11th September 2024

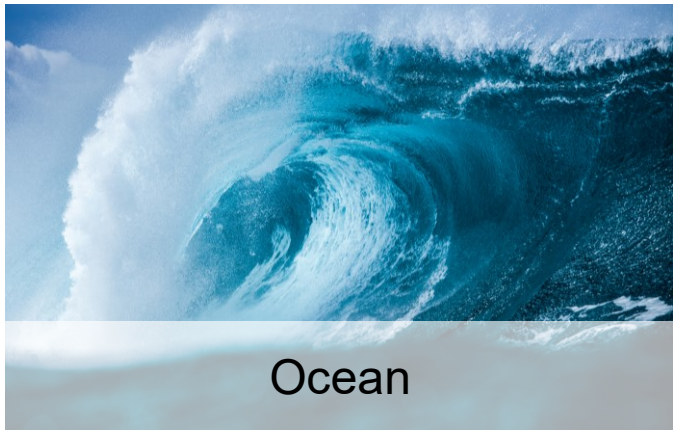
Tampere Urban Nature Forum

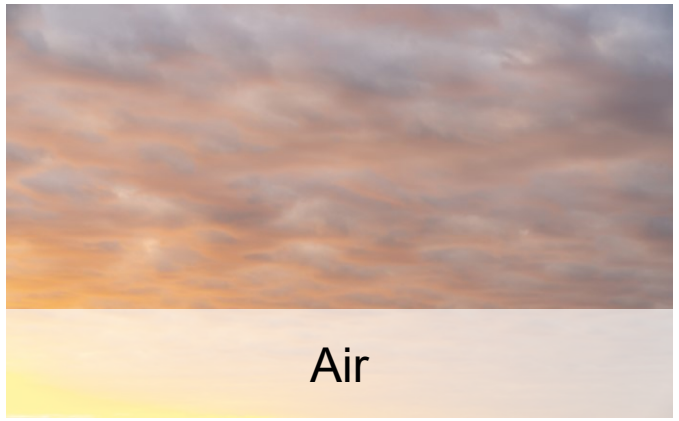
Future of Nature and Business

Akanksha Khatri, Head Nature and Biodiversity Initiative, World Economic Forum

Nature and Biodiversity

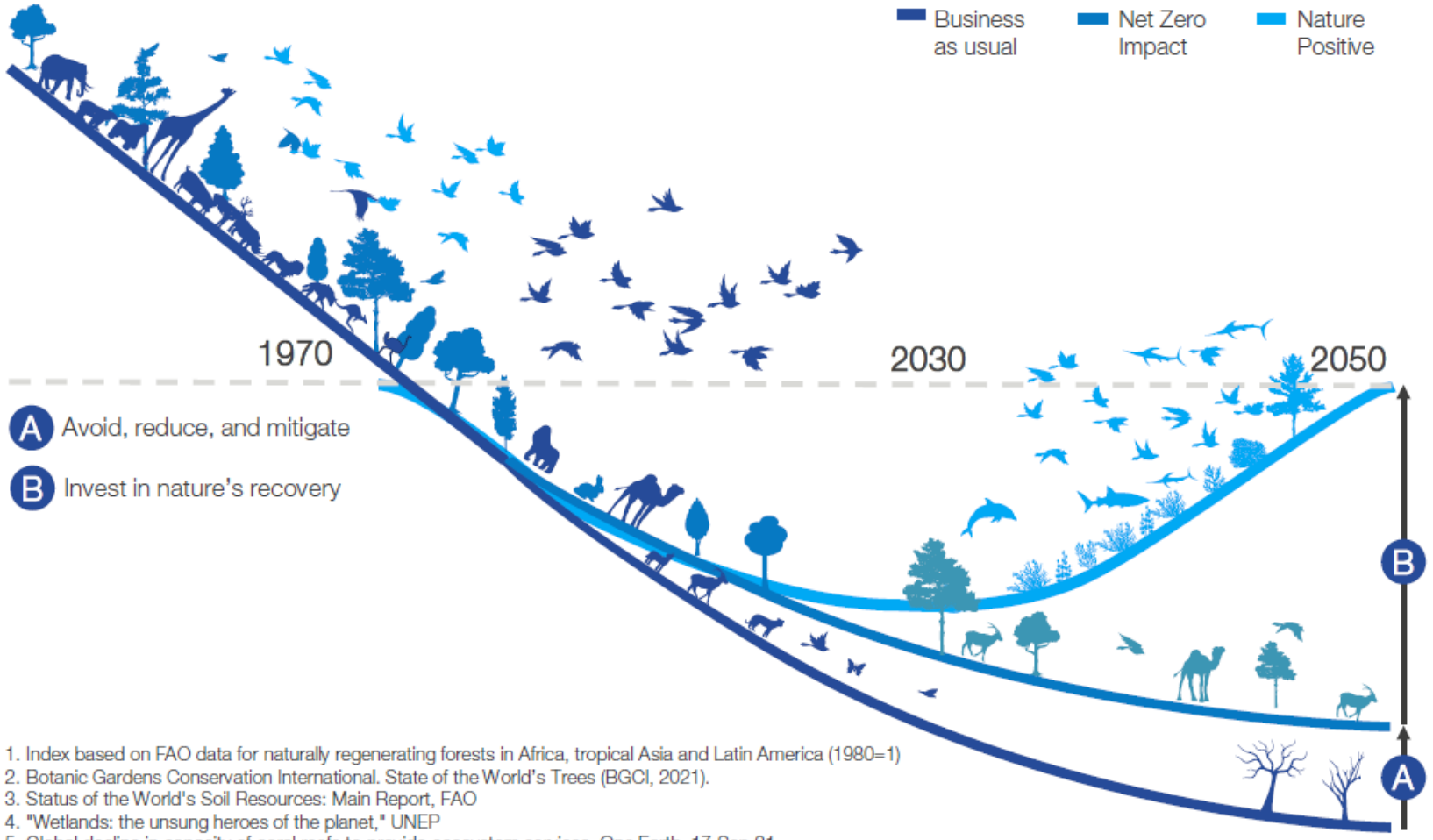
What is Nature? Four realms with biodiversity as a crucial characteristics of a healthy natural ecosystem





Biodiversity:
Diversity, abundance and identity of species, their genes and ecosystems

