BIODIVERSITY AND NATURE RELATED RISKS REGULATORY EXPECTATIONS AND CONSTRAINTS

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AGENDA

- Introduction
- Supervisory initiatives on the integration of nature-related risks and biodiversity
- Q & A

INTRODUCTION

European Central Bank

- Monetary policy: price stability objective
- Support the general economic policy to contribute to the achievement of the objectives of the Union such as: „Sustainable development of Europe“ and a „high level of protection and improvement of the quality of the environment“. EU Green Deal or Sustainable Finance Strategy.

- **Economic and financial risks of nature degradation and the feedback between the economy and the financial sector is already advancing at a rapid pace.**
  - In terms of physical risks, 72% of non-financial corporations (NFCs; ~ 3 million individual NFCs) are highly dependent on at least one ecosystem service.
  - Almost 75% of corporate bank loans in the euro area are granted to NFCs with a high dependency on at least one ecosystem service.

ECB – three key strategic objectives

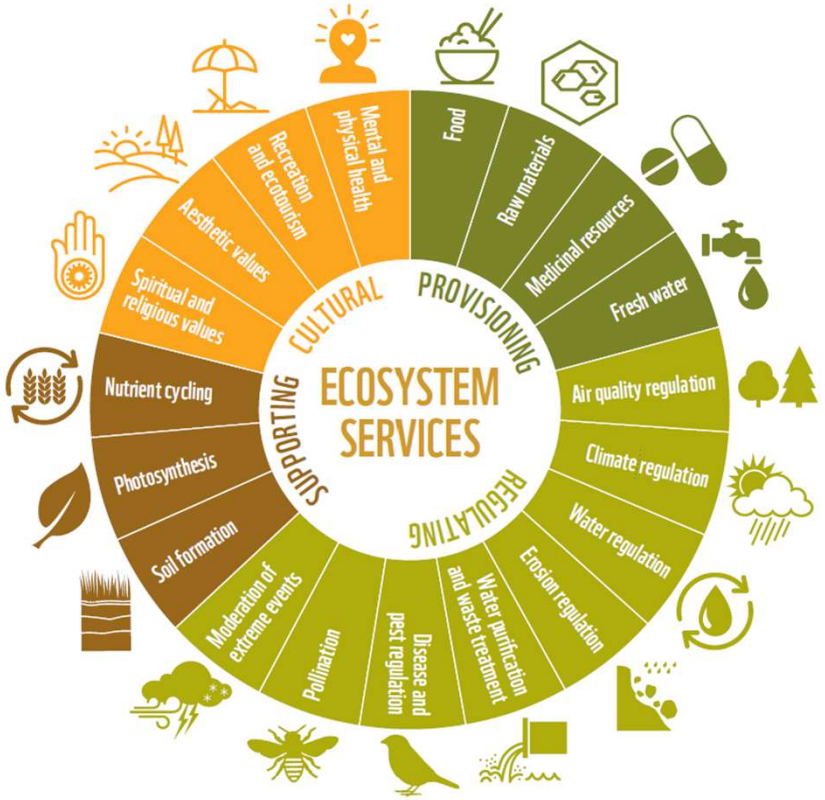
Source: Birth of a Naturalist? Nature-related risks and biodiversity loss: legal implications for the ECB

FMA GUIDE ON MANAGEMENT OF SUSTAINABILITY RELATED RISKS

Definition

- “Nature-related financial risk refers to the risks of negative effects on economies, individual financial institutions and financial systems that result from:
  - (i) the degradation of nature, including its biodiversity, and the loss of ecosystem services that flow from it (i.e., physical risks);
  - (ii) or the misalignment of economic actors with actions aimed at protecting, restoring, and/or reducing negative impacts on nature (i.e., transition risks).”

