



The nature-positive ecosystem

A practical guide to mapping the major initiatives and their intended use

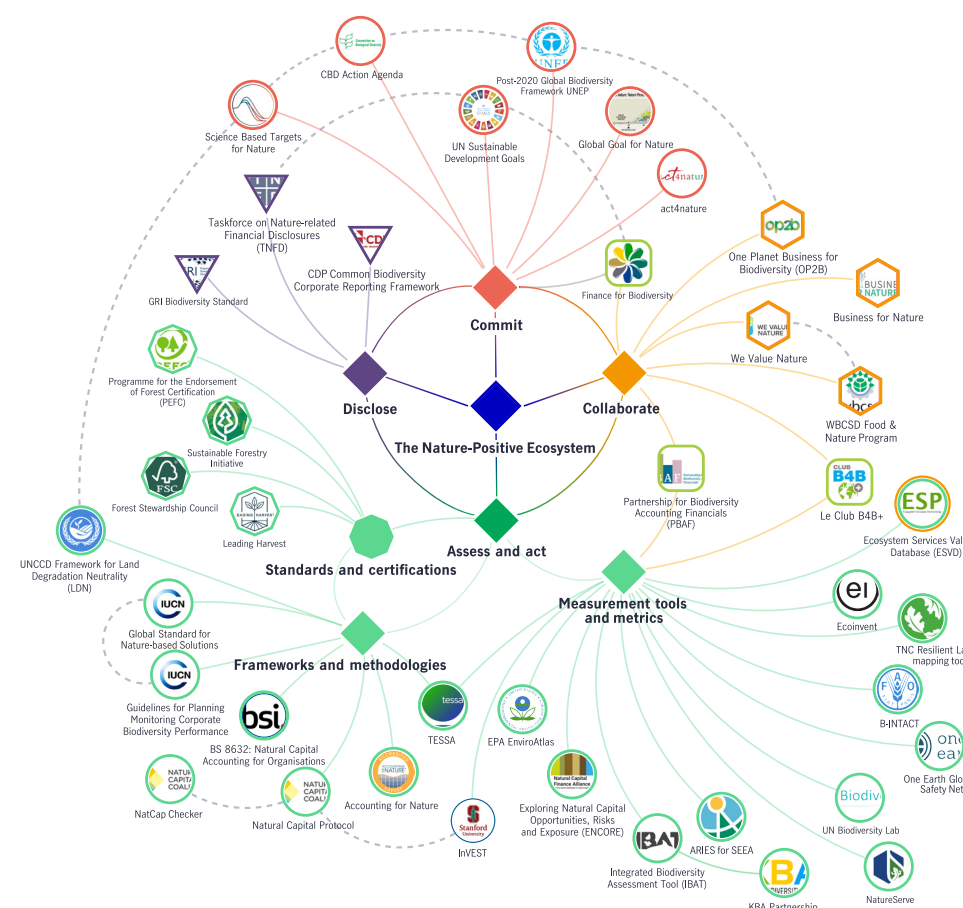


What you'll find

Overview

The **nature-positive concept**—enhancing the resilience of our planet to halt and reverse nature loss—is rapidly expanding among a growing number of organizations and initiatives that are beginning to shape their global business agendas around it.

- Yet it remains a nascent concept for most businesses, and **companies looking to commit to the nature-positive agenda can find it challenging** to approach the multiple tools available to support action.
- Our **nature-positive ecosystem aims to improve the structure, standardization, and coherence of the initiatives available** to help businesses from every sector best direct their response toward nature-positive.
- The **ecosystem map** is born out of a business need to understand the landscape of nature-related initiatives. Its development was made possible by working in partnership with the **Delphi Group** to develop the map and apply it to our own business.



Brandon Lewis
Associate Director, Sustainability,
Timberland and Agriculture
[Manulife Investment Management](#)



David Photiadis
Senior Director,
[Delphi Group](#)

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Providing *clarity* on our shared journey toward nature positive

Foresters and farmers—and those they work with—have a front row seat for viewing the interactions that take place between business and nature, whether working with land, water, air, genes, species, or ecosystems. It explains why third-party certifications for sustainable forestry and sustainable farming existed decades before the concept of sustainable investing.

While it's essential that we follow good stewardship practices, it's also important to monitor their outcomes to ensure that our actions result in net-positive impacts to nature and society. This can be difficult for businesses to measure and demonstrate, and that's why we've turned to one of our long-time partners in sustainability, Delphi Group, to help us map the nature-positive ecosystem—offering coherent solutions that support businesses' decision-making on their route to net zero.

Our hope is that our nature-positive ecosystem, and its practical application, provides a helpful guide for any business navigating the landscape of nature-related frameworks, initiatives, and standards. We believe that by sharing our journey we foster dialogue and support knowledge sharing with others. Nature Action is a collective, not a competitive, enterprise: By sharing our learnings and processes from along the way, we multiply our impact far more.



A message from

Manulife Investment Management

While natural capital isn't a new concept, the idea that it can be measured and monetized certainly is, and markets are paying attention. 2021 saw the launch of the US\$10 billion Natural Capital Investment Alliance, a new class of investment vehicle known as natural asset companies (NACs) introduced on the NYSE, and the rebranding of investments in nature-based real assets as natural capital assets.

The recognition that natural assets are important and worth accounting for is undoubtedly a good thing for nature, but the array of initiatives, frameworks, methodologies, guidance, tools, and metrics that's sprung up to accompany it creates a different problem. We all know nature action—protecting and restoring ecosystems and the goods and services they provide is necessary—if only biodiversity was growing at the same rate as the guidance for preserving it, there might be no challenge to answer.

Since our foundation as a global investment manager of timberland and agriculture, we've lived by the ethos that good stewardship is good business. We're no strangers to nature, or the operational policies and procedures designed to protect it, but the broader corporate and investment communities only recently began to recognize

its importance for business, the economy, and society. We welcome that recognition and the rising tide of interest in nature but acknowledge the confusing range of options to negotiate when working toward nature-positive action.

Through our participation in various global initiatives such as the [World Business Council for Sustainable Development](#) (WBCSD) and the [Global Impact Investing Network](#), we've asked hard questions about our interactions with nature. We need to monitor our good stewardship practices to ensure their net-positive effects—that's challenging to measure and demonstrate, but no less important.

And through our involvement with peer companies in other global organizations and initiatives, we realized our challenge isn't unique. So, we asked one of our long-time partners in sustainability, Delphi Group, to help us to create a nature-positive ecosystem. What follows is the fruit of our collaboration: first creating the ecosystem map and then, its practical application. We're still navigating our nature action journey but pleased to share a reliable guide to the terrain.

“If only biodiversity was growing at the same rate as the guidance for preserving it, there might be no challenge to answer.”



A message from



Nature underpins the functioning of economies and society. The unprecedented and widespread decline of natural systems is eroding both the intrinsic and monetary value that's dependent on nature, which is presenting significant, systemic, and material risks to our economies, businesses, and societal well-being.

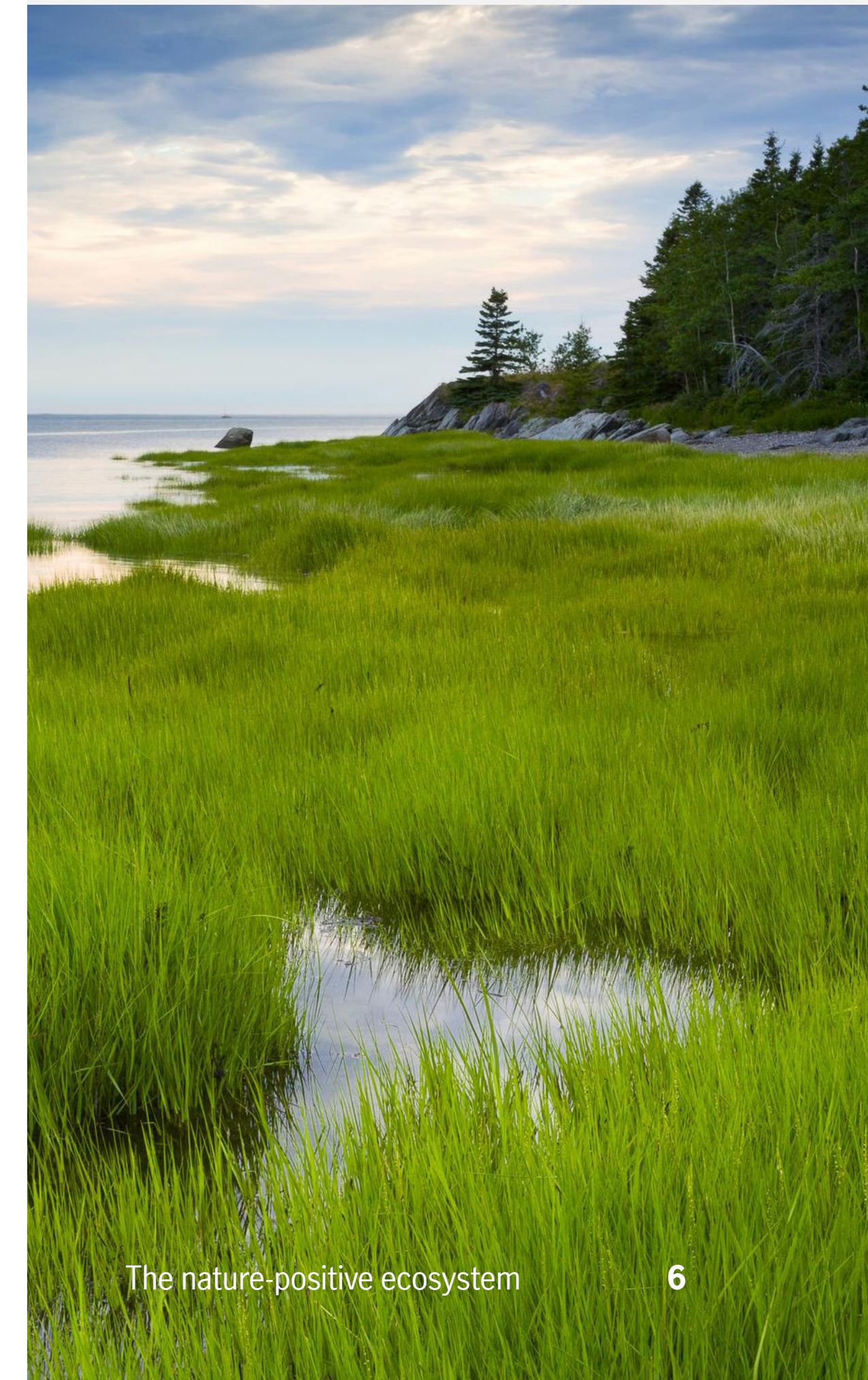
Businesses, the public sector, and financial institutions are increasingly recognizing these risks and are beginning to mobilize a global business response not previously seen. The concept of nature positive has emerged as a result. The nature-positive agenda aims to reverse the causes of natural resource depletion and ecosystem degradation by supporting the regeneration and enhancement of natural capital stocks and ecosystems, allowing for long-term sustainability.

