

# How to integrate biodiversity in economic and business decisions <sup>(1)</sup>

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Biodiversity and ecosystem services loss are resulting in massive costs to our environment, human health and well-being, and our economies. While efforts have been made to integrate biodiversity in economic decision-making, progress is still slow and not at a scale needed to ensure the required shifts to sustainable production and consumption patterns. Integrating biodiversity in decisions made by the business and financial sector have lagged even further behind. This article provides an overview of the status quo today, and key actions needed to better mainstream biodiversity in economic and business decisions.

## Biodiversity: The current international context

Over the last 50 years, humanity has unleashed unprecedented technological change leading to economic growth that has raised living standards and pulled billions of people out of poverty. However, the increasing demand for energy, food, fibre, and water has come at a significant cost to planetary systems (Steffen *et al.*, 2015 [1]). The sheer scale of production and consumption, combined with systemic inefficiencies, misallocation of resources and waste, has resulted in rapid and widespread biodiversity loss, threatening the ecosystem services upon which life depends. The implications for human health and well-being, societal resilience and sustainable development are considerable. Biodiversity faces a wide range of anthropogenic pressures, notably land-use change, habitat loss and fragmentation (e.g. due to agricultural expansion), over-exploitation of natural resources (e.g. unsustainable logging, hunting and fishing), pollution (e.g. excess fertiliser

and pesticide use, marine litter), invasive alien species and climate change (Díaz *et al.*, 2019 [2] ; OECD, 2012 [3]). The recent Global Assessment by the Intergovernmental Panel on Biodiversity and Ecosystems services estimated nearly 1 million species are now at risk of extinction globally (Díaz *et al.*, 2019 [2]). At the same time, ecosystems such as forests, wetlands, mangroves and coral are being destroyed or damaged at unprecedented rates (OECD, 2019).

Addressing and reversing biodiversity loss requires ambitious domestic action by governments and non-state actors, amplified by strong international co-operation. In 2020, the Convention on Biological Diversity's (CBD) Strategic Plan for Biodiversity 2011-2020 and its 20 Aichi Biodiversity Targets will expire. Governments will convene for the 15<sup>th</sup> meeting of the Conference of the Parties to the CBD (COP15) to agree on a post-2020 global biodiversity framework. The decisions made will influence domestic goals and policies, and thus our collective ability to achieve not only Sustainable Development Goal (SDG) 14: Life Below Water and SDG 15: Life on Land, but also many of the other SDGs.

A fundamental challenge is to address the prevailing market and governance failures that are associated with the public good characteristics of biodiversity and ecosystem services. The total economic values provided by biodiversity and other forms of natural capital need to be integrated into economic, business and financial sector decision-making.

(1) This contribution draws on key messages from three publications: OECD (2019), *Biodiversity: Finance and the Economic and Business Case for Action*, OECD Publishing, Paris (<https://doi.org/10.1787/a3147942-en>); OECD (2020), *A Comprehensive Overview of Global Biodiversity Finance*; and OECD (2020), *Tracking Economic Instruments and Finance for Biodiversity – 2020*, OECD Publishing, Paris, <http://www.oecd.org/environment/resources/tracking-economic-instruments-and-finance-for-biodiversity-2020.pdf>. The additional opinions expressed and arguments employed herein do not necessarily reflect the official views of the member countries of the OECD.

