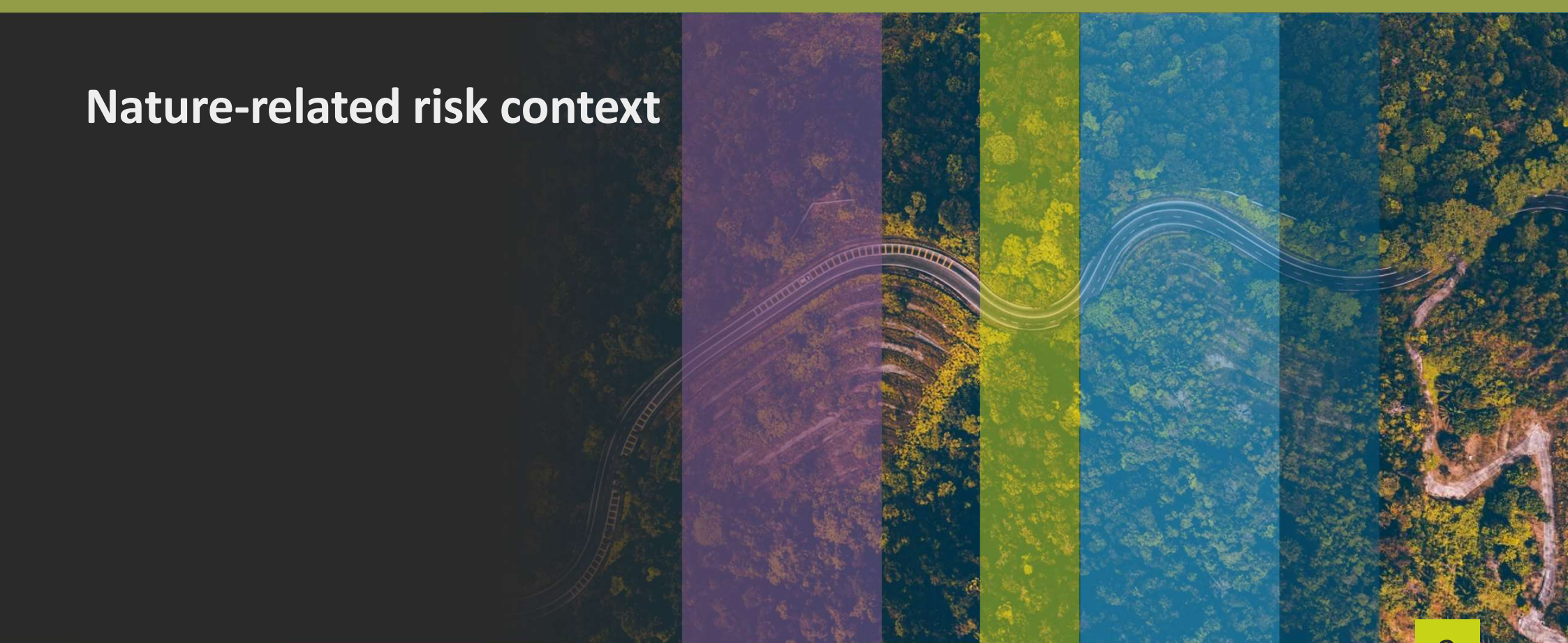




# Nature-related risk context



# The Challenge



**69%**

***decrease in  
wildlife population  
since 1970***

*(Living planet report 2022)*

**2 billion**

***poorest people rely  
upon direct access  
to natural resources  
for their livelihoods***

*(UNDP)*

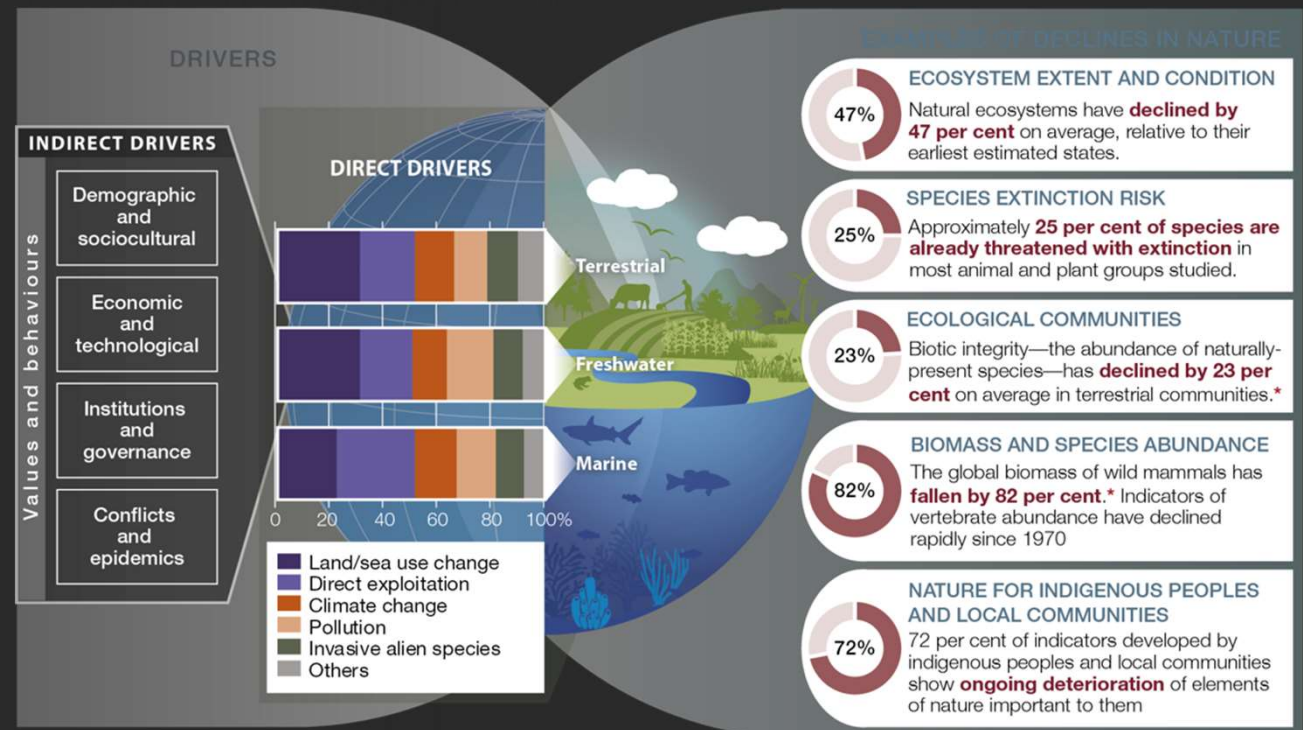
**\$2.7 trillion**

***annual decline in  
global GDP could be  
caused by ecosystem  
collapse by 2030***

*(World Bank)*

# Nature-related risks are material

The Global Assessment released by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) states that “much of nature has already been lost, and what remains is continuing to decline.” To date, 70% of land systems, 50% of freshwater, and 40% of oceans and seas have been significantly altered. Previous monetary values associated with this loss is estimated at USD 125-145 trillion/year in 2011.



# Reinforcing biodiversity feedback loops (Planetary Boundaries)

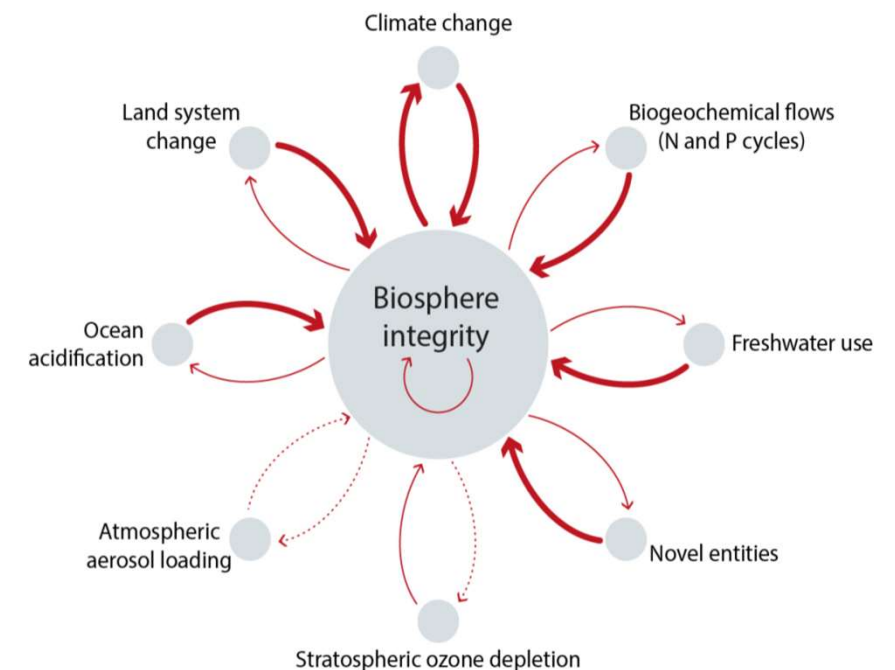


Earth-system process	Control variable(s)	Planetary boundary (zone of uncertainty)	Current value of control variable
Climate change (R2009:same)	Atmospheric CO <sub>2</sub> concentration, ppm	350 ppm CO <sub>2</sub> (350-450 ppm)	398.5 ppm CO <sub>2</sub>
	Energy imbalance at top-of-atmosphere, W m <sup>-2</sup>	+1.0 W m <sup>-2</sup> (+1.0-1.5 W m <sup>-2</sup> )	2.3 W m <sup>-2</sup> (1.1-3.3 W m <sup>-2</sup> )
Change in biosphere integrity (R2009: Rate of biodiversity loss)	Genetic diversity: Extinction rate*	< 10 E/MSY (10-100 E/MSY) but with an aspirational goal of ca. 1 E/MSY (the background rate of extinction loss). E/MSY = extinctions per million species-years	100-1000 E/MSY
	Functional diversity: Biodiversity* Intactness Index (BII)	Maintain BII at 90% (90-30%) or above, assessed geographically by biomes/large regional areas (e.g. southern Africa), major marine ecosystems (e.g., coral reefs) or by large functional groups	84%, applied to southern Africa only