Significant and growing interest in the concept of nature positive has been met with a rapid proliferation of initiatives, guidance frameworks, and assessment tools to support businesses in understanding and assessing their impact on nature and ultimately providing resources for reversing negative impact. These elements are a welcome step in the

right direction. Amid this proliferation of complementary and, at times, competing initiatives, together with a yet-to-be-defined or widely accepted understanding of best practices, it's difficult for businesses to know where to start, how to navigate the space, and where to allocate time and resources.

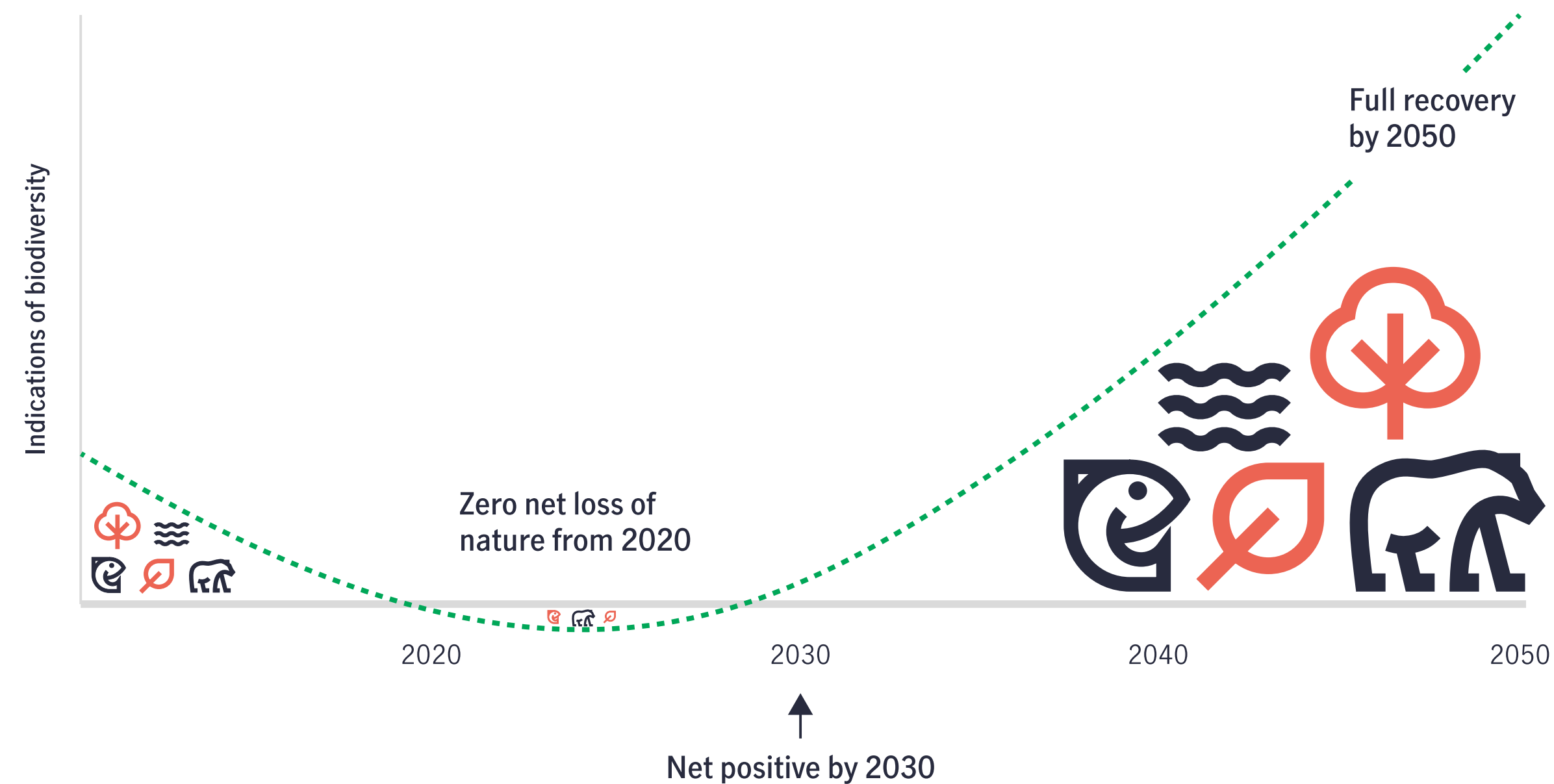
When we began collaborating with our friends at Manulife Investment Management on nature-positive, it became clear to both of us that we needed to start by mapping the nature-positive ecosystem. So we developed what we call the nature-positive ecosystem map. The map stitches together the disparate organizations and initiatives supporting the nature-positive agenda and attempts to define a whole, interconnected ecosystem and potential pathways forward. The nature-positive ecosystem is not static. It is continually evolving. If you are working on nature-positive, you are helping to creating it. In sharing our guide, we hope to help others move from learning to action and collaborate along the way.

“Nature underpins the functioning of economies and society.”



The nature-positive *agenda*

Nature encompasses all our natural resources, living and nonliving, renewable and nonrenewable. And essentially, “nature positive” means halting and reversing the loss of nature at a planetary level, measured from a 2020 baseline. By 2030, the [global goal for nature](#) is to have regenerated and preserved nature through improvements in the health, abundance, diversity, and resilience of species, populations, and ecosystems.



Often, the value provided by natural capital, biodiversity, and ecosystem services has gone unrecognized and as a result, their protection has received little attention and investment. Today, a shift is occurring as the recognition of nature’s economic importance moves to the fore.

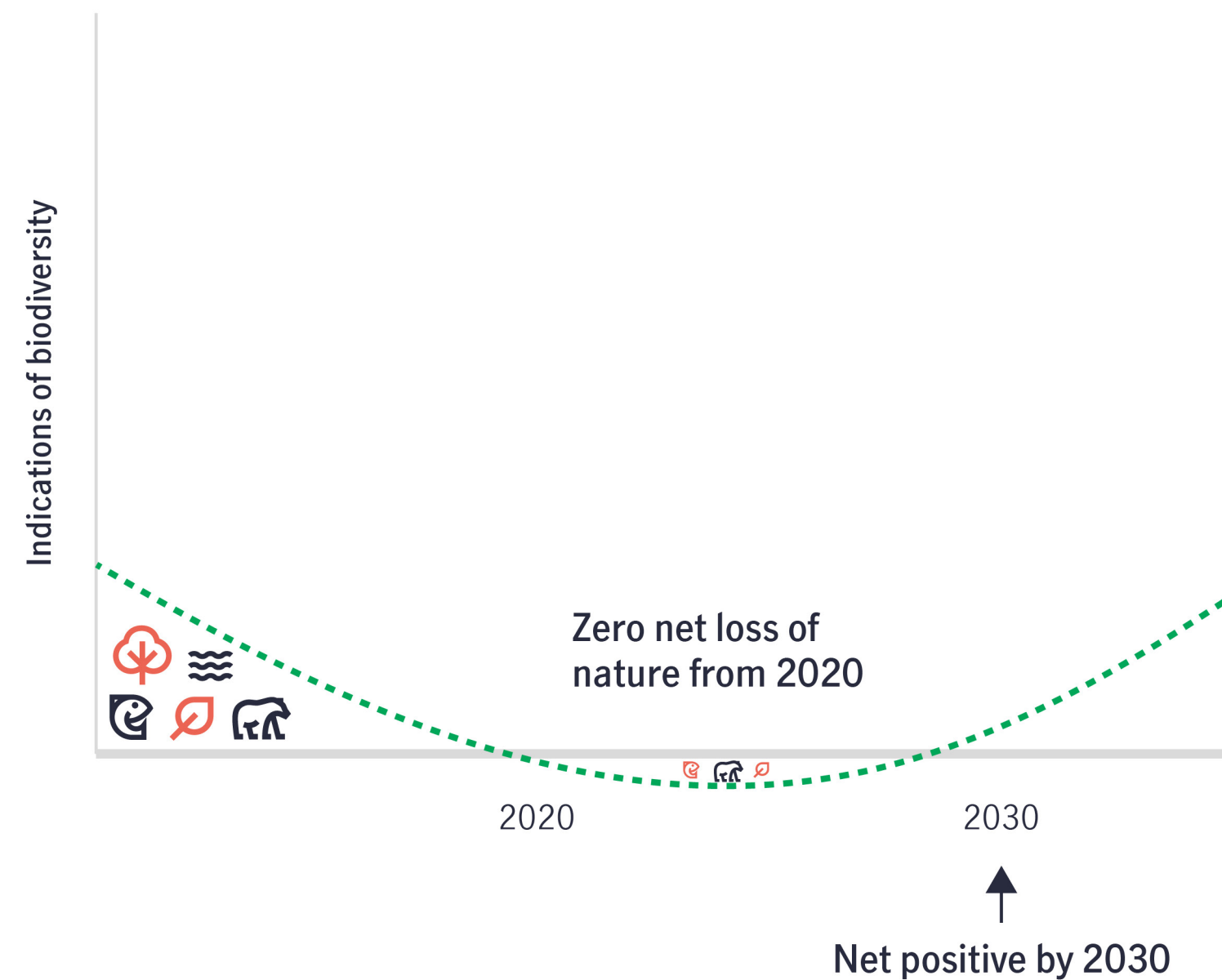


Key concepts related to nature

While the terms “nature,” “natural capital,” and “biodiversity” are sometimes used interchangeably, each have a specific meaning.

