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Welcome and introductions

Corli Pretorius, Deputy director, UNEP-WCMC

Proteus Annual Meeting

2023

MEETING OBJECTIVES

- To accelerate business ambition towards the Kunming-Montreal Global Biodiversity Framework and to share updates and innovations that are advancing the nature-positive agenda.
- To convene a cross-sectoral group of businesses to discuss approaches to value chain assessments, action in landscapes and innovative collaborations.
- To build engagement across sectors and to strengthen the role of Proteus in enabling businesses to utilise biodiversity data, tools, and knowledge products.

DAY 2 AGENDA

Welcome	
09:30 – 10:00	Remarks: **Welcome and Setting the Scene**
Keynote	
10:00 – 10:30	Presentation: **Critical minerals and the nature-climate nexus**
Business contribution to global policy and nature-positive	
10:30 – 13:00	Presentations and World Café: **Business transitions and contributions towards global policy and nature-positive**
13:00 – 14:00	*Lunch*
Cross-sectoral collaboration across value chains	
14:00 – 17:00	Case studies & breakouts: **Business actions on value chains: assess, commit, transform, and disclose**
Close	
17:00 – 17:30	Remarks: **Thank you and Close**
17.30 – 19:30	**Networking drinks reception, University Arms Hotel**

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Critical minerals and the nature-climate nexus

Elisa Tonda, Chief, Resources and Markets Branch,
Economy Division, UNEP

Proteus Annual Meeting

2023

Critical Minerals and the Nature-Climate Nexus

Proteus Annual Meeting 2023, 14 June 2023

Elisa Tonda
Chief, Resources and Markets Branch
United Nations Environment Programme

What are ‘Critical Energy Transition Minerals’?

According to the IEA: ‘a wide range of minerals and metals that are essential in clean energy technologies and other modern technologies and have supply chains that are vulnerable to disruption'

More on the nuances of the definition can be found here

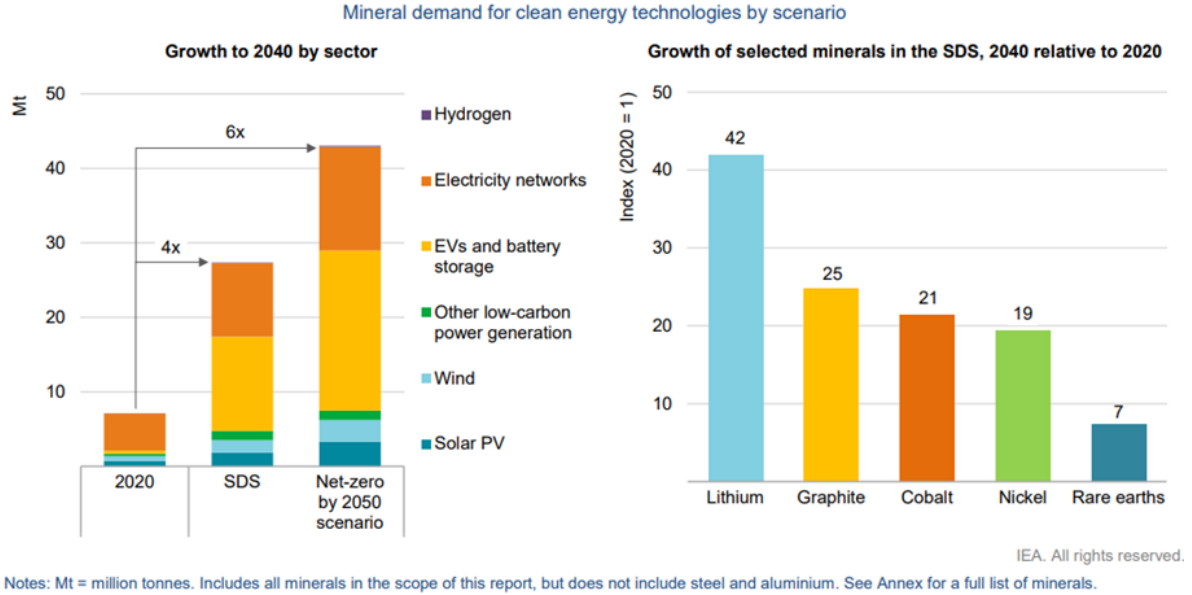
Critical mineral needs for clean energy technologies

	Copper	Cobalt	Nickel	Lithium	REEs	Chromium	Zinc	PGMs	Aluminium*
Solar PV	●	○	○	○	○	○	○	○	●
Wind	●	○	◍	○	●	◍	●	○	◍
Hydro	◍	○	○	○	○	◍	◍	○	◍
CSP	◍	○	◍	○	○	●	◍	○	●
Bioenergy	●	○	○	○	○	○	◍	○	◍
Geothermal	○	○	●	○	○	●	○	○	○
Nuclear	◍	○	◍	○	○	◍	○	○	○
Electricity networks	●	○	○	○	○	○	○	○	●
EVs and battery storage	●	●	●	●	●	○	○	○	●
Hydrogen	○	○	●	○	◍	○	○	●	◍

Notes: Shading indicates the relative importance of minerals for a particular clean energy technology (● = high; ◍ = moderate; ○ = low), which are discussed in their respective sections in this chapter. CSP = concentrating solar power; PGM = platinum group metals.

Source: IEA, The Role of Critical Minerals in Clean Energy Transitions (World Energy Outlook Special Report)

Critical Energy Minerals for Sustainable Development



Notes: Mt = million tonnes. Includes all minerals in the scope of this report, but does not include steel and aluminium. See Annex for a full list of minerals.

Source: The Role of Critical Minerals in Clean Energy Transitions (World Energy Outlook Special Report)

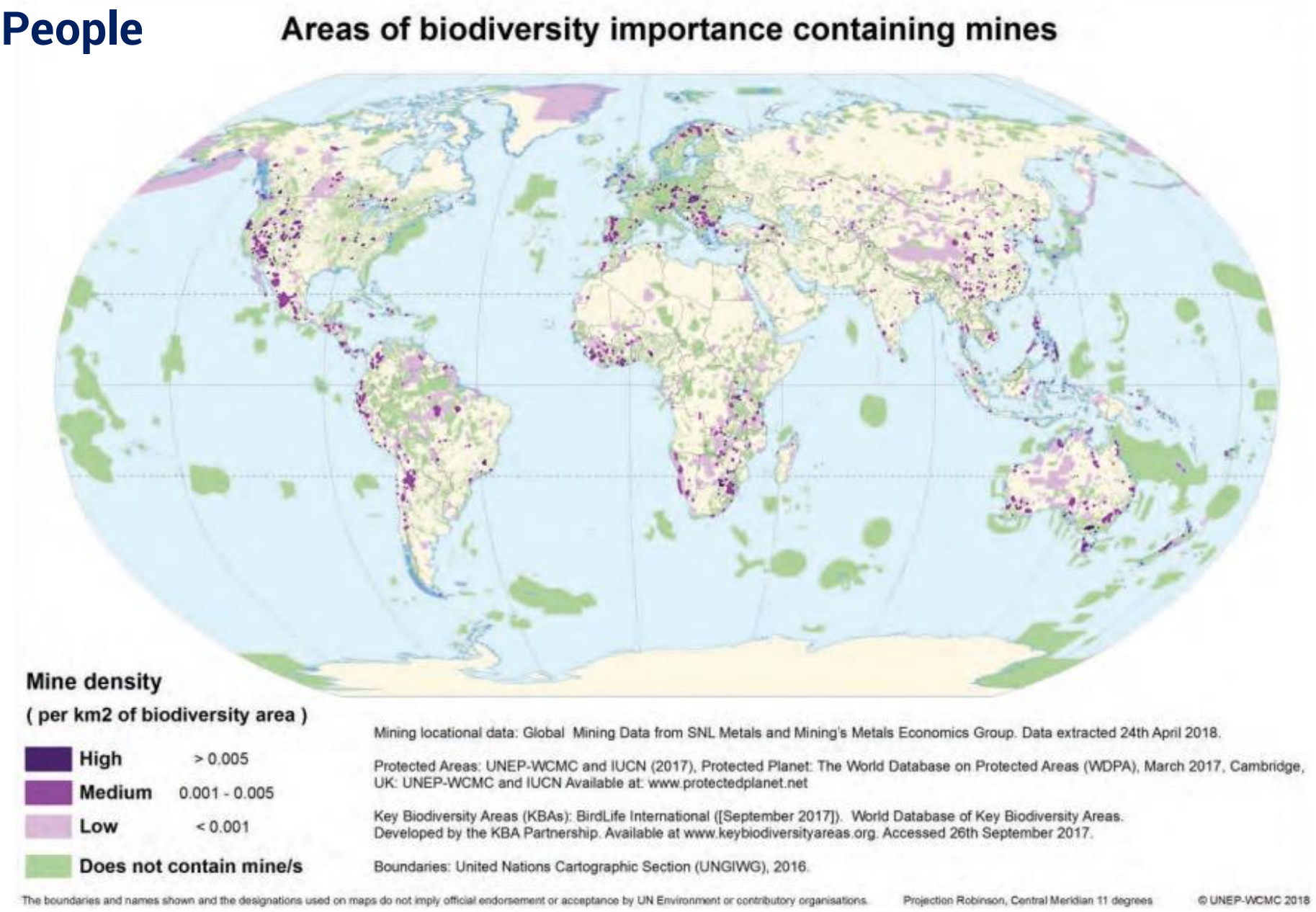
Mapping of strategic minerals for the low-carbon transition and respective main producers

Critical raw materials	Main uses	World production (tons), 2021	Main producers (tons), 2021
Rare earths		280 000	Australia, Brazil, **Burundi (100)**, China, India, **Madagascar (3 200)**, **Myanmar (26,000)**, Russian Federation, Thailand, United States, Vietnam; South Africa* and the United Republic of Tanzania*
Magnesium		950 000	Brazil, China, Israel, Kazakhstan, Russian Federation, Türkiye, Ukraine, United States
Niobium		67 700	Brazil, **Burundi (23)**, Canada, China, **Democratic Republic of the Congo (560)**, **Ethiopia (6.9)**, **Mozambique (9.1)**, Nigeria, Russian Federation, **Rwanda (156)**, **Uganda (6.6)**
Cobalt		170 000	Australia, Canada, China, **Democratic Republic of the Congo (120 000)**, Cuba, Indonesia, **Madagascar (2 500)**, Morocco, Papua New Guinea, Philippines, Russian Federation, United States, **Zambia (367)****
Platinum group metals		200 (Palladium 180 (platinum)	Canada, **Ethiopia (only platinum)**, Russian Federation, South Africa, United States, Zimbabwe
Natural graphite		1 000 000	Austria, Brazil, Canada, China, Democratic People's Republic of Korea, Germany, India, **Madagascar (22 000)**, Mexico, **Mozambique (30 000)**, Norway, Russian Federation, Sri Lanka, Türkiye, Ukraine, **United Republic of Tanzania (150)**, Uzbekistan, Vietnam; United States*
Indium		920	Belgium, Canada, China, France, Japan, Peru, Republic of Korea, Russian Federation

Source: UNCTAD (2022). The Least Developed Countries Report 2022. UNCTAD/LDC/2022.

WORKING GROUP
ON TRANSFORMING THE EXTRACTIVE INDUSTRIES
FOR SUSTAINABLE DEVELOPMENT

Protecting People and Planet



Source: UNEP-WCMC & IUCN (2017)

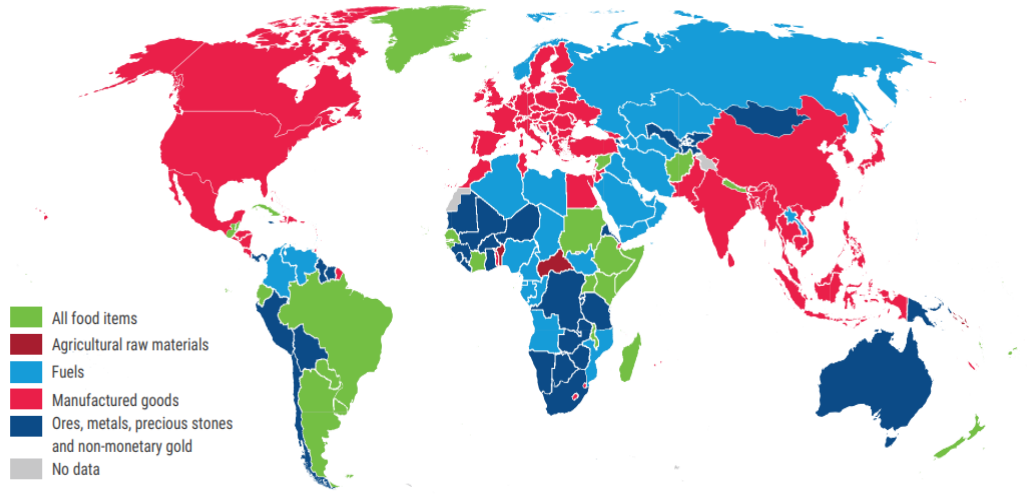
UN environment programme

LDCs and LLDCs: Many sustainable development needs and commodity-dependent

LDCs:

- 14% of the world population,
- 10% of world average GHG emissions per capita
- 69% of global deaths caused by climate-related disasters occurred in LDCs in the last 50 years
- In 2020, of the 1.1 billion people living in LDCs, 244 million were undernourished, 466 million had no access to electricity, 665 million lacked access to drinking water, and 874 million had no access to clean fuels and cooking technologies

Map 1.3 Main export products, 2021



Between 2018 and 2020, 78% of LDCs were classified as **'commodity dependent'.** In 2021, most of the exports from LDCs were of **ores, metals, and fuels**

Source: The UNCTAD Handbook of Statistics 2022

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Critical Energy Transition Minerals in LDCs and LLDCs

LDCs and LLDCs have important concentrations of these critical minerals and could harness the energy transition for sustainable development

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Rare earths		280 000	Australia, Brazil, **Burundi (100)**, China, India, **Madagascar (3 200)**, **Myanmar (26,000)**, Russian Federation, Thailand, United States, Vietnam; South Africa* and the United United Republic of Tanzania*
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Indium		920	Belgium, Canada, China, France, Japan, Peru, Republic of Korea, Russian Federation
Vanadium		110 000	Brazil, China, Russian Federation, South Africa; United States*
Lithium		100 000[a]	Argentina, Australia, Brazil, Chile, China, Portugal, United States, Zimbabwe; **Democratic Republic of the Congo***, **Mali***
Tungsten		79 000	Austria, Bolivia, **Burundi (165)****, China, Democratic People's Republic of Korea, **Democratic Republic of the Congo (128)****, Portugal, Russian Federation, **Rwanda (950)****, Spain, **Uganda (9)****, Vietnam
Titanium		9 000 000	Australia, Brazil, Canada, China, India, Kenya, **Madagascar (320 000)**, **Mozambique (979 000)**, Norway, **Senegal (370 000)**, **Sierra Leone (120 000)**, South Africa, Ukraine, United States, Vietnam

Source: UNCTAD (2022). The Least Developed Countries Report 2022. UNCTAD/LDC/2022.

An initiative of the SG Working Group on Extractive Industries

Objectives

- Support and accelerate a just energy transition focusing on minerals
- Support LDCs and LLDCs and developing countries with critical energy transition minerals in capitalizing from the green transition to drive economic growth, support sustainable development, and reduce poverty and inequality while minimizing negative environmental and social impacts of minerals development.

Potential Partners

UNEP, UNDP, UN RECs, UNCTAD, IRENA, IEA, ILO, OHCHR, UNIDO, UNICEF, UN Women, the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, UN Country Teams, the IFC and the World Bank. 'Sustainable Critical Minerals Alliance'; WEF's 'Securing Minerals for the Energy Transition Working Group'; ICMM, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, and the Principles for Responsible Investment.

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FOR SUSTAINABLE DEVELOPMENT

Outputs

Phase I (2023)
Developing from what is already available within the UN and with partners and through stakeholder consultations:

1. **UN Knowledge hub on extractives**
2. **UN Toolkit on critical energy transition minerals**
3. **UN Framework on Just Transitions for Critical Energy Transition Minerals**

Phase II (2024-2025):

1. **UN Framework on Just Transitions for Critical Energy Transition Minerals tested and customized** in 12 LDCs/LLDCs for tools, capacity laws, skill building and leveraging funds (in year 2).
2. **Recommendations from 5 areas of action of UN Framework implemented** to enhance production and trade capacities, plan for investment financing, develop skills, and put in place environmental/social safeguards. These will be implemented in year 3 in the 12 countries selected for output 4.

Possible Countries identified by the WG:
Latin America: Bolivia Plurinational State
Africa: Burundi, DRC, Ethiopia, Guinea, Madagascar, Malawi, Mali, Mauritania, Mozambique, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, Zambia, South Sudan, and the Sudan.
Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan.
Southeast and East Asia: Lao People's Democratic Republic, Mongolia

Expected Impact

Technical and political support based on carefully curated solutions from a diverse range of UN actors to develop safeguards, standards, policy incentives, and strategies for a Sustainable and Just Mineral Development.

Mobilization of actors along the supply chain to build trust, introduce development perspective and enable new market opportunities

(Global Compact on Critical Minerals)

Enhanced national capacities to negotiate, attract investment, create partnerships, develop skills for new business model, manage job transition

Tools to effectively assess and manage social-environmental risks liked to mining

Stronger governance and safeguards against illicit flows, corruption

SG Priority Areas

UN Framework on Just Transitions for Critical Energy Transition Minerals

Building Trust: Common Voluntary Guidelines for the fair and equitable production, processing, and trade of critical minerals

Common Guidelines that can help build trust along the supply chain between producers and consumers of critical minerals for the energy transition

Led by EOSG Climate Action Team with support from UNEP, UNCTAD, IEA and IRENA (global level); RECs (regional level); local stakeholders (local level)

Module 2: Enhancing producer capacities to overcome asymmetries of power

Best practices to assess resources; boost value added and transformation rate of raw materials by enhancing contractual and negotiation skills; attract investment, financing, and developing effective partnerships.

Enhance jobs opportunities and manage social trade-offs of the transition.

Led by UNCTAD, UNIDO, ILO

A Just Transition towards Sustainable Systems

Module 3: Strengthening trade potential

Understand the nature of trade agreements (e.g., are these beneficial to both parties?);

Increase the transparency of/access to global commodities markets;

Use of technology and innovation (artificial intelligence, big data, enabling blockchain) to enhance transparency, sustainability, and competitiveness.

Led by UNCTAD

Technology and Innovation and the Circular Economy

Module 4: Protecting people and planet

Assess and manage nature and social related risks of mining and adequately plan activities and human settlements for mining (including site remediation) ensuring the well-being of local communities (e.g. decision-supporting tools that assess exposure to risks at the site/assets level).

Assess and decarbonize mining activities; to mitigate negative environmental and social impacts; mining site remediation; enhance circularity in the critical minerals value chain.

Protect community and human rights, particularly vulnerable groups like women and children.

Led by UNEP, UNDP, OHCHR

Green Economy

Module 5: Creating a strong regulatory environment for just transitions

Progressive and transparent fiscal and regulatory measures that can strengthen the governance and management of mineral revenue; diversify economies; re-distribute financial flows for investment in social and economic development needs

Increase support from MDBs

Strengthen safeguards against illicit financial flows, corruption, governance deficits, and revenue mismanagement.