Ecosystem services



Source: Graph: Source: Living Planet Report, WWF 2016: FMA Guide on Sustainability Risks: Konsultation paper: https://www.fma.gv.at/konsultation-zu-nachhaltigkeitsleitfaden-startet/

FMA GUIDE ON MANAGEMENT OF SUSTAINABILITY RELATED RISKS

- Integrated and holistic view on management of environmental related risks – including biodiversity and natur-related risks
- Requirement to establish know-how and technical and organisational infrastructure for the adequate management of nature-related and biodiversity risks to understand and limit the implications

- Complexity is a major challenge for the integration of biodiversity and natur-related risks:
  - Interdependency between ecosystem services
  - Non-linearity
  - Irreversibility
  - Feedback Loops
  - Geographical specificities

  - Five primary direct drivers of biodiversity loss:
    - Land and sea use change
    - Resource extraction
    - Climate change
    - Pollution
    - Invasion of alien species

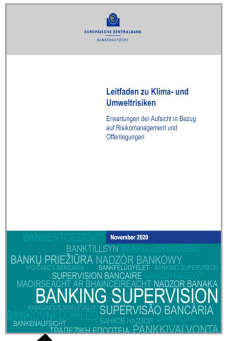
FMA Guide on Sustainability Risks: Konsultation paper: https://www.fma.gv.at/konsultation-zu-nachhaltigkeitsleitfaden-startet/
https://www.oecd-ilibrary.org/docserver/a8e4991f-en.pdf?expires=1732383547&id=id&accname=guest&checksum=FC364E8AC4F2967DAECA2C57964DB00A

OVERVIEW OF EUROPEAN REGULATORY INITIATIVES

EC

- CRR/CRD Banking Package
- Definitions for ESG Risk Management
- Introduction of transition plans according to Art. 76 CRD a prudential risk management tool for ESG
- Integration of ESG risk in ICAAP, liquidity and stress testing framework

ECB



- ECB Guide on climate and environmental risk management (since 2020)
- 13 supervisory expectations
- Relevant for significant credit institutions (> EUR 30 Mio. assets) ***at highest level of consolidation***
- Recommendation to NCAs to apply expectations also to LSI
- Comprehensive supervisory program since 2021: **‚Thematic Review‘** (comprehensive self-assessment incl. publication of assessment reports, findings and potential supervisory decisions incl. periodic penalty payments)

EBA

- Until now, ESG risks were addressed as drivers of existing risk categories
- Since 2020: Integration of ESG risk related aspects in existing EBA-Products (ie. Guidelines on Loan Origination, EBA GL on Internal Governance, Fit & Proper, Remuneration etc.)
- Numerous Mandates according to CRR3/CRD6 Package
  - ***EBA GL on ESG Risk Management and Transition Plans (Finalization untic Dec 2024),*** Guidelines on Stresstesting, etc.
  - Update of ITS on Pillar 3 Disclosure of ESG Risks

BIODIVERSITY – RELEVANT LEGAL ACTS

- not only climate mitigation and adaption, but also four further environment objectives relevant to nature.:
  - protection and restoration of biodiversity and ecosystems;
  - the sustainable use and protection of water and marine resources;
  - pollution and prevention control;
  - the transition to a circular economy

- European sustainability reporting standards (ESRS) will specify the information undertakings must disclose in respect of, inter alia, water and marine resources, pollution, biodiversity and ecosystems
- ESRS 4: Biodiversity and ecosystems: undertaking's plans and capacity to adapt its strategy and business model in line with respecting planetary boundaries

- Integration ESG factors and risks in risk management; transition planning
- EBA Mandates on disclosure and reporting will also adress nature-related risk factors

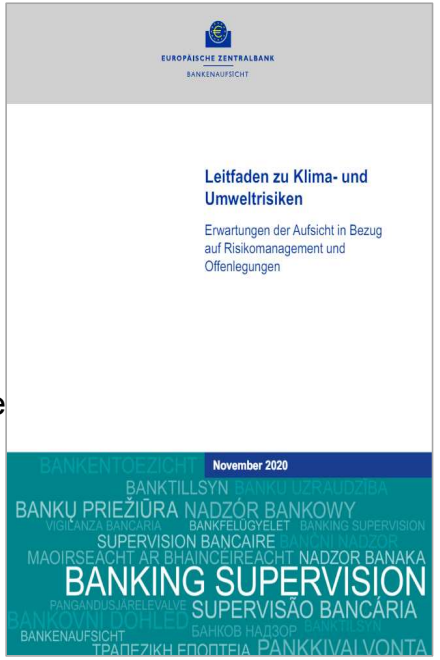
- "Sustainable investment" is defined as "an investment in an economic activity that contributes to an environmental objective, as measured, for example, by key resource efficiency indicators on the use of energy, renewable energy, raw materials, water and land, on the production of waste, and greenhouse gas emissions, or on its impact on biodiversity and the circular economy".

