

Biodiversity – the new frontier for sustainable finance

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Nature is us

*100% of Global
GDP is 100%
Dependent on
Nature*

75% of global food crop types rely on pollination

40% of invertebrate pollinator species are threatened with extinction

60% of irrigated wheat production occurs in areas of extremely high water stress

50% of crops are at risk from soil erosion

23% of land globally has diminished productivity because of degradation

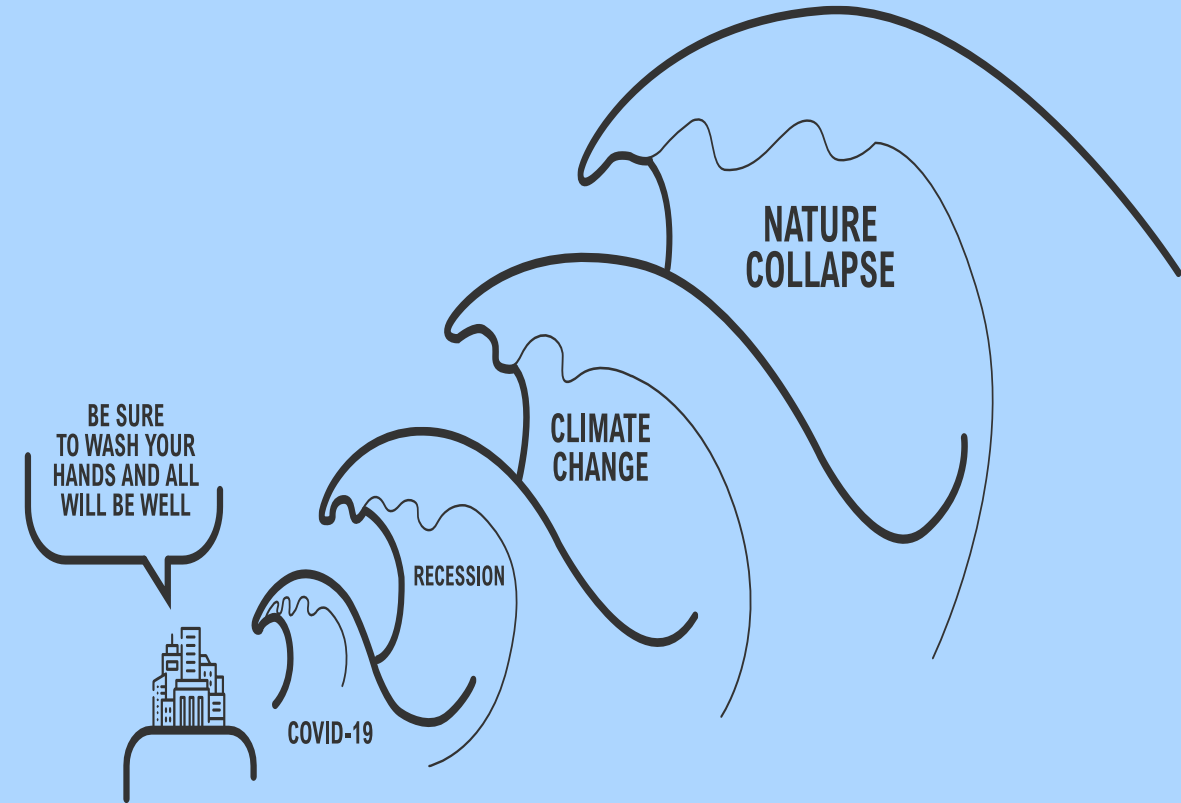
2 billion tons of CO2 emission are absorbed by forests every year, making forest ecosystems the largest terrestrial carbon sink

420 million hectares worldwide were lost to deforestation in the 30 years that ended in 2020

70% of cancer drugs are natural or inspired by nature

Nature in Trouble

- ❖ Vertebrates decline by a 68% since 1970
- ❖ 90% of world's large fish have disappeared
- ❖ 1,000,000 species are at risk, today



Source: Image adapted from artwork by Graeme Mackay

“Biodiversity is being degraded faster than at any other point in human history”

Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

Nature Risks – More, Bigger, Scary

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**OPINION
GUEST ESSAY**

The Coming Crisis Along the Colorado River

Aug. 4, 2022



John Locher/AP

'We worry about it disappearing': alarm grows over Italy's drought-hit Po River

Drought blighting country's longest waterway continues as economic hub battles climate crisis



Climate change [+ Add to myFT](#)

Wildfires destroy almost all forest carbon offsets in 100-year reserve, study says

Carbon released by US forests burnt in recent blazes expected to wipe out most of the buffer in Californian trading system

ABC NEWS

Housing buyback details for Northern Rivers flood zone expected in weeks

[ABC North Coast](#) / By flood recovery reporter [Bruce MacKenzie](#)

Posted Fri 15 Jul 2022 at 9:44pm

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How heatwaves are creating a pollen crisis





RISKS AND OPPORTUNITIES ON NATURE

RISK

What is at risk if no action is taken on biodiversity?

- The World Economic Forum estimates \$44 trillion of global output is at risk due to the decline in the World's ecosystems

OPPORTUNITY

What are the opportunities in investing in Biodiversity?