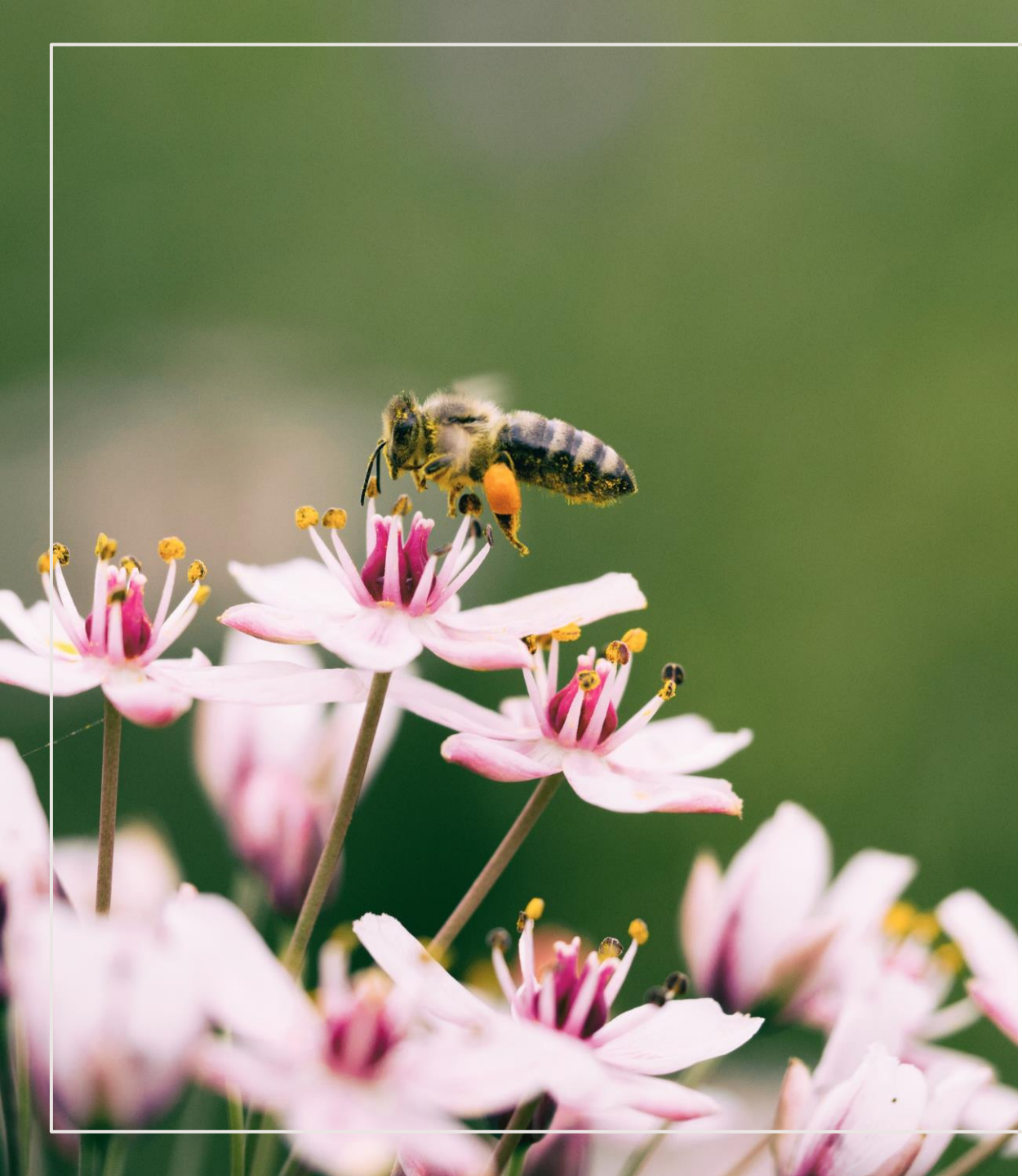
Led by RECs, World Bank/MDBs

Financing for Development; Governance and Revenue management

Other upcoming work on Critical Minerals

1. Upcoming spotlight ‘Responsible Mining for the Energy Transition'
2. Input from the regional and global UNEA 5/12 consultations on environmental aspects of mining and metals management
3. Work on Critical Minerals and Security
4. IRP report on Financing the Extractive Industry to Contribute to the achievement of the SDGs

UN environment programme



Sector transitions in support of global policy and nature-positive

Stacey Baggaley, Proteus Partnership Manager, UNEP-WCMC

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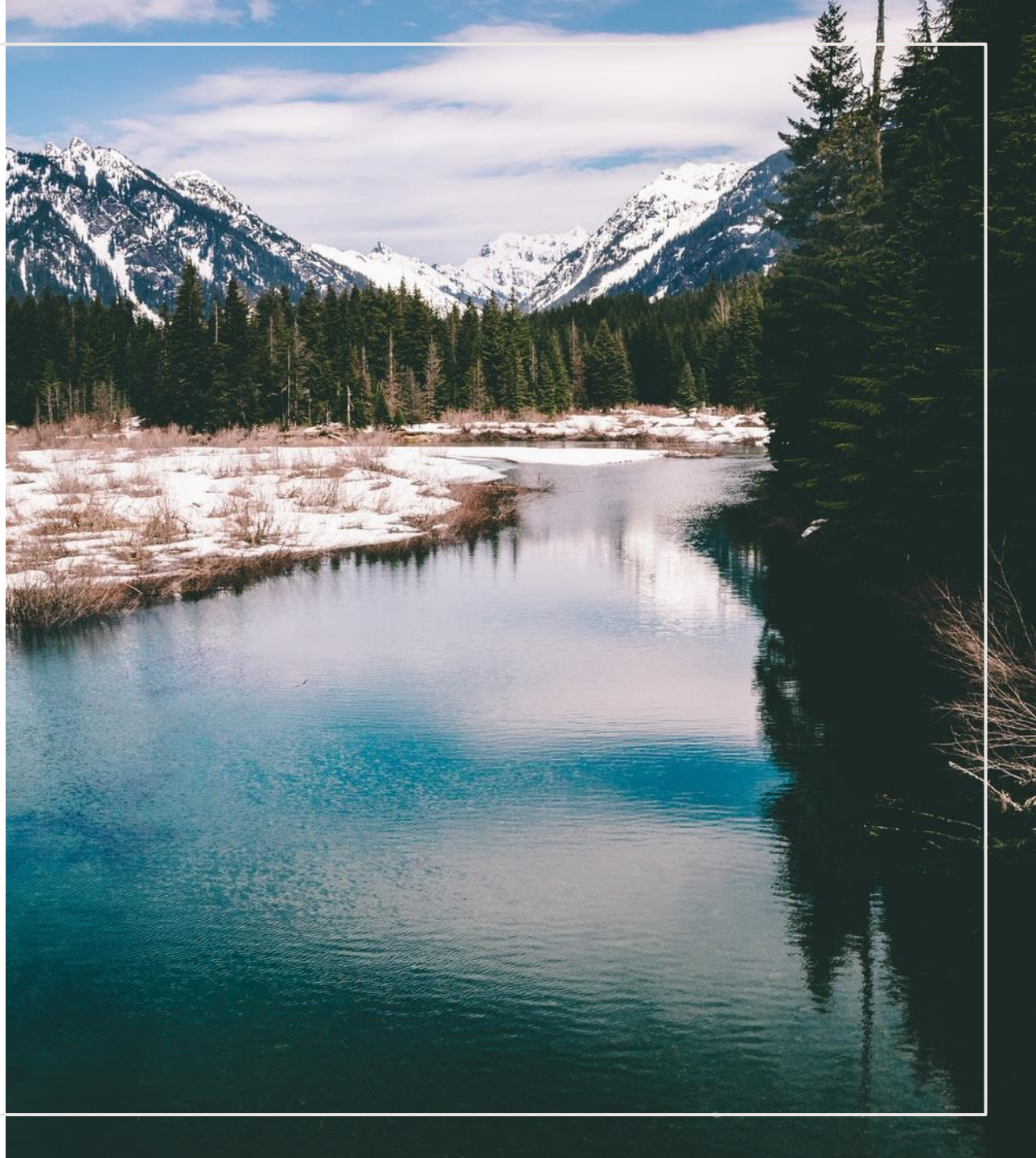
2023

OVERVIEW

- Context setting: advances in global policy & nature-positive for business
- Sector transitions in support of nature-positive
- World café breakout discussions



Advances in global policy

Stacey Baggaley, Proteus Partnership Manager, UNEP-WCMC

KUNMING-MONTREAL PACKAGE OF DECISIONS

- Adopted by the Conference of the Parties to the **Convention on Biological Diversity** in December 2022.

Kunming-Montreal Global Biodiversity Framework
Monitoring framework for the Kunming-Montreal Global Biodiversity Framework
Mechanisms for planning, monitoring, reporting and review
Resource mobilization
Capacity-building and development, and technical and scientific cooperation
Digital sequence information on genetic resources

KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

2050 vision of living in harmony with nature

2030 mission is “to take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and the planet…”

23 action targets:

- Reducing threats to biodiversity
- Meeting people’s needs through sustainable use and benefit-sharing
- Tools and solutions for implementation and mainstreaming

The entire framework is relevant for business

Goal A

Increasing the resiliency of ecosystems, species and genetic diversity

Goal B

Biodiversity is sustainably used and managed

Goal C

Utilisation of genetic resources and digital sequence information

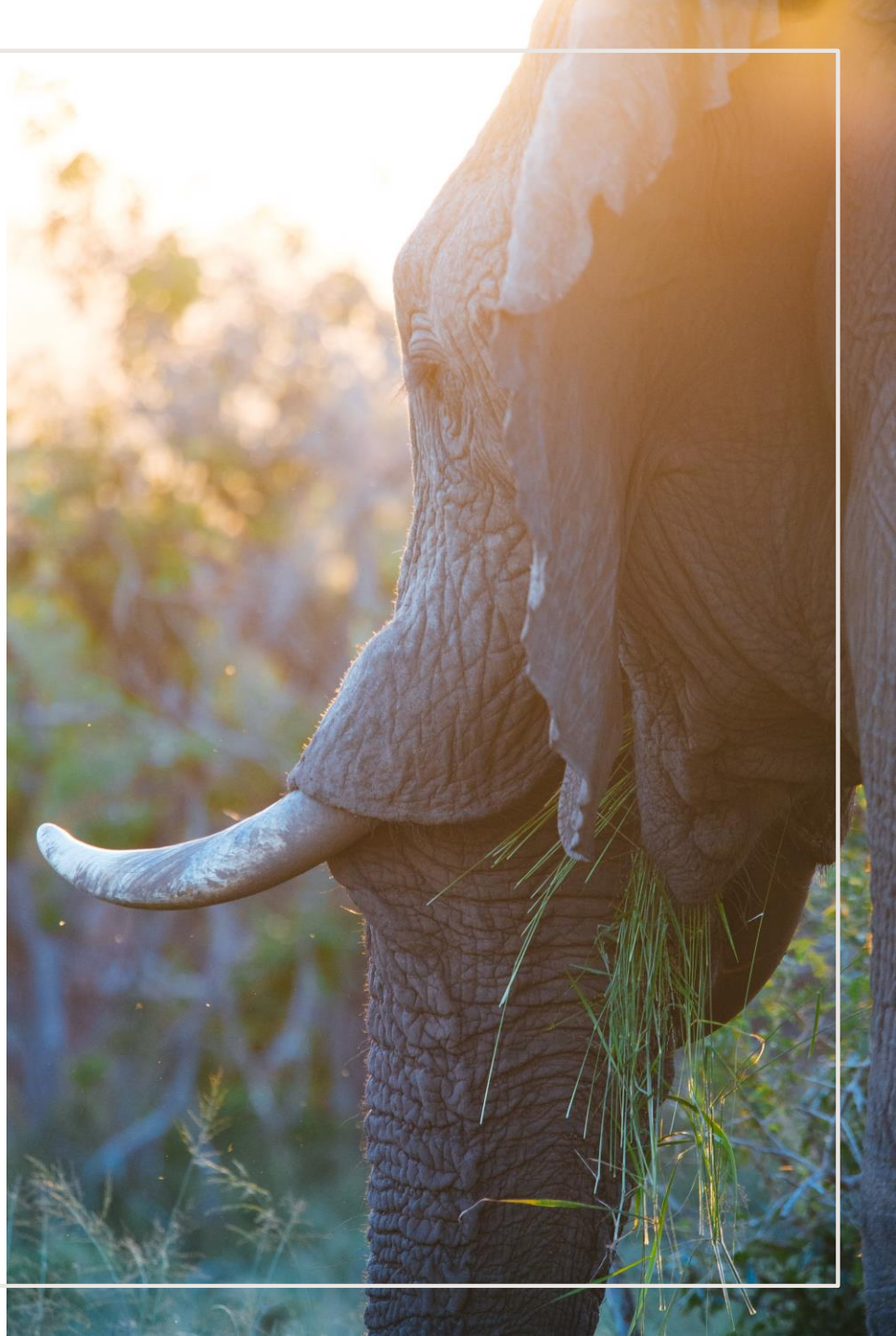
Goal D

Adequate means of implementation (including financial resources and capacity building)

CONSIDERATIONS FOR IMPLEMENTATION

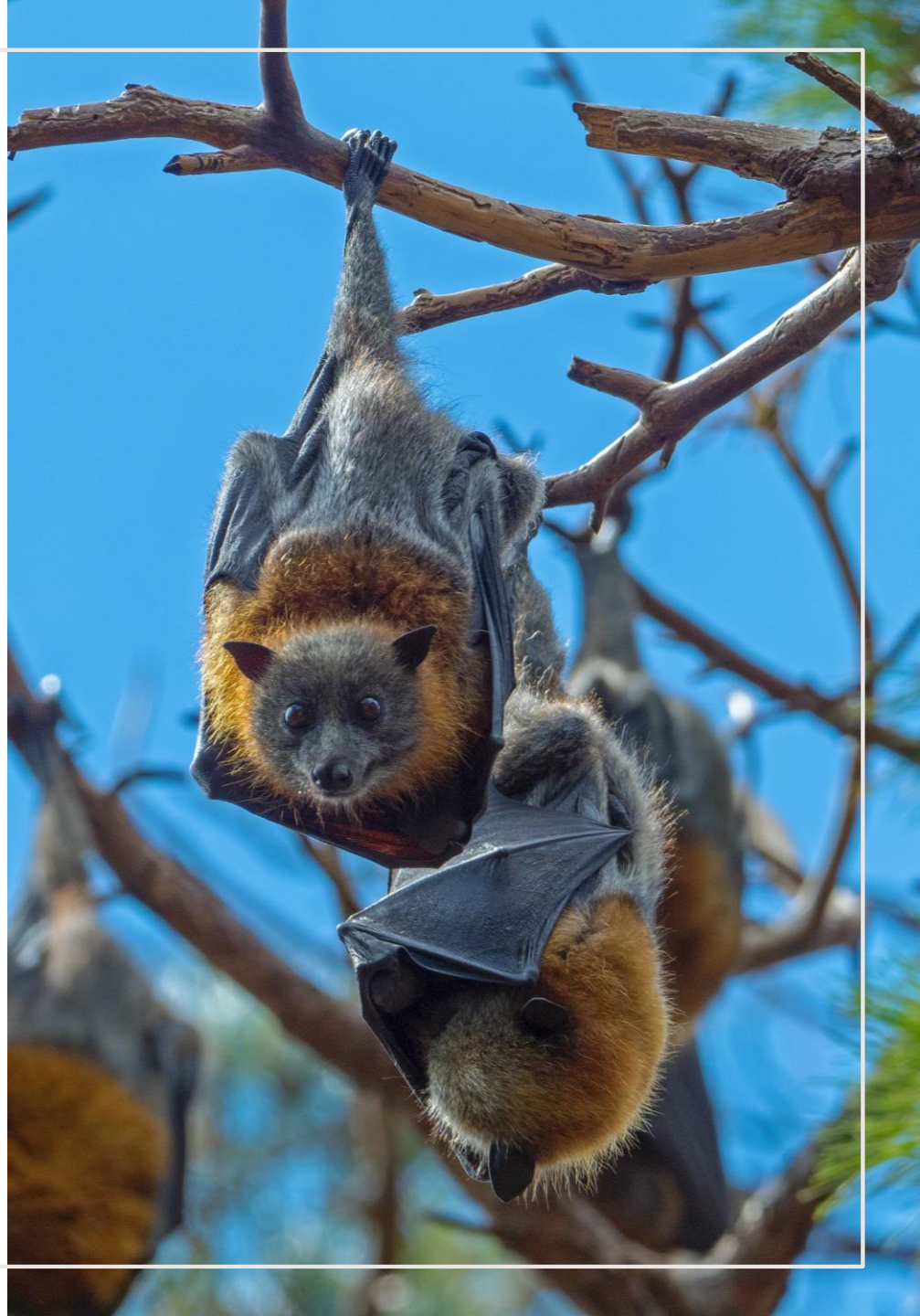
- Indigenous Peoples and local communities
- Whole-of-society approach
- Other international agreements and processes
- Gender equality and empowerment
- Basing action on knowledge and evidence
- National circumstances, priorities and capabilities

These considerations can also inform business approaches and actions



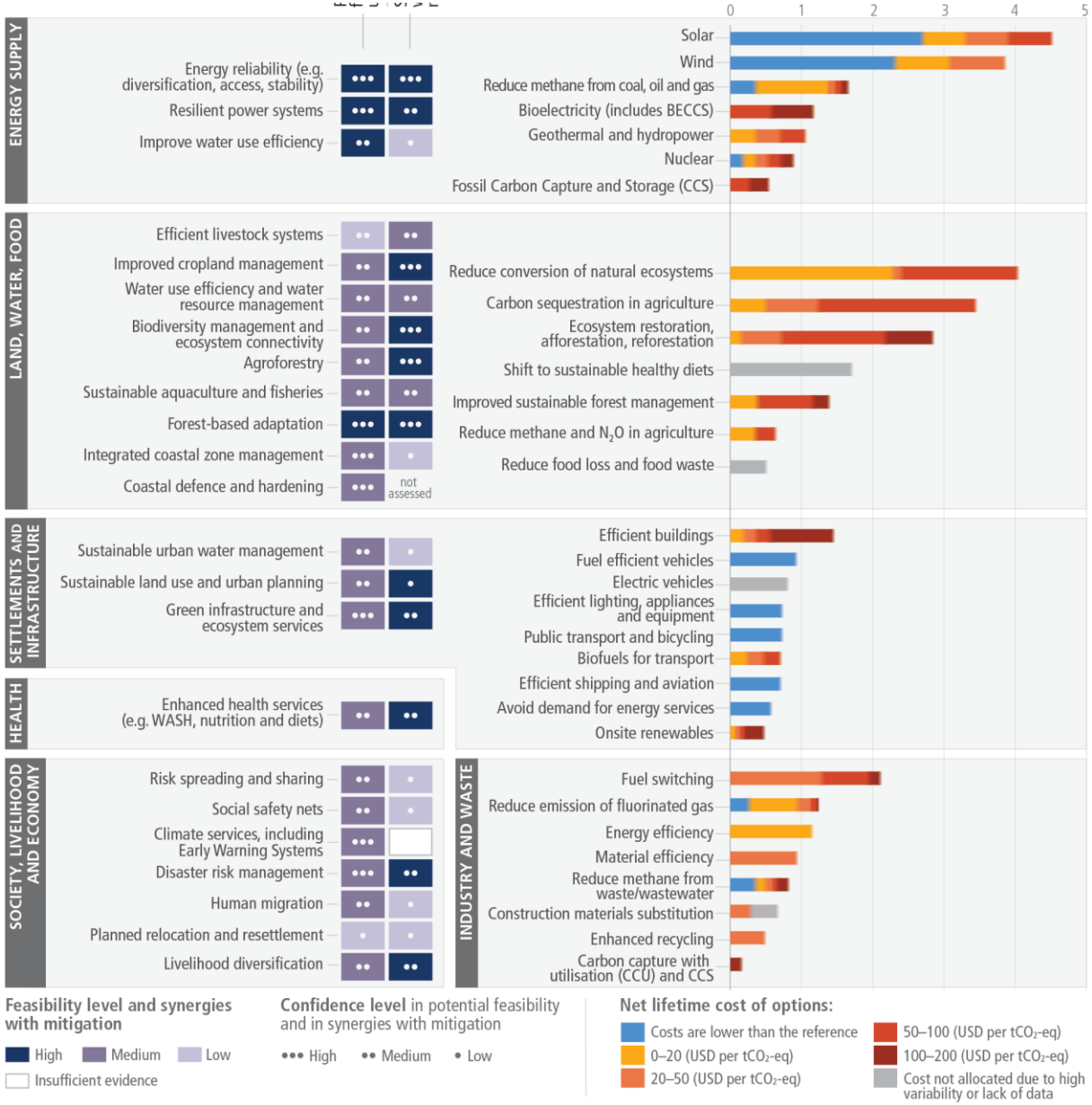
HOW BUSINESSES COULD ENGAGE

- Considering all 23 targets holistically, informed by the cross-cutting considerations
- Transitions and transformations that halt and reverse biodiversity loss
- Complementing the national level targets and NBSAPs
- Basing plans, decisions and commitments on science to establish credibility and transparency
- Recognising the nature-climate nexus