BIODIVERSITY – IMPLICATIONS ON ECB‘S BANKING SUPERVISION

- ECB, in its capacity as banking supervisor, already treats nature degradation and biodiversity loss as a component of physical risk, one of the two main drivers of climate related and environmental risk

- Overarching principle: need for a sound, effective and comprehensive management and disclosure of climate-related environmental risks is required by the current prudential framework
  - According to Capital Requirements Regulation and Capital Requirements Directive
  - Stronger focus on ESG-risks with the implementation of Basel III / CRR III / CRD IV Package (starting from 1.1.2025)

- 2020 ECB Guide on supervisory expectations for the risk management of climate-related and environmental (C&E) risks
  - Explicit recognition that environmental factors related to the loss of ecosystem services, such as water stress, biodiversity loss and resource scarcity also drive financial risk
  - Expectation No. …
  - Banks should evaluate all environmental risk-related information beyond purely climate risks to ensure that their risk management is all emcompassing.
  - Banks management bodies have appropriate understanding of climate-related and environmental risks
  - Integration in business strategy, business objectives and risk-management framework, effective oversight of climate-related and environmental risks



ECB – ENVIRONMENTAL RISK MANAGEMENT

- Current practise (mostly) limited to qualitative expert judgements and identification of most exposed economic sectors (such as agriculture), but no mapping of transmission channels

- Banks should evaluate all environmental risk-related information beyond pure climate risks to ensure that their risk management is all encompassing

- Examples: ECB Good practises on Environmental risk management
  - Currently high-level macro perspective based on qualitative expert judgement
  - High-level description of vulnerable sectors such as agriculture (but no concrete transmission channels at portfolio level and no quantification approach)
  - Assessment results in traffic-light red-amber-green scaling system
  - Exclusion based approach
  - More advanced: assessment of the biodiversity impacts of individual projects or clients
  - Starting point: international treaties and certifications on environmental protection
    - Development of a set of criteria to avoid involvement with entities that have a negative impact on biodiversity and ecosystems
    - Institutions checks for potential environmental risks on case-by-case basis
    - Good Practise: net biodiversity footprint: target setting and then translate it into a quarterly risk indicator

ECB – ENVIRONMENTAL RISK MANAGEMENT

Table 35

Stylistic example of a heatmap

Sector	Sub-sector	Biodiversity score	Pollution score	Water stress score	Overall environmental score
Agriculture	Dairy	High	Medium	Medium	High
	Flowers	Medium	Medium	High	High
	Fruit and vegetables	Medium	Low	High	Medium
	Grain and oil seeds	Low	Low	Low	Low
	Livestock	High	Low	Low	Medium

Table 36

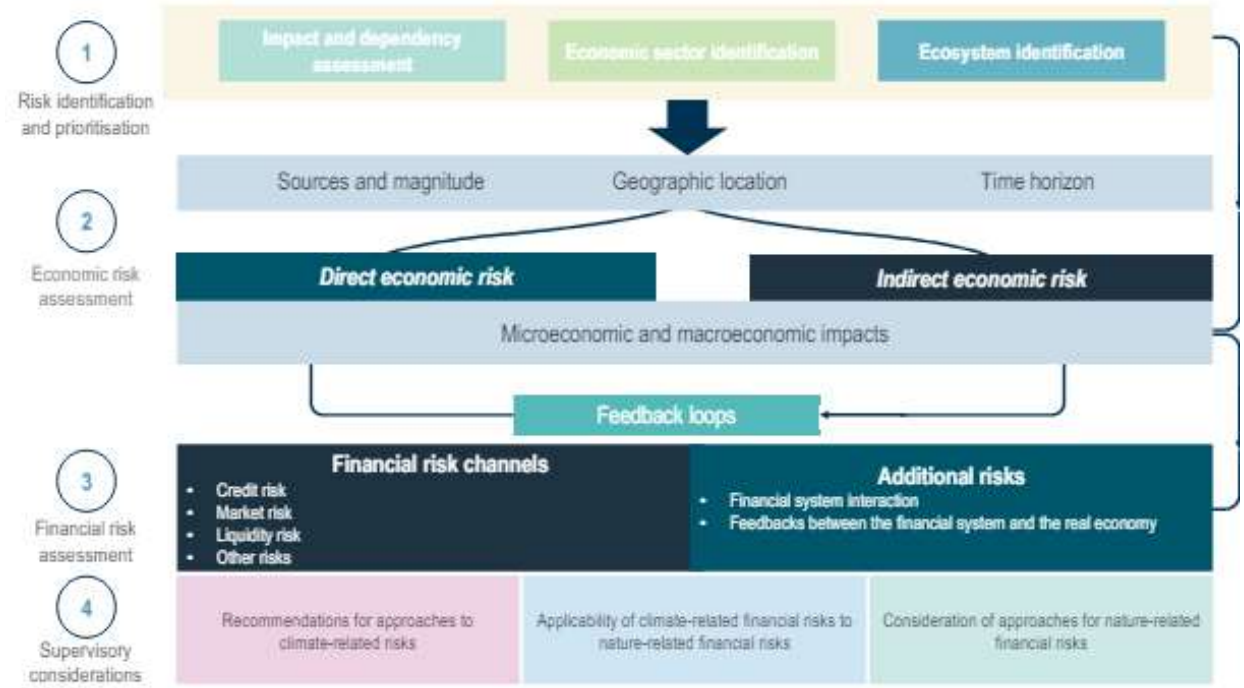
Assessment guide for environmental due diligence of medium/high-risk clients