The decline of the natural world is undeniable – and the pivot to recovery is urgent



20%	Decline in forested areas[1]
30%	Tree species threatened with extinction[2]
1/3	Topsoil degraded[3]
85%	Wetlands lost[4]
50%	Coral reef system lost[5]
3x	Plastic pollution over planetary boundaries[6]
68%	Decline in wildlife populations[7]

1. Index based on FAO data for naturally regenerating forests in Africa, tropical Asia and Latin America (1980=1)
2. Botanic Gardens Conservation International. State of the World's Trees (BGCI, 2021).
3. Status of the World's Soil Resources: Main Report, FAO
4. "Wetlands: the unsung heroes of the planet," UNEP
5. Global decline in capacity of coral reefs to provide ecosystem services, One Earth, 17 Sep 21
6. Outside the Safe Operating Space of the Planetary Boundary for Novel Entities, Environmental Science & Technology, 2022
7. Based on Living Planet Index (1970=1)

Source: Living Planet Report 2020, FAO, IUCN, McKinsey Nature Conservation; World Economic Forum, SRI1

…but, let's contextualise the nature crisis

Over 1992-2014…

100%

Increase in produced capital per person

13%

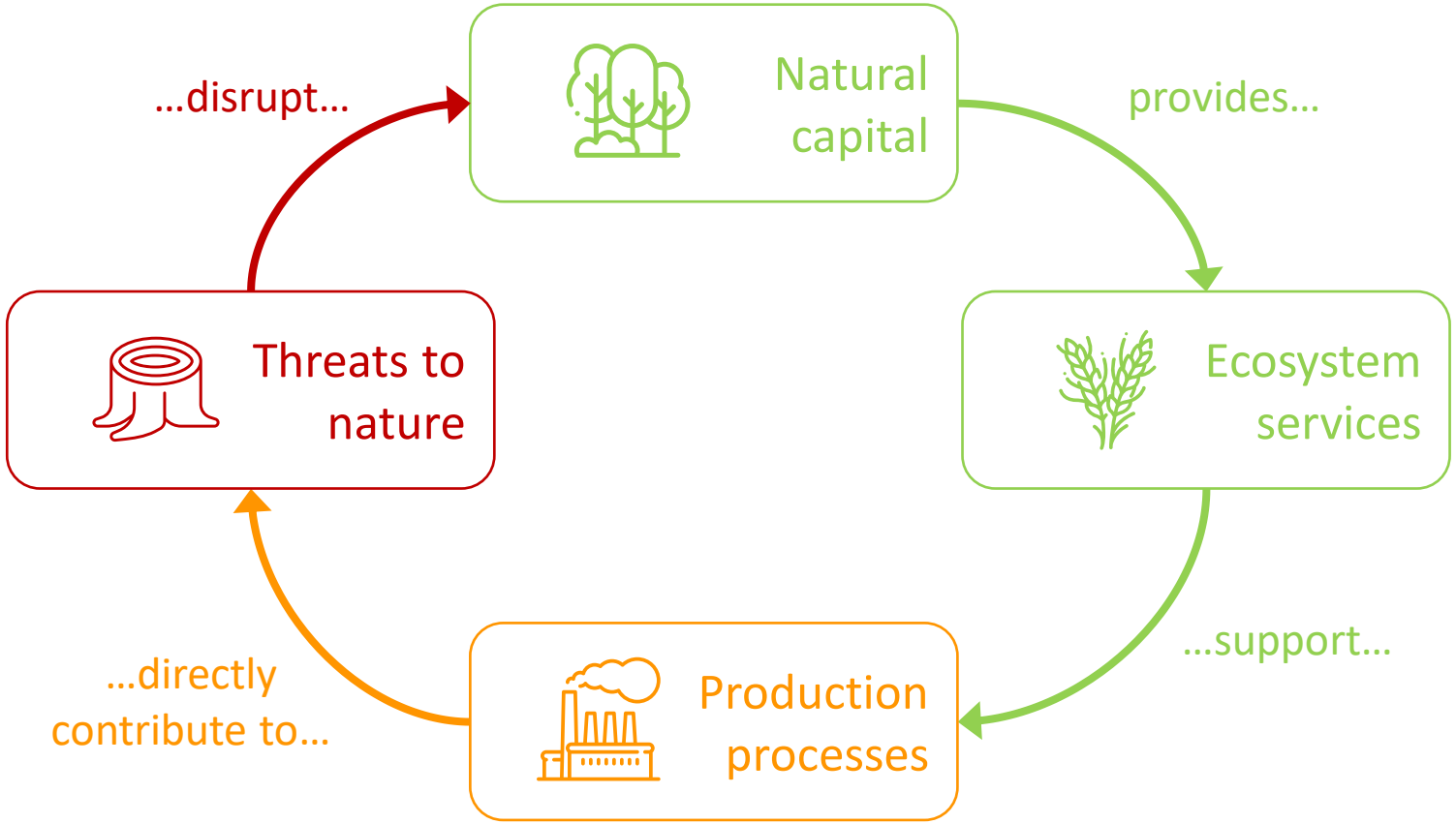
Increase in human capital per person

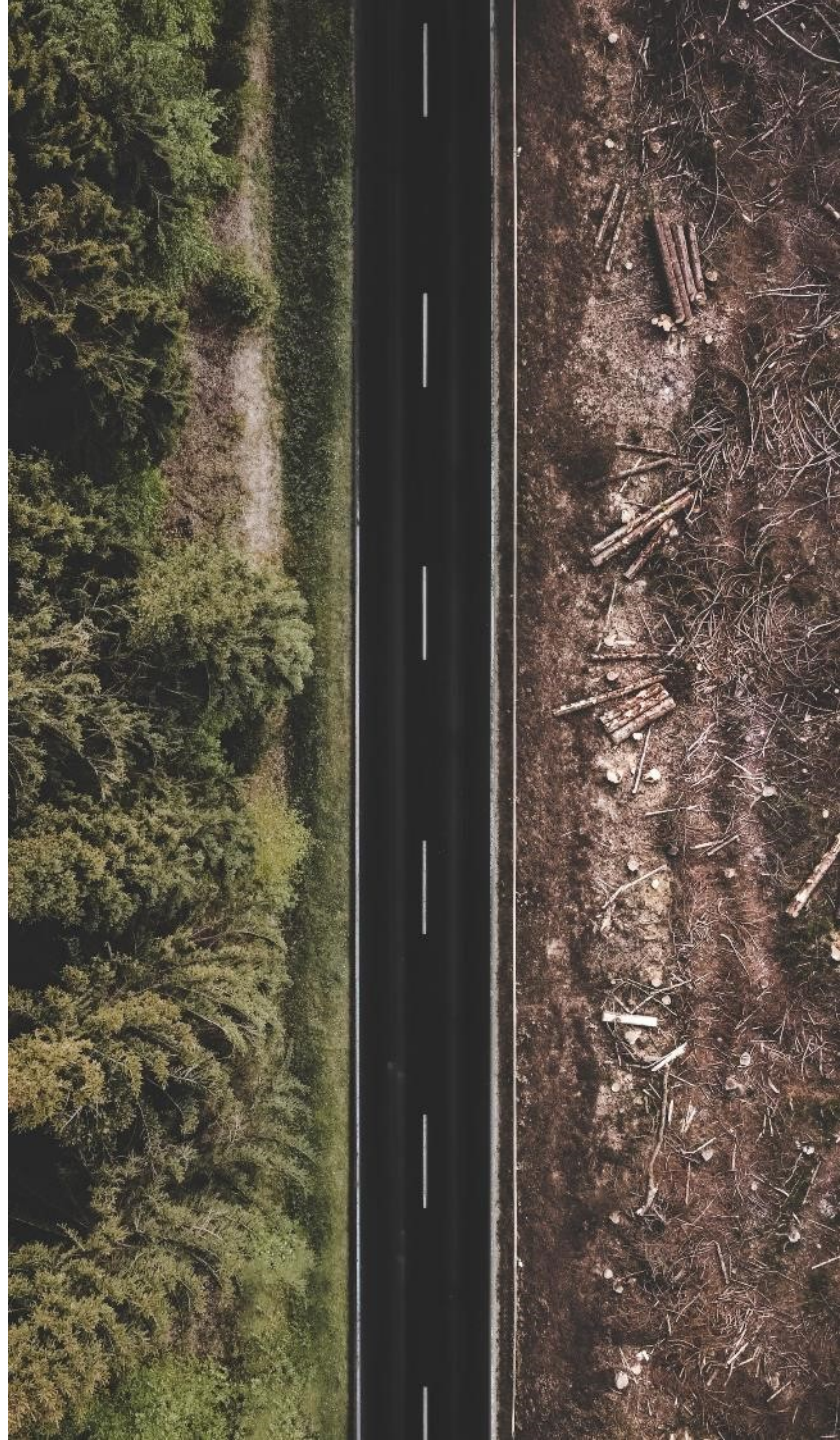
40%

Decline in natural capital per person

SOURCE: The Dasgupta Review

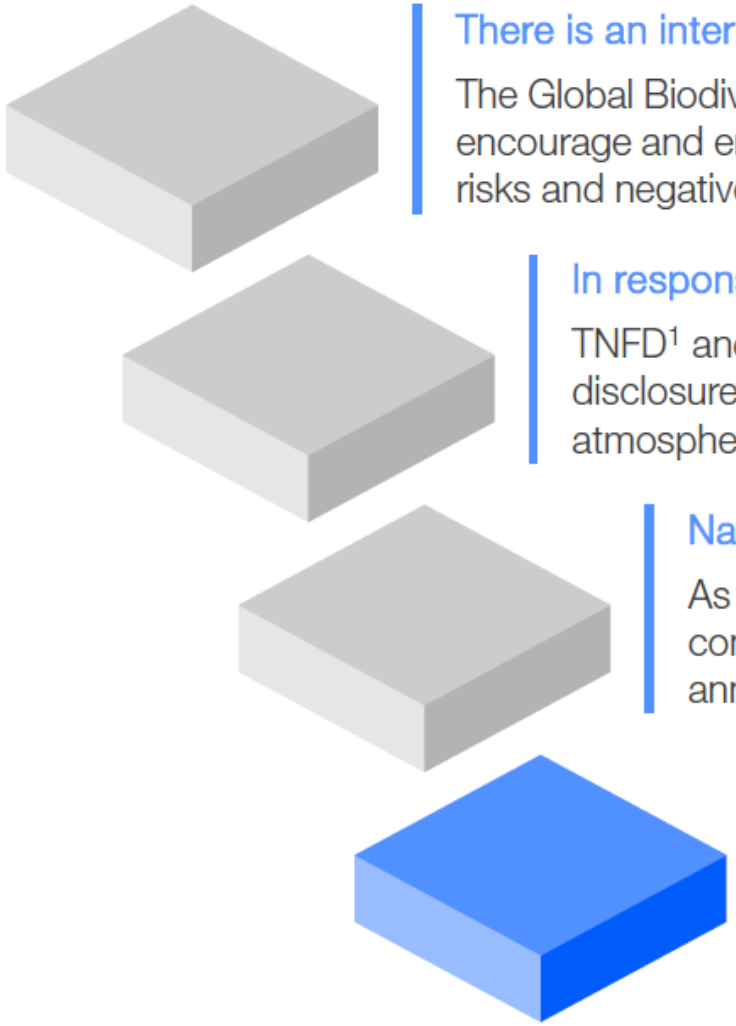
Businesses have sizeable impacts and dependencies on nature





SOURCE: ENCORE; World Economic Forum: Future of *Nature and Business* (2020), TNFD (2023)

Global nature ambitions are driving businesses to proactively address their nature-related impacts and dependencies



There is an international mandate to halt and reverse nature loss

The Global Biodiversity Framework (GBF), adopted in 2022 by 196 countries, aims to encourage and enable businesses to "assess, disclose and reduce biodiversity-related risks and negative impacts"

In response, companies must assess their nature-related risks and opportunities

TNFD[1] and SBTN[2] are expected to become the standard – guiding risk management, disclosures, and target-setting across the nature realms (freshwater, land, ocean, atmosphere) that are most material to companies

Nature will play an increasingly central role in business operations

As new reporting and disclosures bring nature to the forefront for investors and consumers, there is tremendous potential value for companies – up to $10 trillion in annual business opportunity by 2030

Companies with a robust nature strategy will increase their resilience and position themselves to seize opportunities in a nature-positive and net-zero world

Staying ahead on nature enables companies to transform their business models to meet investor and consumer demand, mitigate risks, and attract top talent

1. Taskforce on Nature-related Financial Disclosures
2. Science Based Targets Network

New Nature Economy Report Series

Making the business and economic case for safeguarding nature while providing a blueprint of action to accelerate the transition to a nature-positive economy.