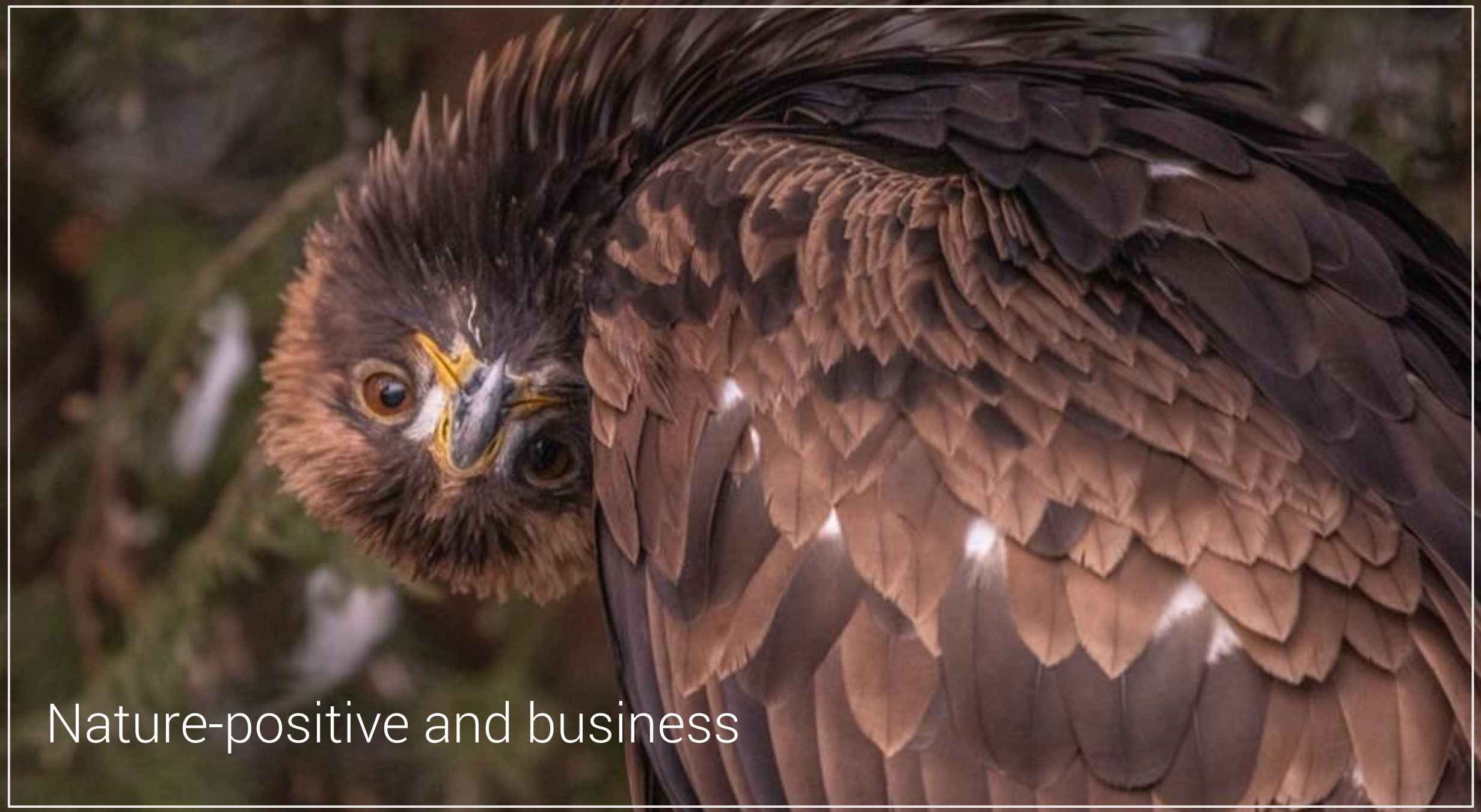


CLIMATE AND NATURE ARE INTERCONNECTED

- Nature-climate nexus has gained prominence at UNFCCC COP27
- Actions that consider outcomes for:
  - Climate
  - Nature
  - Society
- Businesses need to set high-integrity net-zero commitments that integrate nature



Source: IPCC (2023)



Nature-positive and business

DEFINING NATURE-POSITIVE

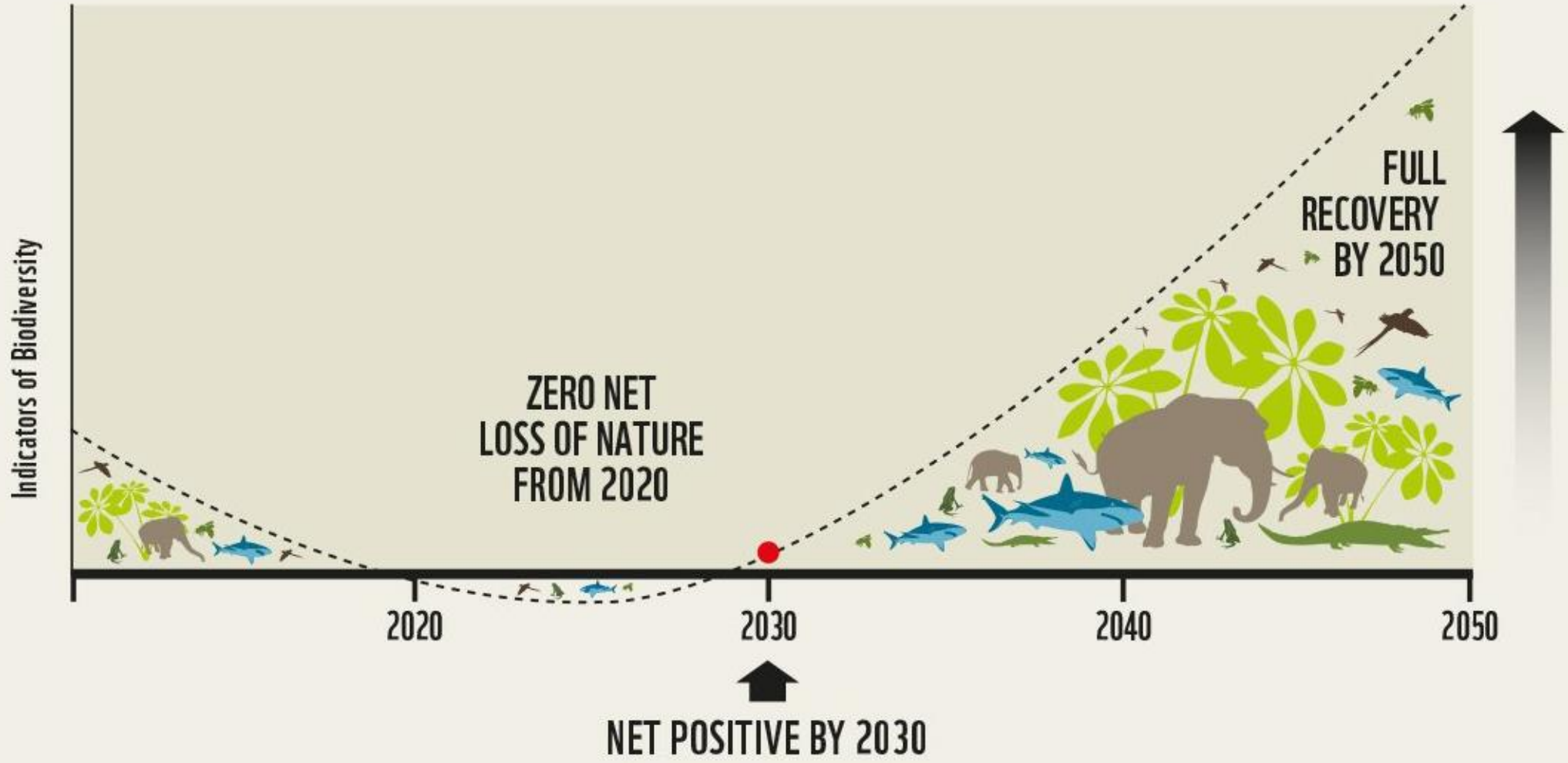
The ideal of a nature-positive future aims at halting and reversing the loss of nature for the benefit of human and planetary wellbeing

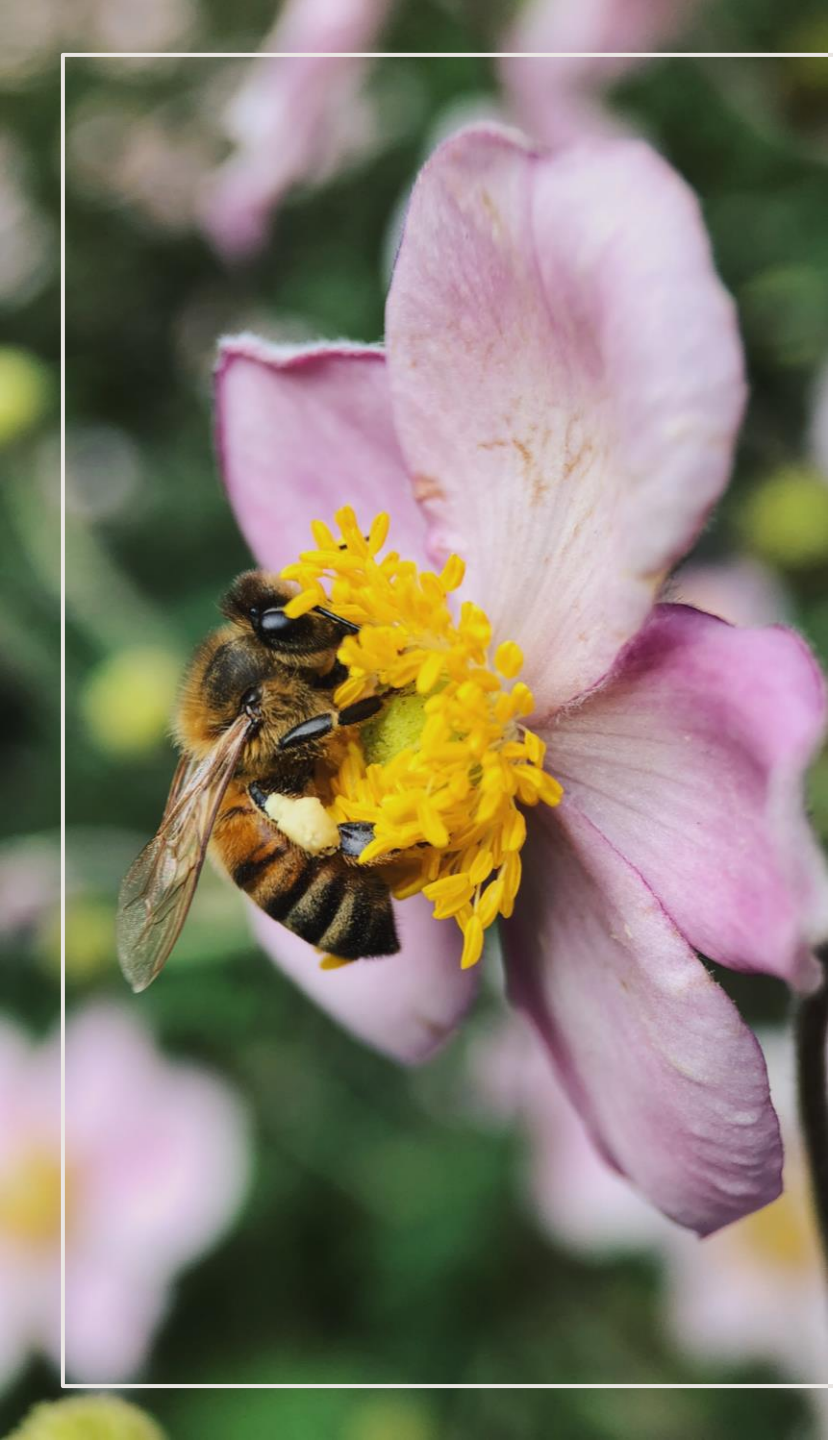
A nature-positive future means that we, as a global society, **halt and reverse** the loss of nature measured from its current status, reducing future negative impacts alongside restoring and renewing nature, to put both living and non-living nature measurably on the **path to recovery**. (IUCN, 2022)

A high-level goal and concept describing a future state of nature (e.g. biodiversity, ecosystem services and natural capital) which is **greater than the current state** (TNFD, 2022)

We need to **halt and reverse** nature loss measured from a baseline of 2020, through increasing the health, abundance, diversity and resilience of species, populations and ecosystems so that by 2030 nature is visibly and measurably on the **path of recovery** (naturepositive.org)

Global Goal for Nature: Nature Positive by 2030





NATURE-POSITIVE FOR BUSINESS

Understanding of nature-positive for business is evolving. Efforts include (amongst others):

- IUCN IMEC nature-positive working group
- World Economic Forum, WBCSD and Business for Nature: sector transitions
- Naturepositive.org various resources including paper on measuring nature-positive outcomes

KEY MESSAGES

Systemic time-bound transformative change is needed

Embedding the value of nature within institutions and systems

Collective action is critical – across sectors, values chains and landscapes

Addressing the climate and nature crises in tandem in alignment with global goals

Frameworks need to create accountability and allow for measurement of progress

Sector transitions in support of global policy and nature-positive

Xinqing Lu, Community Lead, World Economic Forum, WEF
Matt Inbusch, Senior Manager, Nature & Land Use, WBCSD
Gemma Tooze, Business Action Advisor, Business for Nature

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2023

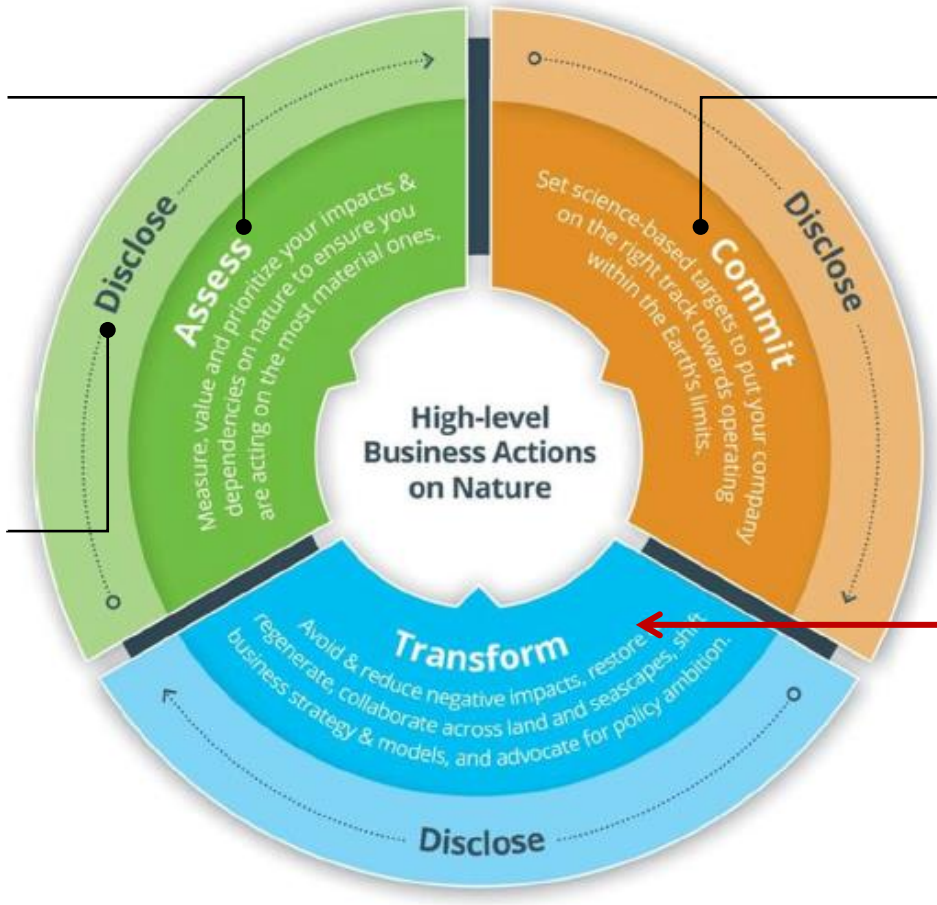
Sector Transitions for Nature Positive

Proteus Annual Meeting, June 2023

While guidance on assessing, committing and disclosing are under development, companies need to take action

- SBTN's Assess and Interpret & prioritize steps of setting science-based targets for nature
- Capitals Coalition's Natural Capital Protocol
- TNFD's LEAP approach (primarily LEA)
- PBAF Standard

- TNFD's draft disclosure recommendations
- CDP's Forests questionnaire
- ISSB's climate-related disclosures
- GRI's upcoming biodiversity standards
- EFRAG's European Sustainability Reporting Standards (ESRS)
- CDSB's biodiversity-related disclosures
- TNFD's LEAP approach (primarily P)
- PBAF Standard



- SBTN's Measure, Set & Disclose guidance for Freshwater SBTs and interim target setting
- Business for Nature's discussion paper
- EU B@B's working definition of nature positive

Identify and make a business case for **sector-specific actions for nature positive**

Developed in collaboration with, and supported by these organisations and more:

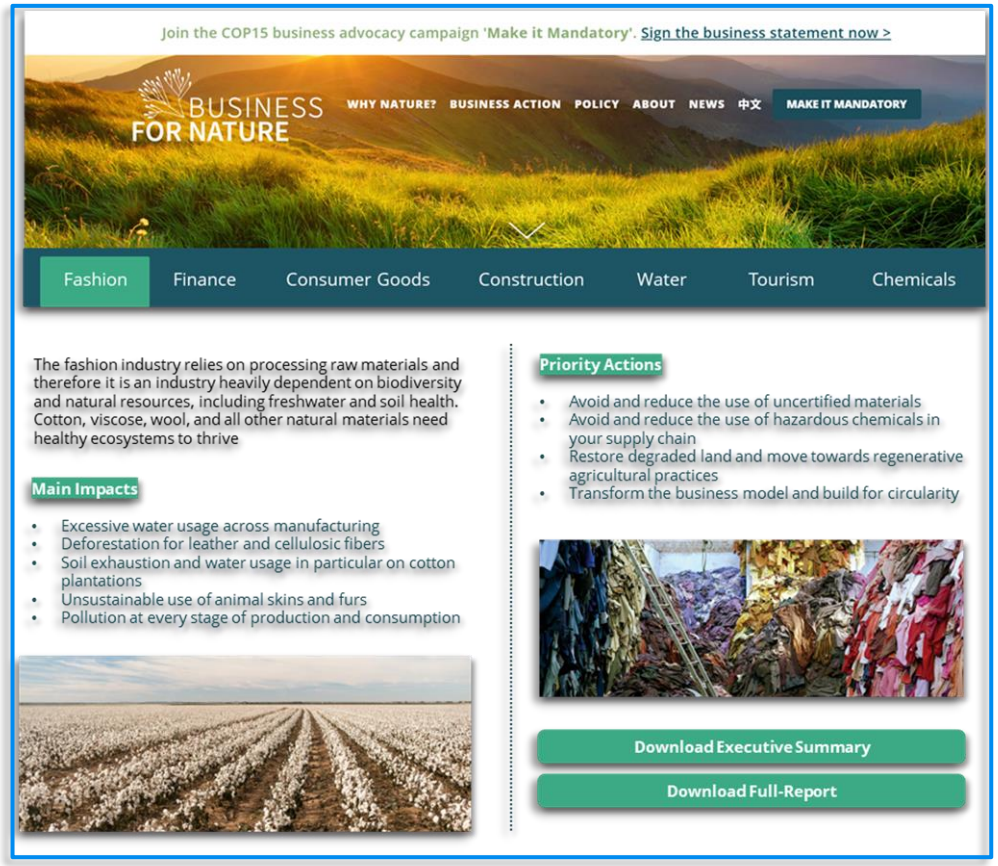
BUSINESS FOR NATURE · CAPITALS COALITION · SCIENCE BASED TARGETS NETWORK GLOBAL COMMONS ALLIANCE · TNFD · wbcsd · WORLD ECONOMIC FORUM · WWF · and more...

