and habitat level. The further inclusion of genetic diversity in metrics and tools for measuring business impacts would improve biodiversity impacts and risks assessments and make sure that biodiversity is better covered.

Also gaps and limitations exist in many other biodiversity related fields e.g. for the marine environment, invasive species etc. Also within the understanding of ecosystem services and integrating this component more fully into assessments requires a much more comprehensive understanding.

The location of business activities is crucial in determining impact and dependencies on biodiversity. Currently, knowledge on the detailed location of production activities is not very precise or lacking. The *quality of data input on a geographical scale* is dependent on information on the location on a more detailed geographical scale. For example, the IBAT tool is using 10x10 km, which is still rough and many materials in a supply chain have information at regional or country level only, which makes it difficult to assess impact, risk and dependencies.

Research on behavioural consumer changes is lacking (Danner 2023).



## 4.2. Harmonization

As the development of business and biodiversity tools and metrics are rapidly developing the need for harmonization is increasing. A few examples below.

Development of standard baselines to assess biodiversity impacts against will be of importance. Frameworks assessed reiterated the importance of defining and having a *standard baseline to assess biodiversity impacts* against. More agreement on biologically meaningful baselines such as biodiversity intactness are needed in order to assess real impact, dependencies and risks (see also IPBES 2019 regarding the use of intactness). A need for the creation of a specific business and biodiversity protocol under the CBD to further develop baselines and standardize terminology should be considered.

Another example is the e.g. lack of *consistency in terminology between e.g. biodiversity footprints and natural capital* (and other associated terms), where more distinct definitions, are required to aid in uptake and understanding of these biodiversity practices. IUCN has defined that natural capital thinking and approaches emphasize both the impacts and dependencies on biodiversity with a role for economic value assessment whereas in biodiversity accounting the focus is more restricted to impact (Goedicke et al., 2020). However, the differences and how to interpret the different approaches are unclear to most companies.

As illustrated by examples by Lammerant et al. (2022) different tools and approaches provide different answers to the same questions. Combining tools and metrics remains a challenge. There is need for further intelligence to further harmonize and integrate approaches and tools to pursue higher degree of consistency and priorities.

Moreover, the development of scientific robust tools taking into account biodiversity issues as well as climate issues when calculating consumer impact (carbon footprint score/biodiversity score) (Danner 2023). At the same time acknowledging the complexity of biodiversity.

## 4.3. Needs of businesses and the financial sector to align with policy targets

Monitoring systems with clear and meaningful indicators is needed for businesses to assess trends in their impact towards policy targets. The emergence of a series of new more specific and ambitious policy requirements have appeared within recent years at global and EU levels.

After the agreement of the GBF there is an opportunity to align and develop the businesses assessment approaches with the upcoming GBF indicator framework. This point is valid for the developed or developing EU policy targets and laws as well to which companies should align. Analysis of policy indicator requirements and business assessment and reporting remains a challenge and needs further development.

More work also needs to be done to be able to fully *assess higher business level impacts* (e.g. corporate level and upstream supply chain) as these direct and indirect impacts are harder to determine, as most focus has been at the site or project level.

Moreover, frameworks should become more user friendly by including *more specific recommendations for tools or methods* to be used within the frameworks. This may also improve the consistency of use and comparison of results.

There is further a need for more knowledge about whether new regulations that are put into effect will contribute or not, to achieve the goals that have been set to safeguard and rebuild biodiversity. For example, to what extent do the taxonomy and CSRD/ESRS influence the motivation and actions of companies that are relevant to biodiversity?

#### 4.4. Needs for building capacity and awareness supporting transformative change

More research is needed to further understand the social materiality, or the *dependencies of society on biodiversity* so that it can be incorporated into existing and future frameworks and approaches (see also Smith et al. 2019). Moreover, knowledge on creating change in business and financial institutions is highly needed.