\* These are interim control variables until more appropriate ones are developed

The planetary boundary for biodiversity integrity has been exceeded to **'beyond the zone of uncertainty'** largely based upon the assumption that biodiversity has been poorly 'measured' and that we actually do not know what we are currently losing.

<https://www.stockholmresilience.org>



- .....→ Weak effect reducing the safe space of the affected factor, or complex effect with large uncertainties
- As this factor moves away from its safe space, the safe space for the affected factor shrinks a little
- As this factor moves away from its safe space, the safe space for the affected factor shrinks a lot

# Why we work on nature with business and financial institutions?



**\$58  
trillion**

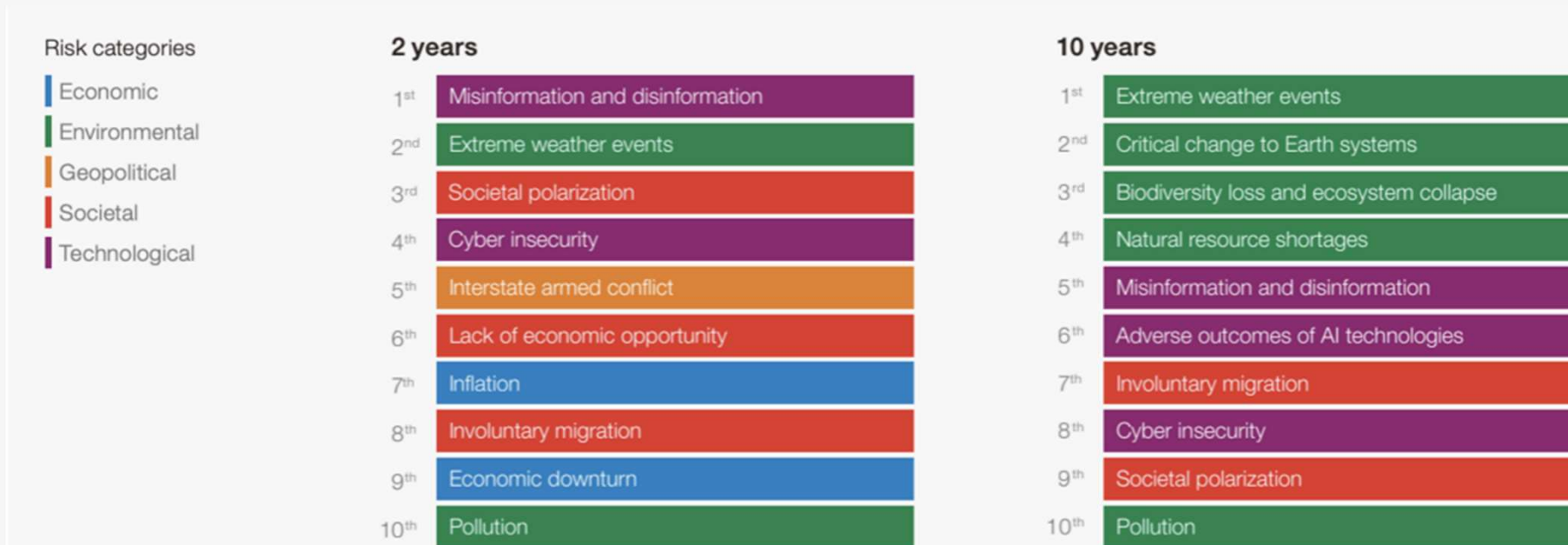
namely **over 50%** of global GDP, is **moderately or highly dependent on nature** (PWC 2023)

**\$10  
trillion**

in annual business value **could be generated by a new nature-positive economy by 2030** (WEF)

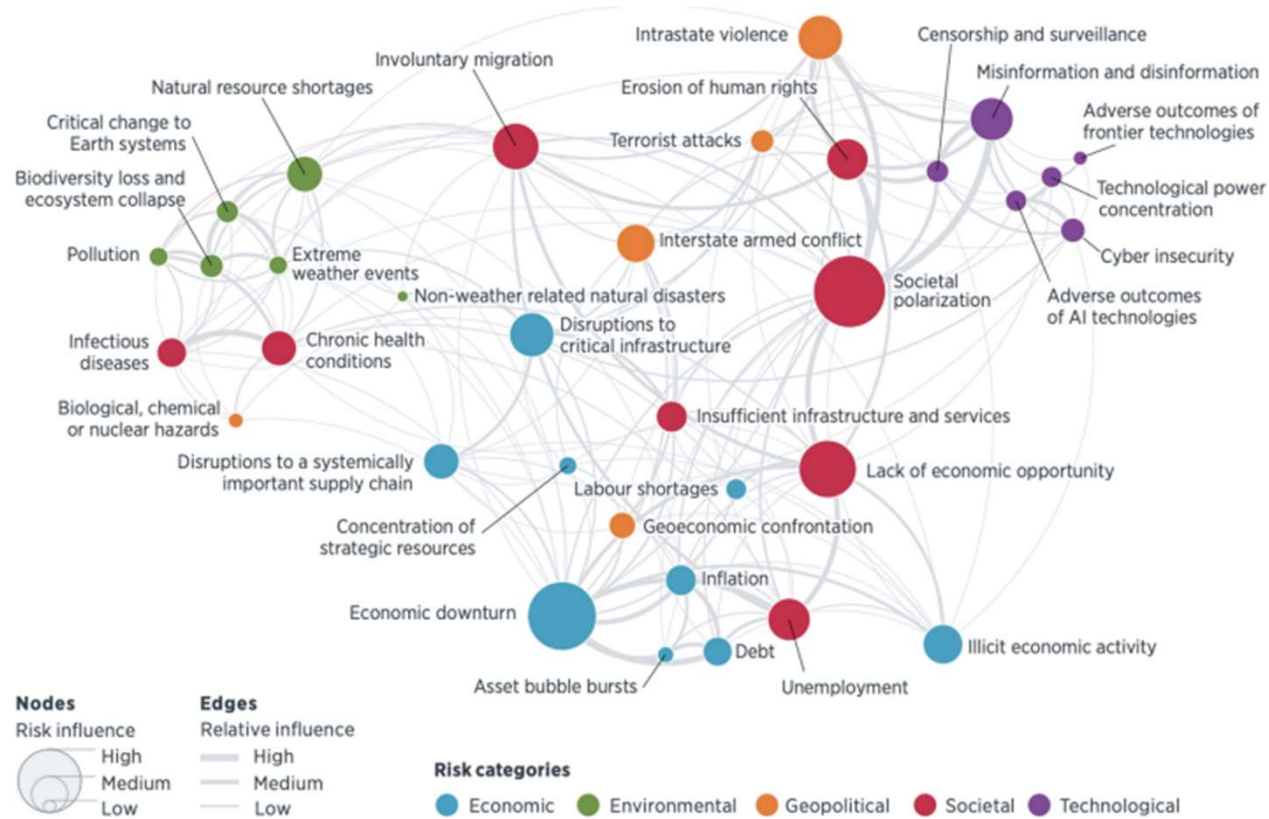
# Evolving business risk landscape

## Global risks ranked by severity over the short to medium term



Source: WEF Global Risks Report (2024)

# Hyperconnectedness amongst risks



Source: WEF Global Risks Report (2024)