The three organizations plan to cover ~13 sectors based on Sustainable Industry Classification System (SICS)

	Food, land and ocean use	Infrastructure and built environment	Energy and extractives
Real Economy	• Meat, Poultry & Dairy • Household & Personal Products	• Construction materials (Cement)	• Chemicals
	• Forestry Management & Pulp and paper products • Agriculture products (rowcrop commodities)	• Infrastructure (urban, transport), construction engineering	• Oil & Gas, Electric utilities, Gas utilities, Solar technologies, Wind technologies
	• Fashion and Apparel • Hospitality & Recreation / Air Transportation	• Waste management • Water Utilities & Services	
	• Fertilizer • Beauty • Blue Economy (EU) ○ Agriculture & Food (UK)	• Construction (EU)	○ Chemical (UK)
Finance & Investor	• NA100+: Sector transition pathways for investors + sector engagement sprint • Target setting for banks; Principles for Responsible Banking (PRB) & Principles for Responsible Investment (PRI)		

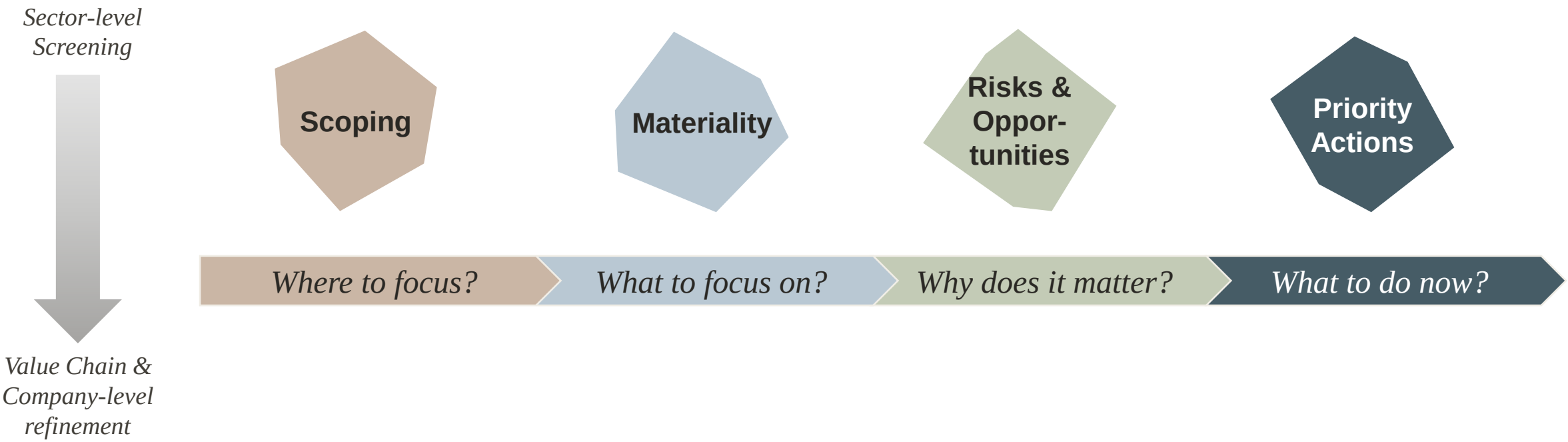
Key analysis and output structure will be consistent, summarized in 2-3 pager executive summary to be hosted on BfN website

- Overview of the sector
- Main Impacts
- Main dependencies
- Priority actions (avoid, reduce, restore, regenerate, transform)
- Resources - signpost to other guidance



WBCSD Roadmaps to Nature Positive

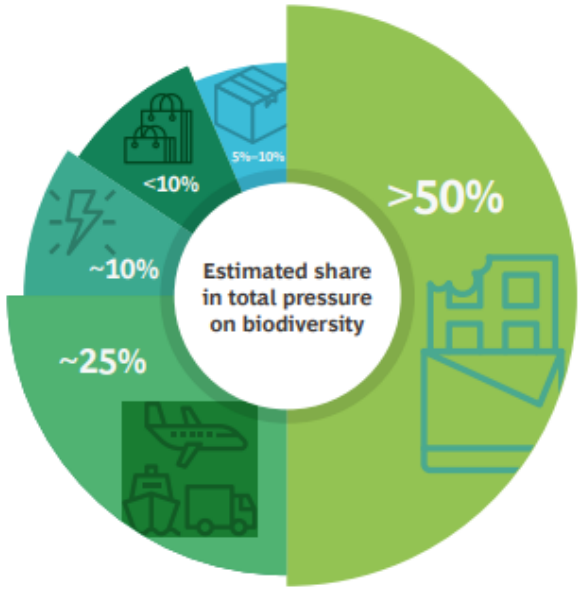
A common foundation for strategic action on nature



TNFD >>	Scope & Locate	Evaluate	Assess	Prepare
SBTN >>	Assess	Interpret & Prioritize	Measure, Set, Disclose | Act | Track	

WBCSD Roadmaps to Nature Positive

Three major value chains account for about 85% of pressure on biodiversity, mapping to four industry sectors



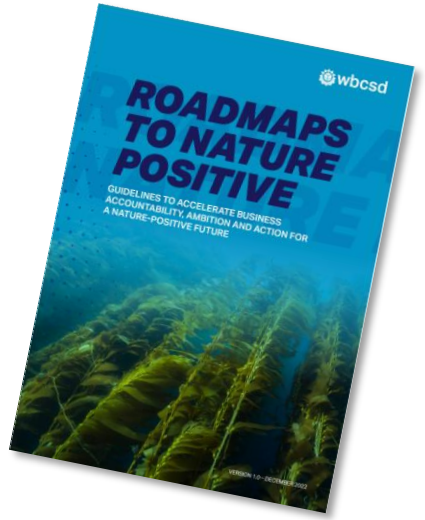
- **Food** and beverages, including packaging
- **Infrastructure and mobility,** including housing, public infrastructure, and vehicles
- **Energy,** including fuels, power, and other commodities
- **Fashion** and related FMCG, including luxury goods
- **All other,** including pharma, cosmetics, and consumer electronics

With Forest Sector cutting across

Source: Boston Consulting Group (BCG) (2021) ***The Biodiversity Crisis Is a Business Crisis***

Roadmaps to Nature Positive

Designing for use along the Nature-Positive journey



Starting	Developing	Advanced	Leading
The company **identifies nature-related issues** and presents **stand-alone actions** for nature.	The company **assesses its impacts and dependencies** and has set a **high-level ambition** or targets for nature.	The company **integrates nature into strategy,** sets **measurable commitments** for nature and implements **strategic actions** along priority parts of the **value chain.**	The company assesses **impacts and dependencies for all potentially relevant realms,** redefines industry **business models** and drives **full value chain** mobilization and beyond.

WBCSD Roadmaps to Nature Positive

Sector Highlights: Agri-Food: Rowcrop Commodities

WORKING DRAFT MATERIALS

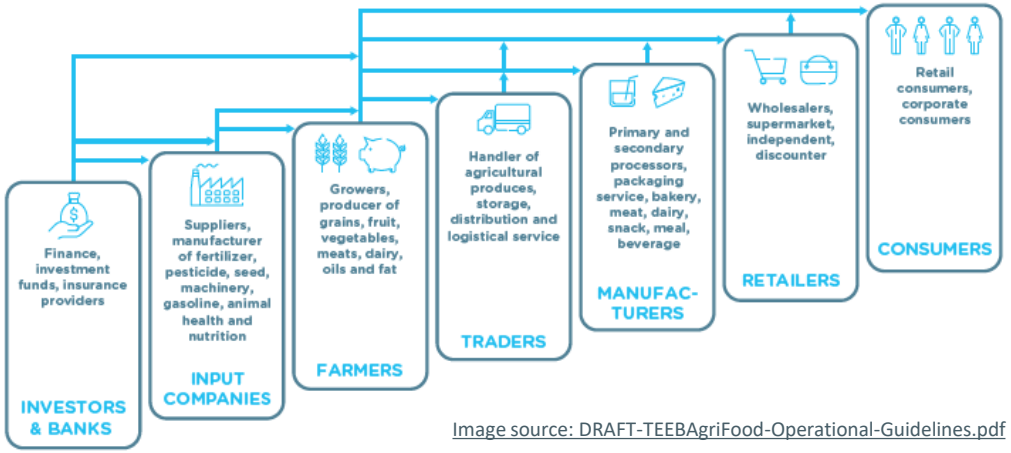
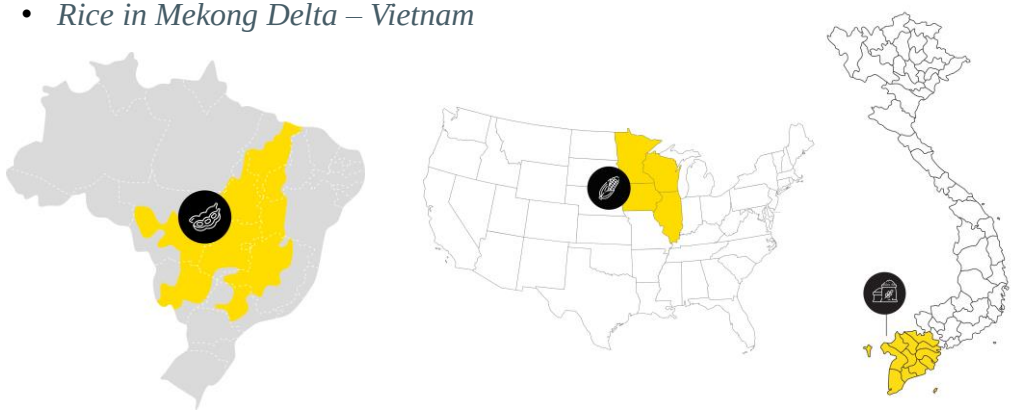


Image source: DRAFT-TEEBAgriFood-Operational-Guidelines.pdf

Landscape-specific "deep dives"

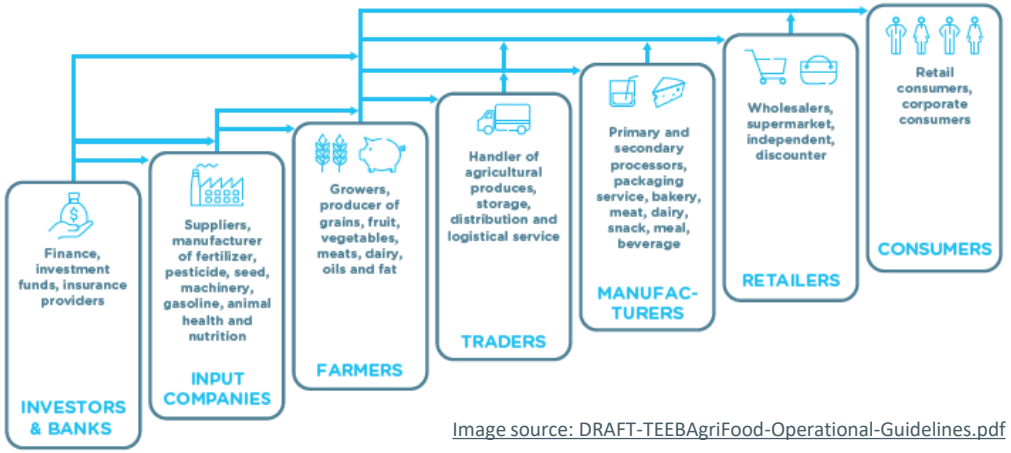
- *Soy in Cerrado – Brazil*
- *Corn in Upper Midwest – USA*
- *Rice in Mekong Delta – Vietnam*



WBCSD Roadmaps to Nature Positive

Sector Highlights: Agri-Food: Rowcrop Commodities

WORKING DRAFT MATERIALS



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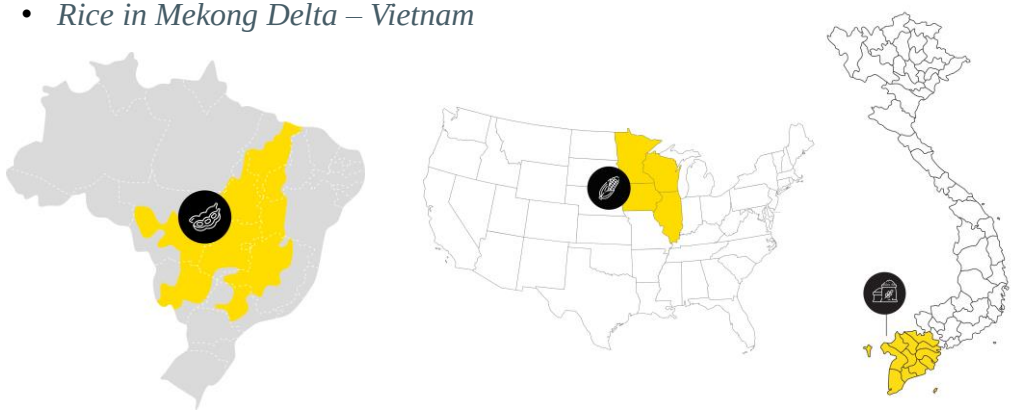


Very High Material Impacts & Dependencies (illustrative)

IMPACTS

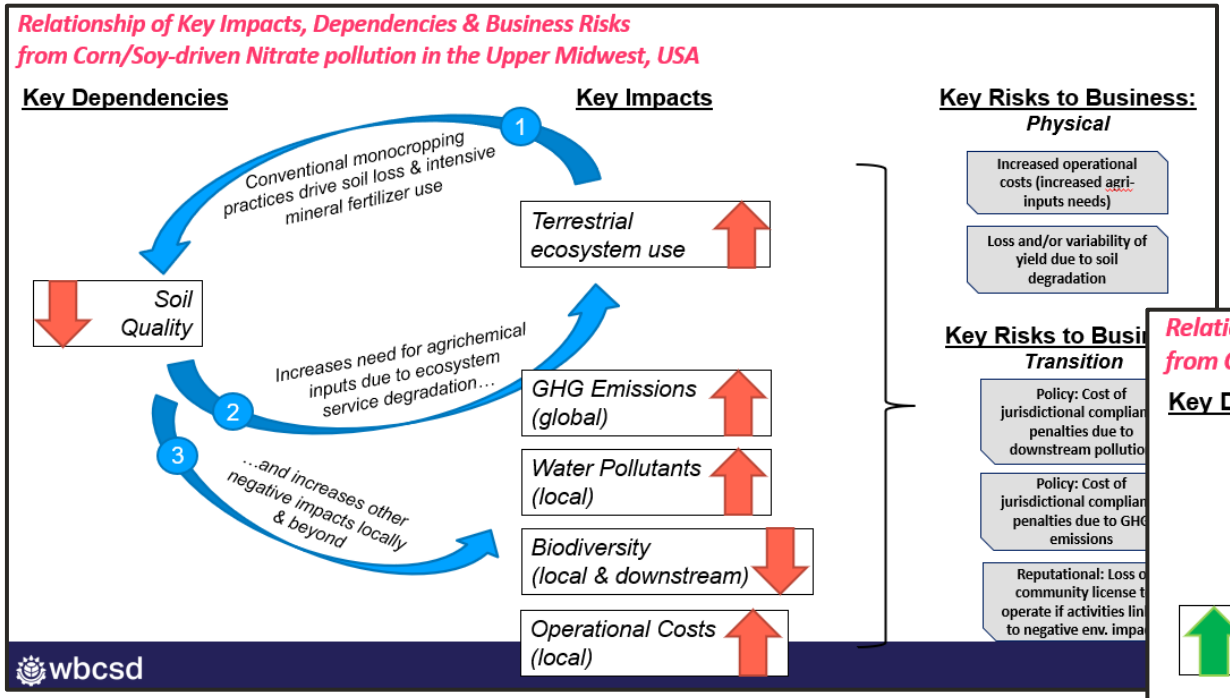
- Terrestrial ecosystem use
- Water use & Water pollutants
- GHG & other air emissions
- Biological alterations

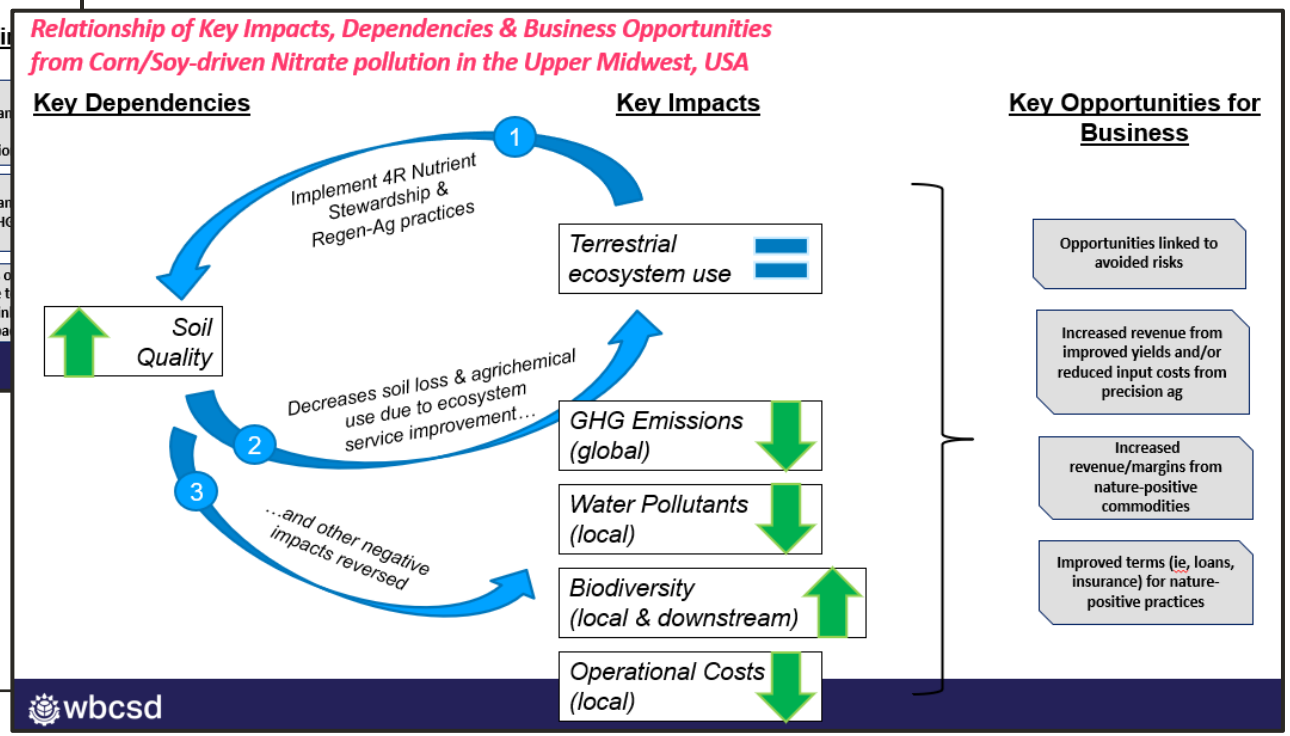
DEPENDENCIES

- Surface water & Water flow maintenance
- Soil quality
- Climate regulation
- Flood and storm protection & Erosion control