Environmental risk driver	Relevant risk factors	Due diligence topics	
Biodiversity loss	• Operations in areas vulnerable to biodiversity change • Operations affecting endangered species • Implementation of deforestation policy	Revenues	Dependency on natural capital assets, ecosystems and biodiversity? Impact of depletion of natural capital assets, ecosystems and biodiversity on client's revenue-generating capacity (e.g. reduction in crop yields)? Public sentiment around biodiversity and how this may impact product demand.
		Expenses	Dependency of client's supply value chain on natural capital assets, ecosystems and biodiversity (e.g. in procurement and other contracts)? Are supply chain disruptions likely? Impact of biodiversity issues on client's "local licence to operate" or its access to market capital?
Pollution	• Emission of air/water/land pollutants (weight in tonnes) • Production, use or disposal of chemicals	Revenues	Are consumer preferences shifting towards less polluting alternatives (e.g. trends related to reusable/bio-based materials in view of plastic pollution?)
		Expenses	Compliance with legal obligations on pollution prevention? Any instances of legal non-compliance reported? Pollution-related regulatory restrictions, tax changes or even bans (e.g. ban on single-use plastics, introduction of more stringent emission standards). Future needs to invest in pollution control equipment that yield significant impact on CAPEX?
Water stress	• Exposure to areas of high water stress • Water consumption intensity	Revenues	Are consumer preferences shifting towards less water-intensive options? How sensitive are consumers to prices in this market (assuming that rising water resource costs are priced into products)?
		Expenses	Exposure to the risk of water scarcity either directly as a source of input, or indirectly (e.g. as used for cooling, heating, transport, cleaning, etc.) or through water-dependent supply chains? Any national or regional water-discharge standards that must be met? If not, does the client have a standard policy on its discharges?