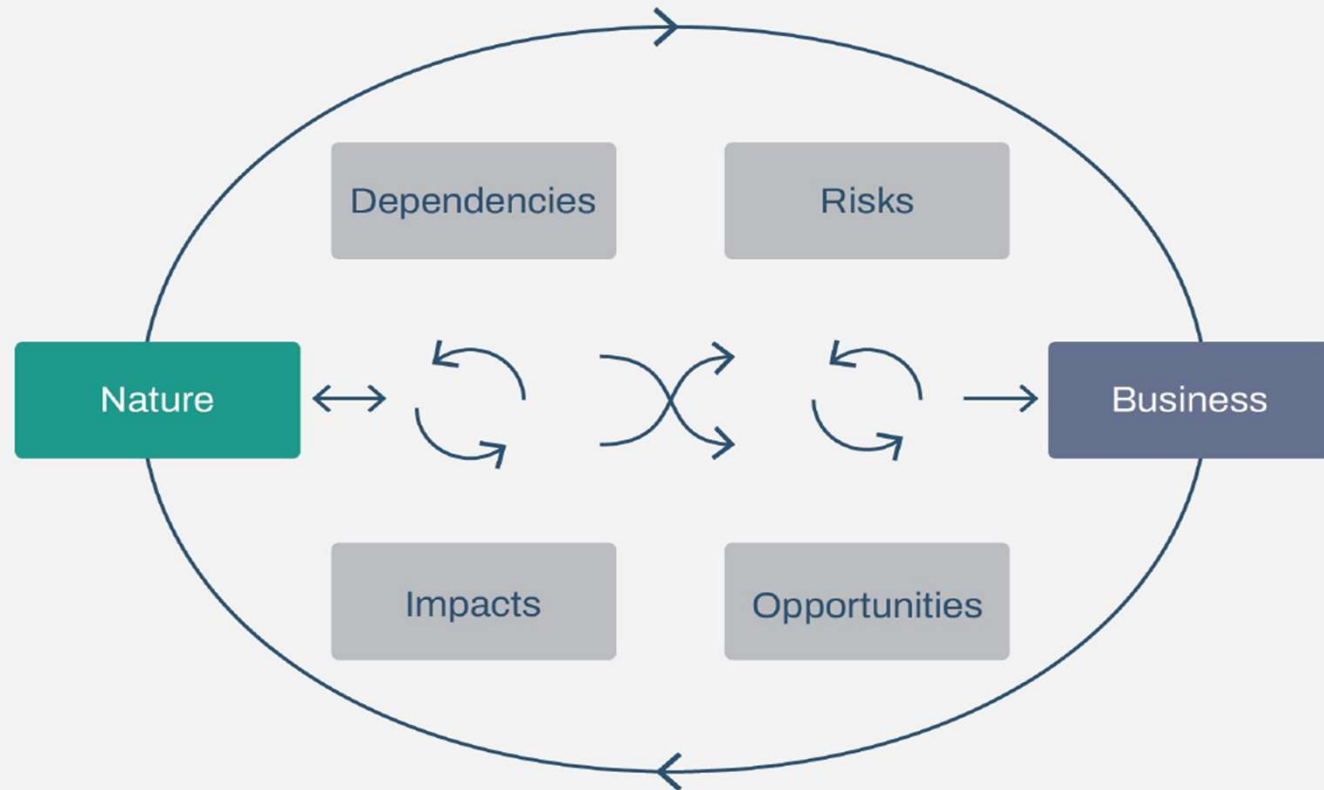
Source: World Economic Forum Global Risks Perception Survey 2023-2024



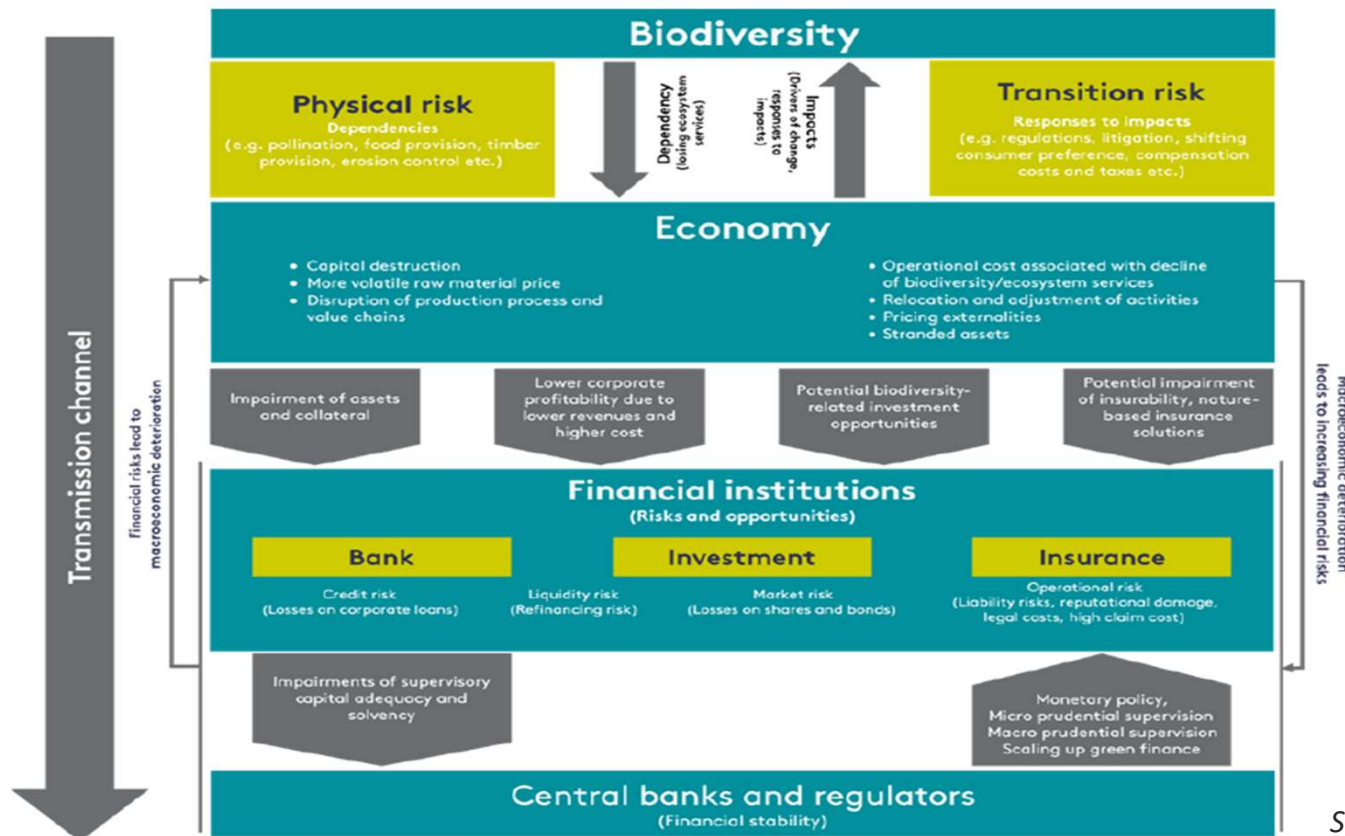
# Nature disclosures: Dependencies, risks, impact and opportunities

## The four building blocks for understanding the business/nature interface

Nature-related issues: dependencies, impacts, risks, opportunities



# Nature-related risks manifest as financial risks



Source: NGFS INSPIRE (2021)



“Natural Capital is the next frontier in  
Financial Risk Management”