WBCSD Roadmaps to Nature Positive

Rowcrop Commodities - Illustrating Key DIROs within Landscape Context

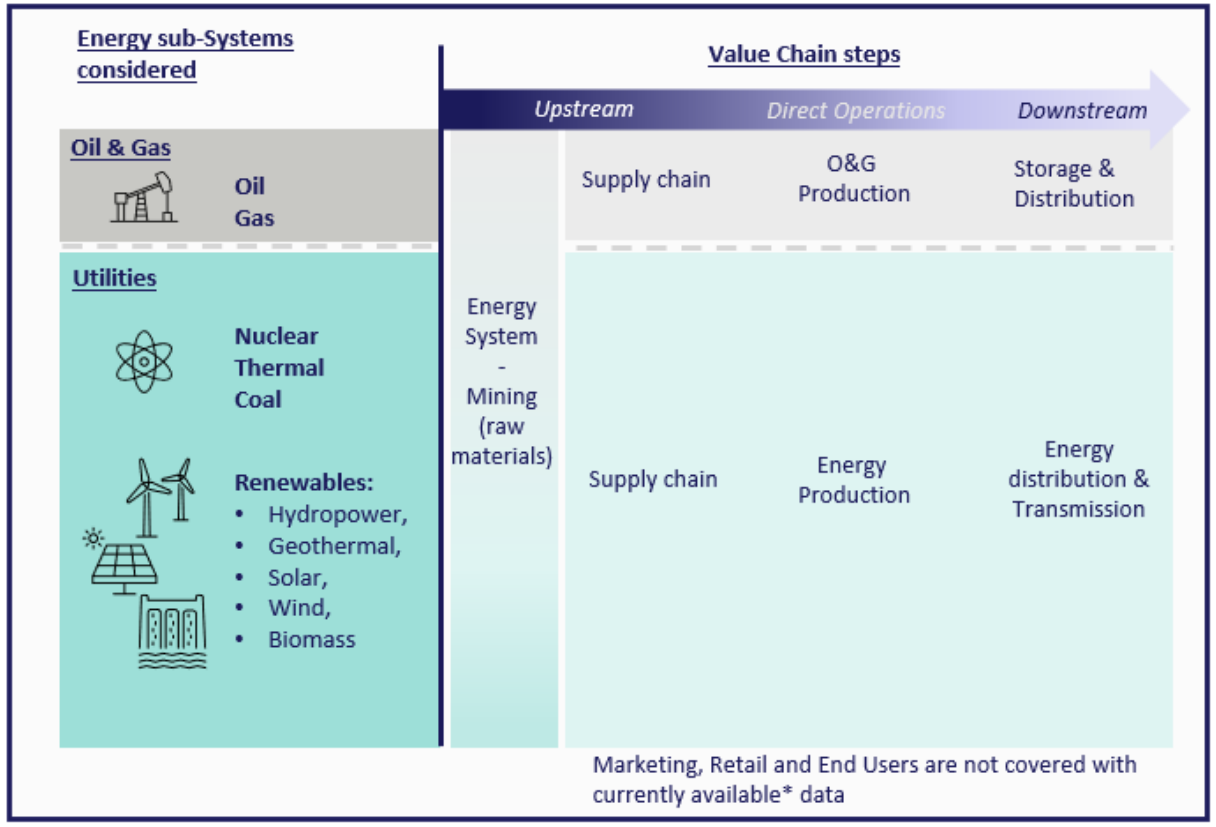




WBCSD Roadmaps to Nature Positive

Sector Highlights: Energy Systems

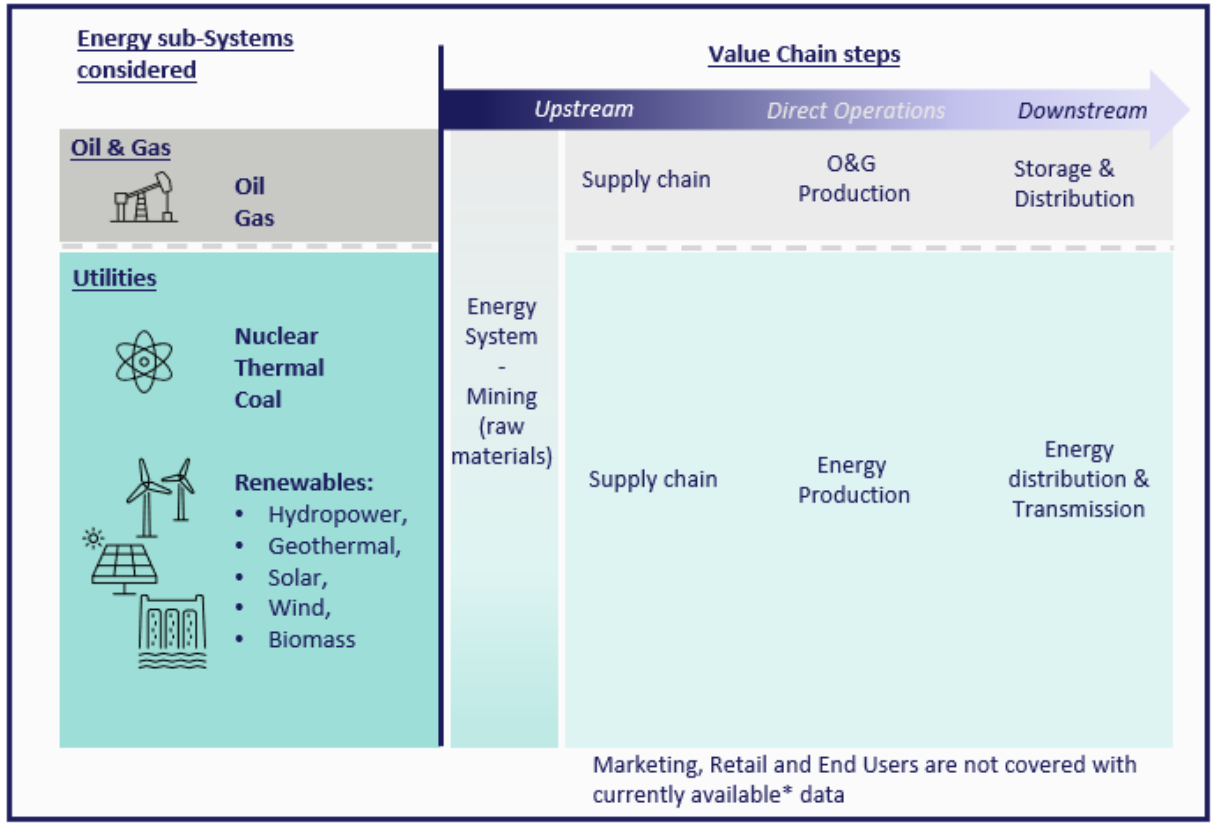
WORKING DRAFT MATERIALS



WBCSD Roadmaps to Nature Positive

Sector Highlights: Energy Systems

WORKING DRAFT MATERIALS



Potentially Material Impacts & Dependencies (illustrative)

IMPACTS

- Water use
- Air pollution and emissions
- Ecosystem disturbance

DEPENDENCIES

- Surface water
- Climate regulation
- Flood and storm protection, erosion control

WBCSD Roadmaps to Nature Positive

Sector Highlights

WORKING DRAFT MATERIALS

Priority Actions (illustrative) - Energy Systems

Avoid and Reduce

- Plan project to **avoid or reduce** construction and/or production phases in breeding, nesting, migrating, resting areas and seasons
- **Reduce** operational and transport GHG emissions
- Use and integrate recycled materials in the value chain product to **reduce and avoid** the use of virgin materials

Restore and Regenerate

- Implement **restoration and/or conservation** of all existing highly degraded sites to enhance biodiversity and restore ecosystem functions, services, ecological integrity and connectivity
- Implement water **replenishment** programs and **conservation/restoration** of water species affected by water withdrawals

Transform

- **Use innovative**, habitat-enhancing, biodiversity-friendly, sustainable, Nature-based **materials and solutions** (e.g., wind turbines from fabric, turbine reefs, etc.), through **collaboration with suppliers**
- Invest in **building and site resilience**
- **Involve and employ local stakeholders** to better understand local ecosystems, assess onsite activities, mitigate risks and impacts for local communities, and **build alliances**

For further guidance, see SBTN's initial guidance for target setting and SBTN's interim targets

Sector actions: Business for Nature

Industry	Status
Fashion and Apparel	Developed
Water Utilities & Services	In-Development
Environmental Services (Waste Management)	In-Development
Tourism (Hospitality & Recreation)	In-Development (led by Animondial)
Finance	In-Development (led by Planet Tracker)

Fashion & Apparel

Executive Summary preview

Actions:

- **Avoid and reduce** the use of high impact of uncertified materials
- **Avoid and reduce** the use of hazardous chemicals across the supply chain
- **Restore** degraded land and move towards regenerative agricultural practices
- **Transform** business models and build for circularity

Sector actions: Business for Nature's approach

The globalization process follows three stages. The detailed process and organisations engaged for the fashion sector guidance are provided as an example.

1. Leveraging UK-specific guidance

The Get Nature Positive (GNP) Handbook sector-specific guidance on **nature positive actions** businesses can take was leveraged. This was developed in the UK by Accenture, Defra, CSB and other key organizations.

Get Nature Positive

Department for Environment Food & Rural Affairs

accenture

Council for Sustainable Business

2. Globalisation through desktop research

Existing global guidance, thought leadership and studies were drawn upon through **desktop research** to update and globalize the GNP guidance.

The **ENCORE database** was used to prioritize the key impacts for each sector, along with other resources e.g., TNFD matrices, SBTN sectoral materiality tool and WWF risk filter

ENCORE

3. Stakeholder Input

Draft guidance was shared with businesses, NGOs and industry experts to elicit their **feedback** and gain support on the impacts and priority actions for each sector.

WORLD ECONOMIC FORUM

wbcsd

Textile Exchange

H&M

BRITISH FASHION COUNCIL

KERING

eoca european outdoor conservation association

European Commission

SCIENCE BASED TARGETS NETWORK
GLOBAL COMMONS ALLIANCE

Draft actions: Water Utilities & Services and Waste Management

Development underway. Please reach out (gemma.tooze@businessfornature.org) if you'd like to contribute to the review.

- **Avoid and Reduce** pollution and leakage
- **Avoid and Reduce** greenhouse gas emissions
- **Restore and regenerate** through nature-based solutions
- **Transform to** circular nature-positive business models
- **Transform** action on nature through partnerships and influencing policy

- **Avoid and Reduce** the emission of methane at landfill
- **Avoid and Reduce** the production of final waste
- **Restore** soil health by diverting from landfill and composting food
- **Restore** biodiversity on waste management sites
- **Transform** from waste management to resource management


WORLD
ECONOMIC
FORUM


Coffee break

World Café: sector transitions

Stacey Baggaley, Proteus Partnership Manager, UNEP-WCMC

Proteus Annual Meeting

2023

Break-out groups: Guiding Questions

1. How are companies approaching your contributions towards nature-positive and global goals?

   - Maturity level?
   - Nature positive strategy?
   - C-suite and Board agenda?
   - Main barriers?

2. How is your company currently tracking and monitoring performance of the sector-specific actions both qualitatively and quantitatively?

   - Disclosure metrics from TNFD *v.s.* Indicators to track management actions
   - Activities-based *v.s.* output-focused
   - Barriers?

3. Is your company considering nature-positive actions in an integrated manner with the net-zero transition plan?

   - 2 steps from the WWF report
   - Barriers?

Solution-oriented
What is needed to address these barriers?
(Comms, Dialogues, Coalitions, Thought leadership…)

Lunch

Cross-sectoral collaboration across value chains

Sharon Brooks, Principal Specialist, Nature Economy, UNEP-WCMC

Proteus Annual Meeting

2023

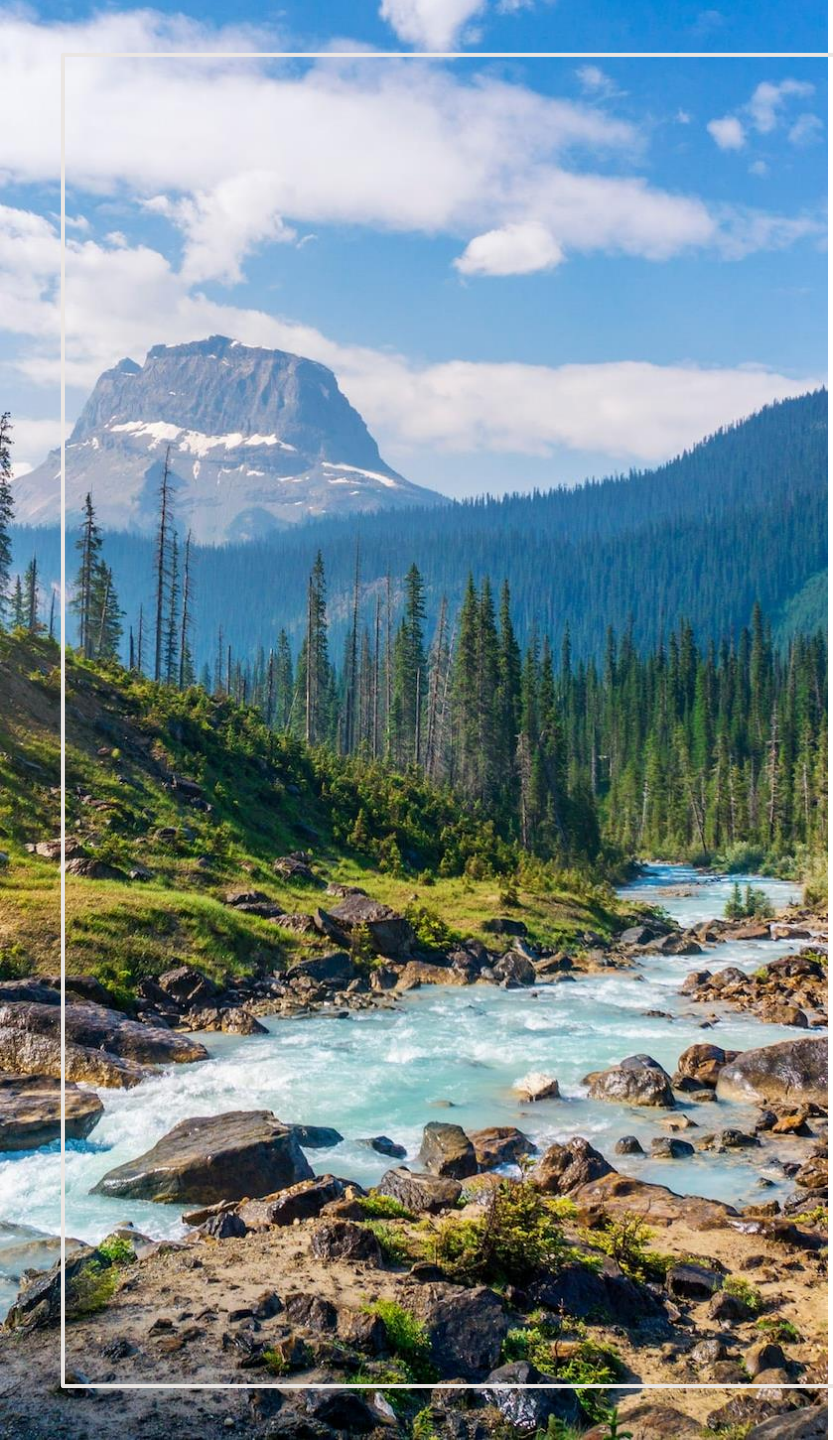
Landscape of value chains

MANAGING VALUE CHAIN IMPACTS (AND DEPENDENCIES?)

- All emerging standards and requirements on nature and biodiversity require coverage of full value chain
- Recognition of significant risks beyond direct operations
  - Physical (related to dependencies)
  - Transition (related to reputation, legal etc.)

POLICY AND STANDARDS DEVELOPMENTS

- **Global goals**: The Kunming-Montreal Global Biodiversity Framework
- **Regulation**: e.g. the EU regulation on deforestation-free products, Corporate Sustainability Reporting Directive, Due Diligence regulations
- **Voluntary frameworks and standards**: e.g. The Taskforce on Nature-related Financial Disclosures, the Global Reporting Initiative, the Science Based Targets Network

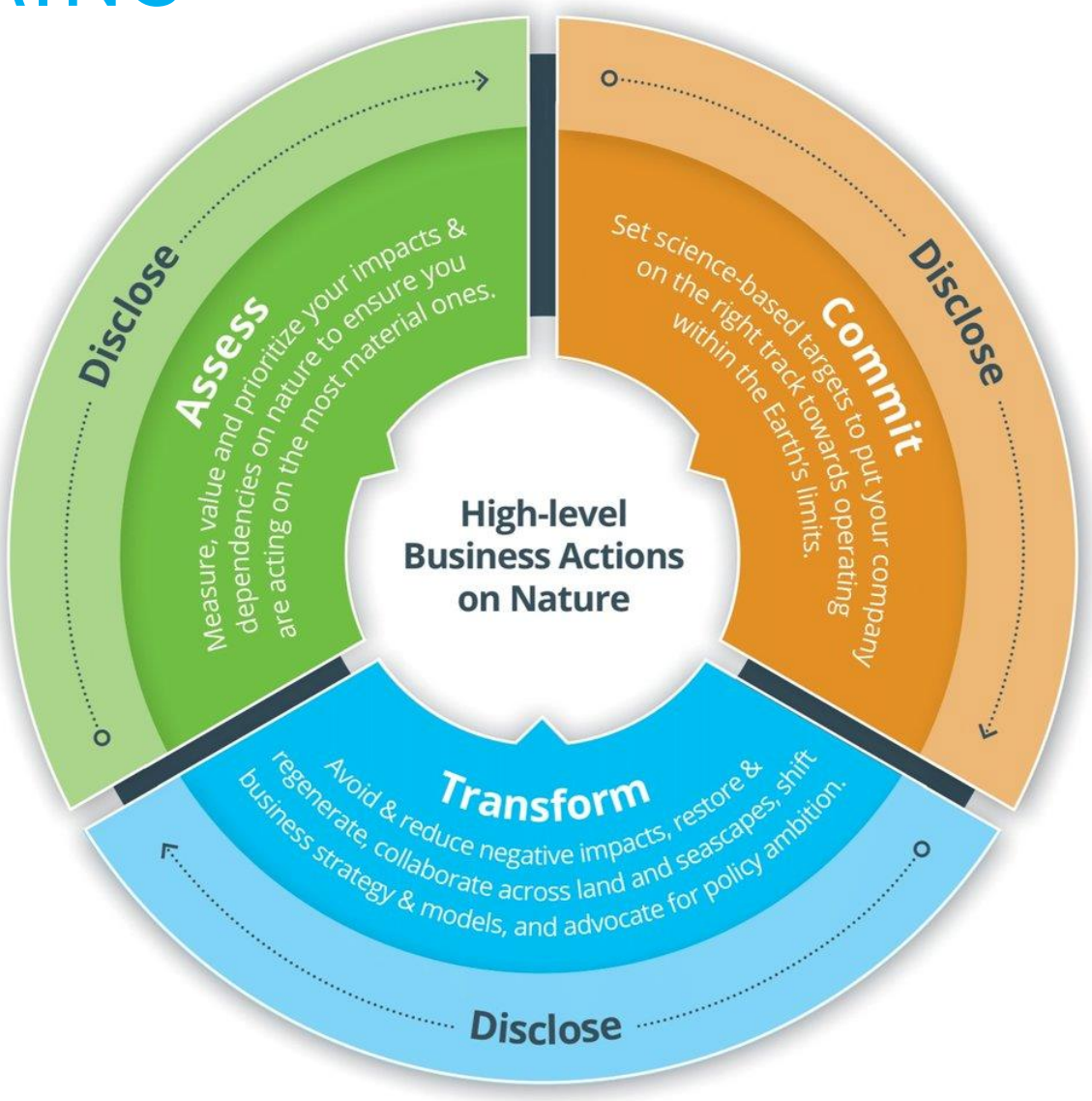


HOW ARE VALUE CHAINS COVERED?

- KM GBF – *….along their operations, supply and value chains and portfolios (Target 15)*
- TNFD (V0.4) – *direct operations; upstream; downstream*
- SBTN (V1.0) – *direct operations and upstream.*
- GRI (biodiversity exposure draft) – *operational sites and supplier's operational sites, downstream optional where significant impacts occur*
- ESRS 4 (EFRAG/CSRD) - *own operations and its upstream and downstream value chain*
- EU deforestation regulation - *Operators required to trace the commodities they are selling back to the plot of land where they were produced*

Challenges and opportunities

APPLYING THE ACT-D ACROSS VALUE CHAINS



CHALLENGES

1. **ASSESS: Where to start?** Long and complex supply chains
2. **COMMIT: How to measure impact, set targets and track progress?** Lack of traceability and supply chain data
3. **TRANSFORM: How to take action?** Lack of control
4. **DISCLOSE: What to disclose?** Reliance on proxy data and actions of others

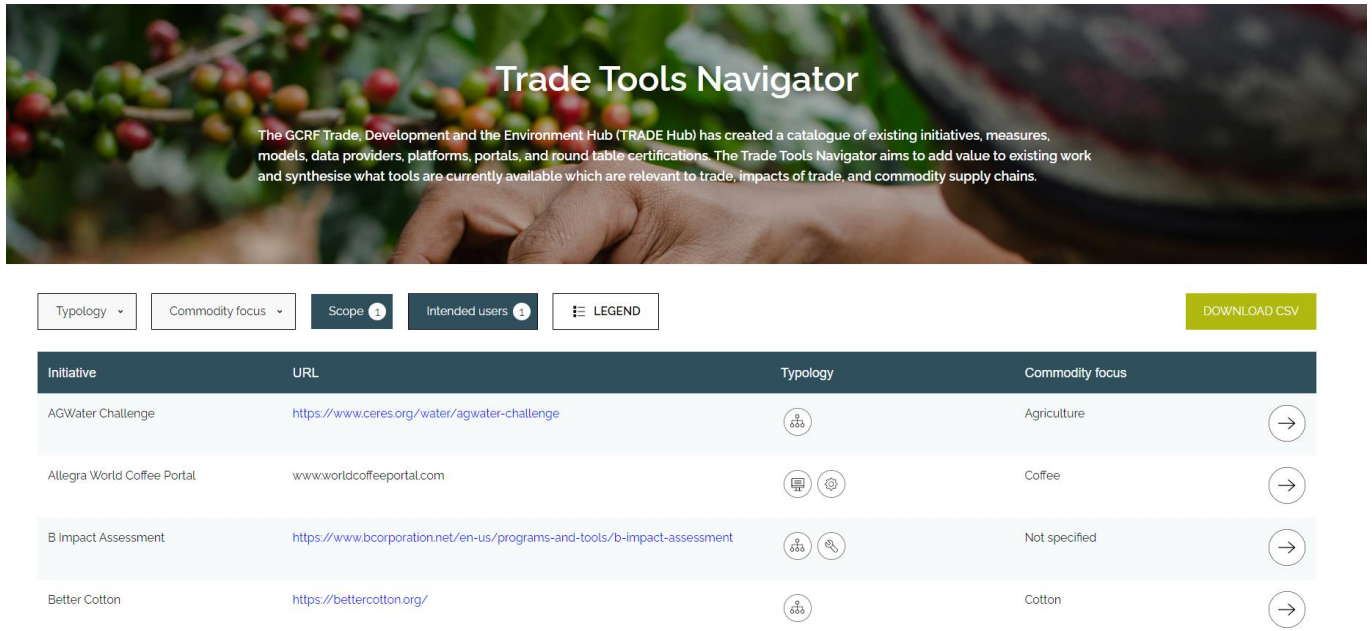
ASSESS: WHERE TO START?