Figure 1. Number of countries with biodiversity-related instruments

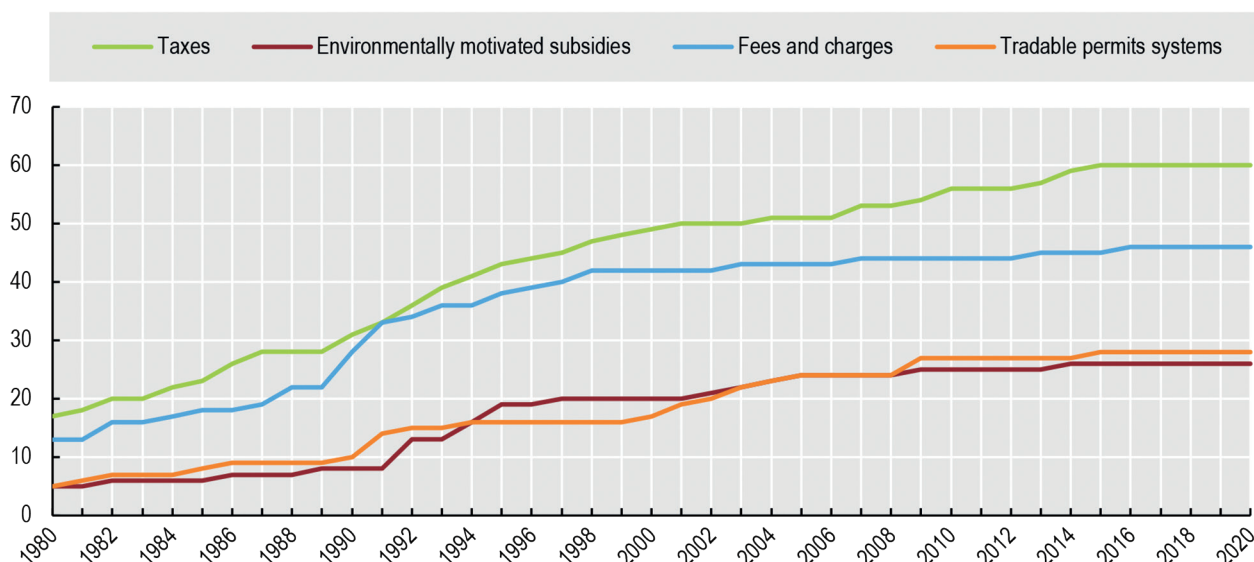
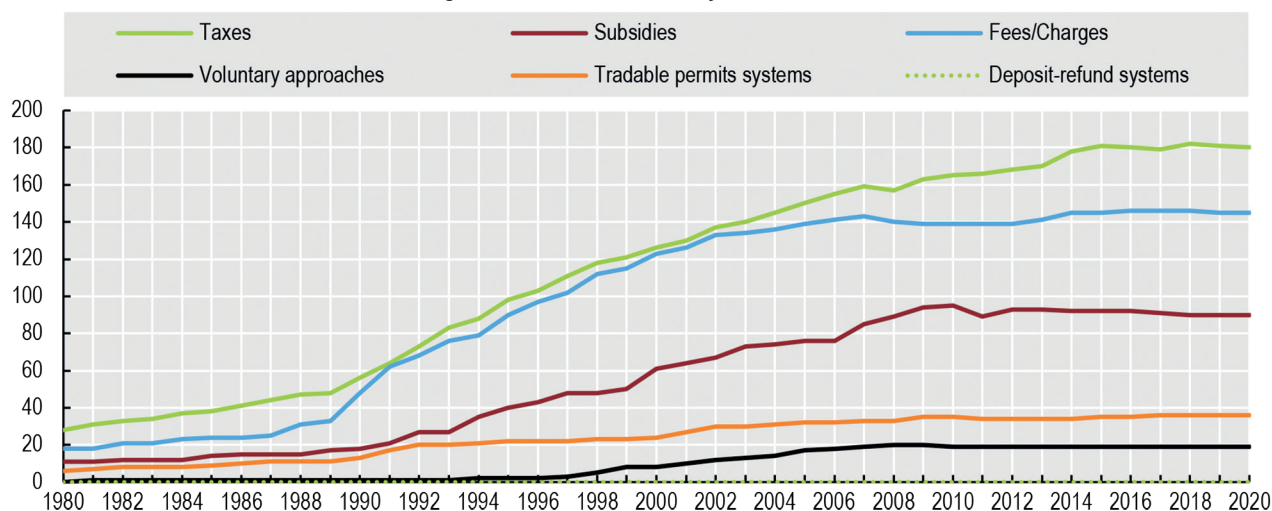


Figure 2. Number of biodiversity-related instruments in force



Source: OECD database on Policy Instruments for the Environment (PINE), <http://oe.cd/pine>

## How to integrate biodiversity into economic decisions

### Getting the prices right

Biodiversity is responsible for a myriad of ecosystem services upon which the economy and human well-being depend, such as the provision of clean water, fuel and fibre, nutrient cycling, climate regulation and pollination services. The total economic value of these benefits globally was estimated to be USD 125-140 trillion (US dollars) in 2011 (Costanza *et al.*, 2014 [4]). However, these benefits tend to be undervalued or unvalued in economic decisions. A key reason is market failures: the majority of ecosystem services are not priced in the market because they are public goods (e.g. flood protection provided by wetlands). As a result, economic actors have insufficient incentives to conserve and sustainably use biodiversity. The failure to adequately account for the total economic values of biodiversity in decision-making is one of the main contributing factors to its loss.