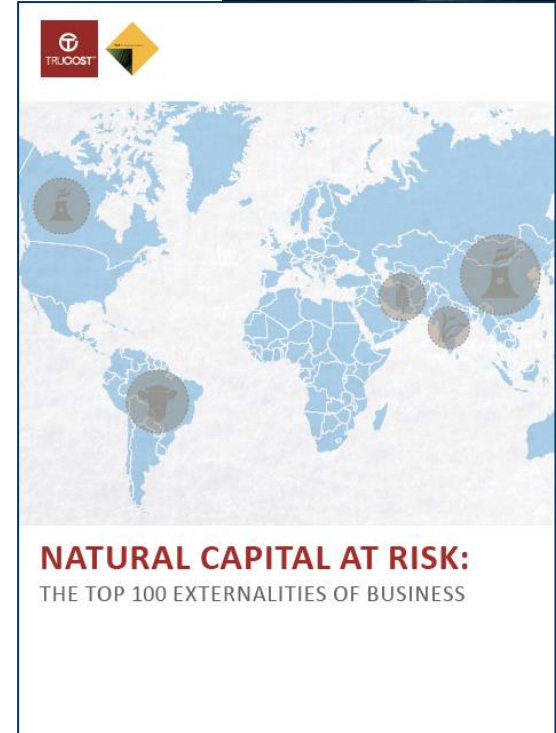
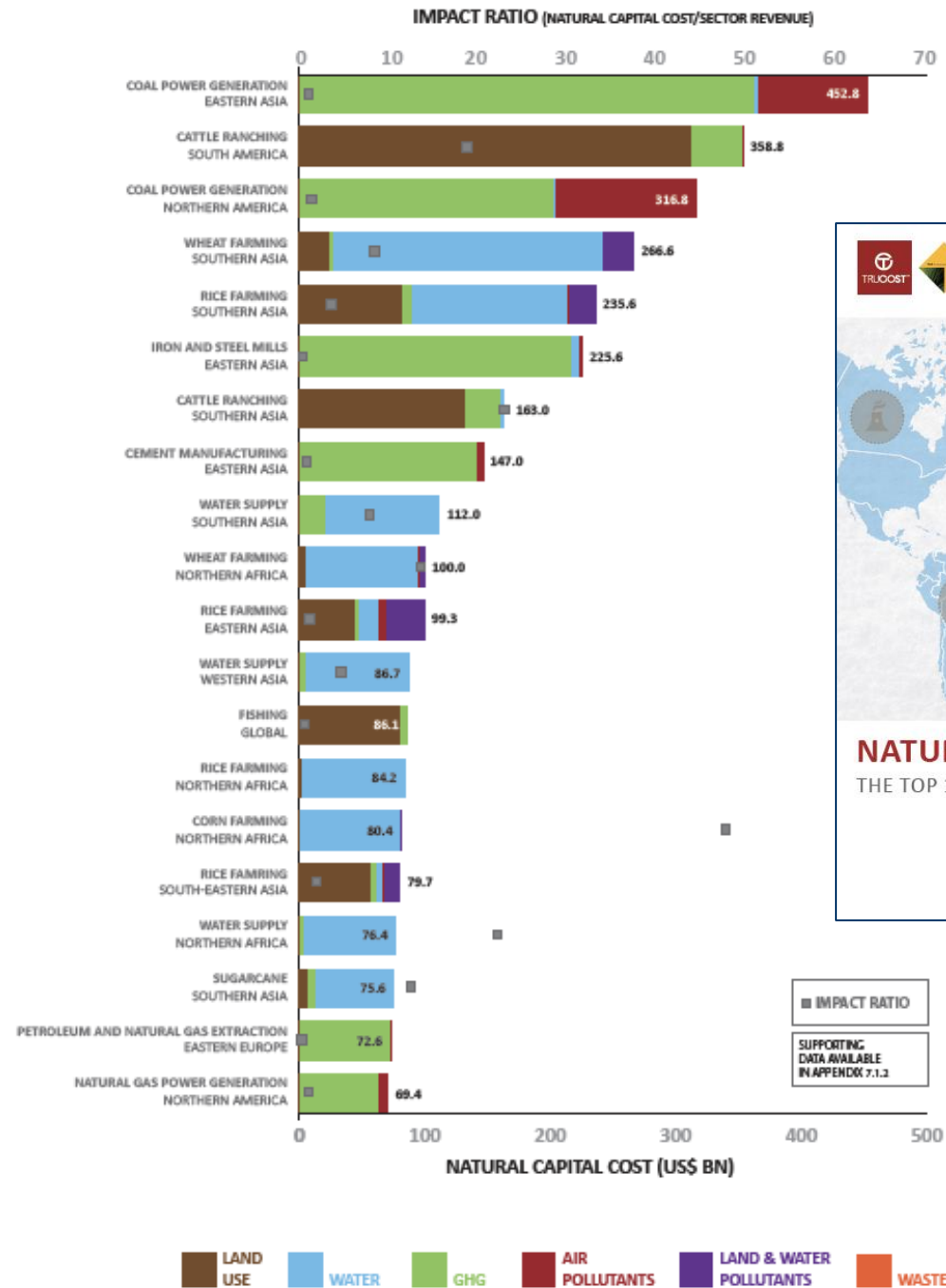
- WEF estimates an opportunity worth \$10 trillion that could provide 395 million jobs globally

COP 15, THE GBF AND DAVOS

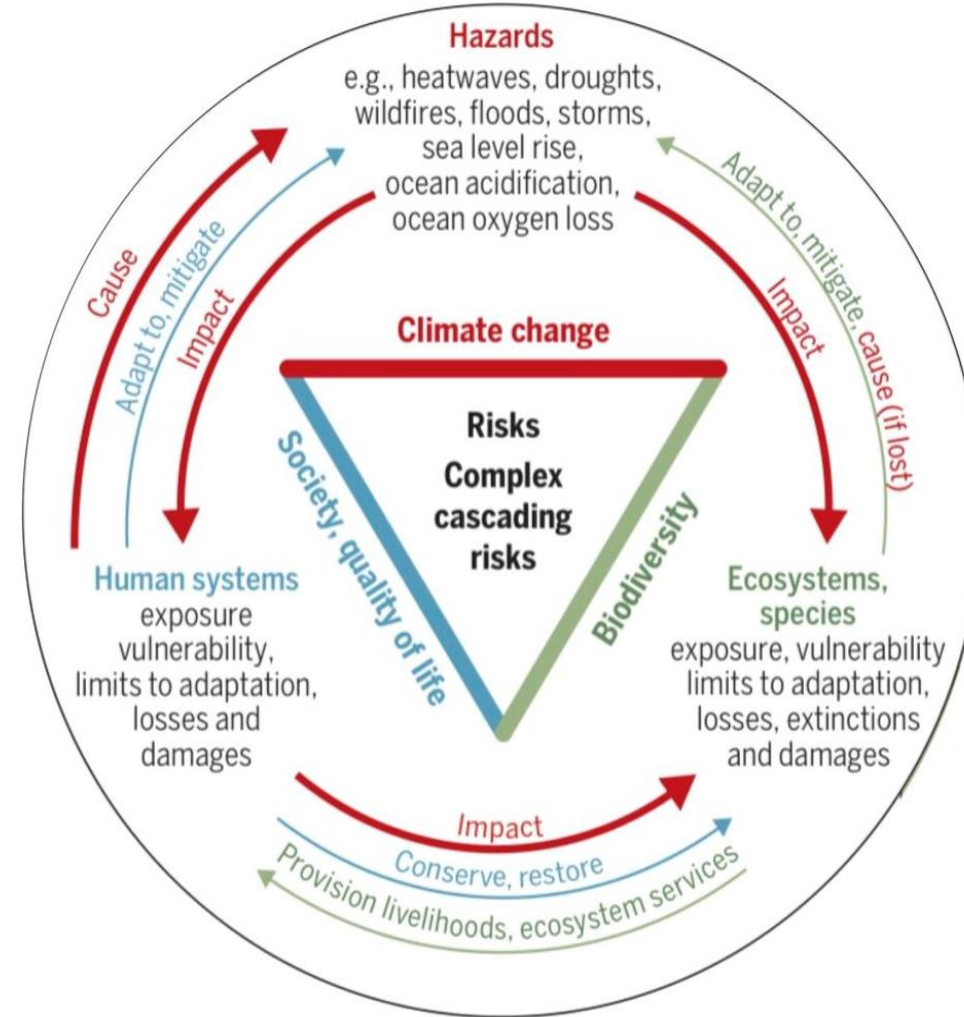
- Global Biodiversity Framework – the interest of the financial community
- US International Conservation Fund, Amazon Fund, GEF
- Davos 2023 – 100 nature-related events, many of them on finance

Global Impact Rating

Unpriced natural capital costs at US\$7.3 trillion per annum, equating to 13% of global output in 2009.