- How to identify most material issues in value chains to focus effort
- Tools and guidance exist:
  - ENCORE materiality database
  - Input-output models (e.g. Exiobase)
  - SBTN Assess step
    - Materiality Screening Tool
    - High Impact Commodity List
- Focusing data gathering effort where impacts and dependencies are most significant

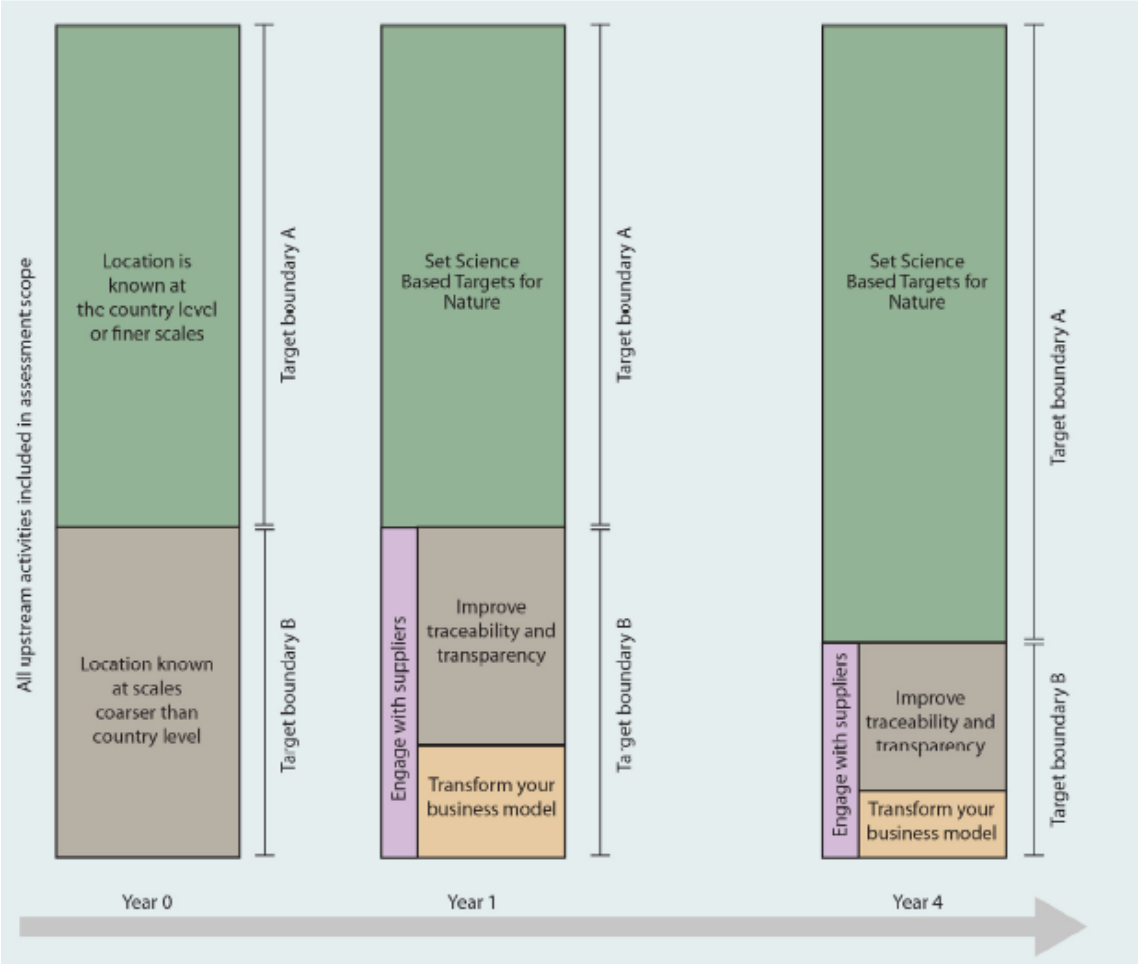
"Data overload can result in decision paralysis"

COMMIT: HOW TO MEASURE, SET AND TRACK?

- **Traceability** is needed to achieve **transparency and accountability**
- The use of **proxy** measures and need for **continuous improvement**
- **Tools and technology** (e.g. Trase, LandGriffon, Blockchain ledger systems)



SBTN TARGETS



Step 2: Prioritise (V1 May 2023)

SCIENCE BASED TARGETS FOR LAND
VERSION 0.3

No Conversion of Natural Ecosystems: Target requirements

Stage of value chain	Location of operation	Deforestation and conversion free (DCF) target* Cut-off dates must not be later than 2020
Site owners/operators	All natural lands	2025: 100% DCF across all sites
Producers	All natural lands	2025: 100% DCF across Global and Regional conversion-driving commodities (Annex 1)

Stage of value chain	Origin of commodities	"Global conversion-driving commodities"	"Regional conversion-driving commodities"
Sourcing from producers and from first point of aggregation	Core Natural Lands	2025: 100% DCF	
	All natural lands	2027: 80% DCF 2030: 100% DCF	
Sourcing from stages downstream of first point of aggregation	Core Natural Lands	2025: 80% DCF 2027: 100% DCF	2027: 80% DCF 2030: 100% DCF
	All natural lands	2027: 80% DCF 2030: 100% DCF	2030: 100% DCF

LAND

ALIGN SUPPLY CHAIN RECOMMENDATIONS

SUPPLY CHAIN LEVEL

GOOD PRACTICE | BEST PRACTICE

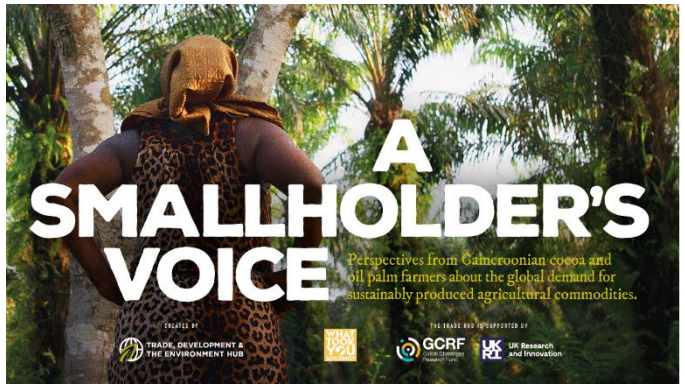
	WHAT TO MEASURE	CHARACTERISTICS OF MEASUREMENT APPROACH	MOST APPLICABLE METHODS
SCREEN	○ Ecosystem extent & condition & species extinction risk at broad-scale sourcing regions	○ Feasibility (applicable for screening) - High ○ Spatial precision - Low ○ Accuracy - Low (e.g., can measure potential impact based on sector-average impact diver-data)	✓ Spatial overlays with biodiversity data layers (ecosystem extent / condition) ✓ Species threat & range layers
MEASURE	○ Potential impacts on ecosystems based on volumes of materials sourced (or revenue) within each country sourced from	○ Responsivness - Medium (responsive to changes in impact drivers along supply chain) ○ Spatial precision - Low (screening/measuring can use models based on global data) ○ Accuracy - Low (e.g., can measure potential impact based on sector-average impact driver-data)	✓ Modelled state based on pressures (sector averages)
SCREEN	○ Ecosystem extent & condition & species extinction risk at specific sourcing locations ○ Potential impacts on ecosystems based on volumes of material sourced (or revenue) within each country sourced from	○ Feasibility (applicable to screening) - High ○ Spatial precision - Medium (reflects differences in potential impact based on sourcing region) ○ Accuracy - Medium (screens potential impact based on company-specific impact driver data)	✓ Modelled state based on pressures (using company specific impact driver data) for screening only ✓ Species threat & range layers
MEASURE	○ Measurement of potential impacts reflects differences in biodiversity between sourcing locations and production processes at sourcing locations ○ Measurement of impact driven & state at sampled sites using primary data is used to complement full-supply chain measures	○ Responsiveness - Medium - (reflects changes in production practices at source location) ○ Spatial precision - Medium (reflects differences in potential impact based on sourcing regionl) ○ Accuracy - Medium (screens/measures potential impact based on company-specific impact driver data)	✓ Modelled state based on pressures (including land use intensity) ✓ Primary data based on species/habitat surveys (for measuring impact) at sampled sites

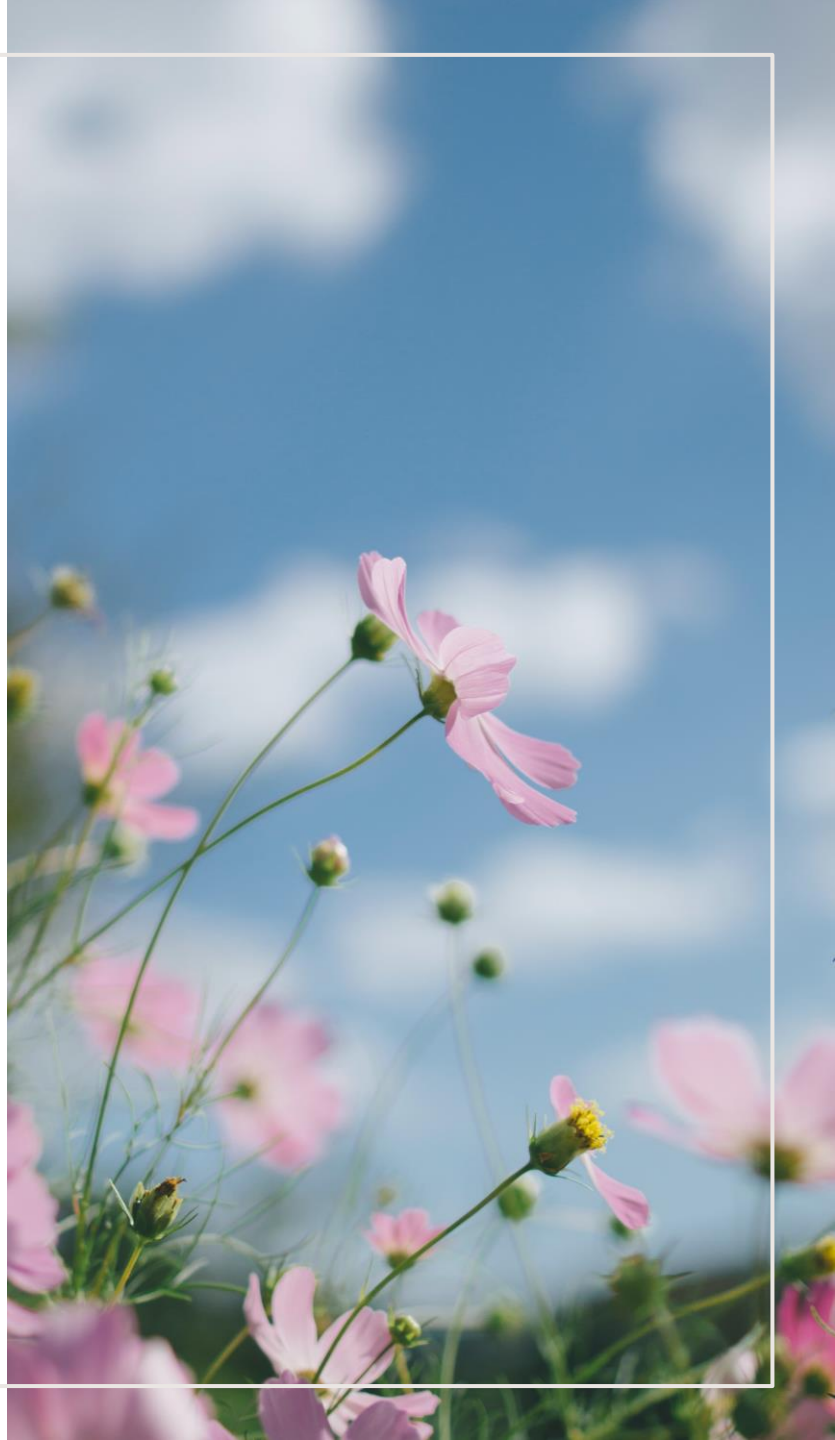
DRAFT ALIGN SUPPLY CHAIN GUIDANCE

Approach from case study	Category	Examples	Source
Ecosystem extent and condition and species threat and range data layers	Secondary data layer	Ecosystem Integrity Index (EII) Global Forest Watch Open Data Portal Red List of Ecosystems Mean Species Abundance (MSA) STAR	UNEP-WCMC Global Forest Watch IUCN GLOBIO IBAT
Model-based footprinting approaches	Measurement methodology	Global Biodiversity Score (GBS) Biodiversity Impact Metric (BIM) Biodiversity Footprint Methodology (BFM) Product Biodiversity Footprint (PBF) Bioscope LIFE Key Corporate Biodiversity Footprint detailed Biodiversity Impact Assessment Tool (BIAT)	CDC BIODIVERSITÉ CISL Plansup The PBF project Bioscope LIFE Iceberg Data Lab ISS ESG
Environmentally-Extended Multi-Regional Input-Output models (EE-MRIO)	Data source	EXIOBASE The Eora Global Supply Chain Database	EXIOBASE Consortium Eora
Life cycle impact assessment	Measurement methodology	ReCiPe LC-IMPACT IMPACT World+	ReCiPe LC-IMPACT IMPACT World+
Remote sensing	Primary data collection method	Some remote sensing data platforms and service providers listed in the next column	Landsat by NASA Sentinel by ESA CBERS RSS – REMOTE SENSING SOLUTIONS GMBH AWS Marketplace
eDNA	Primary data collection method	Some eDNA service providers listed in the next column	A list available at eDNA RESOURCES

TRANSFORM: HOW TO TAKE ACTION?

- Through sourcing decisions, product design, and changing behaviour on the ground
- Dependent on position in supply chain and level of control
- Need for **incentives** and **collective action** in landscapes





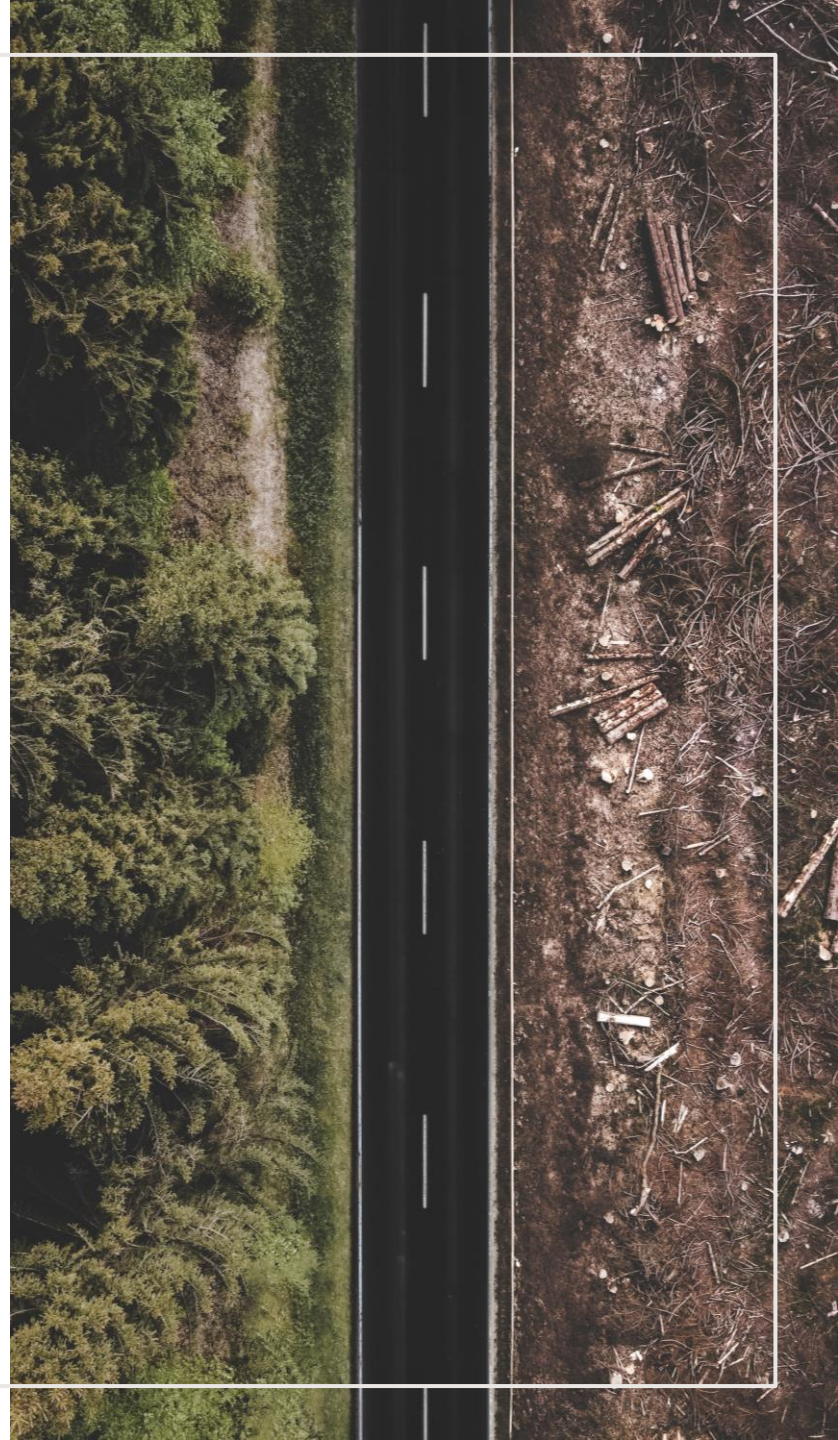
LANDSCAPE PARTNERSHIP MODELS

- Role of partnerships: multistakeholder, participatory, decentralised and neutral
- Roles of supply chain actors, financiers, NGOs and public sector
- Example initiatives: Tropical Forest Alliance, Partnerships for Forests, Landscale, Land use Finance Programme

Collective Action Agenda, TFA

DISCLOSE: WHAT TO DISCLOSE?

- Scope of disclosure:
  - **Transparency** is key – how much of your value chain has been assessed, what traceability of high impact commodities/suppliers do you have
- Disclosing actions and outcomes:
  - **Response metrics** on policies and actions (to respond to opportunities and risks)
  - **Monitoring outcomes** - How to attribute changes that occur in landscapes to the actions of individual entities?



Case studies

Business actions on value chains: assess, commit, transform, and disclose

Case study 1

Virginie Quilichini, CSR in Business Project Manager, ENGIE

SCIENCE BASED TARGETS FOR NATURE
STEP 1 - METHODOLOGY

SBTN Pilot Phase STEP 1

ENGIE : global player in low-carbon energy and services.

ENGIE on the Way Towards Nature Positive

Policies, objectives, targets and commitments

GROUP POLICY

ENVIRONMENTAL POLICY

1. The Group's environmental challenges 4
Climate change 4
Respect for nature: preservation of resources and biodiversity 4

2. Ambition, commitments and objectives 5
Ambition 5
Our environmental commitments and objectives 5

3. The means implemented by the Group to meet these challenges 5

4. Scope and governance of environmental responsibility 5
The scope of application 5
Decentralised governance 6

Strand 1: Climate Policy 7
Climate change 7
Our approach to reducing emissions 8
Our targets and actions to reduce GHG emissions 8
Assessing climate change risks and developing an adaptation plan 9
Rigorous governance and an aligned investment process 9
High transparency 10

Strand 2: Biodiversity Policy 11
Context: Biodiversity at the heart of the company's challenges 11
From managing the biodiversity footprint to making a positive impact : 11

		2020	2021(1)	2022(1)	TARGET 2030
Objectives monitored by the governance bodies (EESDC)					
Biodiversity	Rate of industrial sites with natural management of green spaces without the use of chemical plant protection products	0%	28%	34%	100%
Water	Fresh water consumption per energy produced in m³/MWh	0,278	0,342	0,301	0,1
Operational objectives followed by the Group Executive Committee					
Environment	Rate of activities with an environmental plan established in consultation with stakeholders	21%	37%	53%	100%
Pollution	NOx emissions reduction rate vs 2017	-47%	-47%	-64%	-75%
	SOx emissions reduction rate vs 2017	-25%	-34%	-95%	-98%
	Total particulate emissions reduction rate vs 2017	-14%	-23%	-54%	-60%
	Non-hazardous waste generation reduction rate vs 2017	+3%	+3%	-47%	-80%
	Hazardous waste generation reduction rate vs 2017	-90%	-92%	-94%	-95%

Environmental policy and the thematic ones
(climate, water, biodiversity, forest, circular economy)
https://www.engie.com/en/group/social-responsibility/policies#environment

ENGIE : on the Way Towards Nature Positive

ENGIE's commitments to biodiversity & nature

One of the main challenges for companies with respect to the decline of biodiversity is to assess their impacts and dependencies on nature in order to set actions to halt biodiversity losses.