# ENCORE: A tool to help visualize links between the economy and nature



- Synthesises large body of literature on natural capital



- Helps users build understanding of dependencies and impacts

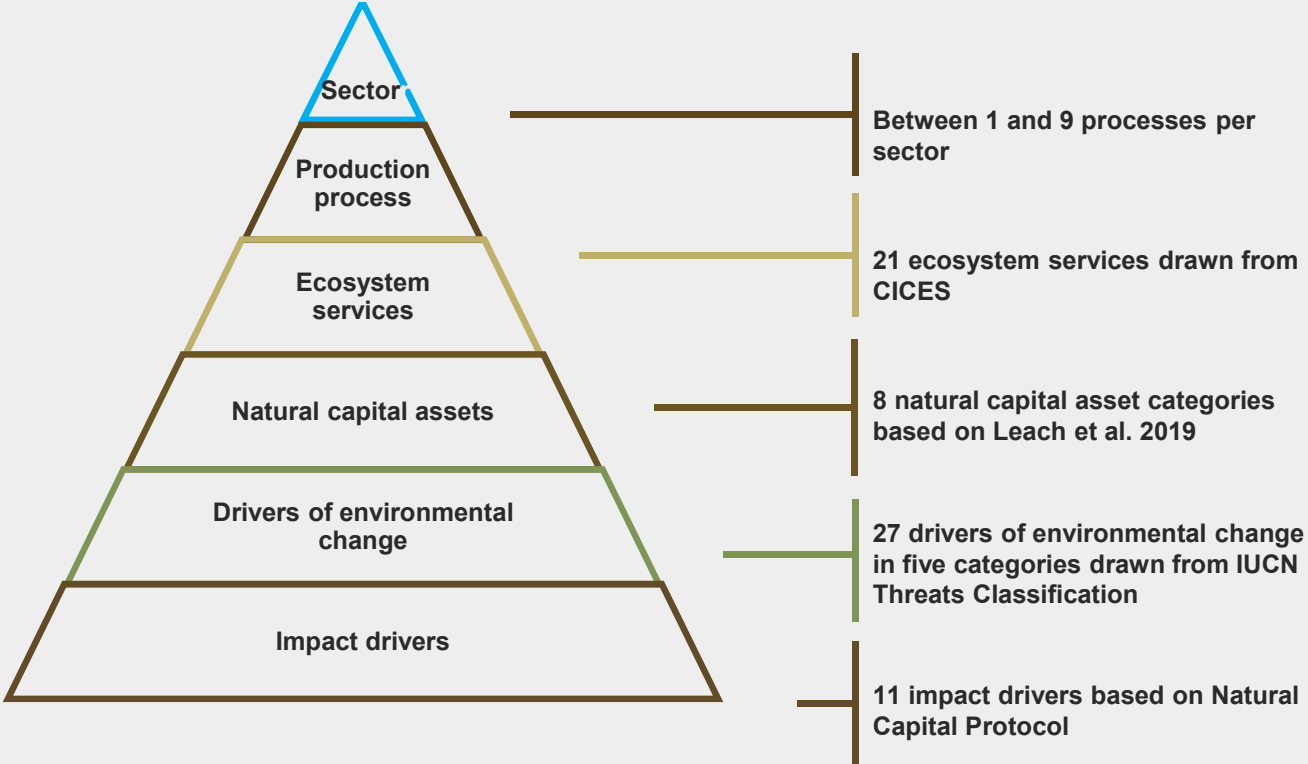


- Provides a foundation for further detailed analyses

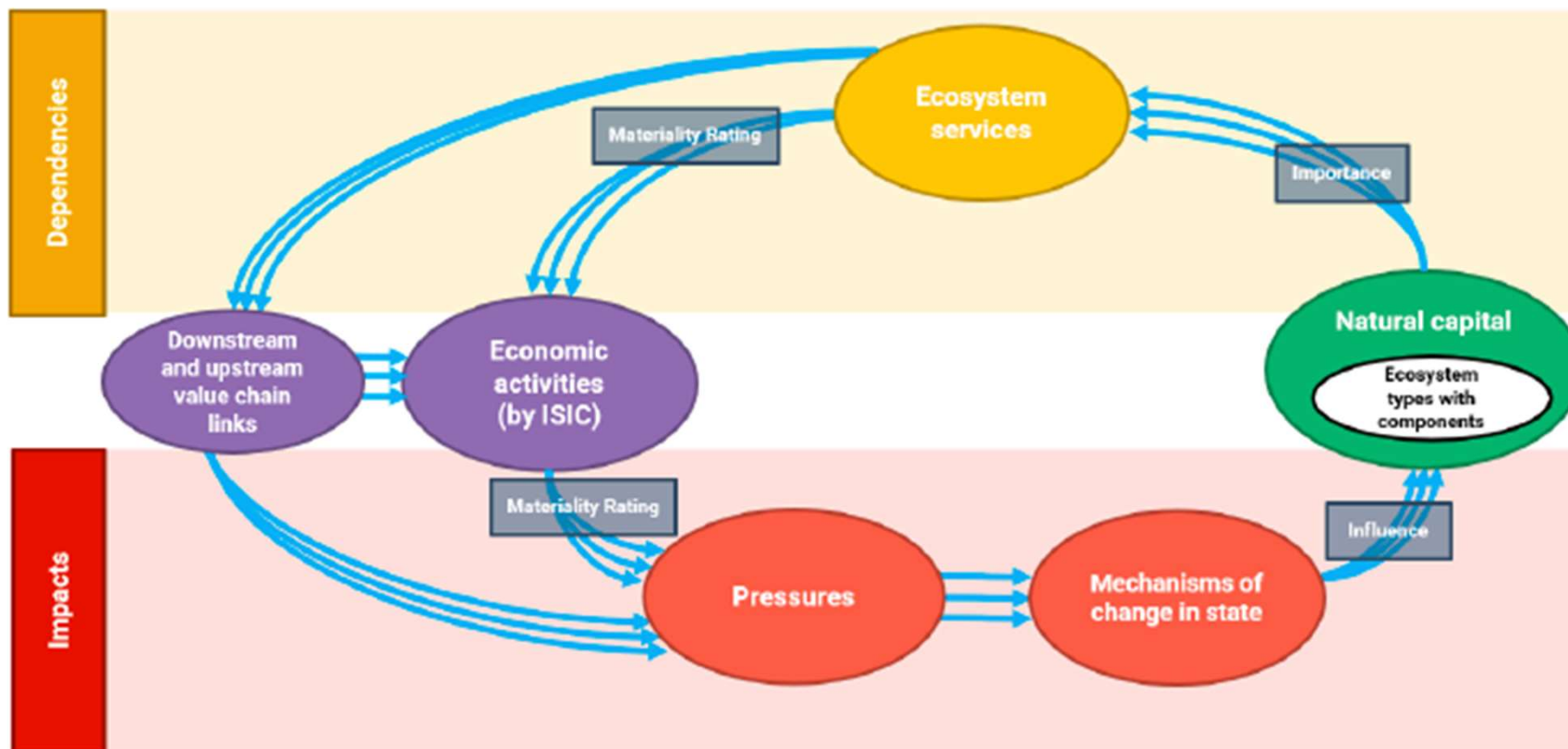
The screenshot displays the ENCORE website interface. At the top, there is a navigation bar with the ENCORE logo and menu items: Dashboard, Explore, Data & Methodology, News, Resources, About, and Alena Cierna. The main header features the title "Exploring Natural Capital Opportunities, Risks and Exposure" over a background image of a forest. Below the header is a search and filter interface with the following elements:

- A prompt: "Select from a Sector or Sub-industry (based on the Global Industry Classification Standard) to explore dependencies and impacts on natural capital."
- Fields for "Sector" and "Sub-industry".
- A "View" section with radio buttons for "Dependencies" (selected) and "Impacts".
- A search input field with the placeholder text "- Enter a Sector -" and a magnifying glass icon.
- An "EXPLORE" button.

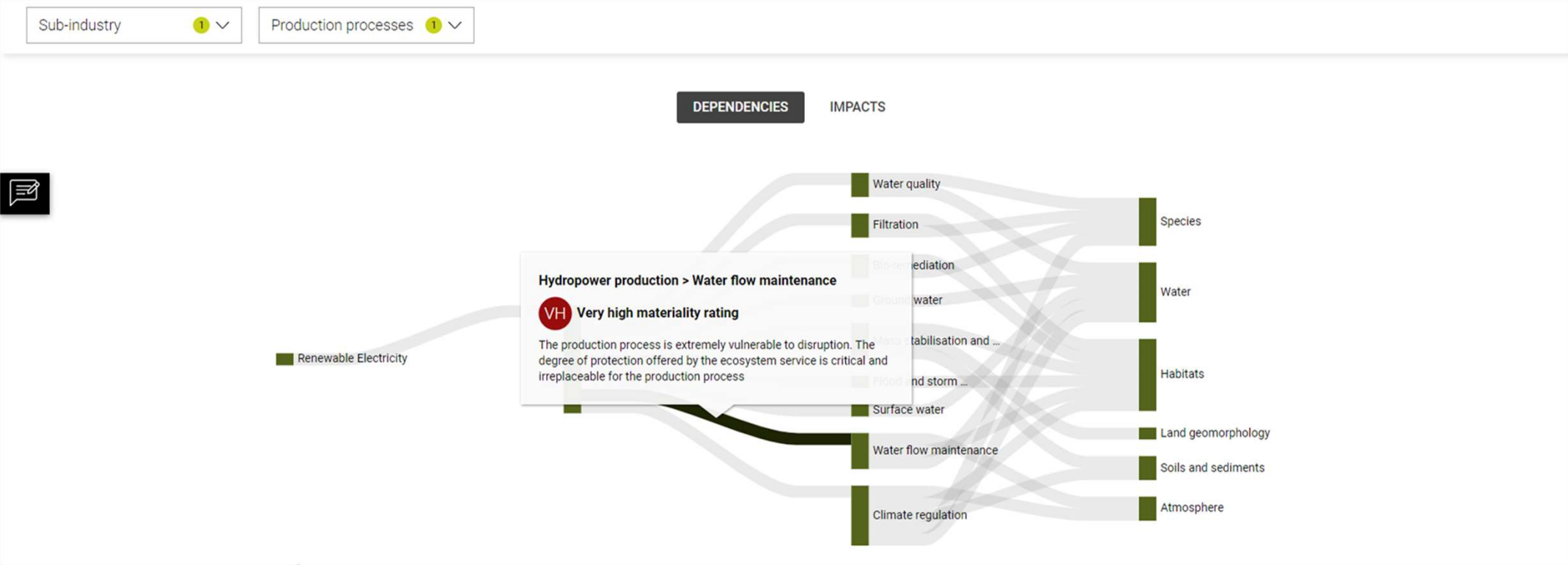
Logos for UN, WCMC, and Global Canopy are visible at the bottom of the search interface. Below the main content area, there is a blog post titled "ENCORE - A key tool for TNFD's LEAP approach" with a "READ OUR BLOG" button. To the right, there is a featured article titled "How financial institutions can use ENCORE to meet the new Taskforce on Nature-related Financial Disclosures Recommendations" dated September 2023, with social media share icons.