Complex methodologies are difficult to communicate and use. Look into how research can share information with businesses as well as more research on how to communicate complex issues (Danner 2023). Capacity building will be essential and differs among businesses e.g. between large companies and

SMEs e.g. targeted at asset managers or engaging the financial accounting team in house to improve data quality. Hence, the lack of human and financial resources to bring the necessary expertise over the long term was identified as a barrier by Danner (2023). Not all companies can afford it.

Moreover, the lack of trust between researchers and businesses (reluctance from researchers to enter the business forum and on the other hand, businesses don't think researchers can understand and address their concerns) needs to be addressed (Danner 2023). One solution could be to set up research programs that are embedded within companies.

Thus, approaches need expertise and/or technical training to apply. There is a need of increased uptake and understanding of elements of alignment such as business applications, baselines, boundaries, data inputs etc. Moreover, establishment of e.g. national or regional knowledge sharing networks or consultations etc. will be needed including the development of "simple" training materials and courses.

Pilot projects to demonstrate implementation and achievement in a complex field with different sectors and different approaches are highly needed. At this point, further development and identifying *twining projects between private sector businesses and research institutions* on developing best practices as well as gaining more experiences in the field is required.

An innovative project is a way to get user input and improve approaches and frameworks (see also Smith et al. 2020). A strong pilot project will be able to *demonstrate implementation and achievement* in a complex field with different sectors and different approaches and build capacity and raise awareness.

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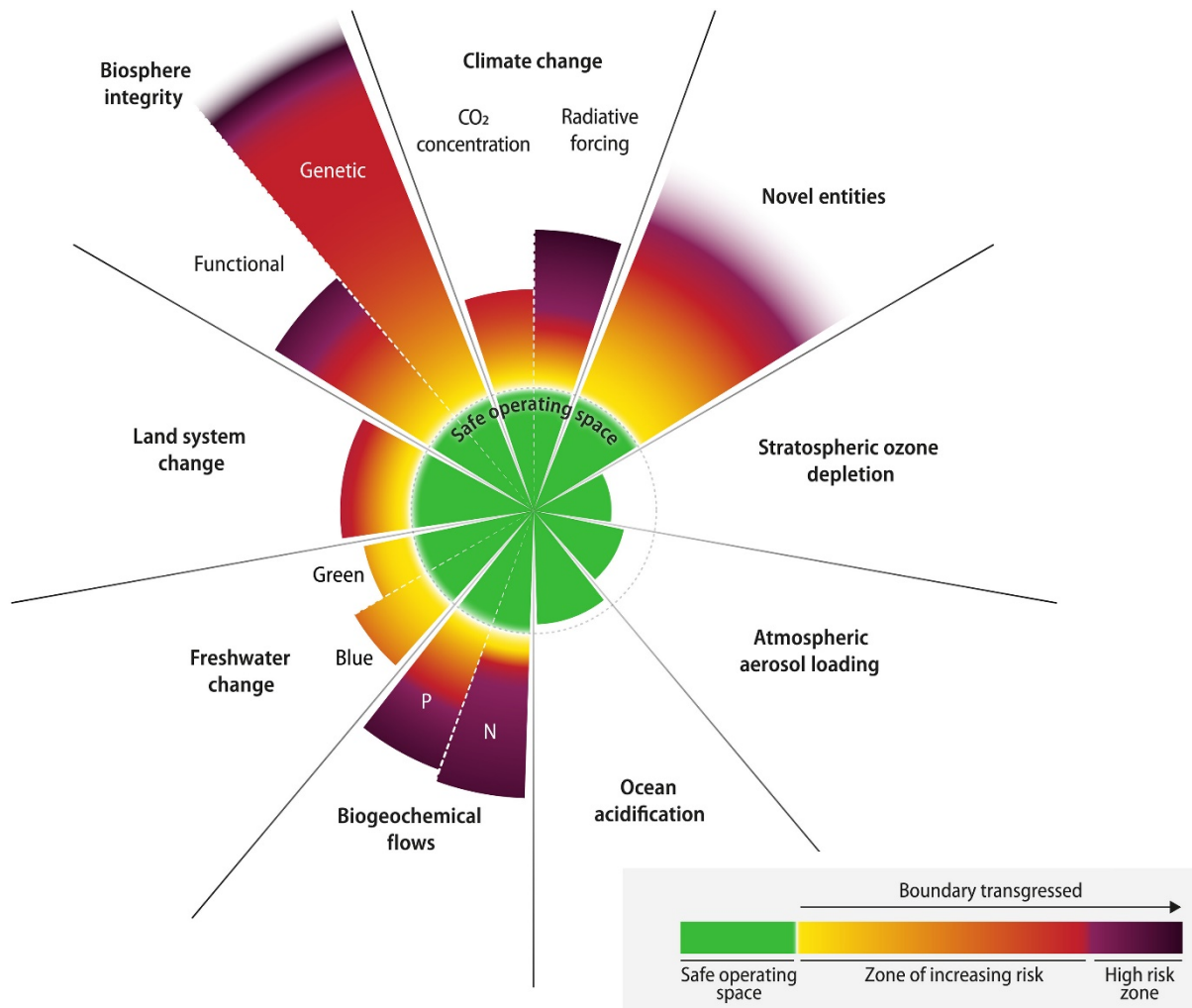
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## Annex 1. Planetary Boundaries Framework