	Report 1: Risks	Report 2: Opportunities	Report 2.1: Policy
What	Nature Risk Rising explains how nature loss is a material risk for business, with **half of the world's GDP potentially at risk from nature loss**, and why nature-related risks and nature protection must urgently be mainstreamed into risk management strategies.	Future of Nature and Business identifies what transitions are needed to move towards a nature-positive economy and how businesses can pave the way for new opportunities which could generate **$10 trillion in annual business value and create 395 million jobs by 2030**.	Policy Companion Paper sets out how governments can enact ambitious policy and regulatory measures to deliver good jobs, new sources of economic value along with positive outcomes for natural capital, public health and societal resilience.
Who	In collaboration with PwC	In collaboration with AlphaBeta	In collaboration with SYSTEMIQ
When	January 2020	July 2020	July 2020

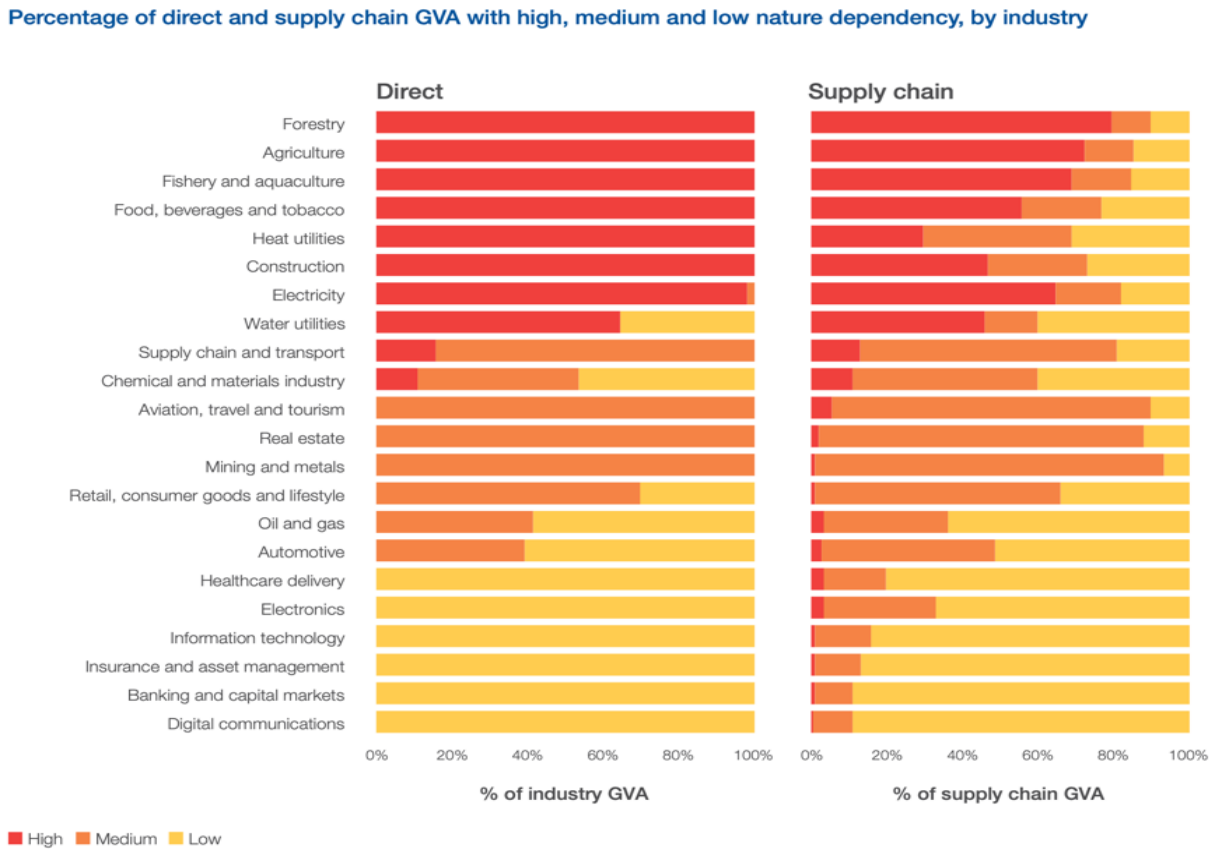
Report 1: Nature Risk Rising

Business and economic stakeholders must put nature at the core of their decision-making and systematically identify, assess, mitigate and disclose nature-related risks.

Nature Risk Rising finds that there are three ways nature loss creates significant risks for businesses:

- Dependence of business on nature,
- Fallout of business impacts on nature and
- Impacts of nature loss on society.

It estimates that $44 trillion of economic value generation – over half the world's total GDP – is moderately or highly dependent on nature.



Spotlight: 7 categories of business risk

01

Nature-related physical risks

1. Acute risks

Specific events that change state of nature, e.g., extreme weather, forest fires, pests affecting harvests

2. Chronic risks

Gradual changes to the state of nature, e.g., changing soils, warmer climates, lost plant species

Nature-related transition risks

3. Policy risks

Changes in policymaking and regulations to manage impacts on nature, e.g., EU nature restoration law

4. Market risks

Changes in market conditions due to operational, regulatory, and stakeholder dynamics, e.g., market value falls with pervasive water scarcity

5. Technology risks

Substitution of traditional goods and services with nature-positive models, e.g., plastics with bioplastics

6. Reputation risks

Changes in perceptions of nature-negative organizations, from either direct operations or associated value chain impacts

7. Liability risks

Legal claims over an organization's impacts on nature, e.g., role of directors legal opinion in UK, Aus, SG, NZ

Additional: Systemic risks

Risks that could result in disruption of societies, economies, and markets, e.g., ecosystem stability or financial stability

SOURCE: Taskforce on Nature-related Financial Disclosures (2023); Literature review