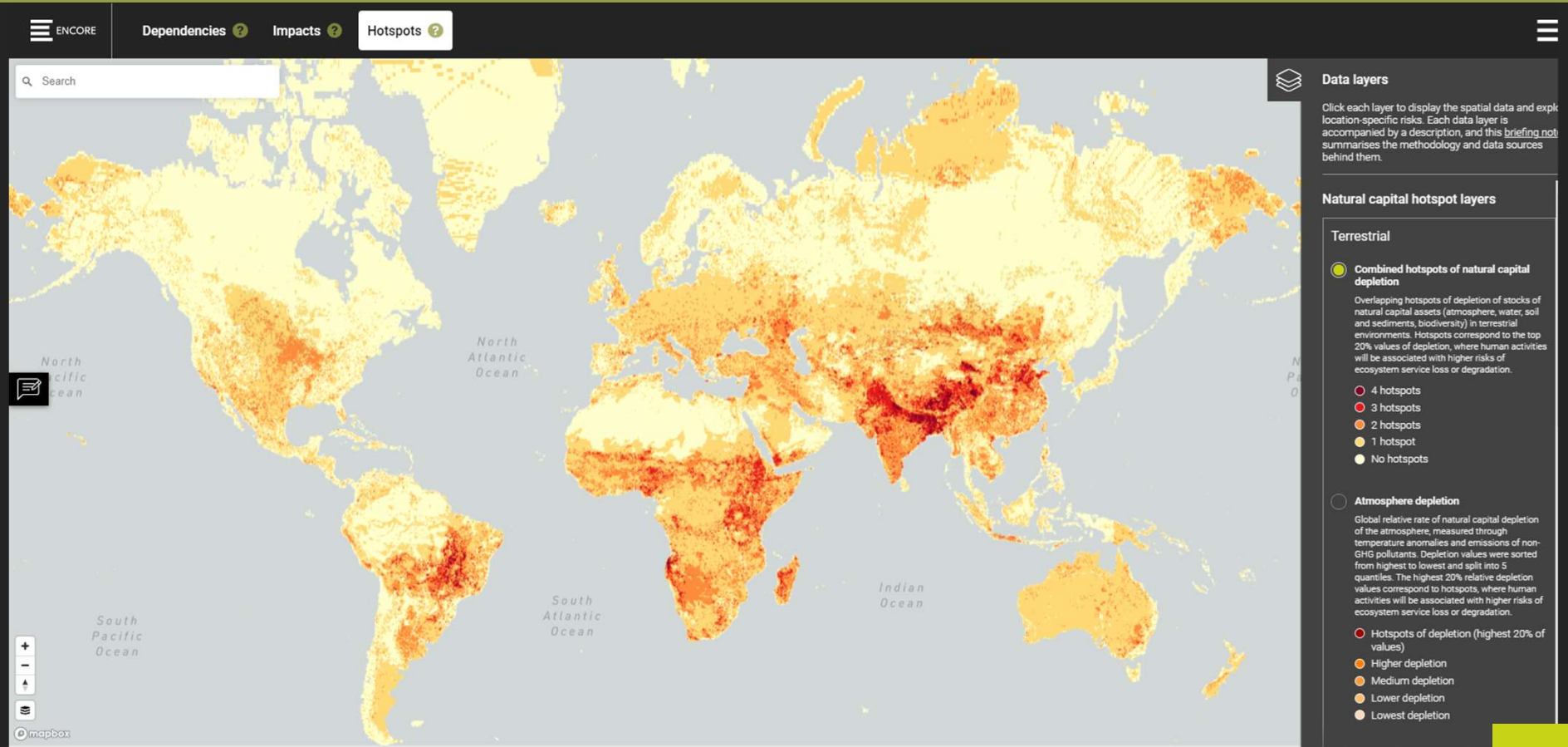
# The ENCORE database



# Visualize dependency and impact flows



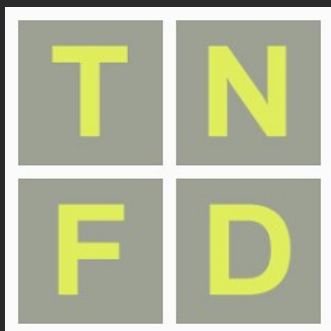
# View hotspots of natural capital depletion and other spatial data layers