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Often, the value provided by natural capital, biodiversity, and ecosystem services has been overlooked. As a result, their protection has received little attention and investment. Today, as the importance of nature's economic importance moves to the fore, a shift is occurring as the recognition of

Nature consists of natural resources, whether renewable, nonrenewable, living, or nonliving. Nonliving realms include: (1) freshwater, (2) land, and (3) oceans. Living realms (biodiversity) include: (1) ecosystems, (2) species, and (3) genes.

Nature is considered a type of capital: **natural capital**.

Natural capital assets combine to yield a flow of benefits (ecosystem services or abiotic services) to business and to society.

Ecosystem services are the benefits to people from ecosystems and ecological processes, such as timber, fiber, pollination, water regulation, climate regulation, recreation, mental health, and others.

Abiotic services are benefits to people that don't depend on ecological processes but are by-products of fundamental geological processes—for example, minerals, metals, oil and gas, geothermal heat, wind, tides, and the annual seasons.

Biodiversity is the variety of all forms of life on Earth and is critical to the health and stability of natural capital, providing resilience to shocks (such as floods and droughts), and supporting fundamental processes (such as carbon and water cycles and soil formation). **Biodiversity is both a type of natural capital and a key provider of ecosystem services.**

Source: Adapted from the Natural Capital Protocol, U.S. EPA, and WBCSD.



Key concepts related to nature

While the terms “nature,” “natural capital,” and “biodiversity” are sometimes used interchangeably, each have a specific meaning.

LEARN MORE

Business *and* nature: from dependency to positive impact

Nature is a [significant contributor to the global economy and business wealth](#). Over half of global GDP depends on nature: The economic activity of highly dependent industries contributes about 15% (e.g., agriculture and mining), and moderately dependent industries contribute 37%.

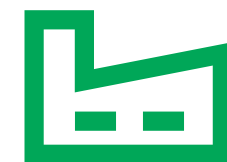
In addition to its direct economic benefits, nature provides material indirect benefits to society and business through the provision of ecosystem services, such as climate regulation and flood protection. Overall, nature's ecosystem services have an [estimated value of US\\$125 trillion](#)—over one and a half times greater than global GDP, and the degradation and loss of nature entails a direct and significant risk for human well-being, our economic system, and corporate operations.

While dependent on natural capital, business negatively affects nature by contributing to indirect and direct drivers of nature loss. These effects aren't

equally distributed across economic activities; 80% of threatened and near-threatened species and ecosystems are endangered by at least one of three systems:



Food, land, and ocean use



Infrastructure and the built environment



Energy and extractives

These systems are responsible for the most significant business-related pressures on nature; they're also the systems with the [greatest potential](#) to take the lead in co-creating nature-positive pathways.



Key concepts related to nature

Indirect drivers include demographic and sociocultural changes, economic and technological change, institutions, conflicts, and epidemics.

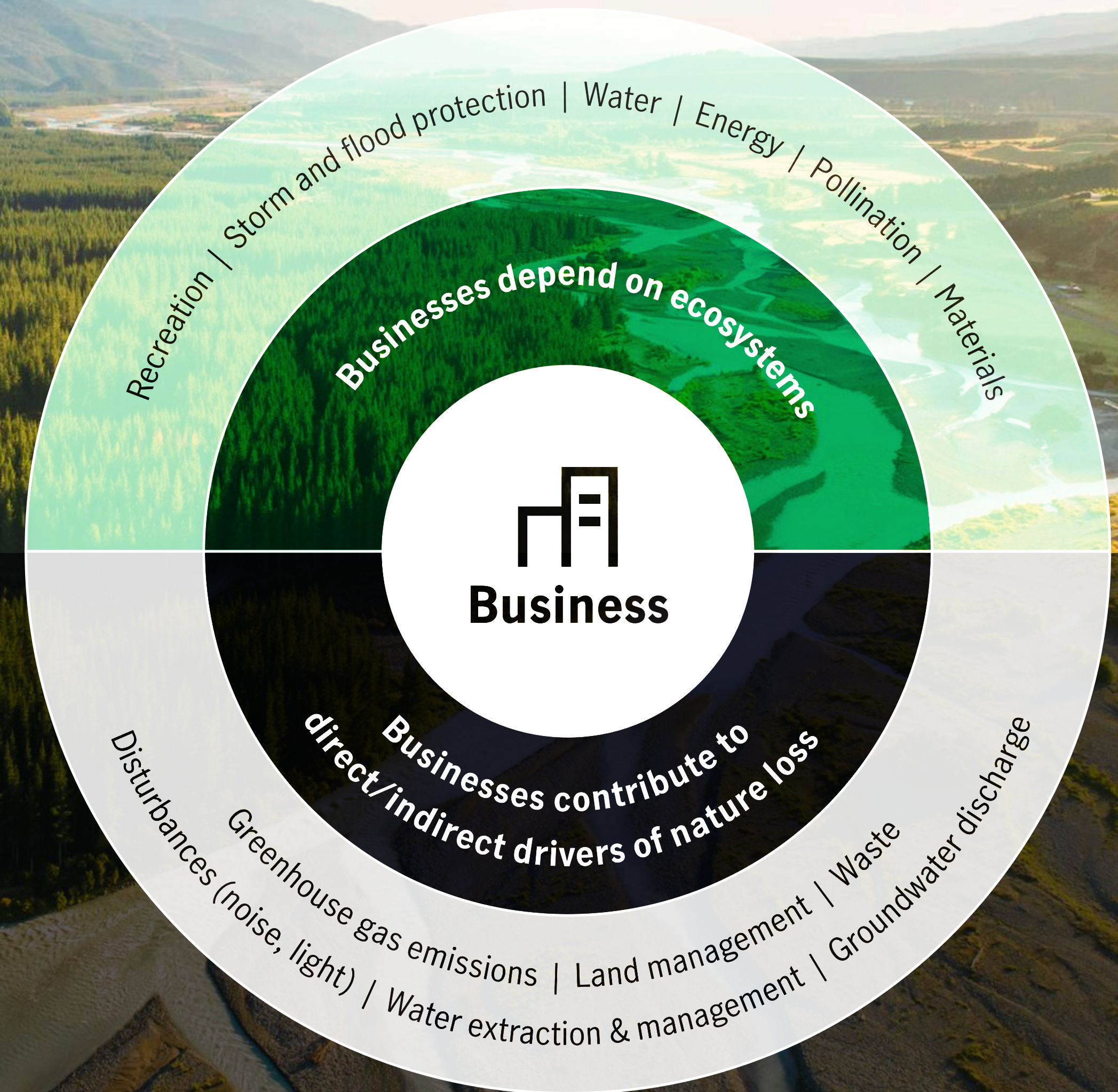
Direct drivers include land and sea-use change, direct exploitation, climate change, pollution, and invasive species.

The World Economic Forum's [Global Risks Report 2021](#) identified biodiversity loss and natural resources crises among the top five “existential threats” faced within 5 to 10 years—ahead of climate action failure.

The seminal UK [Dasgupta Review](#) represented a landmark contribution to our understanding of the relationship between nature and the economy, calling for businesses to take a proactive approach to understanding and changing the impact of operations on nature.

Examples of business dependence and impact on natural capital

Source: Natural Capital Protocol, January 14, 2021.



Nature-positive momentum: public *and* private sector action

Both public and private sectors are increasingly recognizing the extent of the risks of nature loss and looking to address it with commitments to nature-positive. For example, in July 2021, G7 leaders committed to align with global ambitions to halt and reverse biodiversity loss by 2030, stating that [“our world must not only become net zero, but also nature-positive.”](#)

There’s also increasing recognition of the dual crisis of nature loss and climate change. In 2021, the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the two leading international scientific bodies on climate and nature, [emphasized](#) that climate and nature action are mutually supporting, and that neither issue can be addressed without the other. As a result, we can expect that policy will increasingly tackle the problems of climate change and nature loss simultaneously, addressing the [synergies between the two](#). The most recent climate summit (COP26) saw an unprecedented number of nature-related announcements and commitments and saw the role of nature-based solutions and several other nature-related themes featured in the final text of the [Glasgow Climate Pact](#)—a first for climate summits. Outside the formal negotiations, there were further significant announcements concerning nature, including [deforestation](#), [oceans](#), and [nature-based solutions](#).

International policy momentum is being matched by more national policies, regulatory action, and incentives related to nature. Analysis by the World Wildlife Fund found that [92% of countries’](#) new Nationally Determined Contributions include measures to