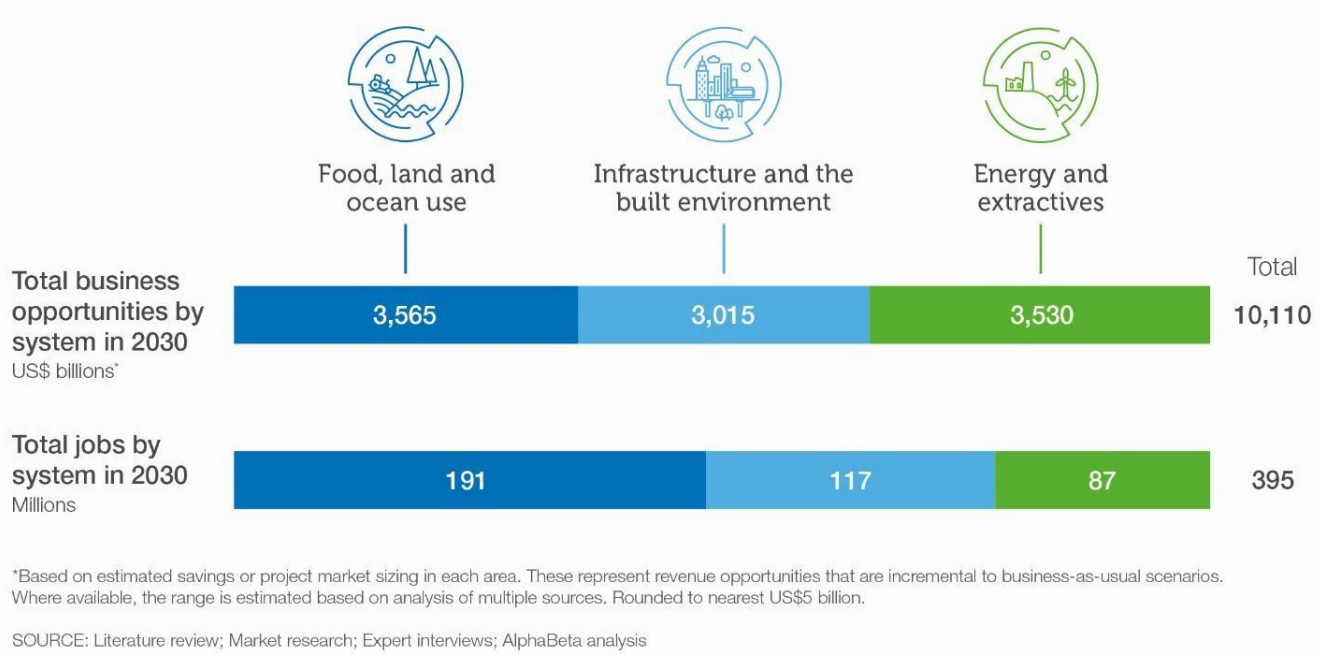
Report 2: The Future of Nature and Business

By resetting the relationship between our economies and nature, we can build back better in a way that is good for people, the planet and the economy.

Addressing the nature crisis requires a **critical shift towards nature-positive models** in three socio-economic systems - food, land and ocean use; infrastructure and the built environment; and extractives and energy.

These systems represent over **a third of the global economy** and provide up to **two-thirds of all jobs**. They, therefore, have the largest opportunity to lead and benefit from co-creating nature-positive pathways.

15 nature-positive transitions could generate up to $10.1 trillion in annual business value and create 395 million jobs by 2030



Report 2: The Future of Nature and Business - Pathways

Businesses and governments must step up and proactively drive change by investing in nature-positive technology, mobilising green capital flows and engaging in public-private cooperation.

	From nature-destructive…		**to nature-positive**
	The hidden costs of the food, land and ocean-use system now **exceed its contribution to global GDP**	→	Restoring degraded ecosystems and adopting innovative technologies help to sustainably meet the world's resource and food needs while **providing millions of jobs**.
	Cities are responsible for **75% of global GHG emissions**, primarily through transportation and buildings	→	Planet-compatible resource use, transport and urban planning can promote wellbeing, help reach climate goals and safeguard nature while **boosting business value**.
	**44% of operational large-scale mines** are in biodiversity-rich forests	→	Nature-positive production, extraction and decarbonisation reduce inefficiencies, illegalities and nature loss while **increasing economic resilience**.

Spotlight: 7 categories of opportunities

02

Business performance

1. Markets

Access to new categories or locations due to changing conditions, e.g., nature-positive renewables

2. Capital flow and finance

Access to new sources of capital for nature-positive business models, e.g., nature asset companies

3. Resource efficiency

Co-benefits (environmental and financial) of using fewer resources, e.g., end-use steel efficiency

4. Products and services

New revenue streams from nature-positive products and services, e.g., alternative proteins

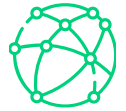
5. Reputational capital

Greater brand visibility, reach, and loyalty as a result of nature-positive business practices, especially in D2C models, e.g., fashion, cosmetics, food

Sustainability performance

6. Sustainable use of natural resources

Substitution of natural resources with regenerative resources, e.g., circular models of production



7. Ecosystem protection, restoration, regeneration

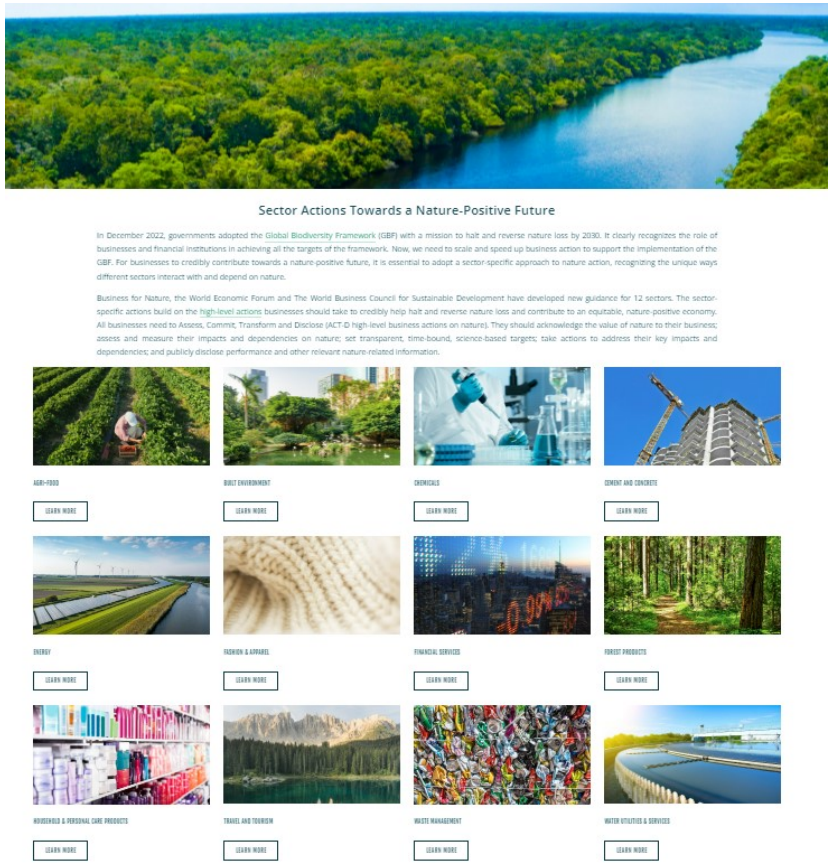
Benefits from ecosystems within and adjacent to organization's control, e.g., temperature regulation, water supply