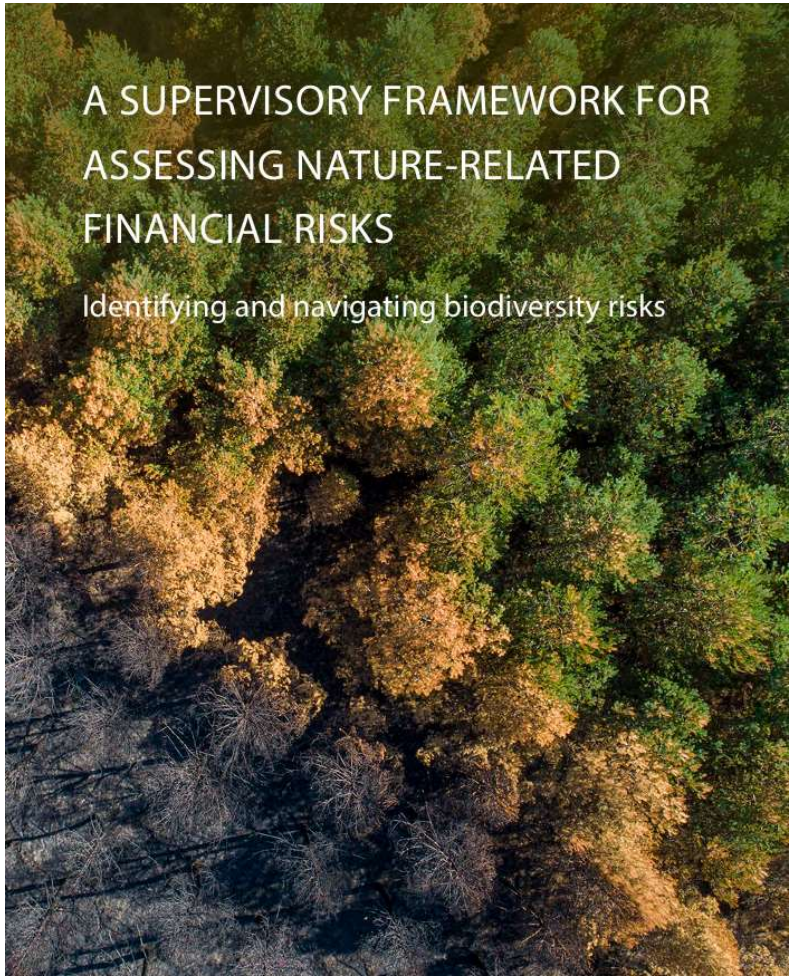
Quelle: ECB Good practises for climate-related and environmental risks;
https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.thematicreviewcercompendiumgoodpractices~12022~b474fb8ed0.de.pdf

OECD – SUPERVISORY FRAMEWORK FOR ASSESSING NATURE-RELATED RISKS

Figure 1.1. Overview of steps for methodological framework



Source: OECD authors' illustration.



- Aligned with NGFS and TCFD expectations

OECD – SUPERVISORY FRAMEWORK FOR ASSESSING NATURE-RELATED RISKS

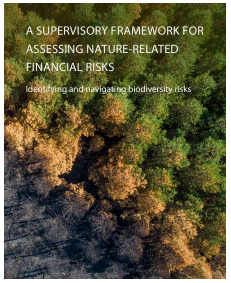


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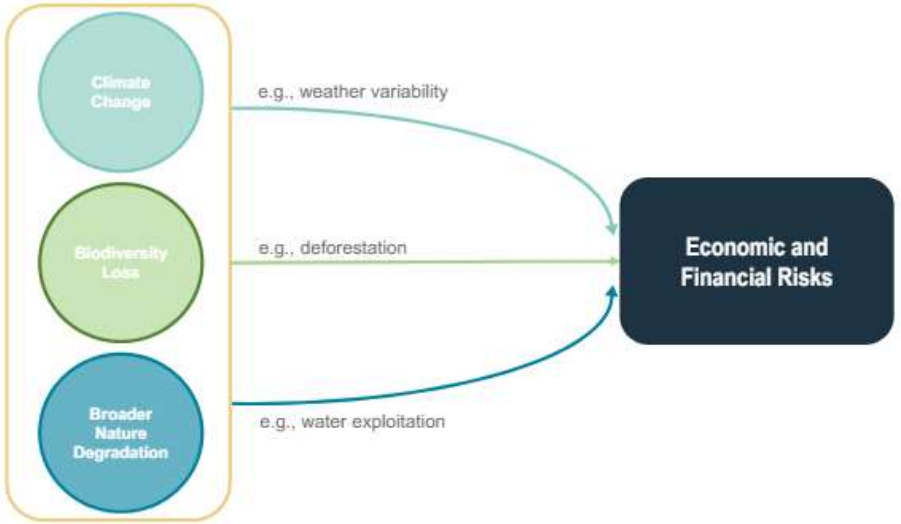
Figure 2.2. Integrated approach to biodiversity-, broader nature-, and climate-related risks



Note: Biodiversity loss, climate change, and broader nature degradation are presented to be distinct, but this is just to illustrate the additionality of each component in this conceptualisation. In reality, it may not be possible to quantitatively distinguish between the economic impacts stemming from each type of risk due to their strong interlinkages
Source: OECD authors' illustration.