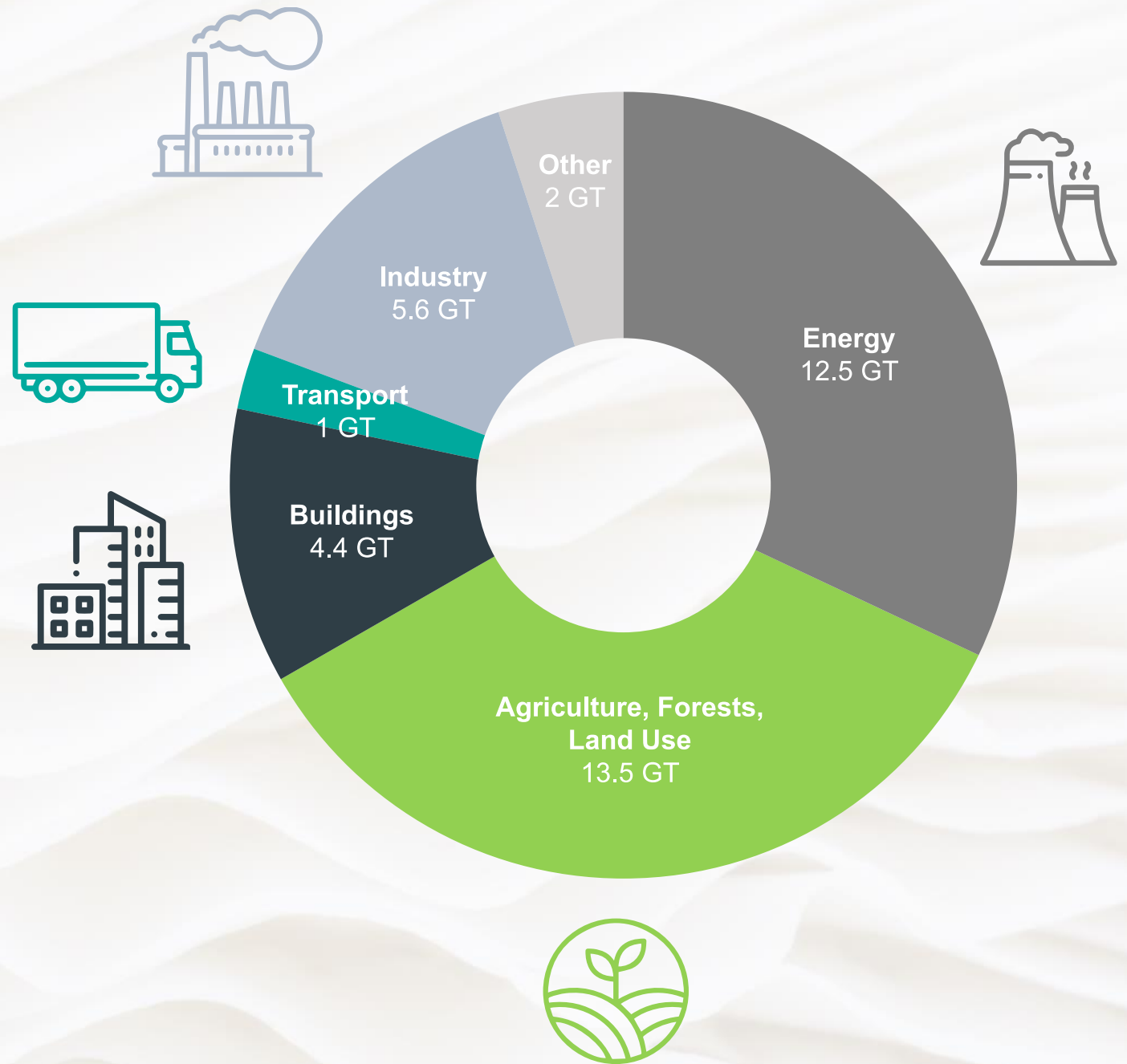
Nature is Key to Fight Climate Change



Source: Poertner et al. (2023). Overcoming the coupled climate and biodiversity crises and their societal impacts. *Science*. Vol 380, Issue 6642

Nature is Key to Fight Climate Change

**Estimated GHG CO₂ equivalent
reduction potential by sector**
(Giga Tonne CO₂ equivalent by 2030)



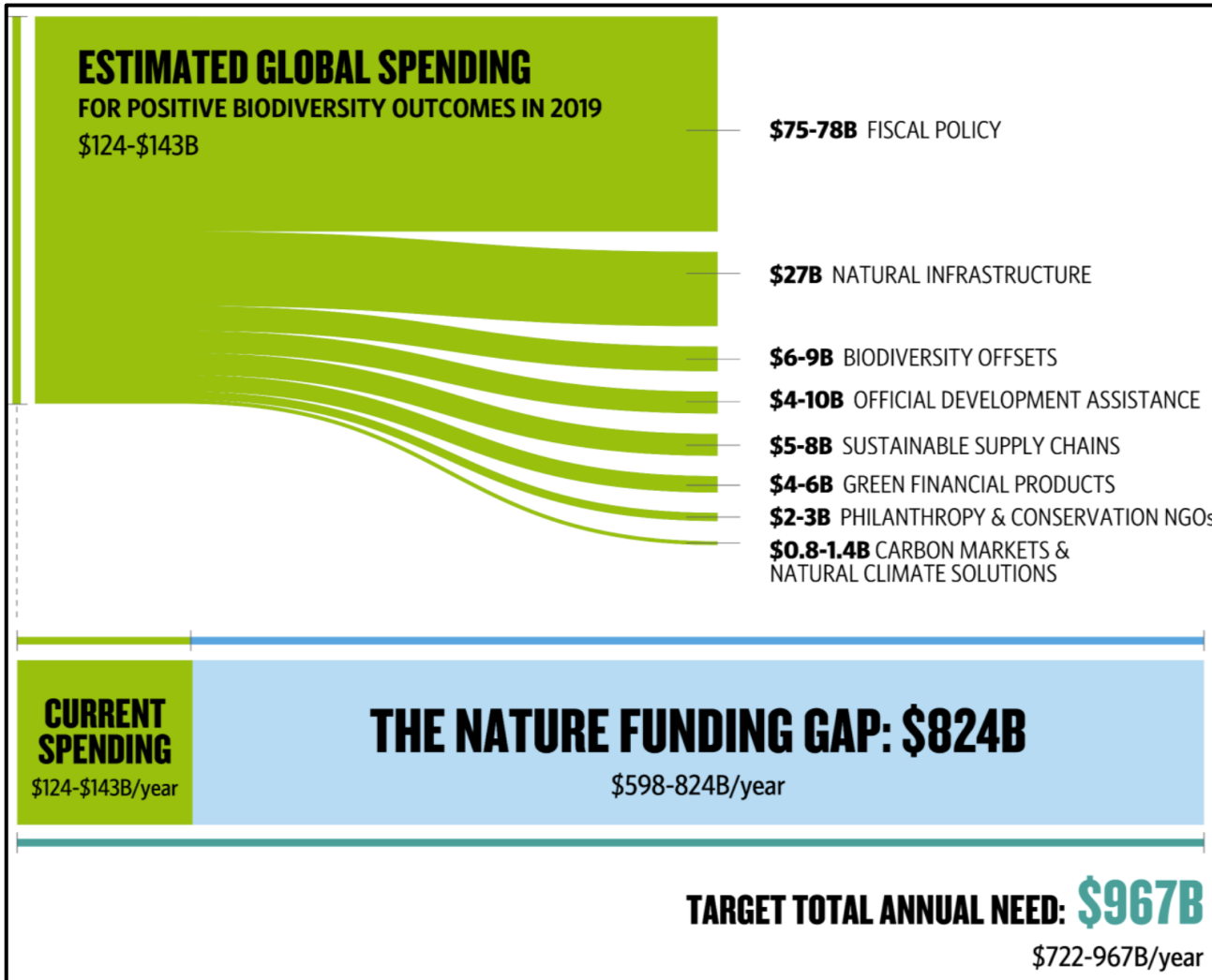
Everyone is Getting It...and Increasingly Doing It