SOURCE: Taskforce on Nature-related Financial Disclosures (2023)

Sector Transition Pathways

Impacts, Dependencies and Priority Actions

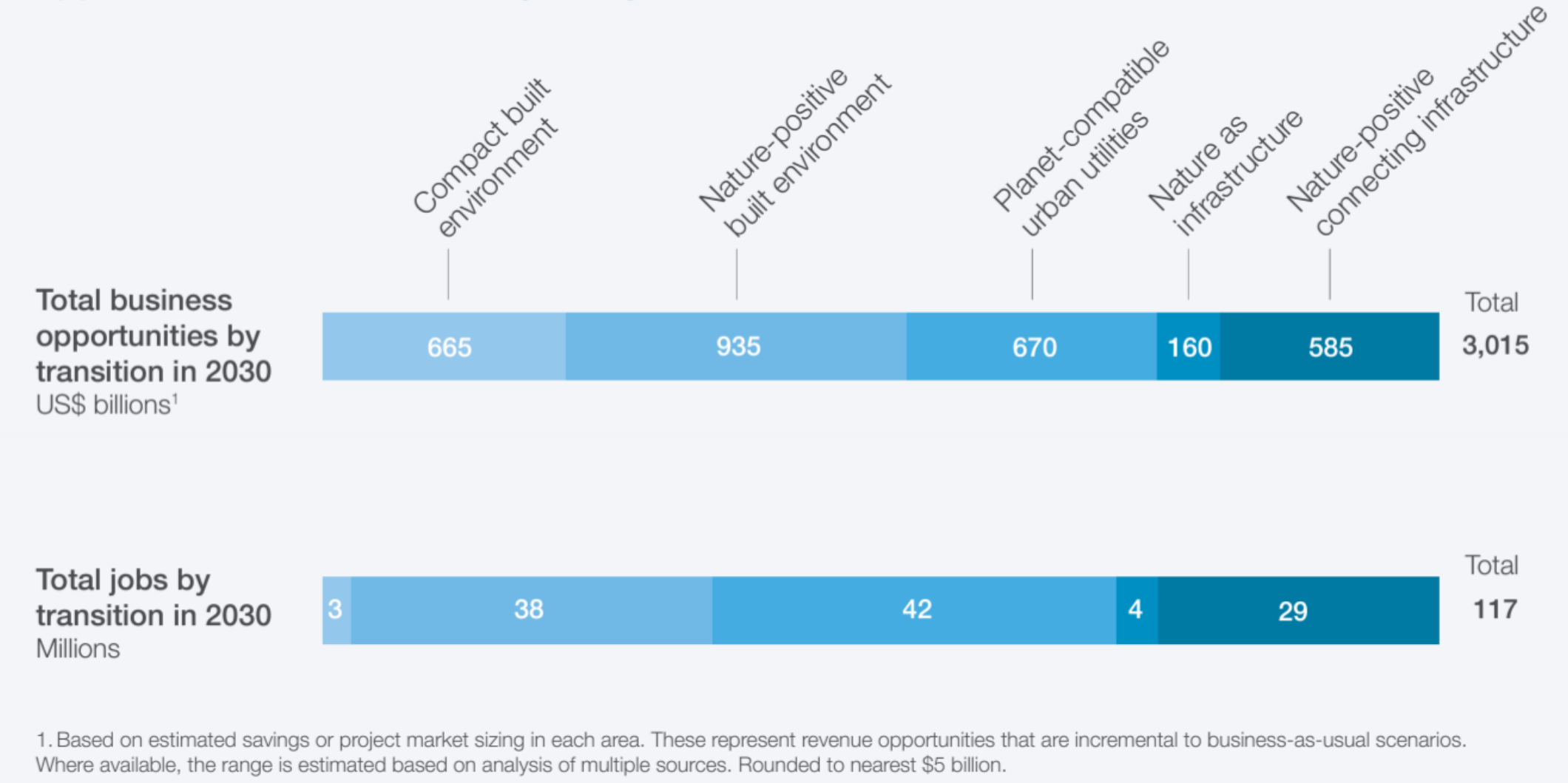
Sector Actions Website



Nature-Sparing & Nature-Sharing: Future of Cities in Nature

44%

of global GDP in cities ($31 trillion) is estimated to be at risk of disruption from nature loss.