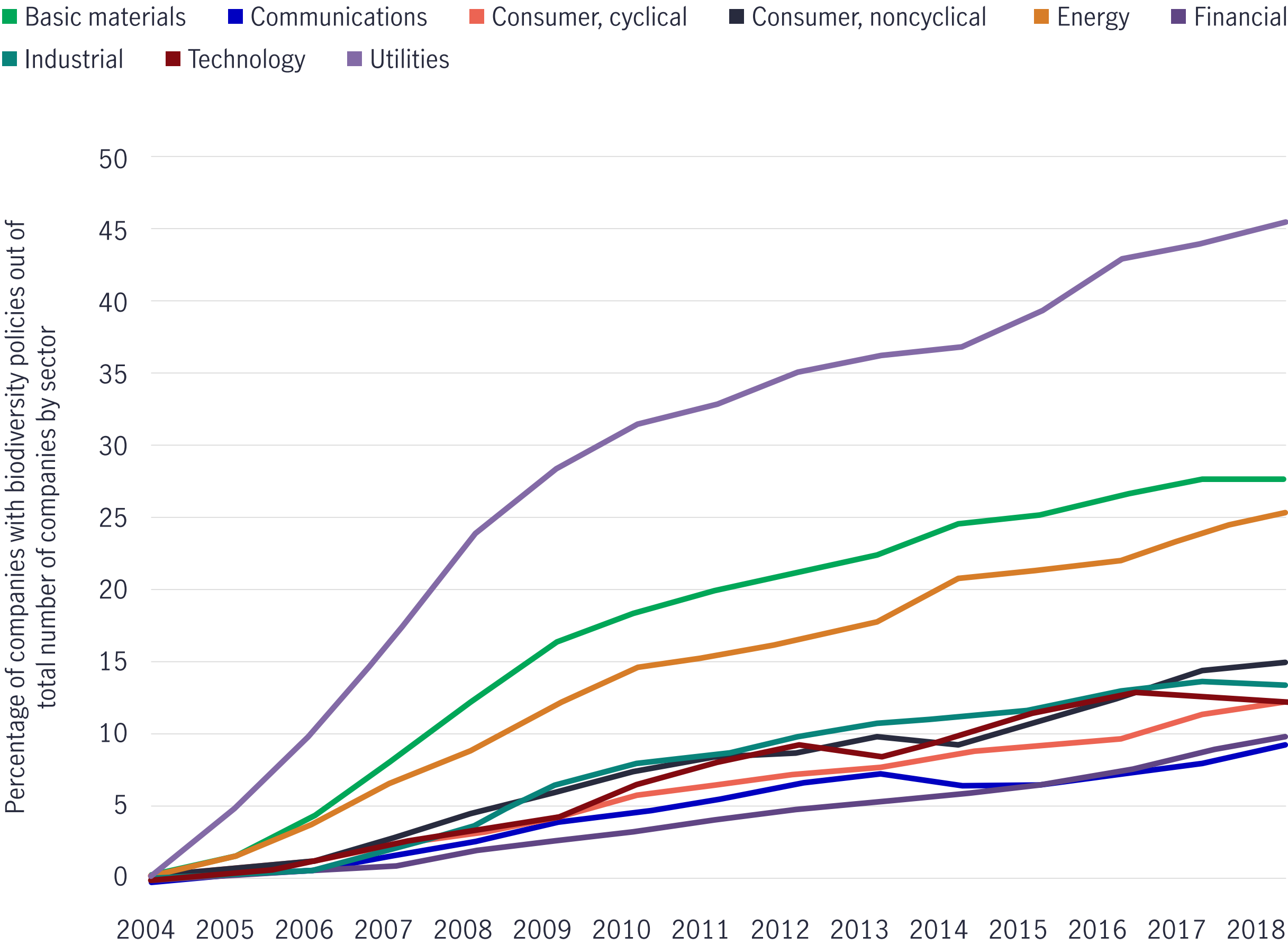
tackle nature loss. Different approaches are being employed, including laws on the commercial use of certain lands, subsidy reform, taxes and fines, trade directives, and nature funding. The trend demonstrates international policy on nature filtering to the national level, in turn affecting the businesses operating within each jurisdiction.

In the private sector, 89 financial institutions representing US\$13 trillion assets under management (AUM) have signed the [Finance for Biodiversity Pledge](#) as of April 2022. The pledge calls on political leaders to set effective measures for reversing nature loss and includes commitments to assess, target, and report on activities that increase, or decrease, significant impacts on biodiversity.

As expectations of businesses to prioritize actions on nature increases, biodiversity and nature are becoming increasingly important agenda items. Since 2004, there has been a marked increase in the percentage of listed companies with formal biodiversity policies and investors are also paying more attention to the biodiversity and nature impact of their financial activities. In addition, companies are reporting on the actions they take to benefit nature more often to their stakeholders.



Percentage of listed companies with a biodiversity policy



As corporate and investor attention turns to nature, there’s more demand for solutions that support decision-making. In response, many tools, frameworks, and initiatives are emerging with the goal of supporting companies and investors as they work to understand, measure, address, and report both their impact and dependence on nature. And as nature-positive planning evolves as a focus for businesses, so too does the structure of the ecosystem for supporting corporate action that sets best practices and provides resources. The result is a crowded space that can be difficult for businesses to negotiate when prioritizing their actions.

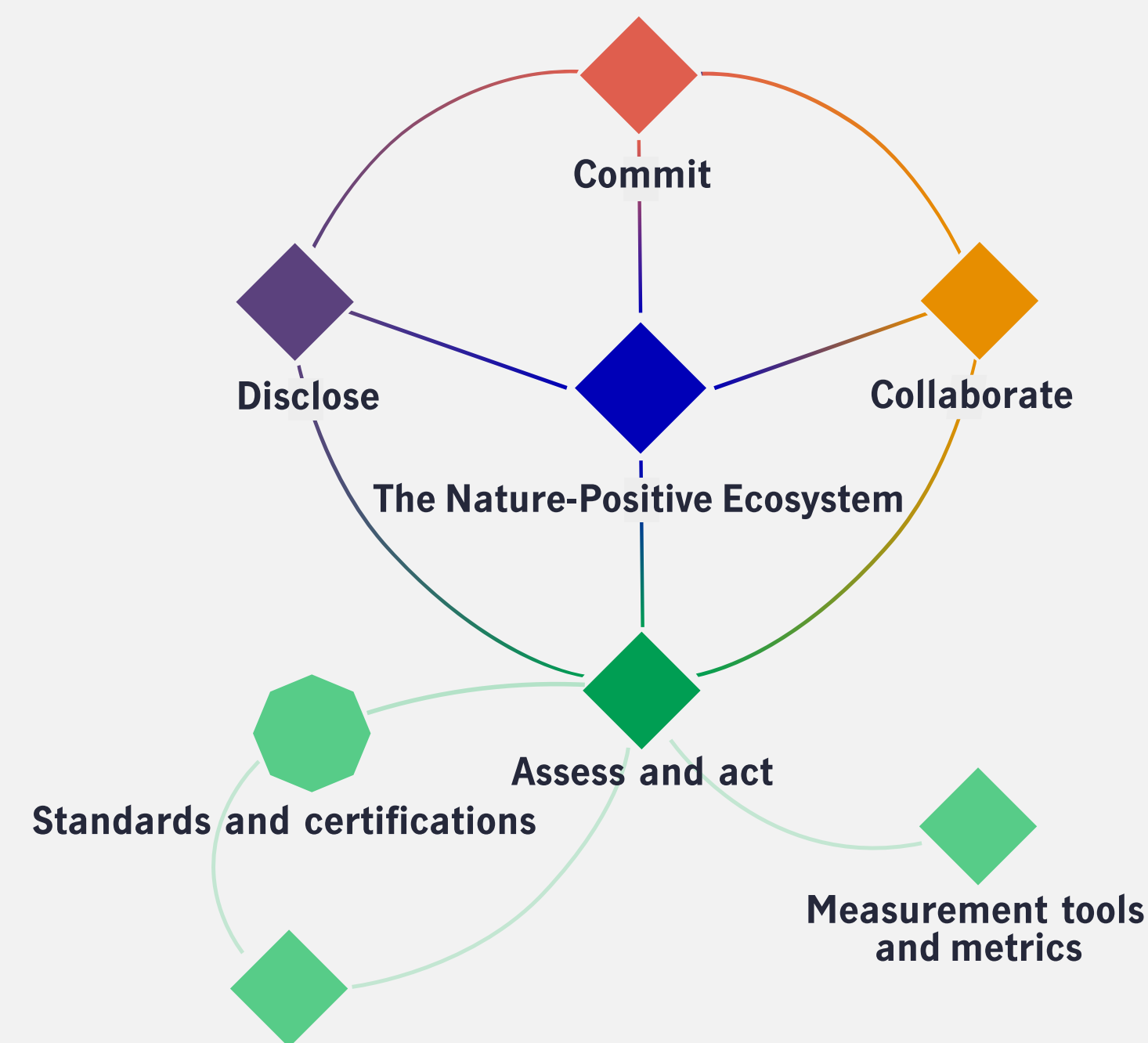
Source: [Collaco de Carvalho, Cojoianu and Ascui, 2021](#) and [Standard & Poors Financial Services LLC, April 12, 2021](#).

The nature-positive ecosystem map: overview of the *leading initiatives* related to the nature-positive agenda

Our nature-positive ecosystem map aims to improve the structure, standardization, and coherence of the initiatives available to businesses. These initiatives broadly capture the full spectrum of resources within the nature-positive ecosystem map—its frameworks, guidance and standards—that can be applied to assess the state of nature within an organization. To create this ecosystem, we examined the multiple resources available to businesses for creating this assessment in order to provide a single source, with context, for the tools that support this analysis; the knowledge sharing platforms and business coalitions for continued learning, commonly used goals and targets, and the reporting and certification standards used to communicate results.

The primary focus is on initiatives that are applicable to businesses, and we highlight certain major policy frameworks and initiatives with a view to demonstrating how national governments will look to private actors for action. In total, we’ve identified and mapped over 60 elements in the ecosystem, associated with over 30 institutions.