Source: Adapted from TNFD

Financing Nature- Biodiversity Funding Gap

The Nature Funding Gap (Source: Nature Conservancy and The Paulson Institute)



World Expenditure on nature positive activities

- In 2019, the world spent between US\$124 and US\$143 billion per year on activities that benefit nature worldwide
- This represents a near-tripling in funding since 2012

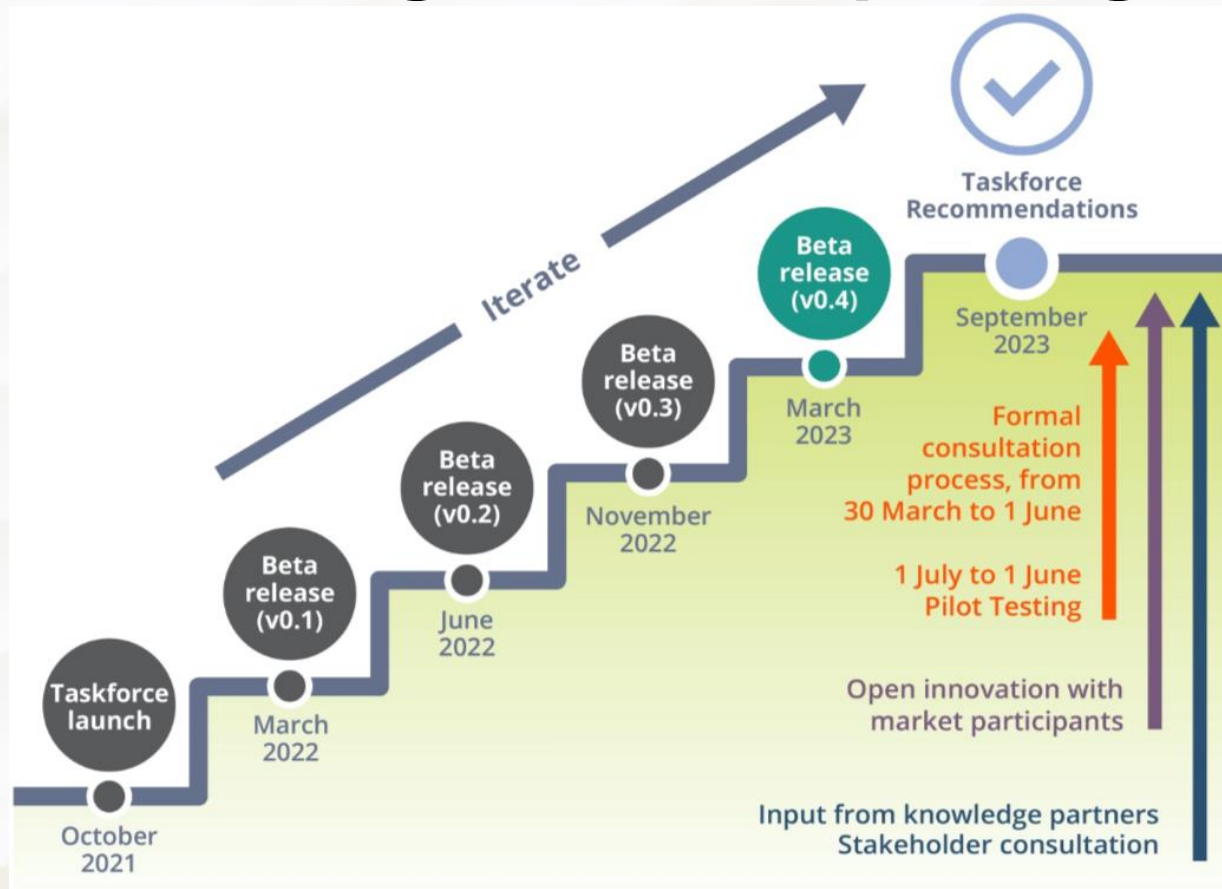
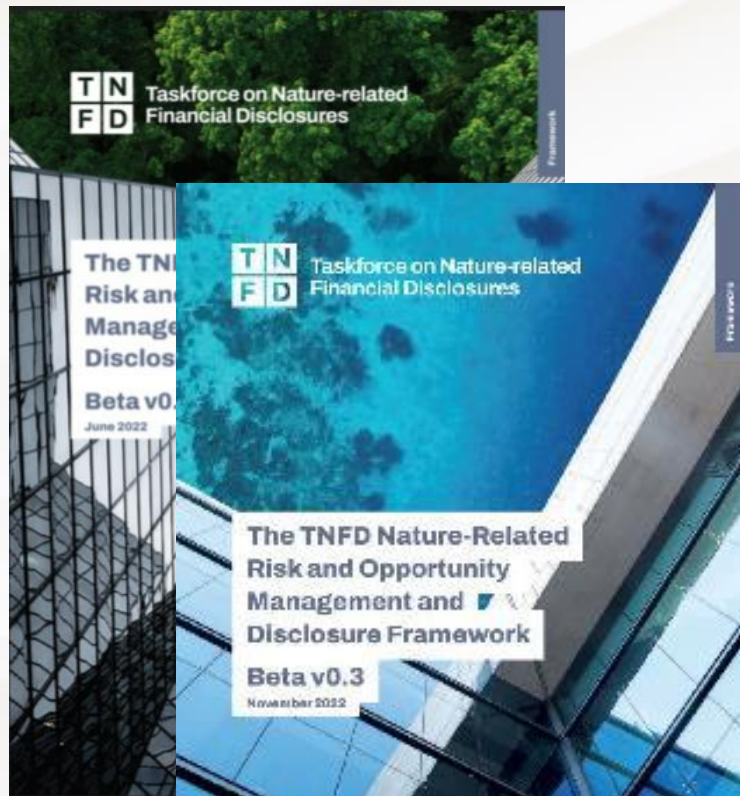
World Expenditure on nature degradation

- Annual government spending on subsidies that degrade nature is up to *four times higher* than spending that benefits nature.

Funding required to reverse the biodiversity decline by 2030

- There is need to spend US\$722-967 billion per year.
- That puts the nature funding gap as high as **US\$824 billion per year.**

TNFD - Measurement, Management, Reporting



“Investors may increasingly adopt the TNFD’s framework ...which could lead to greater pressure on companies to enhance biodiversity-related reporting ... (with likely) ... implications for cost of capital and brand reputation”

Standards and Regulations Gathering Pace

- **Risk:** corporate disclosure, ratings, financial stability (IFRS)
- **Impact:** corporate disclosure, zero-deforestation (EU/UK/US)
- **Valuation:** accounting rules, listing guidelines (SEC)
- **Credits:** private certification, national regulations (Australia)
- **Trade:** disputes over nature as barrier to trade (Brazil)
- **Money laundering:** nature crimes linked to AML rules (FATF)

"The International Sustainability Standards Board will consider the work of the Taskforce for Nature-related Financial Disclosure (TNFD) and other existing nature-related standards and disclosures where they relate to the information needs of investors."