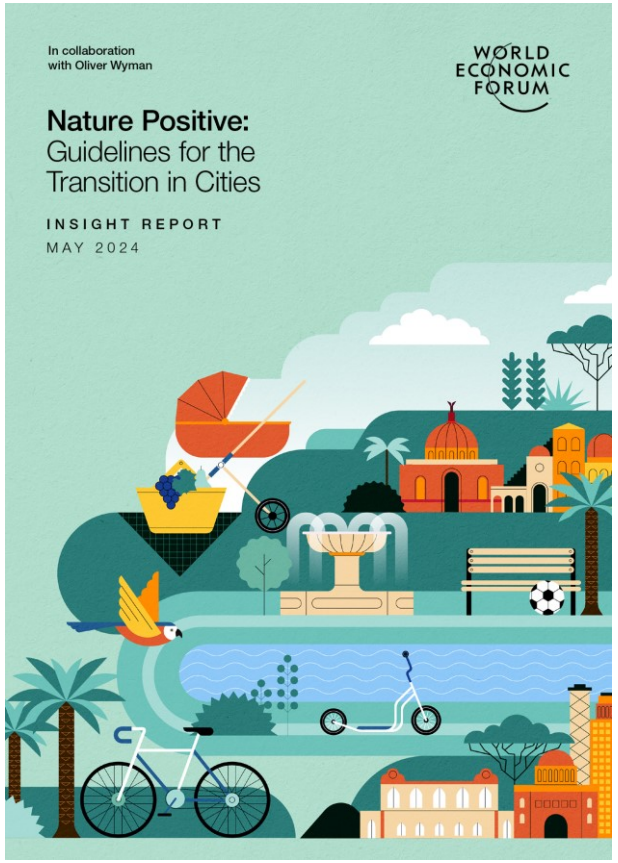


1. Based on estimated savings or project market sizing in each area. These represent revenue opportunities that are incremental to business-as-usual scenarios. Where available, the range is estimated based on analysis of multiple sources. Rounded to nearest $5 billion.

Nature Positive: Guidelines for the transition in cities

This report highlights the **pivotal role of cities** in leading the global fight against climate change and **biodiversity loss**.

Coordinated city action for nature is not only vital to achieving the goals set by the Global Biodiversity Framework, but also **strategically necessary** given the climate-, health- and infrastructure-related urban challenges arising from existing **unbalanced relationships with nature and the biosphere**.



The *Nature Positive: Guidelines for the transition in cities* was released on the 22nd of May 2024.

Only **37%** of the world's **500** most populous cities have developed a dedicated Nature Action Plan.

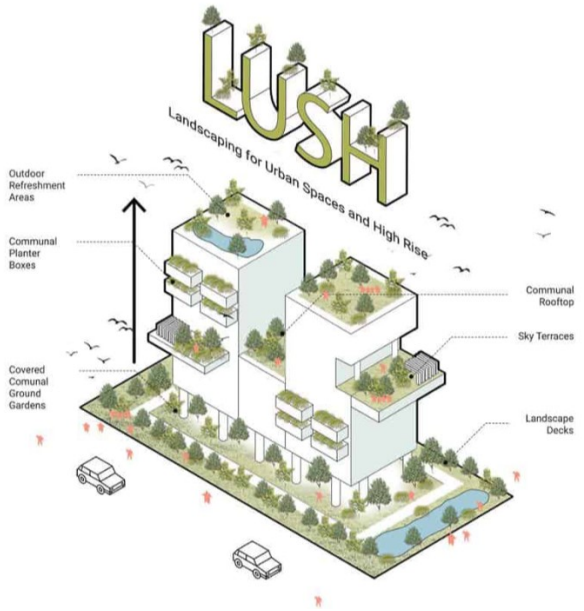
Policies for replacing lost nature with urban greenery - Singapore

Overview

- Singapore is a densely populated city, highly urbanised island that is balances rapid urban development with ecological sustainability.
- The dense urban development in Singapore drives the Urban Heat Island (UHI) effect.
- This causes urban areas to be 4-7°C warmer than rural ones, creating a challenge for the tropical city to address.

Solutions

- The Landscape Replacement Areas (LRAs) policy requires new developments to compensate for lost greenery by adding green spaces like sky terraces, vertical gardens and ground-level gardens.
- Under the Landscaping for Urban Spaces and High-Rises (LUSH) program, these spaces must cover 70-100% of the site area, depending on location.



Impact

Environmental

- Reducing the Urban Heat Island effect by boosting green coverage and biodiversity

Social

- Improving residents' thermal comfort and aesthetic experience, enhancing physical and mental well-being

Economic

- Raising property values with more eco-conscious buyers and investors on the rise

Source: City Developments Limited; SHMA Designs

Masterplanning for waterfront resilience - San Francisco

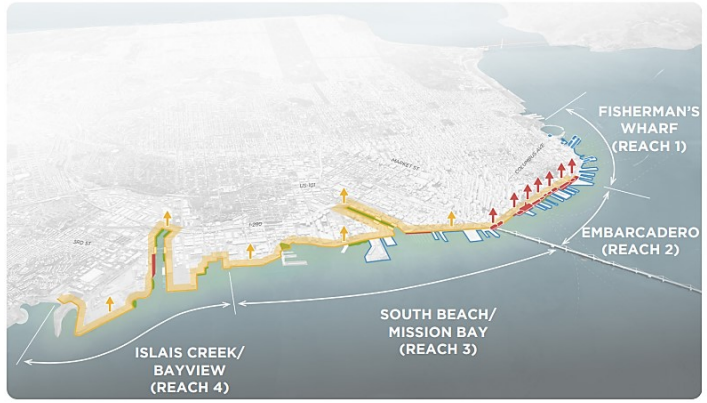
Overview

- The Port of San Francisco encompasses 7.5 miles of urban shoreline highly vulnerable to natural disaster.
- Planning strategies have estimated that flood and seismic damage would cause up to $30 billion USD.
- Over 6 years, the SF Waterfront Resilience Program has developed a range of alternatives to address all risks holistically.
- The strategies are a combination of nature-based solutions as resilience infrastructure projects, coupled with policy adoption

Solutions

Development of targeted solution addressing the varying needs of four waterfronts (Fisherman's wharf, South Beach / Mission Bay, Embarcadero, and Islais Creek / Bayview) and ensuring connectivity through nature-based solutions such as:

- A living seawall and living shoreline
- Habitat terraces
- Intertidal habitat improvements



Raise the shoreline and address seismic issues

Adapt historic waterfront buildings and wharves

Waterfront-wide stormwater management adaptation related to coastal flood defenses

Floodproof piers and select buildings

Incorporate nature based features

Impact

Environmental

- Limit use of grey infrastructure
- Reduce use of natural resources
- Improve and enhance ecological habitats