The nature-positive ecosystem map: stages



Frameworks and methodologies

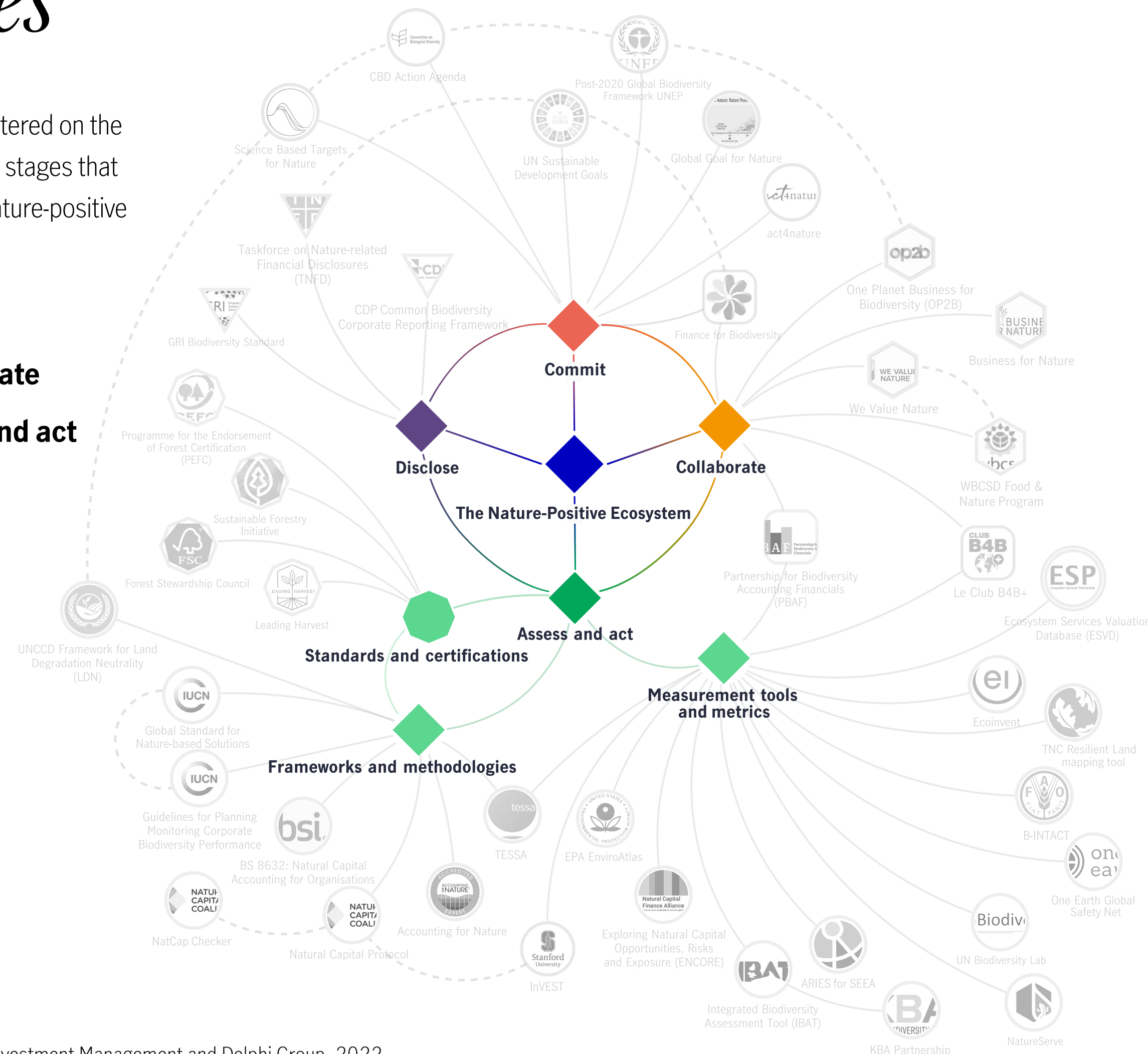
Source: Manulife Investment Management and Delphi Group, 2022.

The nature-positive ecosystem map builds on WBCSD’s [nature-positive building blocks](#), the Science Based Targets for Nature Initiative’s Initial Guidance for Business, and Business for Nature’s [steps for becoming nature positive](#). Our breakdown augments their groundwork by providing a more complete picture of the elements that support their respective “steps” and “blocks.”

The nature-positive ecosystem map: *stages*

The map is centered on the four organizing stages that make up the nature-positive ecosystem:

- ◆ **Commit**
- ◆ **Collaborate**
- ◆ **Assess and act**
- ◆ **Disclose**



Source: Manulife Investment Management and Delphi Group, 2022.

Commit

The commit loop contains elements that help businesses to set targets for halting and reversing nature loss. Certain elements have predefined targets, and some allow organizations to define targets for themselves.

Collaborate

The collaborate loop contains elements that provide businesses with partnership, networking, and knowledge-sharing opportunities. Most elements within this loop are business coalitions and knowledge-sharing platforms.

Assess

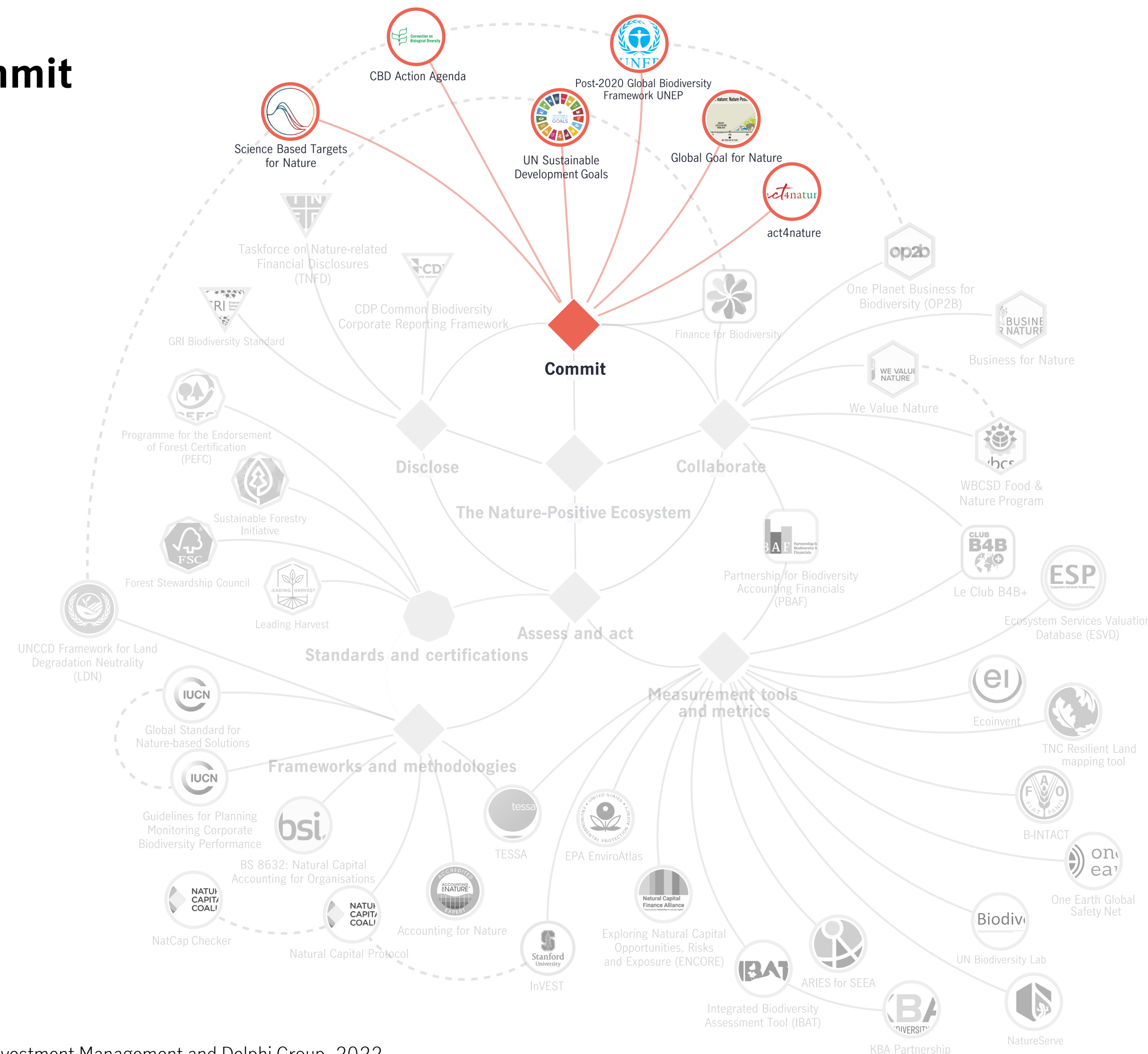
The assess loop includes resources that support organizations when evaluating their relationships with nature and the state of nature within those relationships. There are two subcategories, frameworks and methodologies, and metrics and measurement tools.

Disclose

The elements in the disclose stage help businesses to report nature-related financial risks in a standardized manner.

The nature-positive ecosystem map

Commit



Source: Manulife Investment Management and Delphi Group, 2022.

Commit

The commit loop contains elements that help businesses to set targets for halting and reversing nature loss. Certain elements have predefined targets, and some allow organizations to define targets for themselves.

The Science Based Targets for Nature (covering biodiversity, climate, freshwater, land, and oceans) will likely become a leading target framework for businesses. Meanwhile, their initial guidance can be used by businesses to structure their approach toward nature-positive agendas.

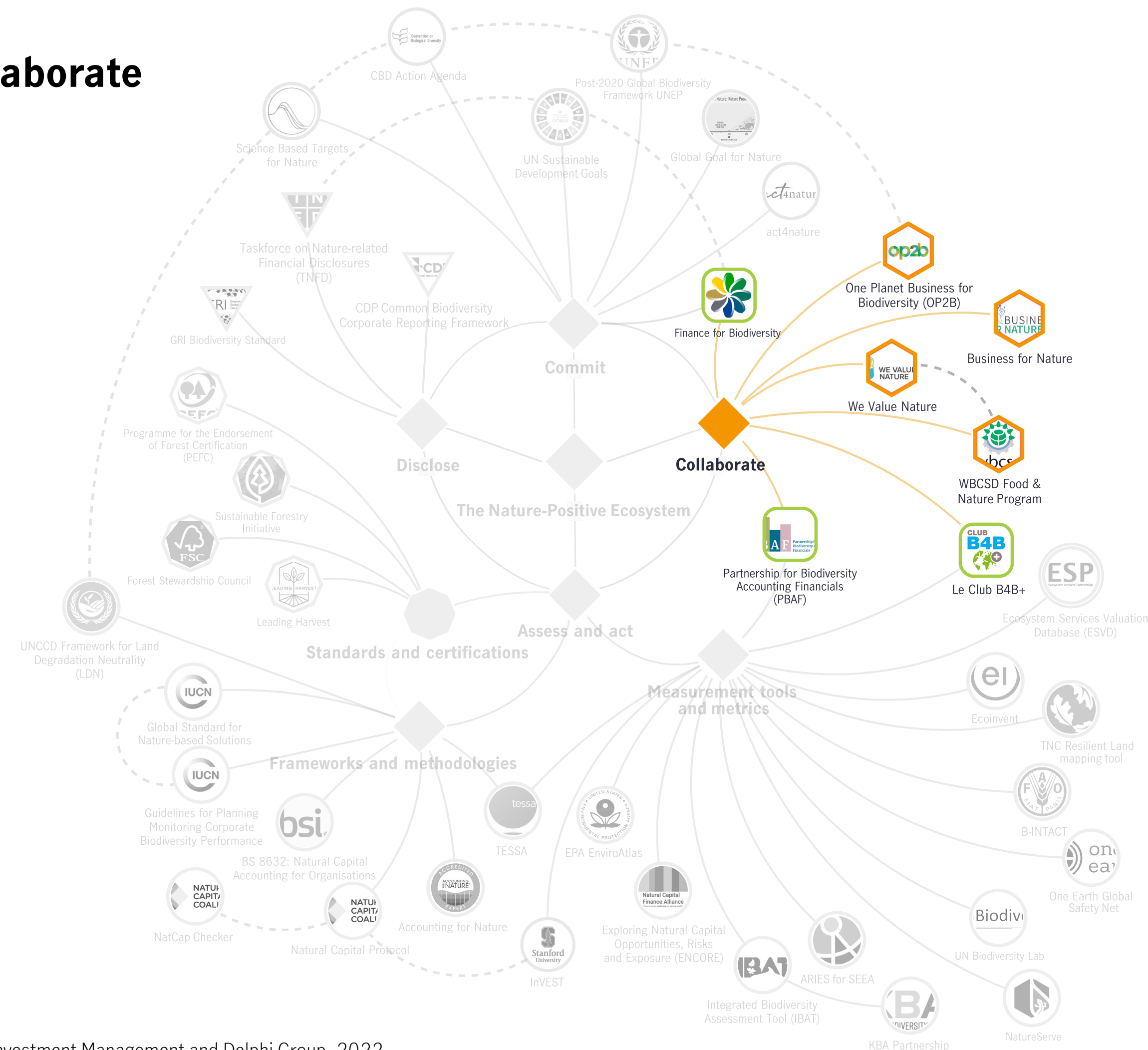
These guidance categories (and eventual targets) align with the goals laid out in the following frameworks for action recommended by the United Nations: [Convention on Biological Diversity's Preparations for the Post-2020 Biodiversity Framework](#), the Framework Convention on Climate Change's Paris Agreement, and the General Assembly' 2030 Sustainable Development Goals.