IFRS-ISSB Announcement, December 2022

Data Challenge

- The GDFA shows that despite a high level of availability of climate-data for the Sustainable Finance Disclosure Regulation (SFDR), financial Institutions **lack biodiversity data**
- These findings mirror a survey by Credit Suisse which found that **70% of investors** believe a lack of available data is a key barrier to making investments supporting biodiversity

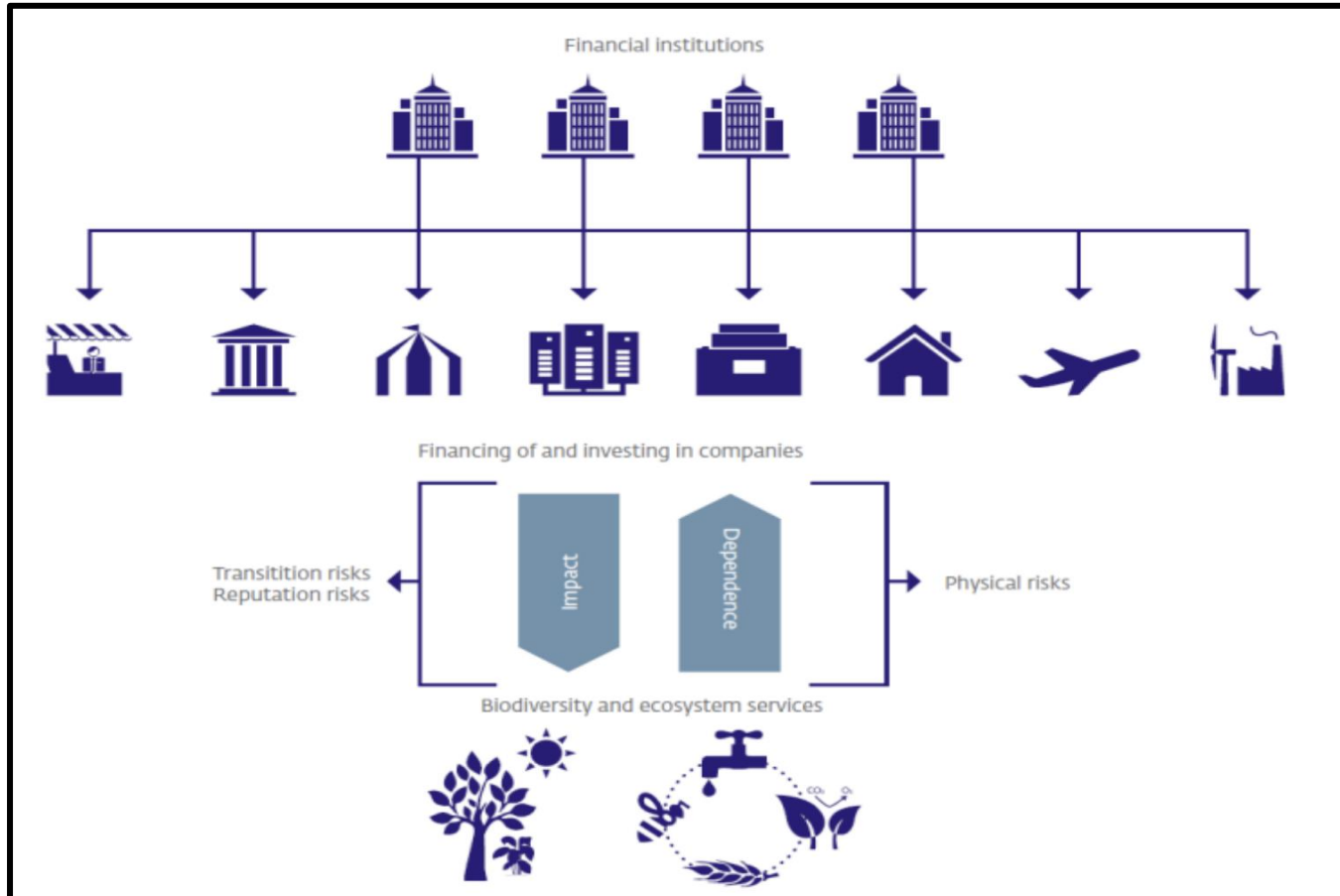
Digital data moving to center stage in disclosure

- The SFDR signals a shift in **how regulators now demand greater transparency** on the types of data leveraged for disclosure.
- **Article 40 of the SFDR text** stipulates that disclosures need to describe the data sources used, measures to ensure data quality, how data is processed, and the proportion of data estimated.
- Whether article 40 will end up incentivizing FIs to shift towards using asset level data sources, rather than modelled data based on sector averages, remains to be seen.

Recent Developments in Data for biodiversity

- Development of data tools and metrics such as the **Biodiversity Footprint for Financial Institutions (BFFI)** which measures the impact of financial institutions' activities on biodiversity.
- **The Global Biodiversity Score** launched in 2020 by CDC Biodiversité in France is another data tool used to guide businesses in assessing their biodiversity footprint
- Tools to assess natural capital risks, **such as ENCORE**, have also been produced.
- And new service providers are springing up – like Nature Alpha – that guide companies on how to implement biodiversity strategies despite incomplete data.

Application of data tools by regulators



How are the new data tools used by financial institutions and regulators?

- In June 2020, De Nederlandsche Bank was the first central bank to systematically provide data on the risks facing the financial sector from the loss of biodiversity.
- It's [Indebted to Nature](#) report found that **36 per cent of investments** by Dutch financial institutions are highly or very highly dependent on one or more ecosystem service.
- The report recommended that “financial institutions identify the physical, transition and reputational risks resulting from the loss of biodiversity”
- Other central banks are also taking action: the [Banque de France](#), for example, has analysed the biodiversity impact of its asset portfolios.