- Climate change is a key driver for nature-related risks and vice versa
- Specific impacts of biodiversity loss on economic risks may not be considered in Isolation, due to the close interlinkages
- Effects of climate change and biodiversity loss may reinforce one another, leading to compounding aggregated impacts on the global economy
- ***Most important process step: Identification of transmission channels of biodiversity and nature-related risks into physical and transition risks***
- Assessment of micro- and macro aspects until idiosynkratic shocks

FMA PPT https://www.oecd-ilibrary.org/docserver/a8e4991f-en.pdf?expires=1732383547&id=id&accname=guest&checksum=FC364E8AC4F2967DAECA2C57964DB00A

OECD – SUPERVISORY FRAMEWORK FOR ASSESSING NATURE-RELATED RISKS

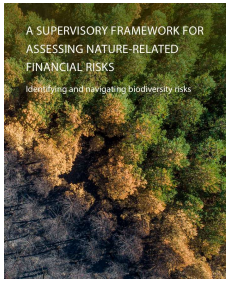


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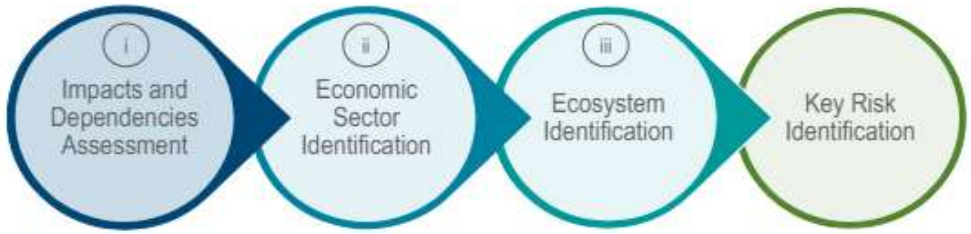
Figure 3.1. A three-phase approach to identify and prioritise nature-related risks

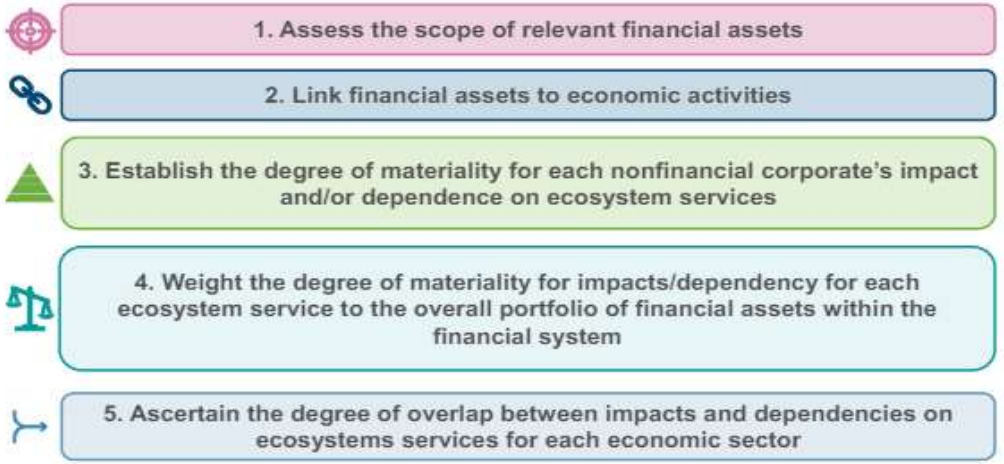


Process for identification and priorisation of nature-related risks with greatest relevance for financial materiality

Source: OECD authors' illustration.

- Assessment of impacts and dependencies
  - Dependencies between financial systems and nature-related risks and biodiversity
  - Assessment of double materiality, assessment of exposure of the financial system vis-a-vis nature-related risks

Figure 3.2. Proposed methodological steps to assess impacts and dependencies



Note: Financial authorities may determine the most appropriate method for establishing overlap; however, the purpose is to identify areas which may be exposed to both physical and transition risks.
Source: OECD authors' illustration.