Economic instruments that put a price on the positive and negative biodiversity impacts (externalities) of economic activities can therefore play a critical role in biodiversity policy. Economic instruments, such as taxes, fees and charges, payments for ecosystem services and environmentally-motivated subsidies, provide an economic signal to encourage producers and consumers to safeguard biodiversity. They can also provide continuous incentives to achieve environmental objectives more cost-effectively, thereby fostering innovation.

Economic instruments have played an increasing role in biodiversity policy in recent decades; the number of applications for pollution control and natural resource management has increased considerably, and the variety of policy instruments in use has grown. For example, at least 206 biodiversity-relevant taxes are in force today, spanning 59 countries (OECD, 2020 [5]). This is approximately a four-fold increase in the number of biodiversity-relevant taxes and a doubling in the number of countries with biodiversity-relevant taxes, since 1990

(see Figures 1 and 2). Biodiversity-relevant fees and charges, tradable permit systems, and biodiversity-relevant positive subsidies have also been on the rise. Other instruments such as payments for ecosystem services and biodiversity offsets have also become more widespread. For example, more than 100 countries have laws or policies in place that require or enable the use of biodiversity offsets, or are currently considering them, up from around 10 in 1990 (OECD, 2016 [6]).

Despite some progress to scale up the use of economic instruments, addressing biodiversity loss will require much more ambitious and wide-reaching application of economic instruments. While environmentally related taxes have been growing, they remain modest compared to labour taxes and their contribution to countries' total tax revenues has decreased since 1995. In OECD countries, for example, revenue generated from biodiversity-relevant taxes is USD 7.5 billion a year, only 0.92% of the total revenue from other environmentally-relevant taxes (average 2016-2018) (OECD, 2020 [5]).

### Reform subsidies harmful to biodiversity

Meanwhile, many activities harmful to biodiversity are subsidised by taxpayers. Governments spend approximately USD 500-600 billion per year in support that is potentially harmful to biodiversity (OECD, 2019 [7]) (OECD-IEA, 2020 [8]), which is at least five times more than total public and private spending for biodiversity protection (conservation and sustainable use). Fossil fuel support and some forms of agriculture support account for the majority of this harmful spending. Fossil fuel support can incentivise the use and production of fossil fuels, thereby contributing to climate change – the third largest direct driver of global biodiversity loss (Díaz *et al.*, 2019 [2]). In 2017, 76 predominantly OECD and G20 economies spent USD 340 billion in fossil fuel support (OECD/IEA, 2019 [9]).

Agriculture support based on prices and output levels is potentially most environmentally harmful compared to other forms of agriculture support, as it encourages intensification of production, which entails higher levels of fertiliser and pesticide use. In 2017, OECD countries provided USD 228 billion in support to farmers, of which USD 116 billion (i.e. 51%) is considered potentially most environmentally harmful compared to other types of support (OECD, 2019 [10]). While the percentage of overall support to farmers that is potentially most environmentally harmful has declined considerably since 1990, it has remained relatively constant over the past decade.

Reforming environmentally harmful support is therefore key for the conservation and sustainable use of biodiversity. Several countries have taken action in this regard. Switzerland, for example, has reformed its agricultural policy to ensure that current subsidies target more biodiversity-friendly purposes (OECD, 2017 [11]). However, reforming subsidies (and introducing taxes or other economic instruments) can be challenging, as political-economy factors, such as competitiveness concerns and vested interests, can create barriers to reform in some countries.

In Switzerland, there was considerable resistance to the 2014-17 subsidy reform from some sections of the farming community who were concerned the reforms would result in a loss of income (OECD, 2017 [11]).

A range of approaches exist to overcome political economy barriers, as outlined in OECD (2017 [11]). These include, for example, ensuring broad stakeholder engagement in policy process, establishing a solid and clearly communicated evidence base, and targeted measures to address potential distributional and competitiveness impacts.