- Since 2010: integration of biodiversity into ENGIE's strategy
- Act4Nature commitment: assessment of impacts and dependencies of all ENGIE's activities and **SBTN can help to address this challenge.**

Area 1 • Footprint and ecological continuity

Priority sites for biodiversity*

Continued development of action plans[1] for sites located in or near biodiversity hotspots using the new definition of a priority site and now including all sites located near a protected area[2], with no exceptions.

Our achievements in 2021
- 41% of action plans deployed by the end of 2021.

Our objectives

2025: 50% of priority sites with action plans established in consultation with stakeholders.

2030: 100% of priority sites.

Ecological site management

Implementation of ecological site management[3] for all of the Group's industrial activities, with no phytosanitary products used and minimal maintenance of green spaces in harmony with nature.

Our achievements in 2021
- As of the end of 2021, 28% of sites are maintained without phytosanitary products and in compliance with local biodiversity programs.

Our objectives

2025: 50% of sites. • **2030:** 100% of sites.

Area 2 • Climate change

Nature-based solutions

Contribution to the implementation of nature-based solutions (NbS) in the regions to combat both climate change and biodiversity issues.

Our achievements in 2021
- Work with the IUCN French Committee and the internal biodiversity network to identify solutions that comply with the IUCN Standard.

Our objectives
- **2022:** 10 projects identified that comply with the IUCN Standard for Nature-based Solutions. • **2025:** implementation of these projects.

Area 3 • Value chain

Avoid Reduce Offset

Implementation of the "avoid reduce offset" workflow in development projects submitted to the Commitments Committee (CDE) globally and in consultation with stakeholders.

act4nature international

Our achievements in 2021
- Revised CSR matrix included in the files presented to the CDE to incorporate compliance with the "avoid reduce offset" workflow. Project files greater than or equal to €30 million reviewed by the Group CSR Department.
- Increased monitoring of matrix implementation scheduled for 2022 including the deployment of internal training.

Our objectives

2022: 100% of files submitted to the Group CDE analyzed for biodiversity issues in consultation with stakeholders[4].

2025: Review procedure gradually extended to include files with amounts below to the Group CDE's submission threshold.

Supply chain

Integration of biodiversity criteria in life-cycle assessments in order to perform an in-depth analysis of the impacts and dependencies on biodiversity related to the Group's activities throughout the value chain with a view to identifying the issues and the appropriate solutions to tackle them.

Our achievements in 2021
- Analysis of two activities via life-cycle assessment (solar and biomethane). The results will be compared against other methods used in the context of SBT for Nature.

Our objectives

Review every year two Group activities until 2025.

Area 4 • Awareness

Awareness

Provision of biodiversity awareness modules for all employees (renewal of the 2018 objective).

Our achievements in 2021
- October 2021: training modules created and made available online. Around 300 employees trained in 3 months.
- Group biodiversity workshop launched.

Our objectives

At least 2 modules/year by 2025, offered in 3 languages.
- **2022-2023:** 3,000 employees trained/year.
- **2024-2025:** 5,000 employees trained/year.

Sharing

Creation of a platform for sharing best practices.

Our achievements in 2021
- The platform was launched in 2021.

Our objectives

Platform in operation by the end of 2022.

ENGIE & SBTN

➢ 2020: ENGIE joined the SBTN Corporate Engagement Program.

Pilot phase : Involvement in the development of SBTN methodology, tools and guidance to address the challenge of biodiversity & nature.

❖ First detailed impact assessment of ENGIE's activities on nature

❖ Objective : to better understand the SBTN approach

- Assessment done by the R&D Dept. of ENGIE in order to deep dive in the methodology
- Focus on assessing the impacts of ENGIE's activities along Direct Operations and Upstream: Dependencies and downstream components not covered;
- Direct Operations assessment based on the January 2022 guidance, upstream assessment based on September 2022 guidance (we used the template and tool (e.g. SMT) from this previous guidance therefore, not all the pressures described in the September 2022 guidance are assessed, only 6 of them)
- First test of the SBTN methodology, but a constant evolution of this methodology: final guidance for step 1 & 2 was launched after our pilot test assessment (may 2023).

Step 1a: screen for Material Pressures

1A Materiality screening

Process followed:

We realized this screening for material pressures according to the following method:

1) Select approach

We chose the flexible approach to screen for material issues using both internal data and the SMT from the SBTN guidance as for some pressures we did not have internal data.

2) List business units

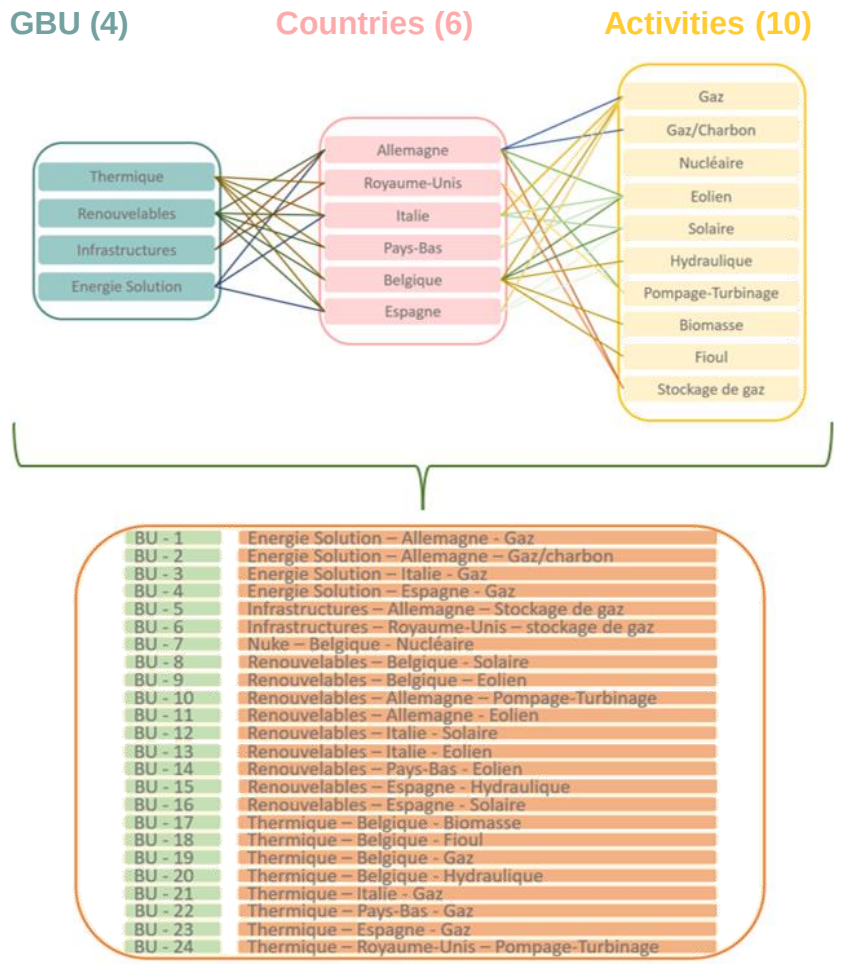
As Engie has a very large number of sites, the first test for the pilot phase was carried out on a sample of 159 sites covering 24 Business Units to ensure the cover of all of ENGIE's activities.

Cross-referencing of multi-criteria to define ENGIE's Business units:

✓**GBU:** ENGIE is divided into four Global Business Units based on the type of activity: Renewables, Thermal, Networks, Nuclear and Services

✓**Countries :** 6 countries selected (Germany, United Kingdom, Italy, Netherland, Belgium, Spain) without France to limit the number of total sites to be assessed.

✓**Activities / production process :** cover all principal activities of the Group throughout the 6 countries mentioned above.



Step 1a: screen for Material Pressures

3) Screen for material pressures: DIRECT OPERATION

To obtain our finalized table for step 1a we prioritized our data sources: internal data as a priority, then the Sectorial Materiality Tool from SBTN.

- **Internal data**

We first started to screen material issue by using our internal data when we had some, based on Engie's environmental plan. This document provides information on the impacts of ENGIE's activities on the environment (and at site level), based on six environmental criteria:

  - Climate change,
  - Air pollution,
  - Water,
  - Soil,
  - Waste,
  - Biodiversity,

Each criteria provides a final score of impact ranging from Very Low (impact) to Very High (just like the SBTN score: VL, L, M, H, VH, ND), for each site of ENGIE.

Step 1a: screen for Material Pressures

3) Screen for material pressures: DIRECT OPERATION

Business unit 9:	*Renewables-Belgium-Wind*												
Value chain segment:	*Direct operations*												
		Ecosystem use and use change			**Resource Use**		**Climate change**	**Pollution**				**Invasives and other**	
		Terrestrial ecosystem use and use change	Freshwater ecosystem use and use change	Marine ecosystem use and use change	Water use *	Other resource use	GHG emissions *	Non-GHG air pollutants *	Water pollutants	Soil pollutants *	Solid waste *	Disturbances *	Biological alterations/ Interferences
ISIC CLASS 4 : Electric power generation, transmission and distribution	Score	H	M	H	L	ND	VL	VL	L	L	VL	VH	ND
Summary: Include/exclude pressure category in value chain assessment		*Include*	*Include*	*Include*	*Exclude*	*Include*	*Exclude*	*Exclude*	*Exclude*	*Exclude*	*Exclude*	*Include*	*Include*

Example of a table obtained for the step 1a which includes all impact scores of pressure assessed for one business unit (covering several sites) for the direct operation part. Two type of data were used (from Engie's environmental plan and the SMT).

**assessment based on Engie's environmental plan*

4) Unlike the Direct Operation, we used exclusively the SMT data provided with the SBTN guidance (updated version of July 2021) for the Upstream part.

Step 1B – Pressure assessment

We decided to performing a quantitative assessment for all the sites selected (159).

Three main types of data were required to do the analysis:

❖ Operational data

Energy type (gas, solar, wind, fuel, biomass, storage) & **production volumes** (electricity produced) retrieved from internal reporting data

❖ Spatial data

Site location (country, latitude, longitude): Internal data
Watersheds identified with Aqueduct
Ecoregions: Ecoregion 2017© (reference in SBTN guidance January 2022)

❖ Environmental data

Including both impact data and data characterizing the ecosystems where the sites are located

For upstream ; the high impact commodity tool was not yet available at the time of the pilot test → Different approaches were considered to analyze the upstream impacts:

- Use of procurement data (approach not selected due to data processing difficulties).
- Activity data & ecoinvent database (approach selected)

Step 1B – Pressure assessment

Pressures assessed and needed data

Based on the guidance released in January 2022, the following impacts (listed in the table) are considered in the assessment. Impact related to **non-GHG air pollutants** (SOx, NOx, PM) was added, as site-specific data were available in the Group internal reporting tool.

	Ecosystem use and use change	Resource Use	Climate change	Pollution	
	Terrestrial ecosystem use and use change	Water use	GHG emissions	Non-GHG air pollutants	Water pollutants
Sources of data for Direct Operation	**Pressure indicator:** Earth (internal data) & Corine Land Cover **SoNp:** LANCA model*	**Pressure indicator:** Earth (internal data) **SoNp:** Aqueduct & Water Risk Filter	**Pressure indicator:** Earth (internal data)	**Pressure indicator:** Earth (internal data)	**Pressure indicator:** Ecoinvent (Simapro) **SoNp:** Aqueduct & Water Risk Filter & McDowell et al. (2020a)*
Sources of data for Upstream	**Pressure indicator:** Ecoinvent **SoNp:** LANCA model*	**Pressure indicator:** Ecoinvent **SoNp:** Aqueduct	**Pressure indicator**: Ecoinvent	**Pressure indicator:** Ecoinvent	**Pressure indicator:** Ecoinvent **SoNp:** Aqueduct & Water Risk Filter

Summary table of the different sources used for the assessment of Step 1B

**Source not proposed on the guidance*

Step 1B – General State of Nature

Data used:

There are 3 General State of Nature to assess (in the guidance of January 2022):

- **Ecosystem integrity:** as we did not have access to the EII we used Ecoregion Intactness Index, which is not very precise. We will complete our assessment with EII which seems to be the most complete one, when it will be available.

- **Species extinction risk:** we used the STAR metric recommended in the SBTN guidance. We exported data directly from IBAT (Integrated Biodiversity Assessment Tool) as the analysis is carried out automatically. However, for the upstream part we did not have precise location, only the country for each supplier of fuel production. We used QGIS in order to extract the median values at the country scale for each suppliers as recommended by the SBTN guidance.

- **Nature's contributions to people (NCPs):** we used the data provided in Chaplin-Kramer's article*.

Chaplin-Kramer, R., Neugarten, R.A., Sharp, R.P. et al. Mapping the planet's critical natural assets. Nat Ecol Evol **7, 51–61 (2023). https://doi.org/10.1038/s41559-022-01934-5*

Key points of this assessment

Support from Proteus Team

Constant exchanges with SBTN and Proteus to provide feedbacks and inputs on the methodology applied to Engie and the energy sector.

A significant work has been achieved to:

- ✓ Collect all the data required (operational, spatial and environmental data) in order to complete the assessment of step 1A and 1B for the 159 sites selected
- ✓ Test different approaches for the upstream stage while the upstream phase of the guidance was being developed. The selected approach was based on activity data and Ecoinvent database
- ✓ Select and test the different indicators mentioned in the guidance according to ENGIE's activities and propose new indicators with regards to internal experts (e.g., Lanca model)

The main important points :

- ✓ **Better understand** what SBTN process really expects in terms of approach and data
- ✓ Identification of data needs and above **all upstream data needs**
- ✓ **Structure the data collection** inside the Group
- ✓ **Prepare the various entities of the Group** to report new or more detailed data

To go further

New assessment will be done for the Group according SBTN process :

- **To be aligned with TNFD and CSRD**
- **To enlarge** to worldwide Group activities
- To include :
    - upstream activities,
    - the pressures (land use change, soil pollutants, and freshwater ecosystem use & use change) which are a bit difficult to assess due to the lack of data in the database for some of those pressures
    - downstream activities (e.g. the category use of sold products which is important for ENGIE activities with the activity of gas selling)

engie.com

Case study 2

Anna Chilton, Biodiversity Specialist, Nestlé

Good food, Good life

Nestlé
Supply chain biodiversity

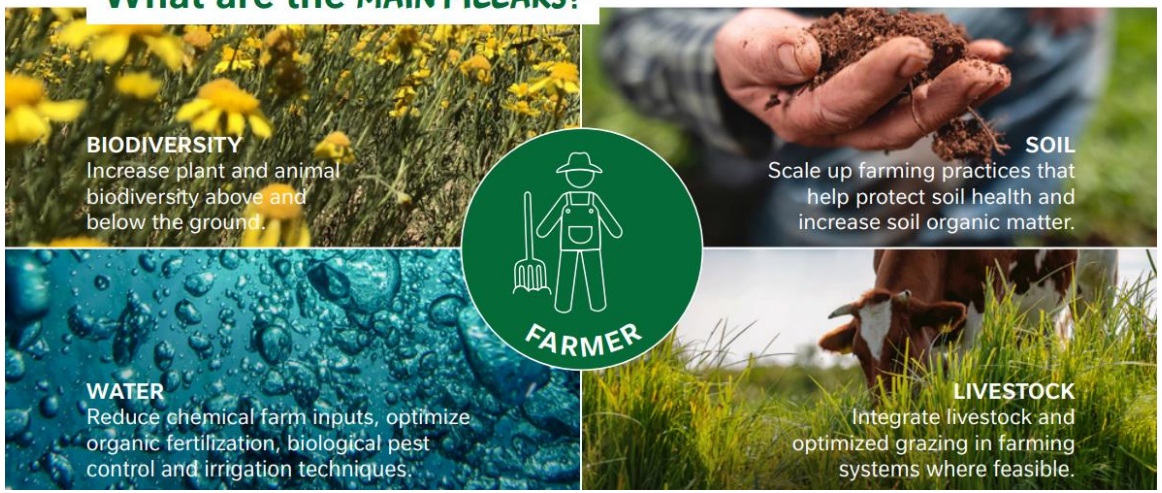
Anna Chilton

THE NESTLÉ Agriculture FRAMEWORK

Measuring progress and performance

SCOPING & MEASUREMENT

What are the MAIN PILLARS?



PRIORITY ACTIONS

DRIVE SOIL CONSERVATION	USE ORGANIC FERTILIZERS	DEVELOPP NATURAL HABITATS	USE LESS CHEMICALS	PROTECT WATERSHEDS	INTEGRATE LIVESTOCKS
Keep permanent & diversified soil cover, with minimum soil disturbance. Develop intercropping	Develop the use of organic fertilizers instead of synthetic	Increase natural habitats within the farmland and at landscape level, develop agroforestry	Continuously reduce the use of synthetic herbicides & pesticides	Ensure regeneration of the water cycle in water stressed areas	Optimize pasture management & maximise the value of manure; circular flow of energy & nutrients from barn to soil

...AND MAINTAIN OR INCREASE YIELDS

Global metric - % key ingredients sourced through regen ag methods

6.8%
of key ingredients sourced through regenerative agriculture methods in 2022*

20%
of our key ingredients will be sourced through regenerative agriculture methods by 2025

50%
of our key ingredients will be sourced through regenerative agriculture methods by 2030 (an estimated 14 million tonnes)

Good food, Good life

CROPS IN SCOPE

Fresh milk and dairy derivatives

Green coffee

Cereals and grains

Vegetables

Cocoa

Palm oil

Sugars

Meat, poultry and eggs (excluding by-products)

Fish and seafoods (excluding by-products)

R&D BIODIVERSITY

Regenerative practices and outcomes

1. Reduce emissions
2. Biodiversity
3. Farmer welfare and income

- Test hypotheses and research questions
- Validate methods and protocols
- Scale: measurable / replicable / reliable
- Identify and validate new technologies
- Multi-disciplinary (agriculture, food science, nutrition)

INSECTS, POLLINATORS & IPM

- Role of domesticated/local bees and impact on biodiversity
- Optimizing pollination through pollen analysis
- Pollen can tell us about local floristic biodiversity
- Pollen analysis for understanding chemical pollution
- Role of agronomic practices on pollinator health

- Beneficial predators – Integrated Pest Management (IPM)