The [Finance for Biodiversity Pledge](#) has significant momentum among financial institutions, whose signatories represent over US\$13 trillion in AUM. Notably, the pledge's members commit to reporting on biodiversity impacts by 2024, with the Taskforce on Nature-related Financial Disclosures (TNFD) specifically highlighted as a potential avenue for achieving this.

Back to stages

The nature-positive ecosystem map

Collaborate



Source: Manulife Investment Management and Delphi Group, 2022.

Collaborate

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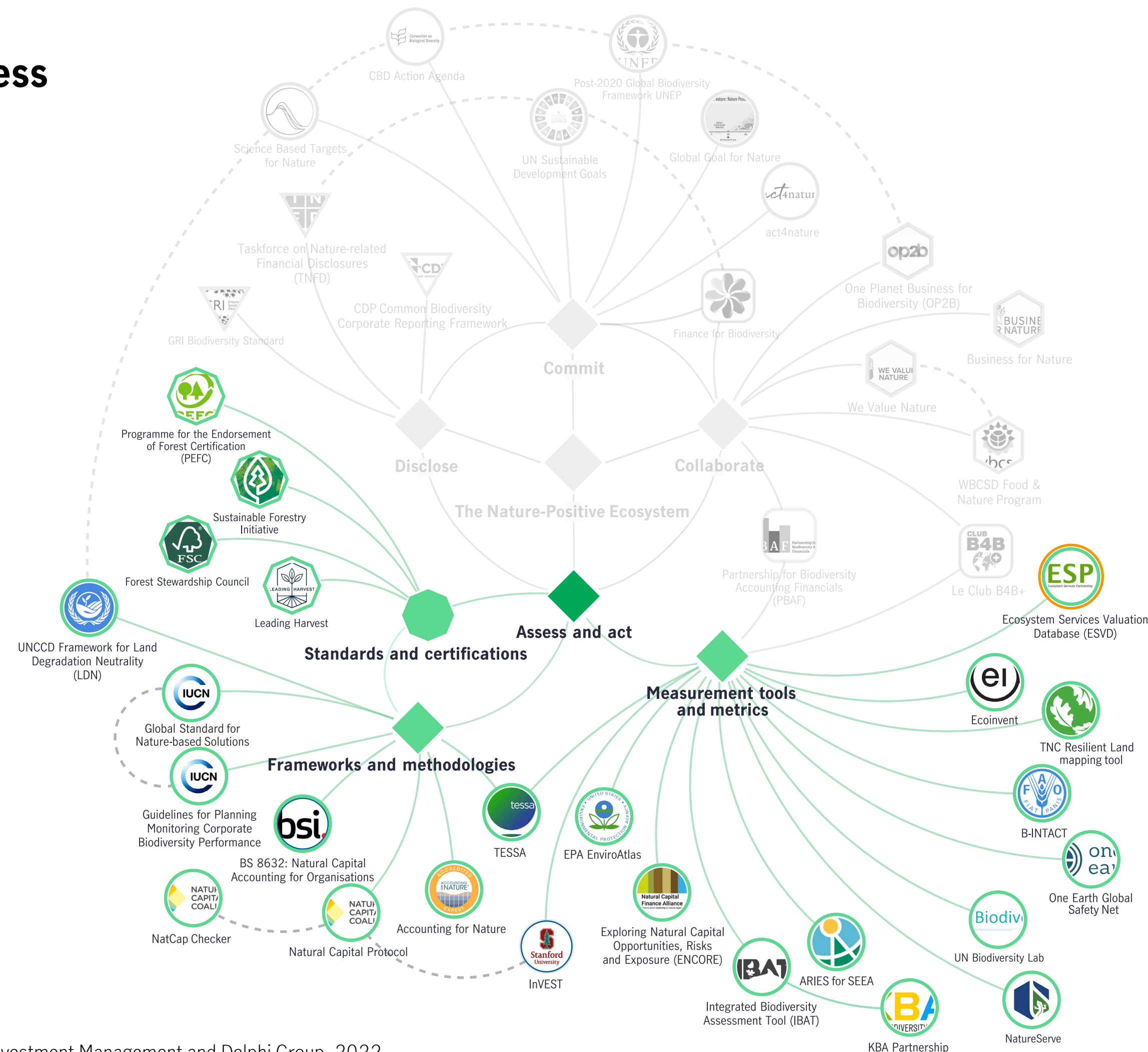
Key platforms include the Partnership for Biodiversity Accounting Financials (PBAF) and the WBCSD's Food & Nature Program.

PBAF has already produced work that harmonizes the principles behind common biodiversity reporting metrics and is currently developing a corporate biodiversity footprint methodology.

Back to stages

The nature-positive ecosystem map

Assess



Source: Manulife Investment Management and Delphi Group, 2022.

Assess

The assess loop includes resources that support organizations in evaluating their relationship with nature and the state of nature within that relationship, and adapting to it. There are two subcategories: frameworks and methodologies and metrics and measurement tools.

The frameworks provide the high-level, generally principles-based, processes that are required for evaluating nature and natural capital. The accounting methodologies are more prescriptive, providing documented approaches to performing the assessments in a consistent and repeatable manner.

In most cases, the metrics and measurement tools can be used to support the structures outlined in the accounting frameworks and methodologies. For businesses, nature-focused assessments can support the prioritization of nature-related risks and opportunities.

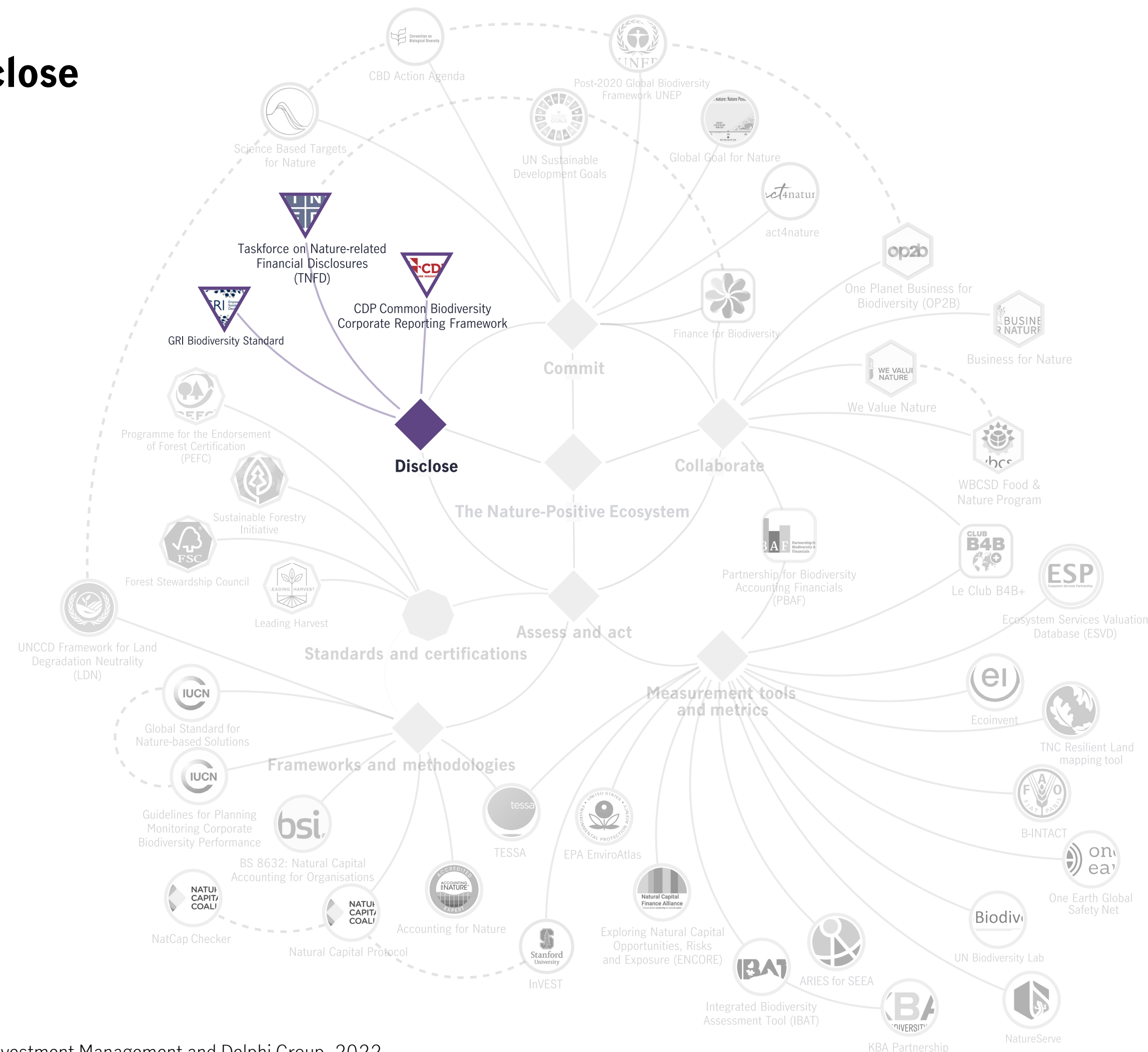
Analysis following the assessments can illuminate areas where operations affect nature unsustainably and there are major risks posed by nature loss. This insight is essential to advancing credible and effective business action on nature.