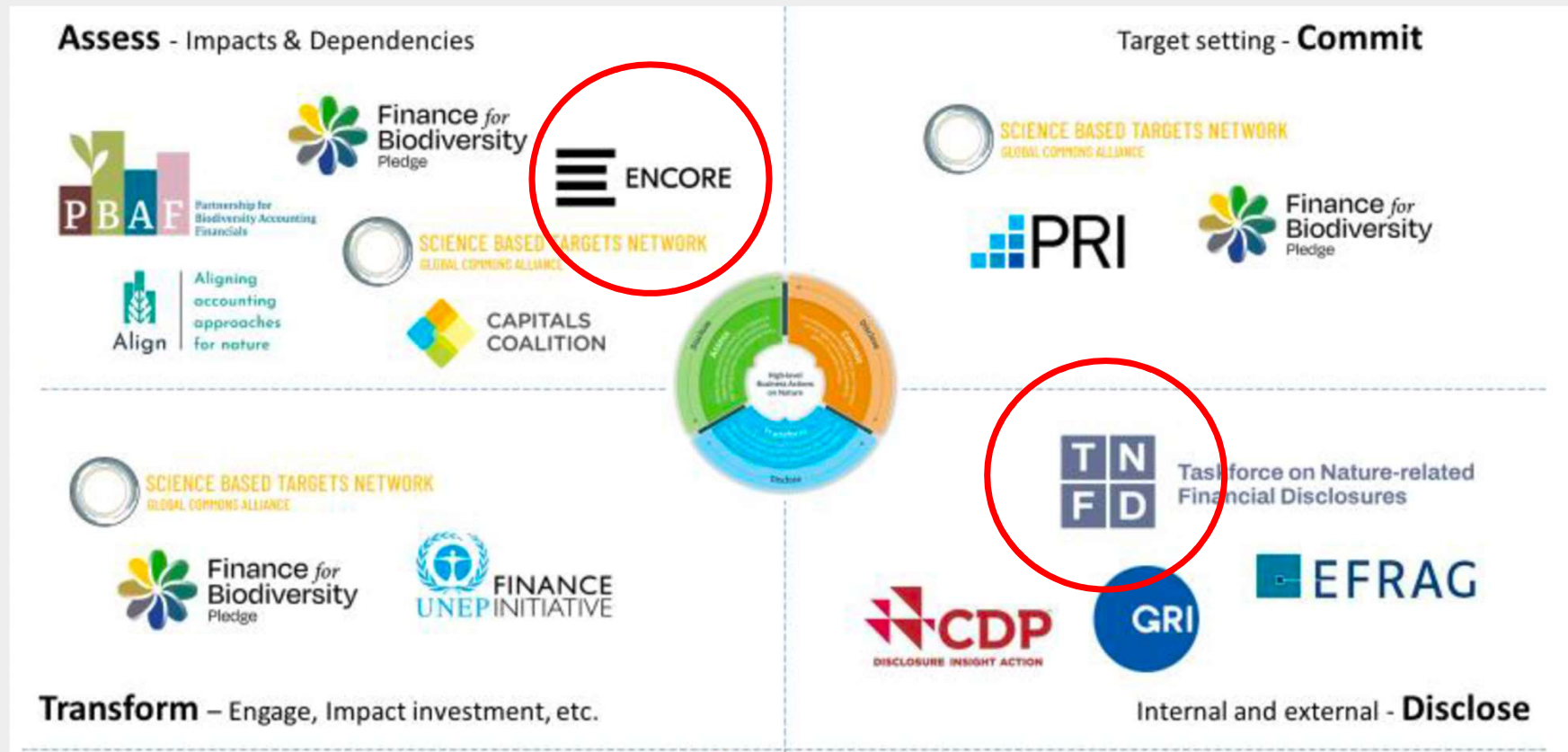


# ENCORE and the TNFD

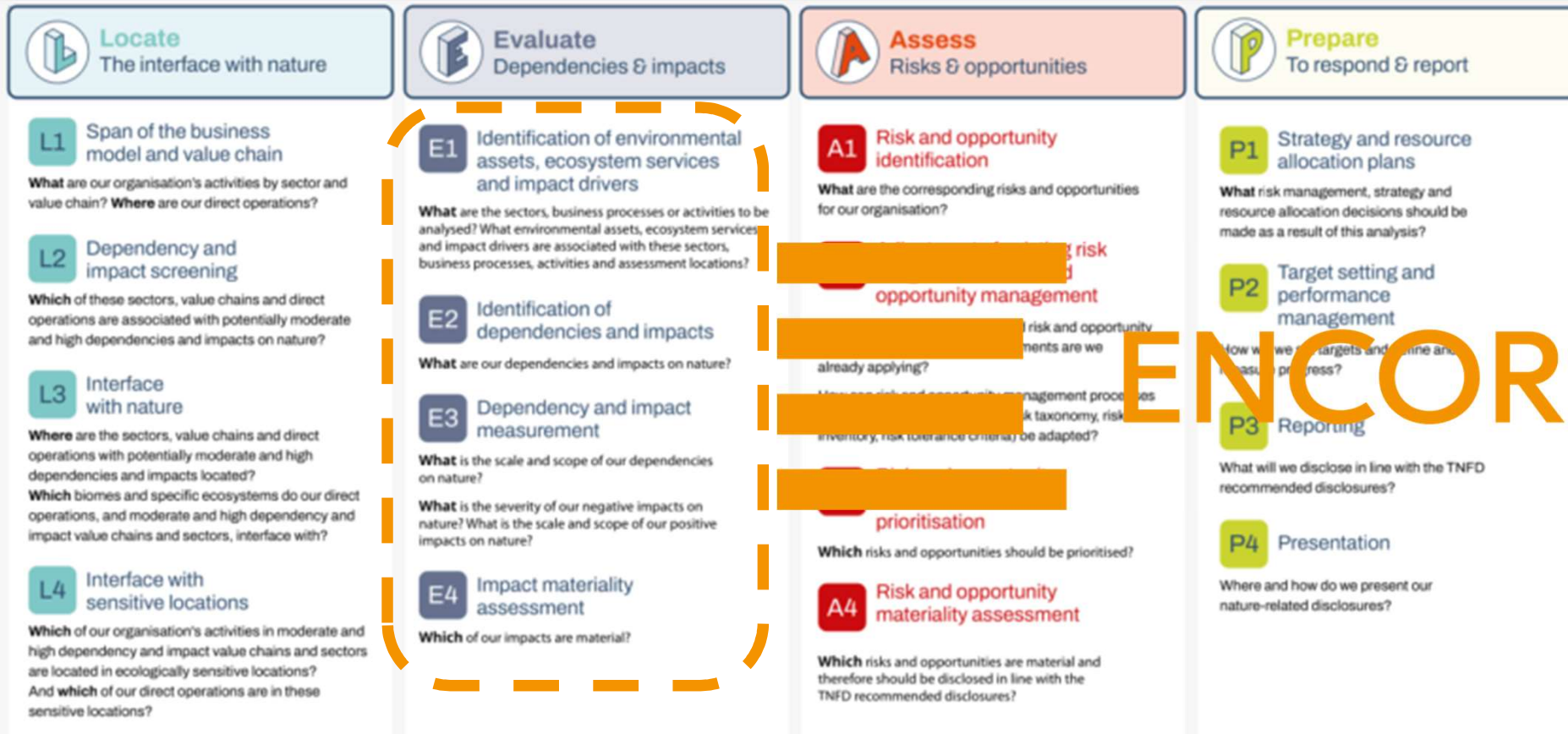
Shifting the Flow of Global Capital  
for Nature Positive Outcomes



# ENCORE and the disclosure ecosystem



# ENCORE applied in the TNFD 'LEAP' process

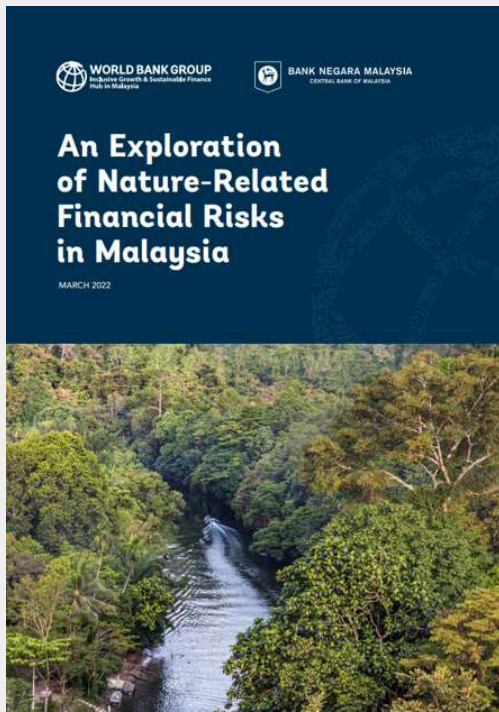


ENCORE

# ENCORE Applied



# Work building from ENCORE



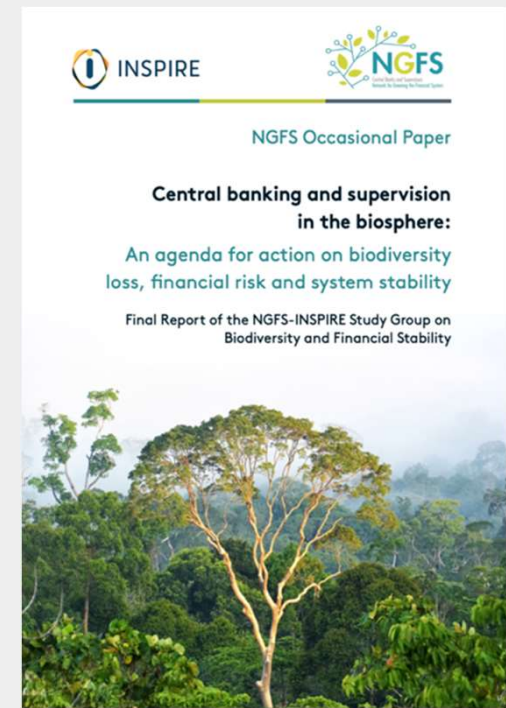
World Bank and Bank Negara Malaysia (March 2022)



Dutch Central Bank (June 2020)



Philippine Central Bank (June 2023)



Network for Greening the Financial Sector (March 2022)

# BIOFIN Mexico: Central Bank Study

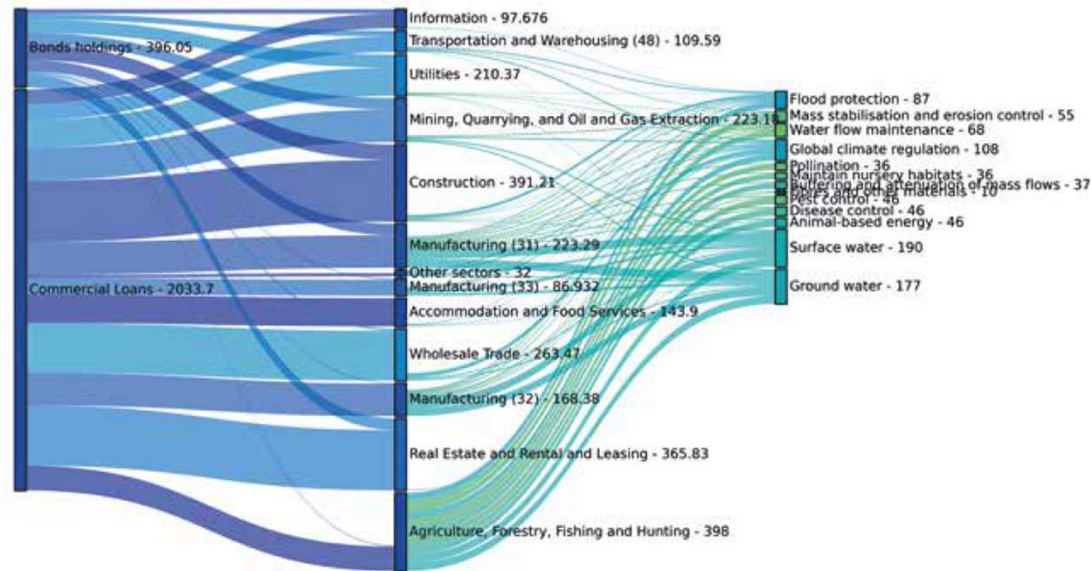
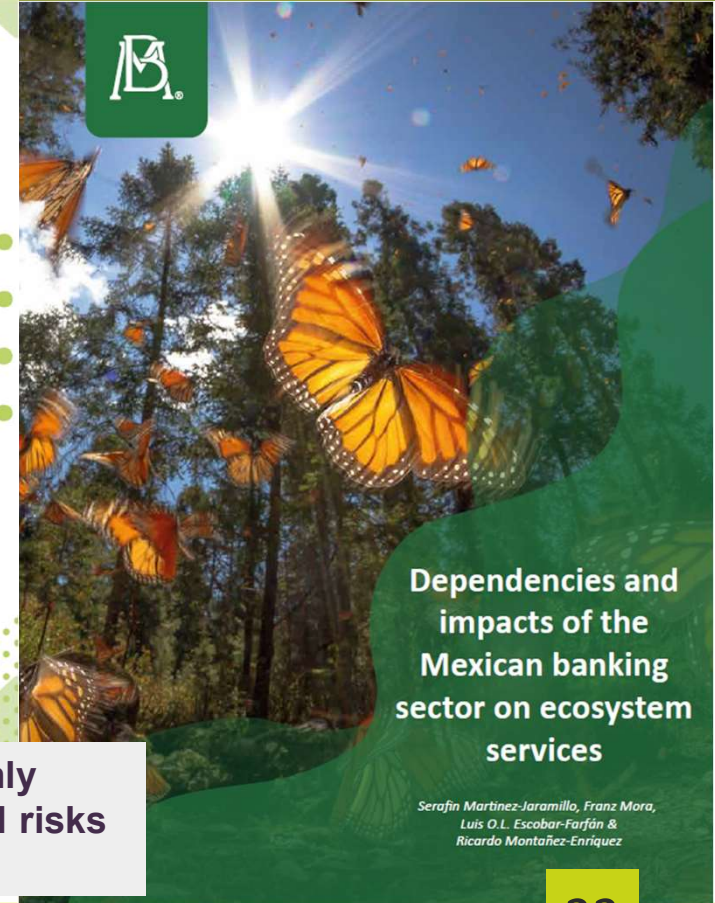