Social

- Connect citizens and communities to nature

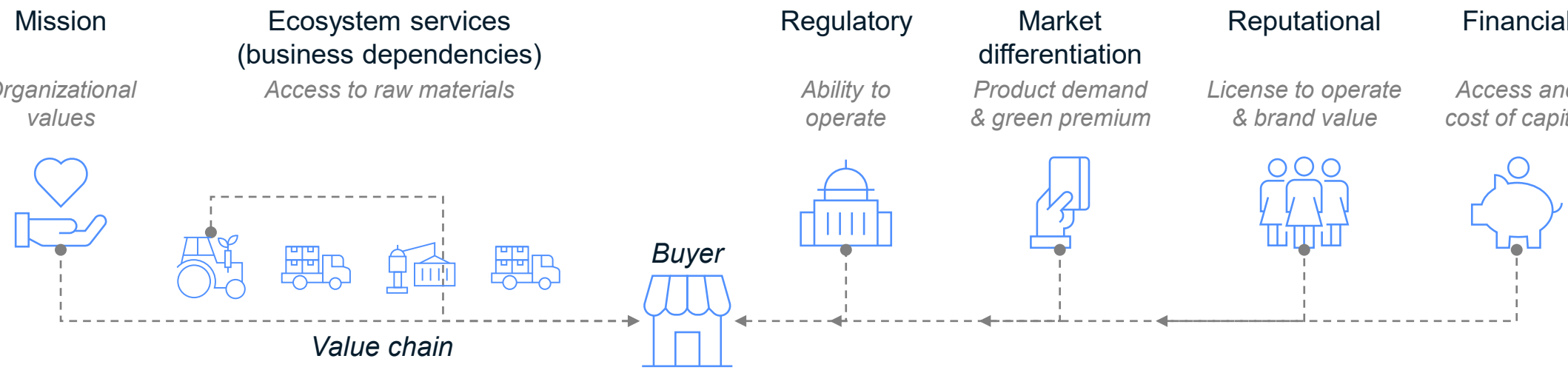
Economic

- Achieve +50% measured cost savings from nature-based approaches when compared to grey solutions
- Support green and inclusive job opportunities in construction and maintenance

Source: Pamela Conrad, Design Critic in Landscape Architecture, Harvard School of Design, SFPort

Emerging trends are driving corporate interest for nature

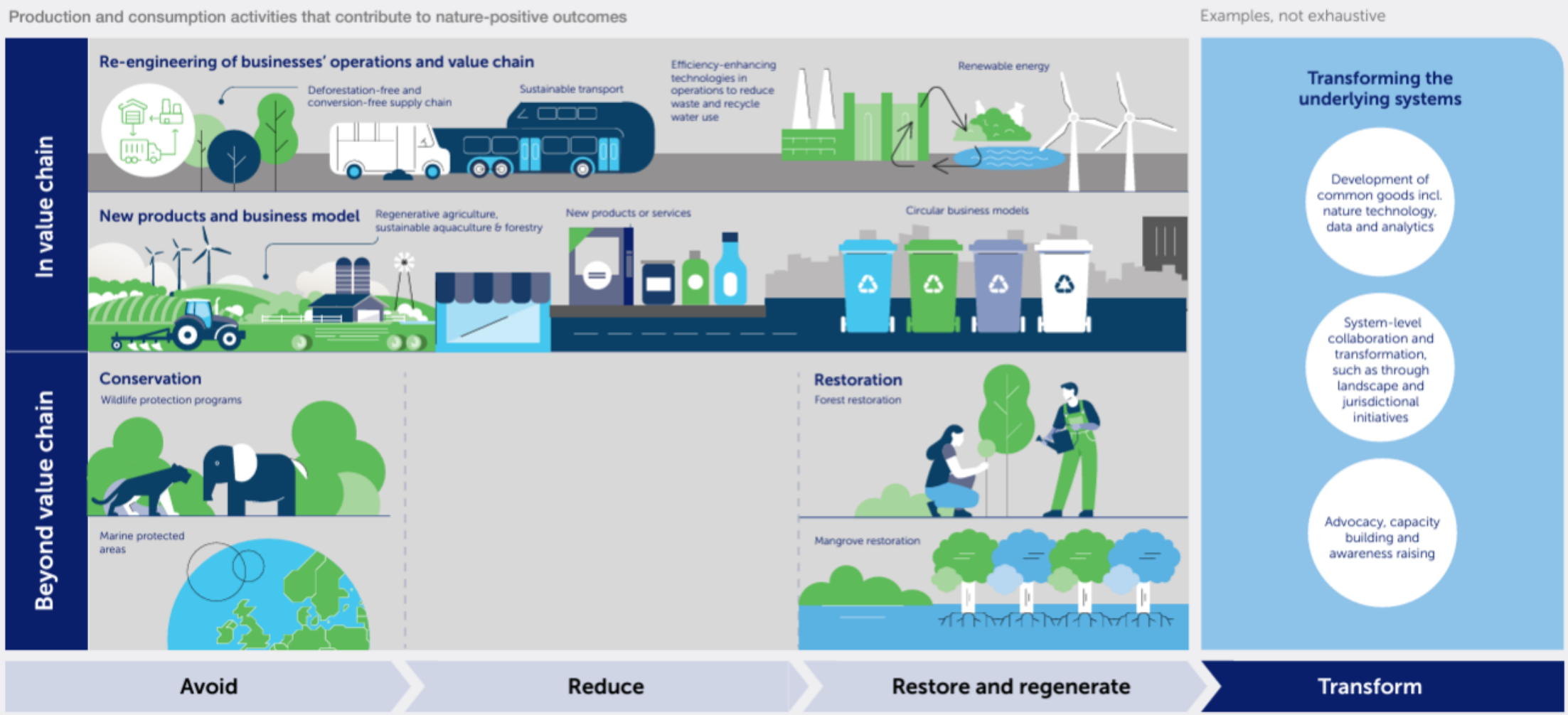
Drivers



Supporting conditions

- Establishment of business case
- Development of high-integrity nature investments
- Policy Incentives and Policy Coherence

Financing for Nature-Positive Transition



Applies to different drivers of biodiversity loss,* depending on the most material nature-related impacts and dependencies in sectors companies operate in

***Note:** Drivers of biodiversity loss include climate change, land-, freshwater- and sea-use change, direct exploitation, invasive alien species, pollution; please note the chart depicts examples rather than a prescriptive definition.

Source: World Economic Forum and Oliver Wyman

WORLD ECONOMIC FORUM

Man does not weave this web of life. He is merely a strand of it. Whatever he does to the web, he does to himself.