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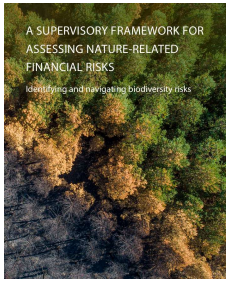
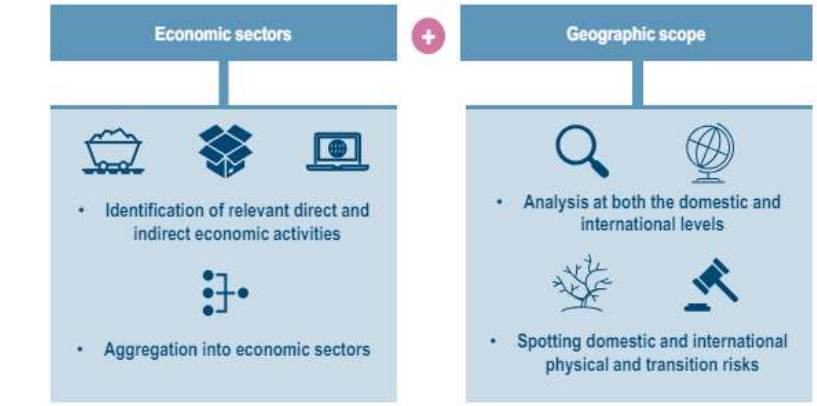
OECD – SUPERVISORY FRAMEWORK FOR ASSESSING NATURE-RELATED RISKS



- 2. Identification of economic sectors:
  - Clustering of economic activities according to their dependencies of and their impact on ecosystem services
  - Nonfinancial corporates with the highest degree of materiality regarding impacts and/or dependencies, and the number of ecosystem services which are impacted and/or depended

- 3. Ecosystem identification:
  - Identification of the most relevant ecosystems services using the results of the impacts and dependencies assessment;
  - Identification of the main drivers of nature loss and general threats to the integrity of the key ecosystem services;
  - Performance of an assessment of the current and forecasted state of nature.

Figure 3.3. Phase 2. Economic sector identification



Source: OECD authors' illustration.

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OECD – SUPERVISORY FRAMEWORK FOR ASSESSING NATURE-RELATED RISKS

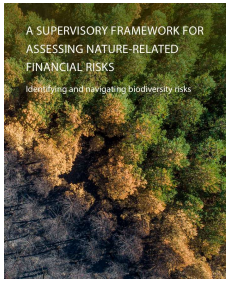

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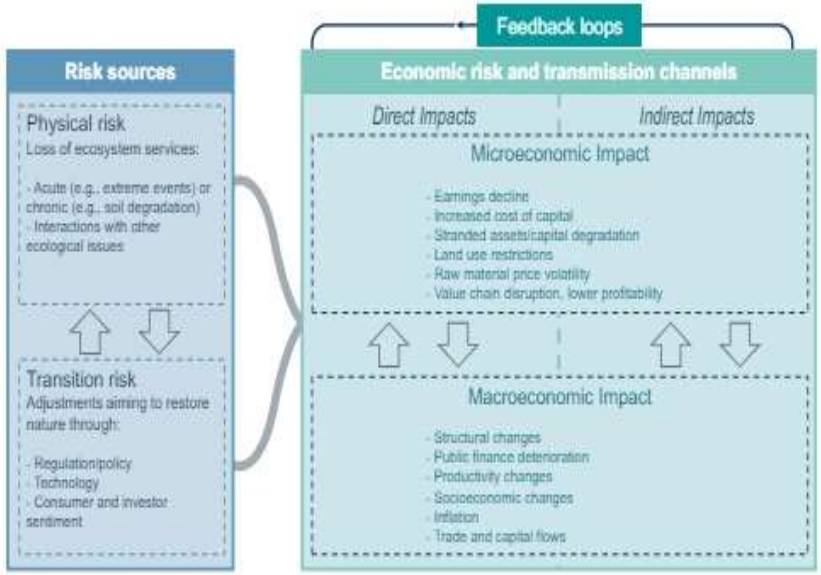
Figure 4.1. Economic risk conceptualisation and transmission channels



Note: Additionally, liability risk can be considered a subset of both physical and transition risk. There is not a clear distinction between the economic impacts stemming from direct and indirect impacts. Direct impacts stem from sectors with a direct interface with nature, whereas indirect impacts stem from impacts in the upstream value chain and the broader economy.
Source: OECD authors' illustration, adapted from NGFS (2023[11]), *Nature-related Financial Risks: a Conceptual Framework to guide Action by Central Banks and Supervisors*, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_conceptual-framework-on-nature-related-risks.pdf

- Economic risk origination:
  physical and transition risk channels
  - physical: acute and chronic
  - transition: policy, technology and sentiment, concrete physical location

- Materialisation of economic risks: assessment on micro and macro level, micro-economic level requires substantial amount of data

  - Feedback-Loops and mutual contagion effects

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BIODIVERSITY AS BUSINESS OPPORTUNITY

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