Figure 12: Exposures and Eco-systemic Dependencies of the Mexican Banking Sector.

An important share of the **credit portfolio of banks in Mexico is highly or very highly dependent on nature** and its ecosystem services. As a result, it is subject to **physical risks** arising from biodiversity loss and ecosystems degradation.

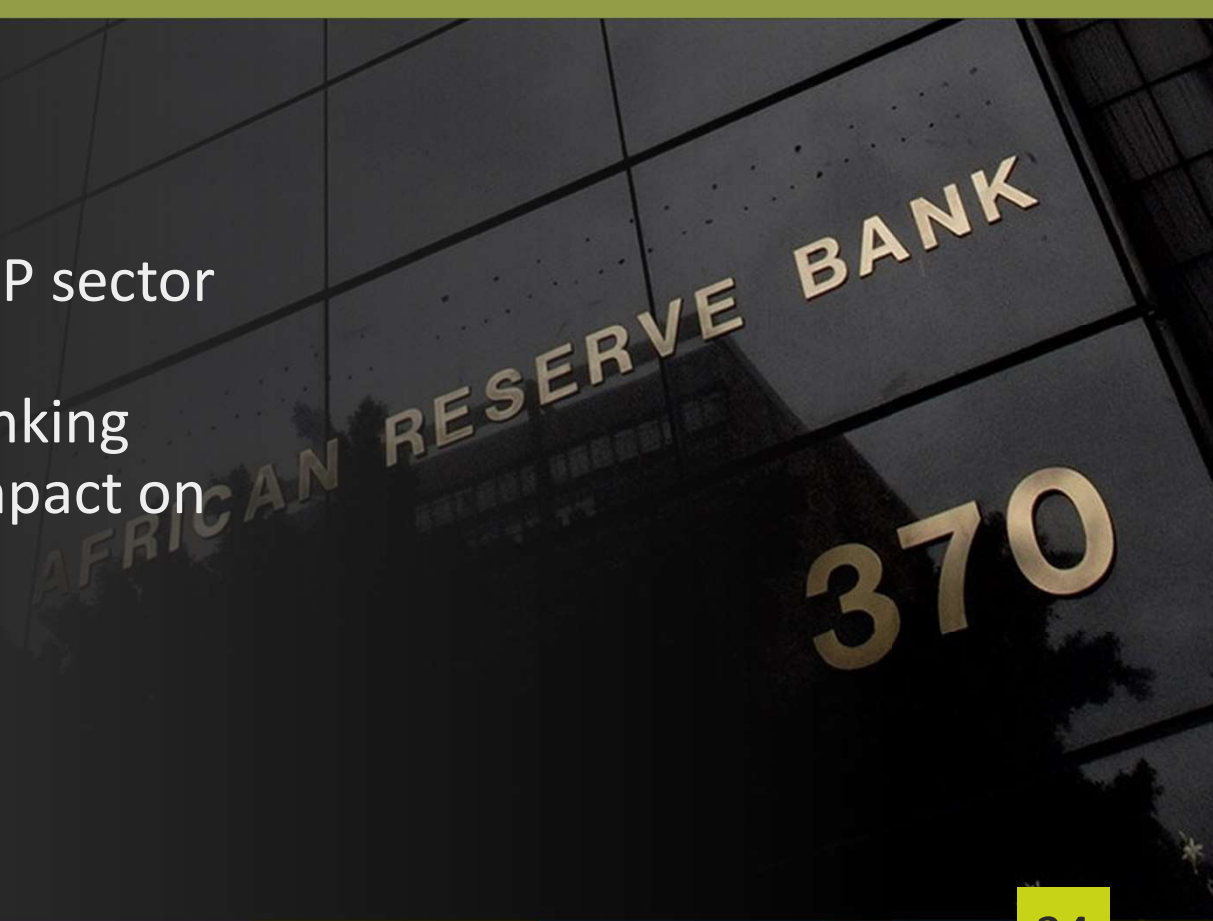




## Applying ENCORE: A domestic bank perspective

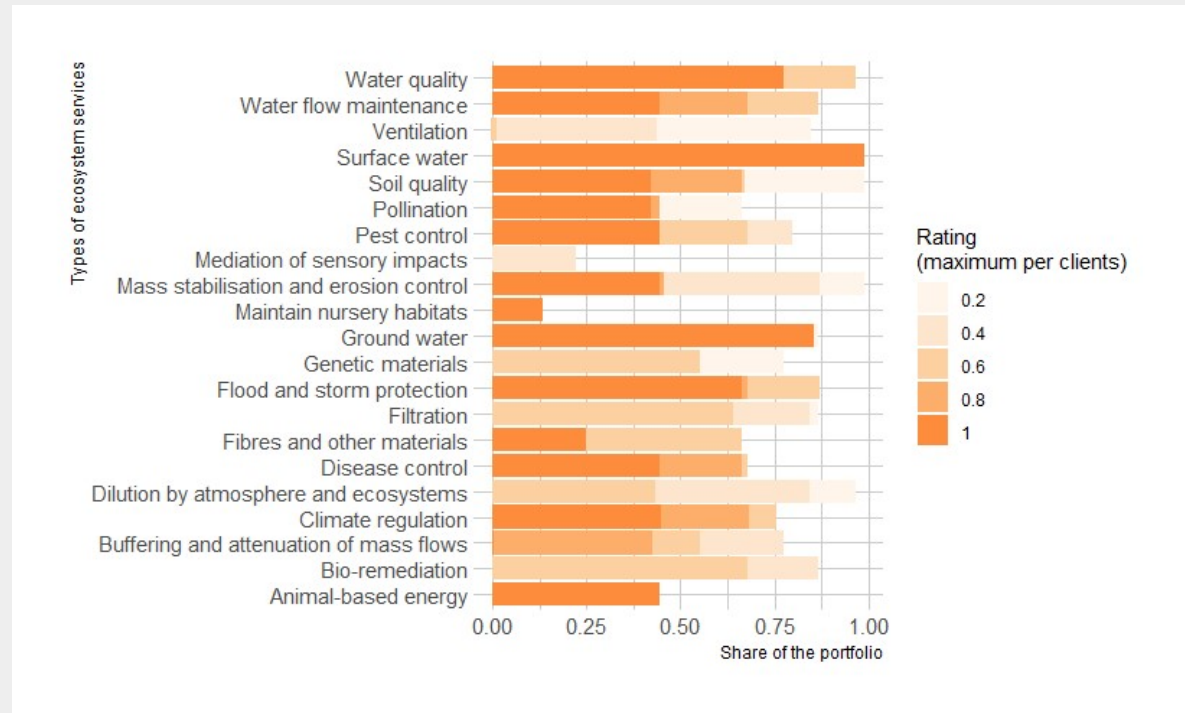
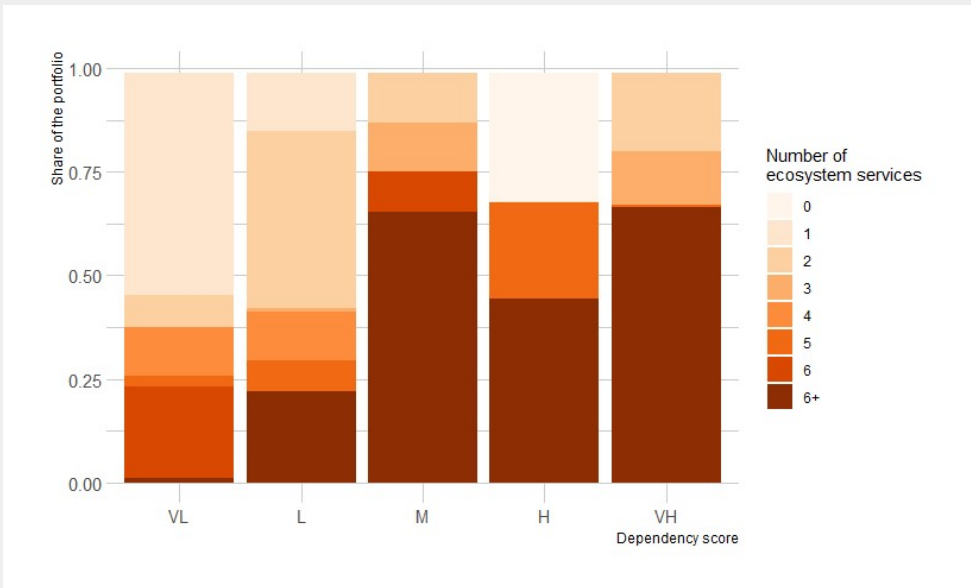


What is the association between GDP sector exposure to nature-related risks and dependencies, and the domestic banking sector exposure and its potential impact on finance system stability?