Human impact measured based on the on planetary boundaries concept is increasing. We are operating outside the safe operating space for a number of nine planetary boundaries including Biosphere Integrity.



**Figure 10: Current status of control variables for all nine planetary boundaries.** Six of the nine boundaries are transgressed. In addition, ocean acidification is approaching its planetary boundary. The green zone is the safe operating space (below the boundary). Yellow to red represents the zone of increasing risk. Purple indicates the high-risk zone where interglacial Earth system conditions are transgressed with high confidence. Values for control variables are normalized so that the origin represents mean Holocene conditions and the planetary boundary (lower end of zone of increasing risk, dotted circle) lies at the same radius for all boundaries (except for the wedges representing green and blue water, see main text). Wedge lengths are scaled logarithmically. The upper edges of the wedges for the novel entities and the genetic diversity component of the biosphere integrity boundaries are blurred either because the upper end of the zone of increasing risk has not yet been quantitatively defined (novel



entities) or because the current value is known only with great uncertainty (loss of genetic diversity). Both, however, are well outside of the safe operating space. Transgression of these boundaries reflects unprecedented human disruption of Earth system but is associated with large scientific uncertainties. (Katherine Richardson et al. Earth beyond six of nine planetary boundaries. *Sci. Adv.* 9, eadh2458 (2023). DOI:10.1126/sciadv.adh2458)

## Annex 2. The practical approach: Questions on biodiversity in business

### Questions for Monday morning action

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#### Board level and executive management themes

- Do we know our biodiversity footprint?
  - Do we know our largest biodiversity exposures (e.g., activity, supplier, investment)?
  - Do we have hard targets for our biodiversity impact?
  - Do we know what risks the biodiversity crisis poses for our industry?
  - Do we know what legislation will affect our industry?
  - Do we know how we perform on biodiversity vs. competitors or comparable businesses?
  - Do we know what opportunities the biodiversity crisis will create for our business?
  - Do we know the most important and impactful actions we can take right now to reduce our biodiversity footprint in the short term?
  - Do we have a strategy to reduce impact and seize/develop opportunities?
  - Do we know how biodiversity is linked to our general ESG efforts and reporting?
  - Do we know who in the organization is responsible for managing biodiversity risks and opportunities?
- 

#### Sustainability professionals' themes

- Do we know how to measure our biodiversity impact?
  - Do we know which sector-specific regulations and reporting standards will be relevant for our business?
  - Do we know the ecosystem impact of our production processes?
  - Do we know where our raw materials and other input come from, and what their biodiversity impact is?
  - Do we know the life cycle of our products and their biodiversity impact?
  - Do we have targets for biodiversity impact?
  - Do we know which initiatives we can implement to reduce our impact?
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Table 1. Practical implementation of biodiversity impact measures in business is lacking. Here are some simple questions to consider by businesses. Answers might be more complex.

Source: WWF and Bain (2022).