Way Forward on Data for Biodiversity

Data Challenge

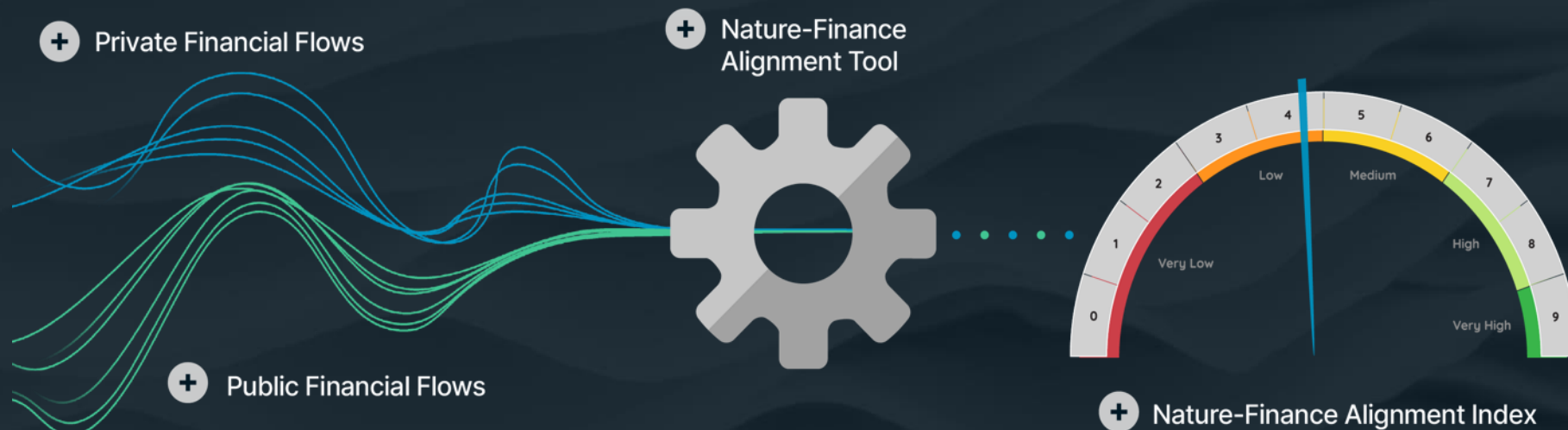
- There is need for greater access to open-access data platforms that can fuel innovation and SDG scoring in the pre-competitive space.
- Available data is often not “investment grade” and therefore not readily applicable to financial decision-making.
- Data protocols are not yet sufficiently homogenous, and therefore comparability is made difficult.

Role of financial centers

- Financial centers can play an important role by being proactive in addressing data challenges
- Key emphasis must be given to building the right data structures in each financial center on how to leverage data in order both to understand the risks related to loss of biodiversity and ecosystem services, and to quantify the impact of financial institutions on these
- Central banks and financial centres should work together to develop specific regulations to promote open data on biodiversity finance.

Nature-Finance Alignment

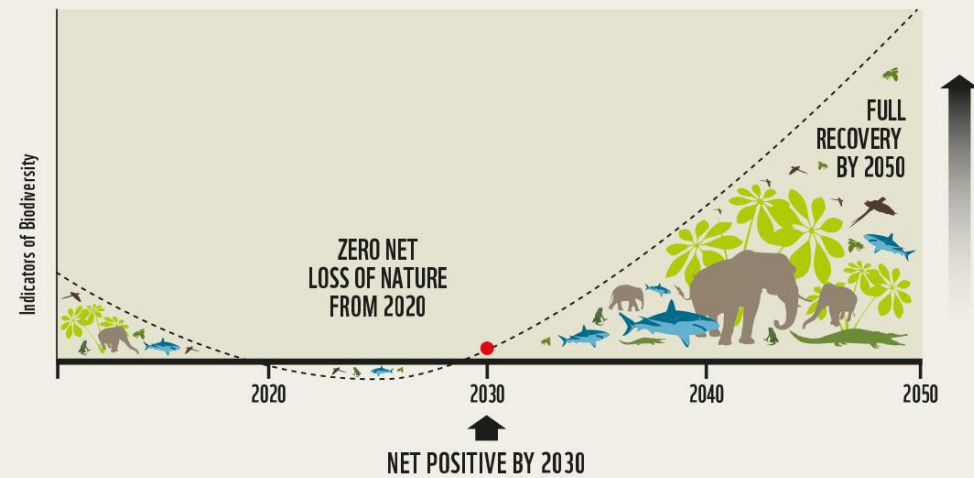
Global Biodiversity Framework, Goal D, notes the importance of mainstreaming alignment of financial flows with nature.



Source: NatureFinance

The Government of Gabon has agreed for Gabon to be the first sovereign pilot, and a Brazilian asset manager the first financial institution pilot

Global Goal for Nature: Nature Positive by 2030





NATURE POSITIVE NORM



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THE POTENTIAL OF NATURE POSITIVE MODELS ON THE GLOBAL ECONOMY

- A Nature Positive shift on food, land, ocean use, infrastructure and energy has the potential to unlock an estimated \$10trillion of business opportunities by transforming the three economic systems that are responsible for almost 80% of nature loss (World Economic Forum)
- Net Zero/Nature Positive is becoming the essential algorithm of our time

POLICY ACTION TO CLOSE THE GAP IN NATURE POSITIVE FINANCIAL ACTIVITY

Development of norms and legal developments:

- Reducing and eliminating public subsidies that are harmful to nature
- Extending liability for biodiversity damage to the financial community
- Recognition of the “legal personhood” of nature and new principles forms of inclusion of nature in corporate governance.
- Widened use of litigations – now in climate but soon in biodiversity
- New government requirements – e.g. due diligence on deforestation-free value chains.



Way Forward on Nature Positive

Differentiate biodiversity challenges from climate change:

- Biodiversity finance initiatives are relatively new and much slower compared to climate change initiatives. A clear example of this difference is evident in the lack of a pricing mechanism similar to carbon pricing for natural capital

Characterizing the changes in biodiversity challenges

- The most promising development in this area is the emerging debate on a “Nature Positive” target – the equivalent for nature of the “Net Zero” carbon target in the climate space
- It is not difficult to imagine this expectation taking hold and increasingly being used as a screen for public acceptability – for example, governments making adherence to the standard a condition for participation in public procurement; or banks making it a condition for access to credit

The Rise of Nature Markets?

NATURE MARKET TAXONOMY

Intrinsic

Markets in which provisioning, regulating or cultural ecosystem services are traded

Credit

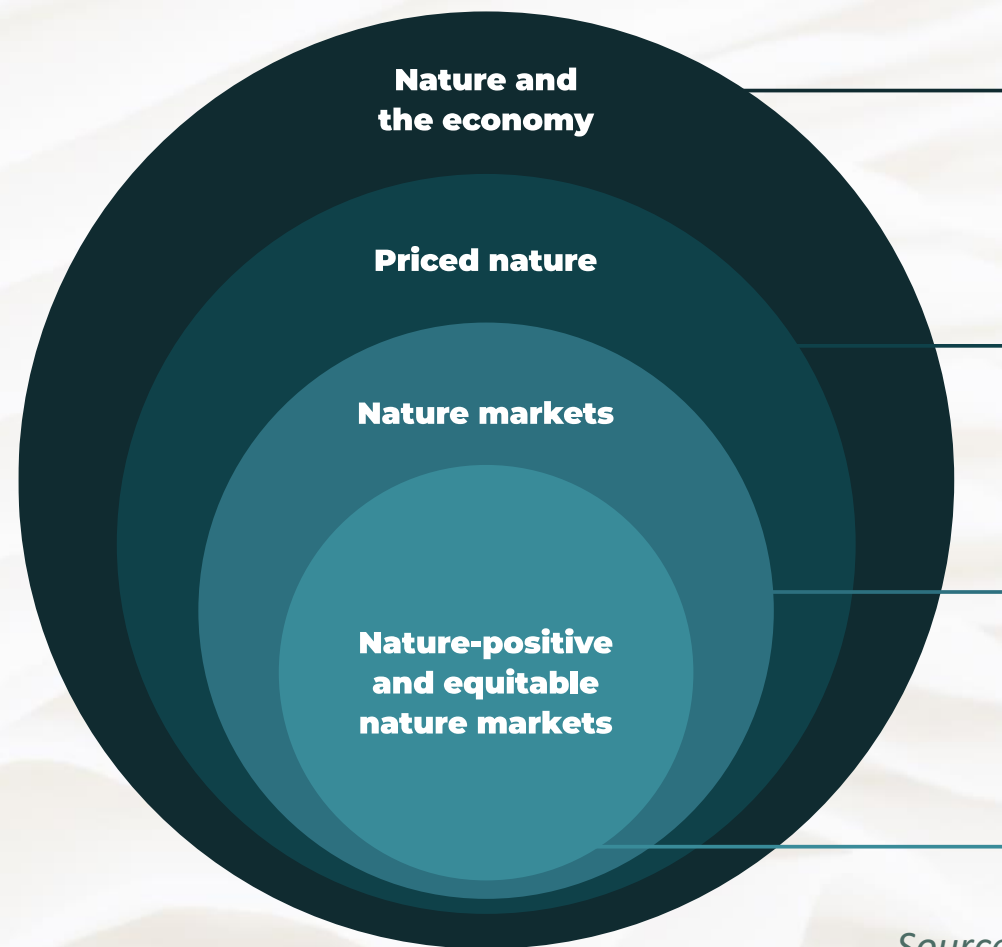
Markets in which credits that reflect efforts to enhance or conserve ecosystem assets or services are traded