The [Natural Capital Protocol](#) is the leading high-level framework for natural capital accounts. This high-level framework can be supported by, for example, the first natural capital standard (the British Standards Institution's BS 8632).

Back to stages

The nature-positive ecosystem map

◆ Disclose



Source: Manulife Investment Management and Delphi Group, 2022.

Disclose

The elements in the disclosing stage help businesses to report nature-related financial risks in a standardized manner.

All elements within the loop remain in development; however, the current [GRI standards](#) can be used as a reference in the interim.

The three disclosing standards and frameworks share connections with each other. For example, the GRI joined the TNFD Forum and is a TNFD Knowledge Hub Partner, and GRI standards will input to the TNFD framework. The CDP is collaborating with the GRI to update the GRI biodiversity standard in addition to developing its own disclosure system informed by the updated GRI standards.

Back to stages



Next steps

To get started, we've found that an effective approach is one that focuses attention on each one of the major nodes. It's important not to focus all your company's attention on collaborative initiatives at the expense of disclosures, or setting ambitious goals, or actually taking action. Instead, you might consider what a commitment would look like, and for help in doing that, go to the commit node. Or use the map to conduct an informal audit to ensure that efforts are allocated in a balanced way.

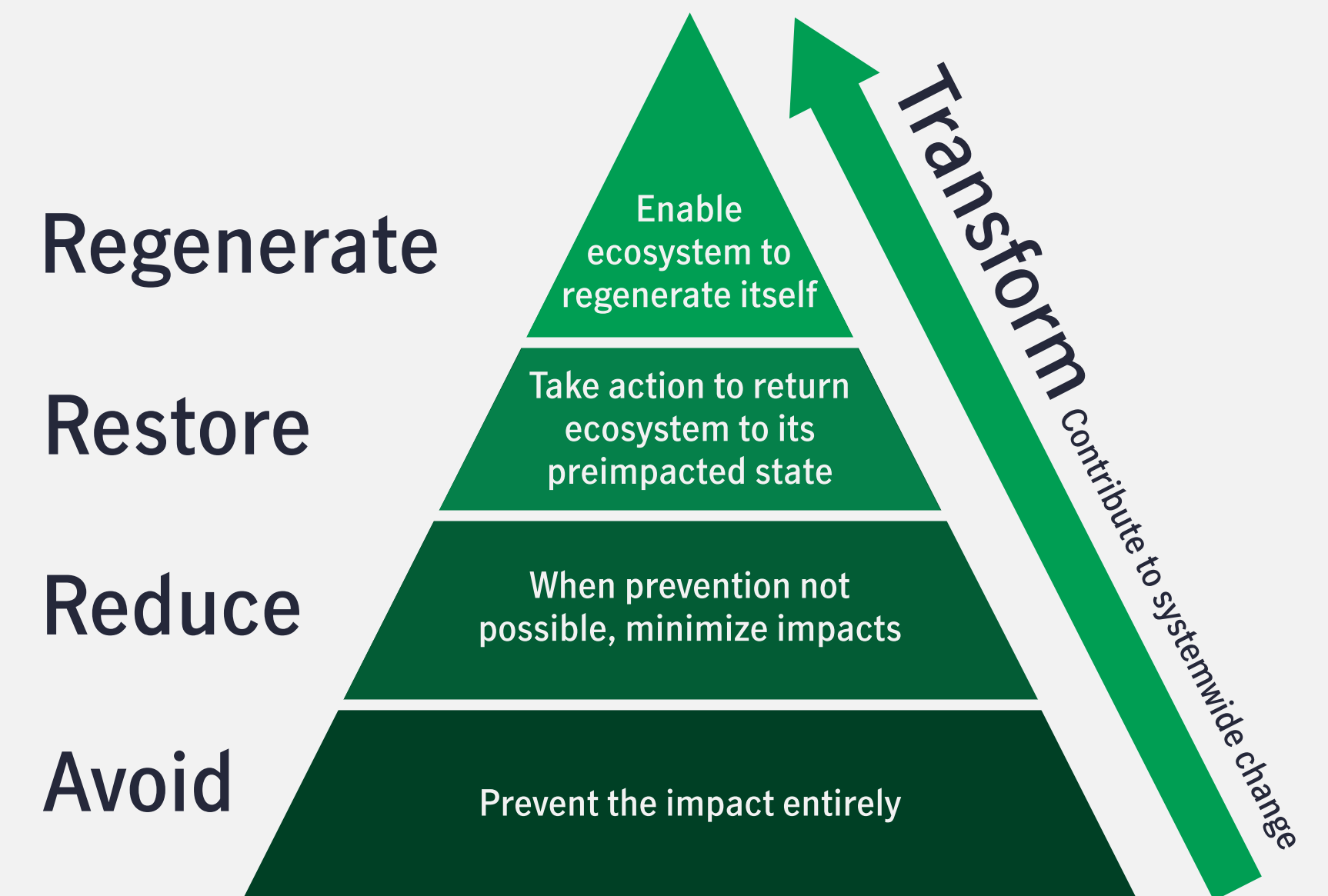
Avoid, reduce, restore, *regenerate*

It's possible for a company to commit, collaborate, assess, and disclose its impacts and dependencies on nature—and do nothing to protect or preserve it. Ultimately, we need action. We need to [“systematically apply the mitigation hierarchy within and beyond corporate operations to reduce pressures and make positive contributions across the value chain.”](#) We must first avoid negative impact on nature, then reduce unavoidable impact, next restore affected ecosystems, and ultimately enable the ability of affected ecosystems to regenerate themselves—all the while working for systems-level change.

Time is of the essence.

“Making peace with nature is the defining task of the 21st century. It must be the top, top priority of everyone, everywhere.”

[UN Secretary-General Antonio Guterres](#)



Source: Manulife Investment Management and Delphi Group, 2022. Graphic adapted from [WBCSD N+ building blocks](#).

An aerial photograph of a coastline. On the left, there are vibrant green fields. A narrow road or path runs along the edge of the fields, separating them from a rugged, rocky coastline. The ocean is a deep blue, with white foam from breaking waves visible along the shore. The overall scene is a mix of lush green land and dynamic blue water.

Appendix

Nature-positive ecosystem
detailed tables

Commit: goals, targets, and commitments

Name	Description	Context for use
Science Based Targets for Nature (SBTN)	Final target guidance will define the actor-level business contributions to nature positive and thresholds for different ecoregions. The current initial guidance outlines a five-step, principles-based process for businesses to approach nature positive. Final targets are expected in 2022.	Initial guidance informing high-level business approaches to nature positive; upcoming target guidance for setting credible, science-based targets on nature
Act4Nature	Alliance initiated to accelerate concrete business action on nature. Committed businesses have signed 10 common commitments at the CEO level, and individual specific, measurable, attainable, relevant, and time-bound (SMART) commitments. Each company commitment is cross-checked by a network of businesses, an environmental nongovernmental organization (NGO), and a scientific body. Companies are expected to publicly report on the implementation of their commitments within two years.	Creates a cross-sector platform for nature-related business commitments on an international scale
Convention on Biological Diversity (COP 15) Action Agenda	This is a voluntary commitment platform that aims to raise public awareness of urgent action from sub- and non-state actors in support of the implementation of the GBF, a space to profile and map commitments from all relevant sectors in support of the three objectives of the UN Convention on Biological Diversity (CBD).	Platform for viewing and sharing nature-related commitments
UN's post-2020 global biodiversity framework (GBF)	This is a forthcoming international agreement on biodiversity. The current draft text builds on the 2010 Convention of Biological Diversity's strategic plan for biodiversity 2011 to 2020 and sets out a plan to transform society's relationship with biodiversity, ensuring that the shared vision of living in harmony with nature is fulfilled by 2050. It aims to ensure progress is monitored in a transparent and accountable manner with adequate stocktaking exercises to ensure that, by 2030, the world is working toward the 2050 Vision for Biodiversity, which includes specific targets for business.	"North Star" targets for businesses
Global Goal for Nature	This defines components that halt and reverse nature loss and is supported by organizations requesting governments to adopt the goal at an international level. It's intended to drive ambition for the GBF process, as well as to create links between biodiversity and other conventions/agreements concerning the climate, oceans, and land degradation.	Demonstrates support and drives governments' ambition to implement a strong GBF
Finance for Biodiversity Pledge	This pledge is an initiative from members of the Finance@Biodiversity Community that coordinates appeals from financial institutions to global leaders to agree on measures to reverse nature loss ahead of the CBD. Signatories will assess their biodiversity impact using tools such as the Global Biodiversity Score, set targets using SBTs, and report on biodiversity matters with frameworks such as TNFD by 2024.	A collaboration and commitment platform used by the financials sector