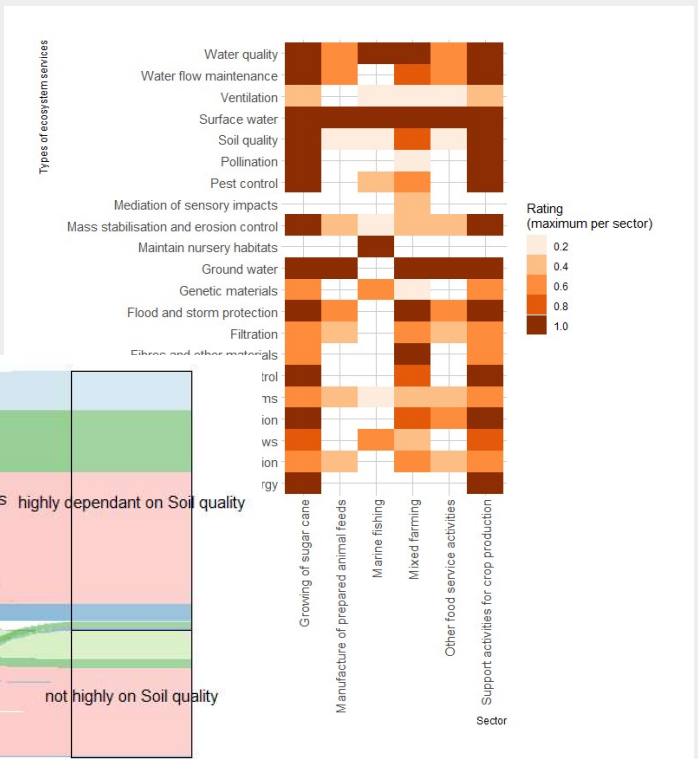
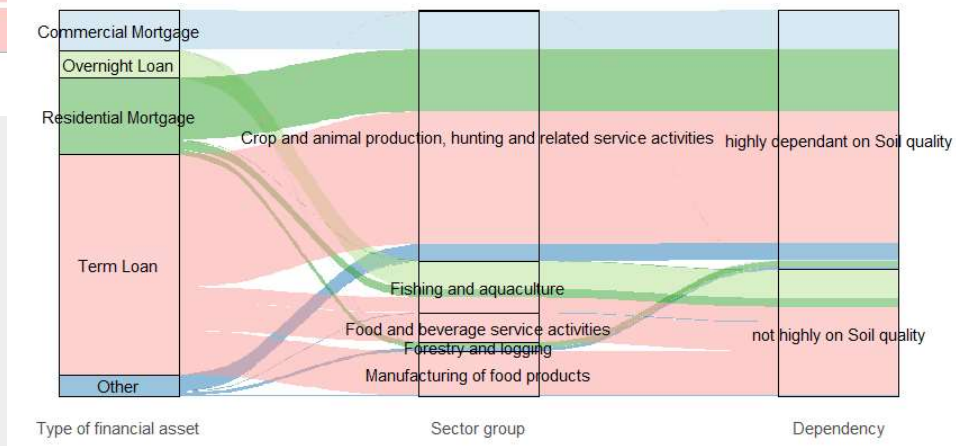
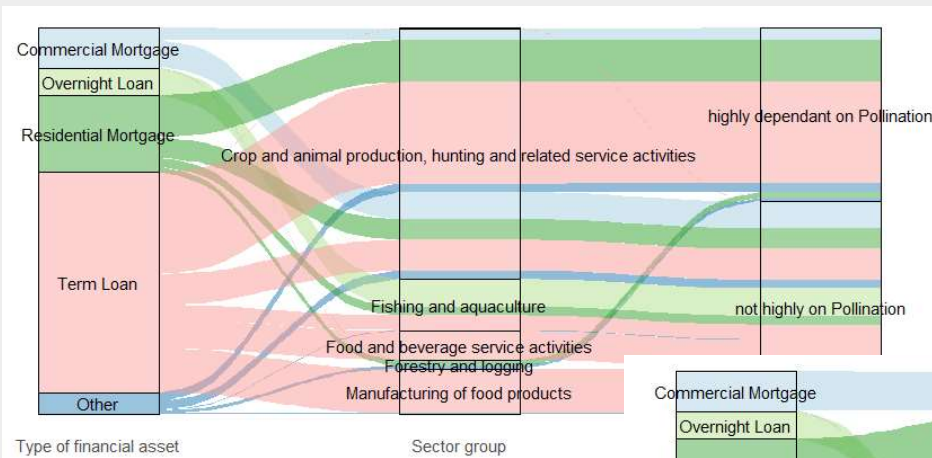




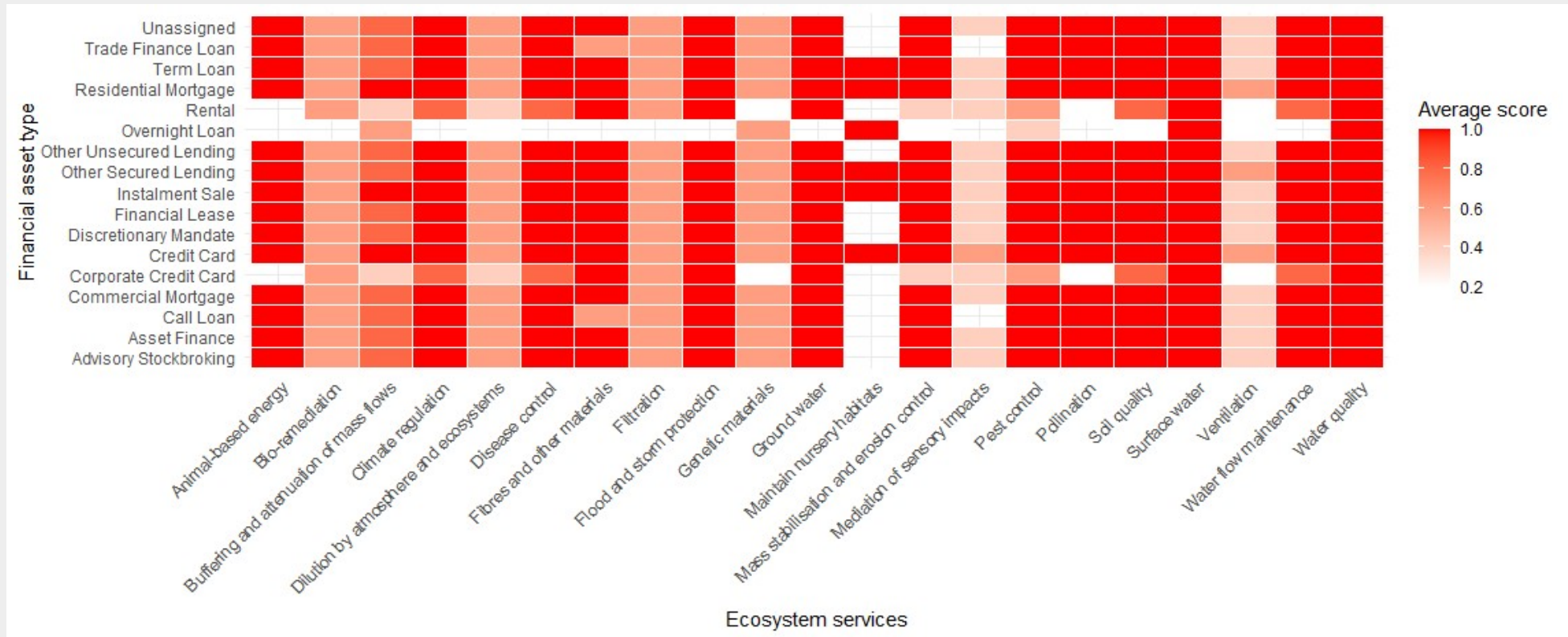
# Applying ENCORE to understand Agri-financing Portfolio N-R Risk exposure



# Material Ecosystem N-R Risk exposure



# Economic instrument exposure to N-R risks and ecosystem services



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