Asset

Markets in which the right to use ecosystem assets with long-lived value are traded

Derivative

Markets for financial products which directly reflect ecosystem service values



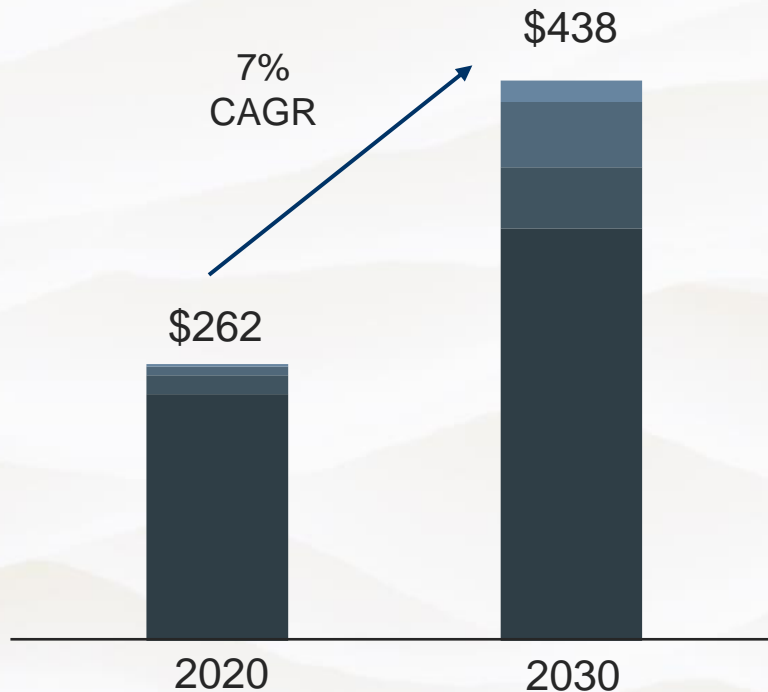
Source: NatureFinance

Nature Markets

Historically unprecedented pivot to nature becoming valued and traded, generating nature-specific revenue streams

Growing Investment Opportunities

'Nature Positive' Market - \$ Billions



Source: McKinsey, Fortune Business Insights and other estimates

Natural Capital Areas Growing to US\$438B by 2030

- 'Vertical' farming operations and technologies – 22% growth
- Alternative meat, dairy and plant-based proteins – 22%
- Plant based and sustainable textiles – 13%
- Sustainable (plant based) packaging – 5%

Other areas

- Biofuels (SAF and Bio-Diesel)
- Regenerative Farming technologies and methods
- Nature Based Offsets including Forests, Grasslands and Soil
- Nature / Asset spatial data, analytics and information

The Four Evils of Nature Markets

Imposition of political and market power perpetuating adverse terms of trade for nature rich countries

Financializing nature, resulting in unbalanced nature investments, destabilized nature-linked cultures, and inequitable distribution of economic rewards