Collaborate: business coalitions and knowledge sharing

Name	Description	Context for use
One Planet Business for Biodiversity (OP2B)	An international, cross-sectorial, action-oriented business coalition on biodiversity with a specific focus on agriculture, OP2B aims to drive transformational systemic change and catalyze action to protect and restore cultivated and natural biodiversity within the value chains, engage institutional and financial decision makers, and develop and promote policy recommendations for the COP 15 framework.	Agricultural and food-related organizations can use coalition to engage decision makers and promote nature-related policy
Business for Nature	This is a global coalition that brings together business and conservation organizations and encourages companies to commit and act to reverse nature loss and advocate for greater policy ambition.	Resources for understanding nature-business interactions using steps for nature positive to structure business approach to nature
World Business Council for Sustainable Development (WBCSD) Food & Nature Program	This program leads business efforts to accelerate system transformation in the areas of food, nature, and water and brings leadership standards and tools, advocacy, and projects across the value chain to deliver impact at scale where the agendas for climate, nature, and food systems intersect.	Gain support for the nature agenda and insight on the development of science-based targets and business guidance for consistent and credible nature-positive business actions
Business for Positive Biodiversity (B4B+) Club	A business coalition and accounting framework for companies and financial institutions, the objective of B4B+ is to act as an incubator for the Global Biodiversity Score indicator and methods for assessing any associated biodiversity footprint.	For testing the Global Biodiversity Score indicator and supporting the development of a footprinting method
We Value Nature	Supporting “businesses and the natural capital community to make valuing nature the new normal,” this campaign helps European businesses improve their risk management, communication with investors, and stakeholder engagement, and better anticipate future legislation. Company stakeholders spend 10 days undergoing a series of practical sessions and challenges on a variety of topics such as nature capital accounting and biodiversity.	A 10-day challenge allowing businesses access to nature-related training sessions
Finance for Biodiversity Pledge	This pledge is an initiative from members of the Finance@Biodiversity Community that coordinates appeals from financial institutions to global leaders to agree on measures to reverse nature loss ahead of the CBD. Signatories will assess their biodiversity impact using tools such as the Global Biodiversity Score, set targets using science-based targets (SBTs), and report on biodiversity matters with frameworks such as TNFD by 2024.	A collaboration and commitment platform used by the financials sector

Assess: methodologies and frameworks

Name	Description	Context for use
TESSA	A tool kit designed to support understanding of the impacts of actual and potential changes at individual sites on natural capital and ecosystem services. It provides practical guidance on identifying suitable services for sites of interest, the data needed to measure them, which methods or sources to use to obtain this data and how to communicate the results.	Used to complete environmental impact assessment and identify ecosystem services to support planning decisions that improve biodiversity conservation and ecosystem service delivery
Natural Capital Protocol (NCP)	A decision-making framework, NCP enables organizations to identify, measure, and value their direct and indirect impacts and dependencies on natural capital.	A high-level guide for natural capital assessments
United Nations Convention to Combat Desertification Framework for Land Degradation Neutrality (UNCCD LDN)	A scientific foundation for understanding, implementing, and monitoring land degradation, UNCCD LDN offers guidelines for practical implementation of land degradation neutrality in operational terms.	A practical, operations-oriented, science-based guide to practices that limit land degradation
International Union for Conservation of Nature (IUCN)	These guidelines are a framework for biodiversity planning and monitoring across operations, providing measurable goals and a set of core-linked indicators to allow companies to measure biodiversity performance (including the pressures on species and ecosystems and the effectiveness of responses).	A framework for developing corporate-level biodiversity strategic plans and reporting
British Standards Institute: Natural Capital Accounting for Organisations	This is a standard that provides specifications and guidance on the process of preparing natural capital accounts. It includes minimum requirements for defining scope, material impacts and dependencies, and the data and process used to prepare the accounts, and it prescribes two accounting outputs: a natural capital balance sheet and an income statement.	Develops corporate natural capital accounts to create balance sheets and income statements
IUCN Global Standard for Nature-based Solutions (NbS)	The NbS standard is for facilitating, incentivizing, and enabling users to implement strong nature-based solutions projects and help users to design, implement, and verify nature-based solutions.	A standard for implementing nature-based solutions
Accounting for Nature (AfN)	AfN is a certifiable accounting framework to measure the biophysical condition of environmental assets (soil, native vegetation, native fauna, freshwater, marine, carbon).	Rates the biophysical condition of land assets at a point in time

Assess: metrics and measurement tools

Name	Description	Context for use
U.S. Environmental Protection Agency (EPA) EnviroAtlas	The EPA EnviroAtlas is a web application for evaluating and mapping ecosystem services to inform decisions and research. Information is provided at multiple spatial resolutions from watersheds to fine scale, and it enables users to identify and analyze synergies and trade-offs in ecosystem services.	Valuing and maps ecosystem services within U.S. operations
One Earth Global Safety Net	This is an interactive digital map that allows users to select any country, state, or ecoregion to see configurations of biologically important land within each region.	Determines if business activities within operational boundaries overlay with biologically important land
The Nature Conservancy (TNC) Resilient Land Mapping Tools	TNC's mapping tool is used to highlight areas of land where high microclimatic diversity and low levels of human modification provide species with the connected, diverse climatic conditions they need to thrive in changing regional climates.	Used to determine if business activities within operational boundaries overlay with biologically important land
Artificial Intelligence for Environment & Sustainability System of Environmental and Economic Accounting (ARIES for SEEA) Explorer	An integrated, open-source modeling platform for environmental sustainability, ARIES for SEEA Explorer allows users to produce rapid, standardized, scalable, and customizable ecosystem accounts consistent with the SEEA Ecosystem Accounting framework. Researchers can add their own data and models to web-based repositories.	A quick and low-effort categorization of ecosystem type, forest condition, and identification of ecosystem services at a fine scale spatial resolution
UN Biodiversity Lab	This is a free open-source database and digital map collecting global spatial data on climate change, land use, nature, protected areas, and more.	Shares nature-related spatial data to inform decision-making
Integrated Biodiversity Assessment Tool (iBAT)	iBAT hosts and maintains three key global biodiversity data sets: the IUCN Red List of Threatened Species, the World Database of Protected Areas, and the World Database of Key Biodiversity Areas. Key features include a biodiversity data report (includes proximity, risk, and freshwater reports), rapid visual screening for critical biodiversity areas, and access and download services to databases, including GIS download options.	Can be used for determining proximity to key biodiversity areas and threatened species
NatureServe	A U.S.-focused, scientific database, NatureServe contains spatial information on biodiversity, species and ecosystem distributions, conditions, models, and metrics based on field collection and provides downloadable data products, tools for understanding impacts on biodiversity, and custom options for data requests.	A science-based data source for information on species and ecosystems to guide business decisions
Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE) tool	The ENCORE tool is a risk management tool that helps users understand and visualize the impact of environmental change on the economy.	Used to identify initial risks, with rankings related to impacts and dependencies on nature

Assess: metrics and measurement tools continued

Name	Description	Context for use
Integrated Valuation of Ecosystem Services and Tradeoffs (InVEST)	InVEST is a suite of models used to map and value the goods and services from nature. It supports understanding of how changes in ecosystems can lead to changes in the flow of corresponding benefits. Distinct ecosystem service models, and helper tools assist with input data and understanding outputs. Models are spatially explicit, mapping inputs and outputs, and return results are expressed in either biophysical or economic terms.	Assesses quantified trade-offs associated with alternative management choices and identifies areas in which natural capital investments can enhance human development and conservation
Biodiversity Integrated Assessment and Computation Tool (B-INTACT)	B-INTACT provides a biodiversity assessment of project-level activities in the agriculture, forestry, and other land use sectors. Its quantitative approach considers impacts on biodiversity from land use changes, habitat fragmentation, infrastructure, and human encroachment expressed in the mean species abundance metric; nonquantifiable impacts are assessed with a qualitative appraisal. The tool determines change in species abundance and monetary value of avoided/induced biodiversity loss, among other things.	Biodiversity impact assessments for investments, expected project activities, or projects under consideration
ecoinvent Database	This is a Life Cycle Inventory (LCI) database for environmental studies and assessments. It provides access to unit processes as well as to cradle-to-gate inventories covering different industrial areas and provides more than 15,000 LCI data sets across many sectors.	Lifecycle assessments and management, carbon and water footprint assessments, environmental performance monitoring, and ecoproduct design
<u>Ecosystem Services Valuation Database (ESVD)</u>	A database and tool, ESVD has standardized monetary values for all ecosystem services and biomes on all continents.	Monetary impact assessments of the effects of land use change on ecosystems and services, cost-benefit analyses of project alternatives, price setting for businesses internalizing externalities, risk assessments, and natural capital accounting
<u>Partnership for Biodiversity Accounting Financials (PBAF)</u>	PBAF is a partnership of financial institutions developing harmonized principles underlying biodiversity impact assessments (positive and negative) and disclosures for loans and investments. The next step is examining dependencies and impacts on ecosystem services.	Harmonized principles for biodiversity impact assessments and disclosure for financial institutions



Disclose: reporting standards and frameworks

Name	Description	Context for use
<u>Taskforce on Nature-related Financial Disclosures (TNFD)</u>	TNFD is a taskforce that will provide a framework for organizations to report their dependencies and impacts on nature. A reporting framework will be tested in 2022 and delivered by 2023.	A framework for structuring nature-related financial disclosures
<u>CDP Common Biodiversity Corporate Reporting Framework</u>	This is a forthcoming common, globally relevant corporate biodiversity reporting framework aimed to accelerate the action on nature within the private sector.	Framework for a common corporate reporting metric
<u>Global Reporting Initiative (GRI) Biodiversity Standard</u>	The current GRI Biodiversity Standard is expected to be updated in partnership with the CDP. The CDP will use the updated standard, once published, to inform its own disclosure system. The standard will input into the TNFD framework.	Updated standard for structuring biodiversity-related reporting

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A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions and closures, and affect portfolio performance. For example, the novel coronavirus disease (COVID-19) has resulted in significant disruptions to global business activity. The impact of a health crisis and other epidemics and pandemics that may arise in the future could affect the global economy in ways that cannot necessarily be foreseen at the present time. A health crisis may exacerbate other preexisting political, social, and economic risks. Any such impact could adversely affect the portfolio's performance, resulting in losses to your investment.

Investing involves risks, including the potential loss of principal. Financial markets are volatile and can fluctuate significantly in response to company, industry, political, regulatory, market, or economic developments. These risks are magnified for investments made in emerging markets. Currency risk is the risk that fluctuations in exchange rates may adversely affect the value of a portfolio's investments.

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