## How to integrate biodiversity into business and financial sector decisions

### There is a strong business case for scaling up action on biodiversity

The biodiversity challenge has very different economic, financial, political and social characteristics to that of addressing climate change. This has consequences for the type of actions by business and finance that will be most effective in addressing biodiversity and ecosystem services loss. In particular, in the case of biodiversity, the dependencies of businesses and societies on biodiversity and the impacts of business and finance on biodiversity are the priority areas to address, rather than the financial risks incurred during a transition process (OECD, 2019 [12]).

Business and financial organisations can have adverse impacts on biodiversity and ecosystem services through their operations, supply chains and investment decisions. Over 93% of the world's marine fish stocks monitored by the FAO are now fully exploited, overexploited or depleted (FAO, 2020 [13]). And the garment and footwear sector is responsible for about 20% of global wastewater (UNECE, 2018 [14]). Business impacts on biodiversity can result in "responsible business conduct" risks to society and the environment ("social and environmental materiality").

Business and financial organisations also depend on biodiversity and ecosystems services for the production of goods and services. The agricultural sector for instance depends on pollination services: USD 235-577 billion worth of annual global food production relies on the direct contribution of pollinators (IPBES, 2016 [1]). Coral reefs alone generate USD 36 billion per year for the global tourism industry (Spalding *et al.*, 2017 [15])<sup>(2)</sup>.

Biodiversity impacts and dependencies create risks to business and financial organisations ("financial materiality"). Relevant risks include *ecological risks*, i.e. operational risks related to biodiversity impacts and resource dependency, scarcity and quality; *liability risks*, i.e. risk of

(2) Including long-term viability of business models; cost savings and increases in operational efficiency; increased market shares; new business models, markets, products and services; and better relationships with stakeholders. Biodiversity loss can also have direct implications on business operations and value chains, e.g. by increasing input costs.



legal suits; *regulatory risks*; *reputational* and *market risks*, linked to stakeholders' pressures or preferences changes; and *financial risks* (OECD, 2019 [12]). The conservation, sustainable use and restoration of biodiversity can also provide significant business opportunities<sup>(3)</sup>.

### Mobilising businesses and the financial sector in support of biodiversity action

The private sector's awareness of and commitment to biodiversity action however, remain too limited, despite some forward-thinking companies' growing awareness of the importance of biodiversity. A few businesses, investors and regulators are beginning to recognise that biodiversity loss and degradation can create a "material" risk to the profitability of businesses and investors (DNB/PBL, 2020 [16]) (DNB, 2019 [17]) (AXA and WWF, 2019 [18]) (Unilever, 2019 [19])<sup>(4)</sup>. A few companies have adopted industry-led commitments and launched various biodiversity initiatives, such as Act4Nature or Business for Nature. Despite growing momentum and a few initiatives like the Natural Capital Financial Alliance (NCFA), financial organisations remain less engaged for biodiversity than businesses, and much less engaged for biodiversity than for climate change. Assessments and evaluations of biodiversity impacts on and dependencies from nature by the private sector also remains limited (OECD, 2019 [12]).

The financial sector, in close co-ordination with businesses, needs a common framework for measuring and integrating biodiversity factors across key dimensions of business and investment decision-making. Business and financial actors need the tools, metrics and methodologies to be able to integrate biodiversity factors in business and investment decision-making. Several targets (e.g. no net loss), indicators and accounting approaches are available to help businesses understand, measure and account for their biodiversity impacts and dependencies, as well as associated costs, risks and opportunities, across business activities (e.g. risk management) and organisational levels (e.g. site, product, supply chain, corporate and portfolio)<sup>(5)</sup>.

Policy makers, businesses, financial institutions and civil society acting together can also strengthen the business case for biodiversity and ecosystem services. Domestically, multiple opportunities exist for policy makers to encourage business and financial organisations to scale up action

on biodiversity, in co-operation with other stakeholders<sup>(6)</sup>. Internationally, the main priority is to provide the financial sector, in collaboration with businesses, with an attractive framework to understand their impacts, dependencies and risks on nature through a collaborative platform that benefits from their expertise and inputs as well as that of academia, government, civil society, international organisations and other stakeholders. Alongside another report by WWF and AXA (AXA and WWF, 2019 [18]), the OECD's report to the G7 Environment in 2019 recommended the creation of a multi-stakeholder advisory group on biodiversity, business and finance, to develop consensus among stakeholders on a common approach for measuring and integrating biodiversity factors (impacts, dependencies, risks and opportunities) in business and investment decisions and to develop guidance to support due diligence by the private sector in relation to biodiversity (OECD, 2019 [12]). Such a common approach (through the launch of an advisory group or taskforce) could be based on:

- A methodology for assessing biodiversity factors across operations, supply chains and portfolios: this would build on common ground across existing accounting approaches, to aggregate the measurement of biodiversity impacts at the corporate level and harmonise it at the portfolio level. A common protocol with harmonised metrics for measuring biodiversity factors is missing and more challenging to establish than metrics for greenhouse gas emissions.
- A framework to mainstream biodiversity impacts, dependencies and risks across key dimensions of investment decisions, including: strategy, governance, risk management, impact assessment, due diligence, reporting and disclosure, and metrics and targets. The initiative could build on the *OECD Guidelines for Multinational Enterprises* and *OECD Due Diligence Guidance for Responsible Business Conduct* to develop a set of practical actions on due diligence and biodiversity in support of efforts by businesses<sup>(7)</sup>. In their communiqué in May 2019, G7 Environment Ministers reiterated their commitment to "continue to promote the implementation of the *OECD Guidelines for Multinational Enterprises* and encourage the use of the *OECD Due Diligence Guidance*

(6) Including through: requiring business and financial organisations to publish long-term plans factoring in the assessment and management of biodiversity; encouraging businesses, investors, issuers and other financial stakeholders to adopt biodiversity goals and targets (e.g. no net loss, or no significant harm); mainstreaming quantitative biodiversity assessments in reporting requirements (e.g. the EU Non-Financial Reporting Directive and its guidelines), impact assessments and risk-management tools; setting policies promoting improved due diligence for responsible business conduct (e.g. France's 2017 Duty of Vigilance Law), drawing on OECD Due Diligence Guidance for Responsible Business Conduct; raising awareness among financial regulators of the systemic implications of biodiversity factors, which do not only have local impacts; and harnessing the momentum and visibility of the SDGs and climate action among business and financial organisations to raise awareness on biodiversity and ecosystem services.

(7) All 37 OECD countries, and 9 non-OECD countries have adhered to the Guidelines. They have committed to asking businesses, investors and issuers to follow it in order to identify, prevent and address adverse impacts on biodiversity, and to regularly report on these efforts and their outcomes OECD, 2011 [31]) (OECD, 2018 [30]).

(3) The global organic food and beverage market, for instance, is expected to grow 16% per year, to reach USD 327 billion by 2022; See Table 4.2 (OECD, 2019 [12]).

(4) De Nederlandsche Bank (DNB, the Dutch central bank) and PBL Netherlands Environmental Assessment Agency released in June 2020 a joint study concluding that the financial sector is exposed to risks as a result of biodiversity loss (DNB/PBL, 2020 [16]). Previously, DNB had already identified specific risk channels through which biodiversity loss can have an impact on the solidity of financial institutions investors (DNB, 2019 [17]).

(5) Such as the Global Biodiversity Score by CDC Biodiversité, the LIFE Impact Index or the Product Biodiversity Footprint; see (Lammerant *et al.*, 2019 [29]) (OECD, 2019 [7]).

for Responsible Business Conduct among business, and continue to collaborate with businesses to use this guidance to identify, prevent and address adverse impacts on biodiversity”<sup>(8)</sup>.

## Opportunities to scale up action for biodiversity

The situation is urgent but not without hope. Multiple opportunities exist to integrate biodiversity into economic and business decisions. These actions are critical if the current trends of biodiversity and ecosystem services loss are to be reversed. Key action items include (OECD, 2019 [12]):

- Pursue and advocate for a clear, effectively structured and operational post-2020 global biodiversity framework that catalyses effective international action to halt and reverse biodiversity loss. Specific and measurable targets, for all stakeholders, will be key.
- Scale up policy instruments for biodiversity and get the economic incentives right.
- Scale up and align finance for biodiversity from all sources, public and private, including from the financial sector.
- Strengthen biodiversity finance reporting and tracking frameworks.
- Reform subsidies harmful to biodiversity.
- Facilitate integration of biodiversity by businesses and financial organisations.
- Assess and communicate socio-economic dependencies and impacts on biodiversity at geographic scales relevant to decision makers.

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#### Further reading

Find out more about the OECD work on biodiversity and green finance here:

<http://www.oecd.org/environment/resources/biodiversity/>  
<https://www.oecd.org/cgfi/>