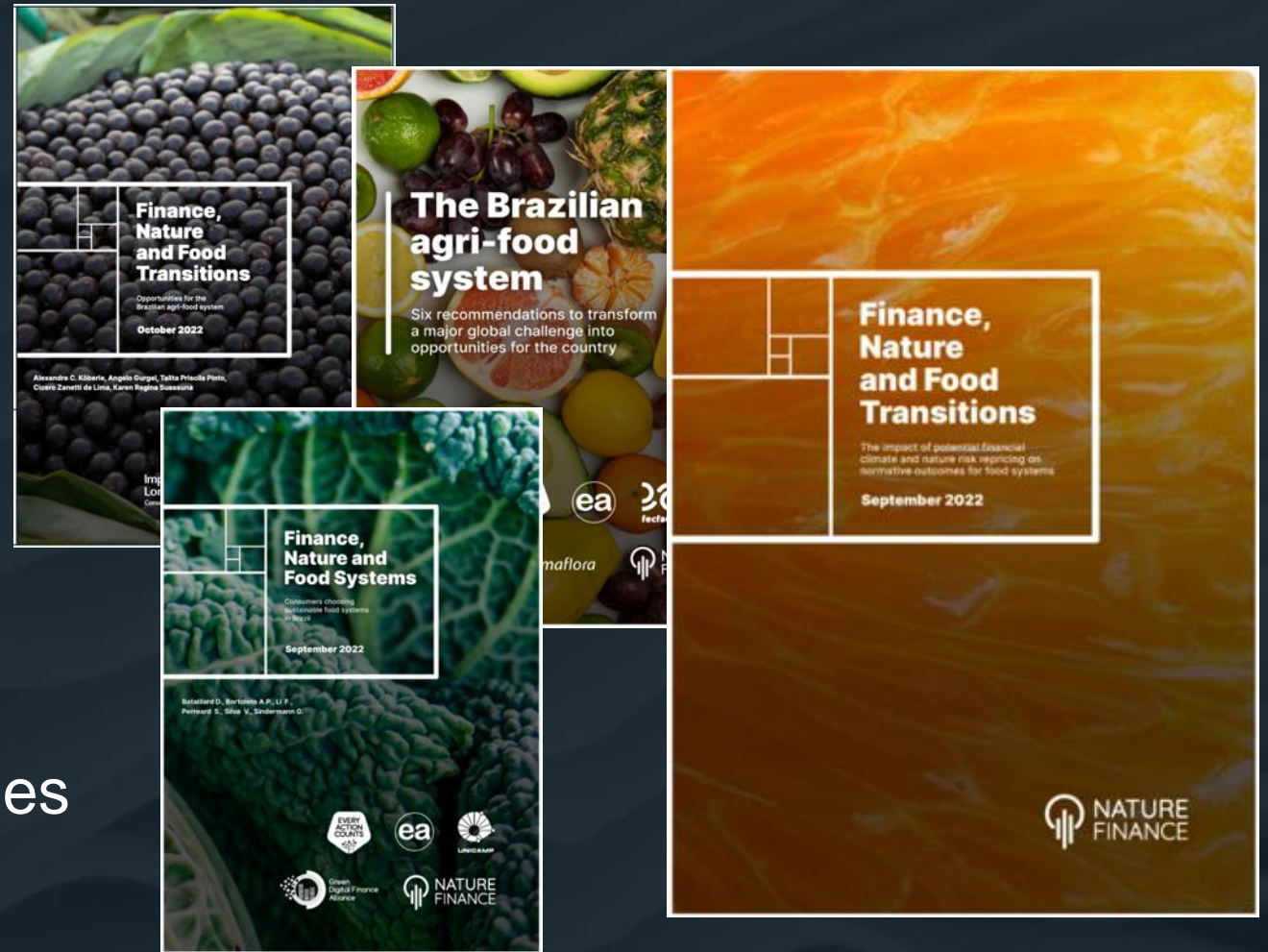


Market valuation of nature destabilizes vulnerable economies, creating food and employment insecurity, restricting access to affordable financial capital

Deepening state/elite monopolization of nature rent extraction at cost to indigenous peoples and local communities

Transition Risks to Investors and Everyone Else

Today's US\$8 trillion global food system is estimated to generate US\$12 trillion in negative externalities paid by others.



Source: NatureFinance

Managed poorly, integrating nature and climate into financial risk assessment could significantly increase food prices and cut tens of millions of livelihoods, increasingly both supply and demand side food insecurity

Illegal Nature Markets



**FORESTRY
CRIME**
\$51 - 152bn



**ILICIT WASTE
TRAFFICKING**
\$10 - 12bn

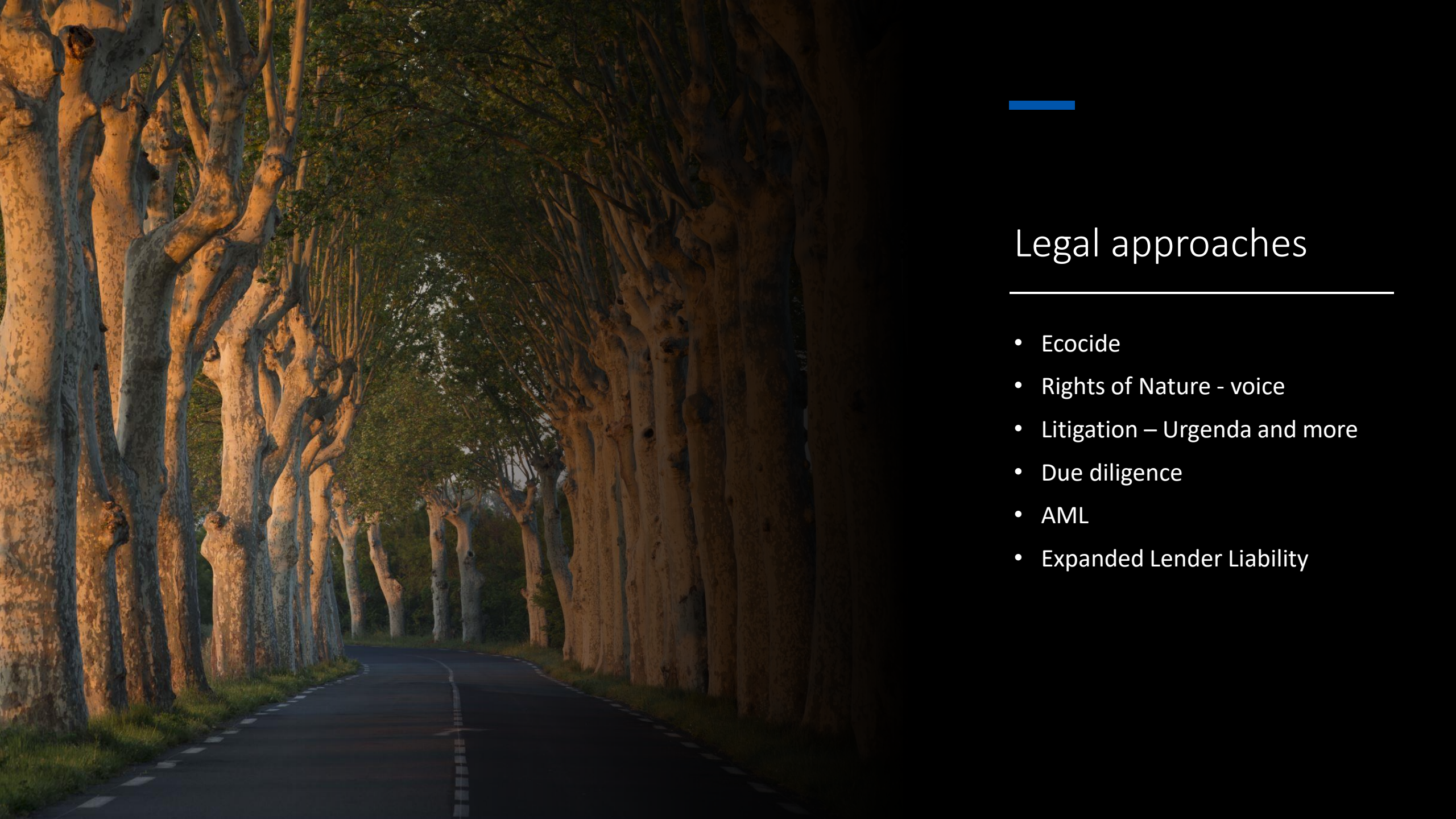


**WILDLIFE
TRAFFICKING**
\$7 - 23bn



**ILLEGAL
MINING**
\$12 - 48bn

- Nature crimes are worth up to US\$280 billion annually – a consequence of undervalued nature and inequitable outcomes
- Nature crimes drive much of nature's destruction, through violence, corruption throughout the value chain
- Nature crimes benefit from legitimate investment in legal businesses, **and vice versa.**
- Need to transfer risk and liability throughout the supply chain; improve traceability; strengthen due diligence; and cross-jurisdictional regulation.
- End result: full elimination of nature crimes from investment value chains!



Legal approaches

- Ecocide
- Rights of Nature - voice
- Litigation – Urgenda and more
- Due diligence
- AML
- Expanded Lender Liability

Recent Updates on Biodiversity finance

- New financial instrument design:
 - Debt for Nature Swaps are back
 - Sustainability-linked Sovereign Debt instruments
- Formation of the **study group on Biodiversity and Financial Stability** by (**NGFS**) and (**INSPIRE**)
 - To conduct evidence-based research on how central banks and supervisory authorities can fulfil their mandates in the context of biodiversity loss – biodiversity loss as a prudential challenge.
- New work on **Biodiversity credit Markets**:
 - One of the high-level voluntary principles is on how to ensure material positive contributions to biodiversity financing
 - Tech applications – Australian Water Credits Market



Where to from here?

- Pace
- Scale
- Social expectation – the equity pathway to sustainability
- Earth for All – there are only two scenarios





THANK YOU