BIODIVERSITY DATA FLOW

Case study 3

Warwick Mostert, Principal Biodiversity, Anglo American

AngloAmerican

Fauna & Flora
Saving Nature Together

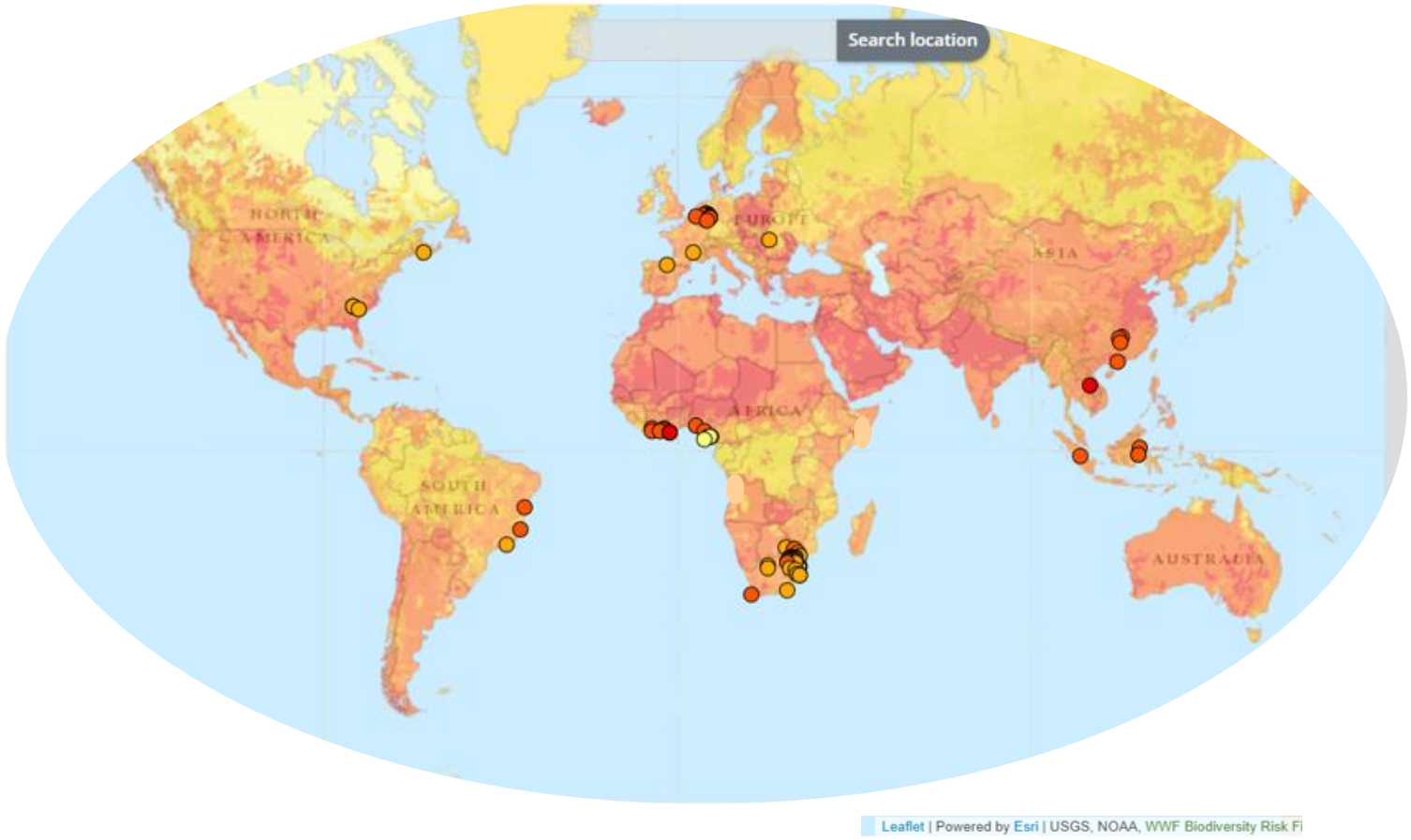
TNFD Pilot

Value Chain Impacts & Dependencies

Proteus Annual Meeting

June 2023

Tools used for Locate and Evaluate



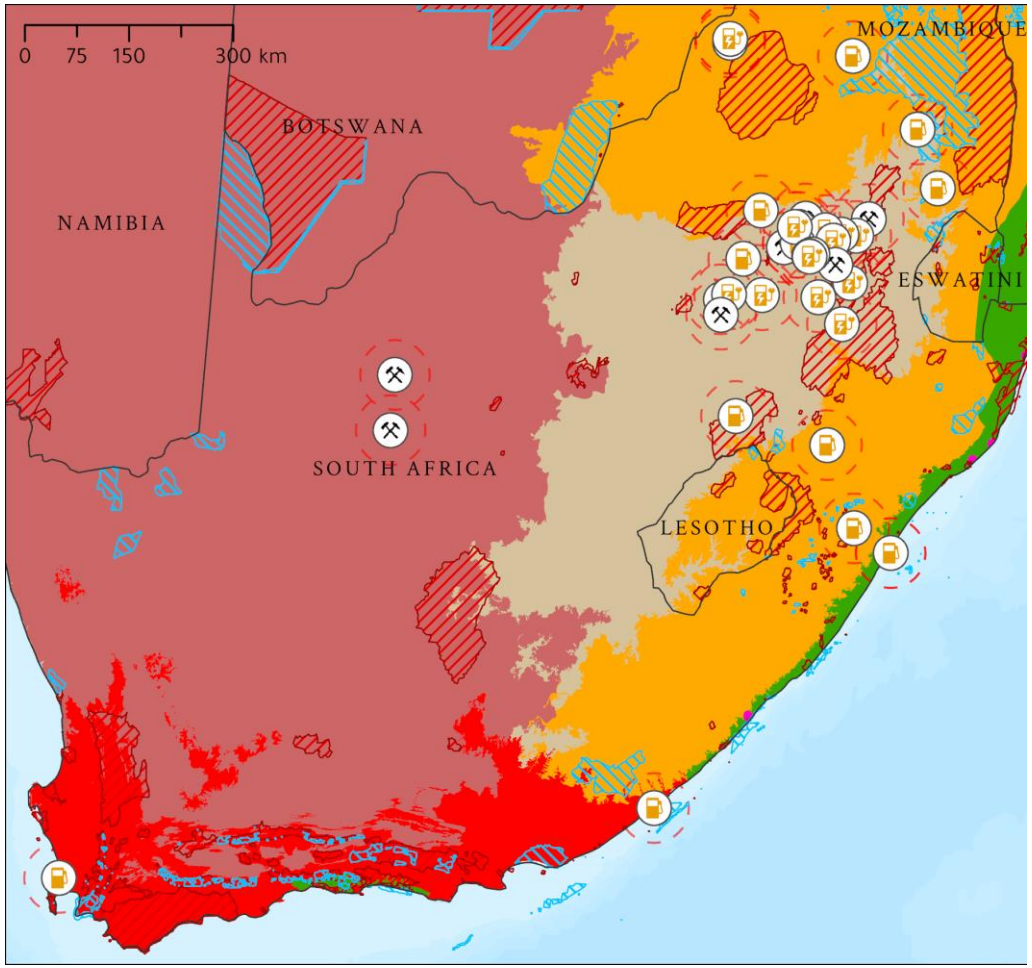
Mapped suppliers for energy, tyre and diesel.

Tools used to enable assessment at scale & across portfolio:

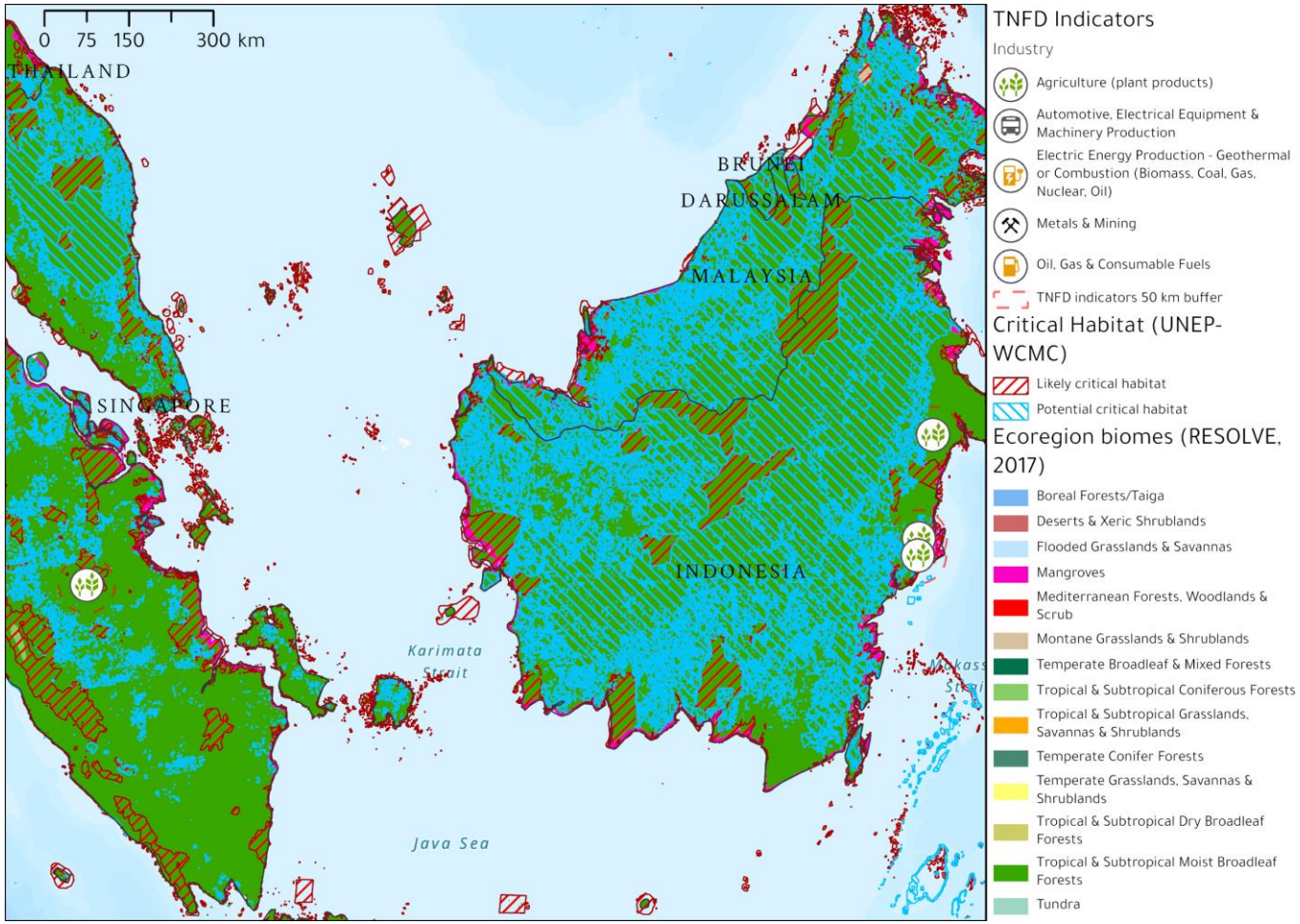
- Resolve eco-regions tool
- WWF Biodiversity Risk (point location)
- WWF Water Risk
- Encore
- IBAT (e.g. Critical Habitat)
- FAOStat & UN Comtrade databases
- Global Forest Watch (i.e. for Michelin rubber concession)

Locate and AOI – RESOLVE Ecoregions and Critical Habitat

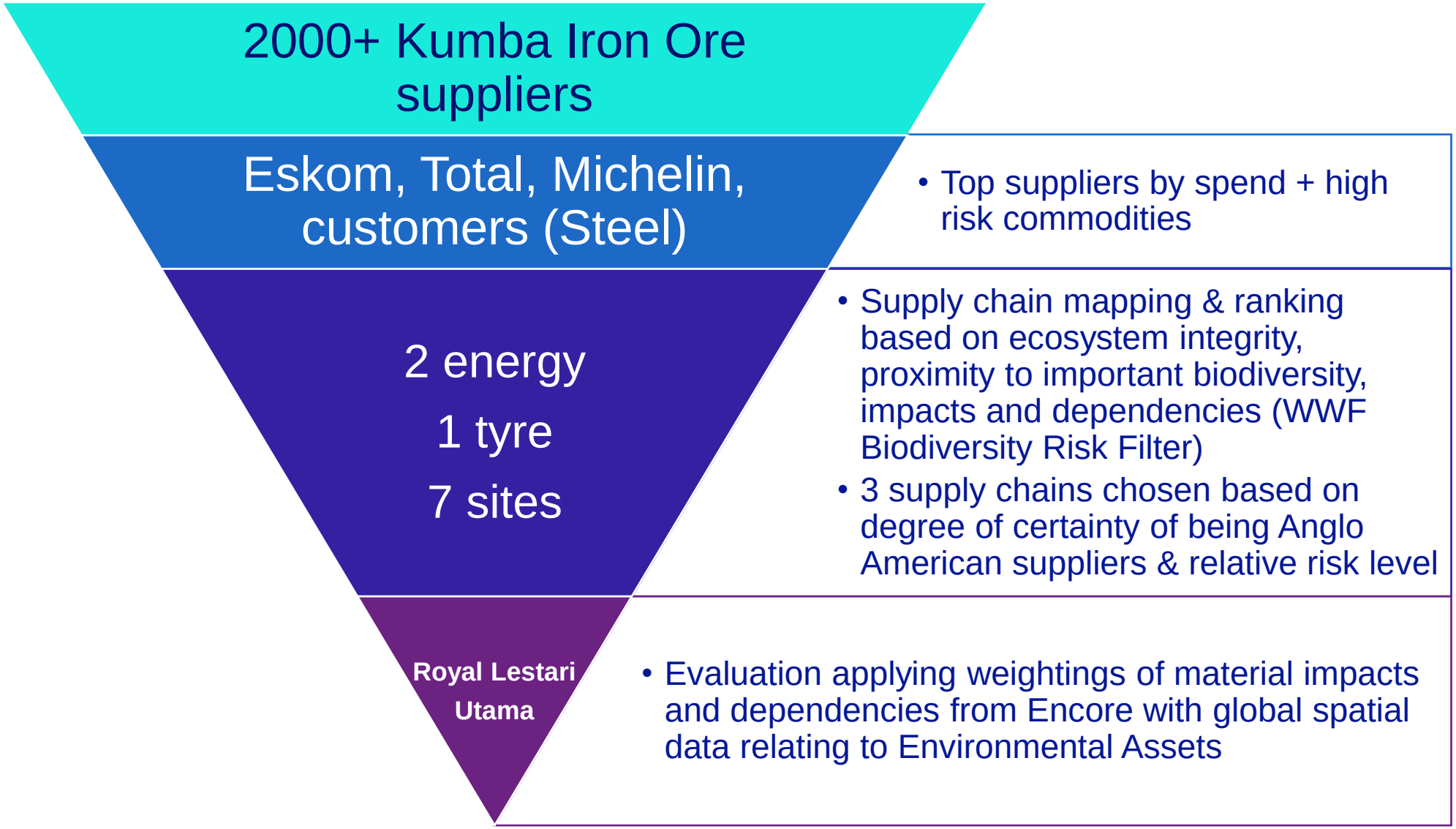
South Africa



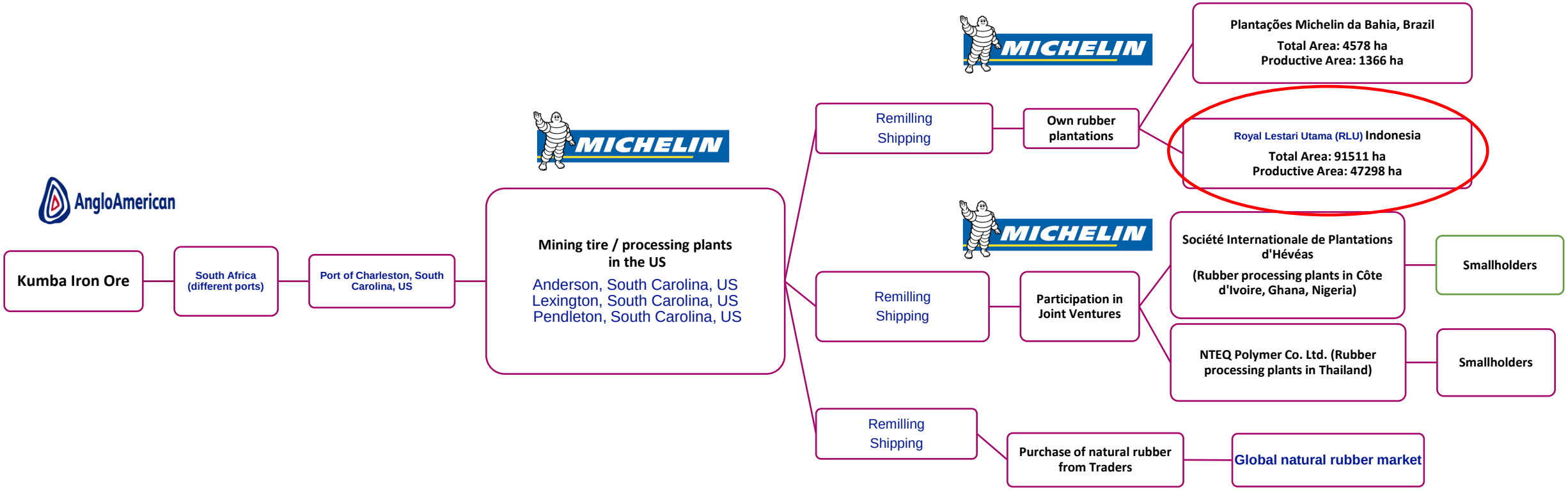
Indonesia



Prioritisation: Scope, Locate and Evaluate



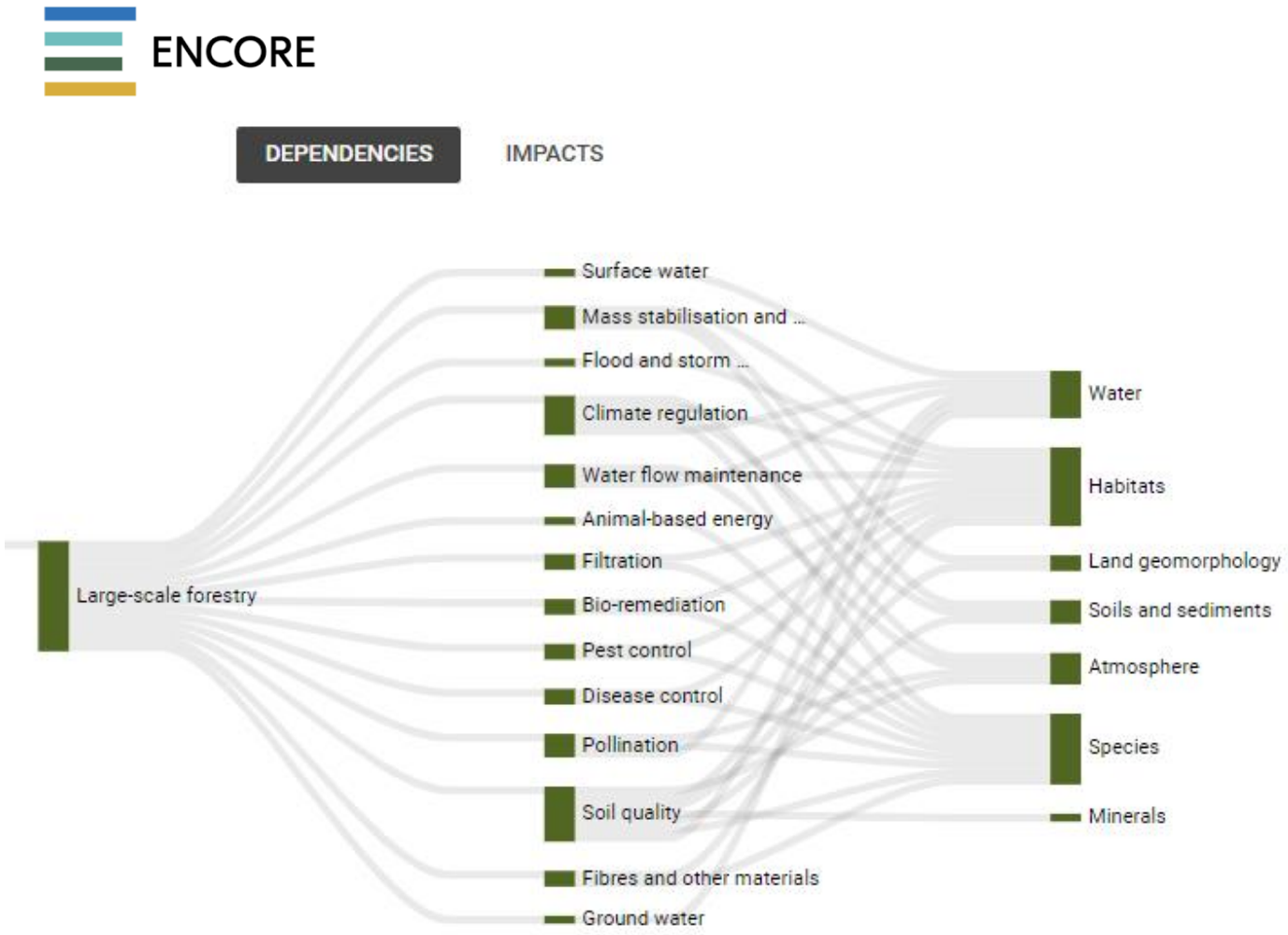
Locate Supply Chain – Michelin (mining tyres <– natural rubber)



Downstream level (end user) Midstream (manufacturing) Upstream level (sourcing)

Materiality flow of natural rubber

Identifying Location Specific Potential Impacts & Dependency Risks



Spatial data applied to 50km Area of Influence
Mean total restoration score (IBAT STAR)
Mean total threat abatement score (IBAT STAR)
Mean rarity weighted richness layer (IBAT)
Mean mammal movement probability (Brennan et al., 2022)
Global rain erosivity (storm-hazard likelihood)
Biodiversity Intactness Index (Newbold et al., 2016)
Mean PM2.5 value (µg/m3)
Total carbon (including SOC and AGB) from Noon et al., 2022 (Mg C ha)
Total soil organic carbon stock (FAO 2019; t/ha)
Total soil erosion (Mg per Ha per year)
Critical Habitat (km^2)
Protected Areas (km^2)
KBAs (km2)
WRI water risk maximum overlapping score in AOI (var used: w_awr_def_tot_cat)

Summary Results, Royal Lestari Utama Risk Assessment

Nature-related risks

1. **Water risk**
   - In the Area of Influence (AOI)
   - V. High dependency on water for tree growth and for climate regulation

2. **Soil risk**
   - High soil and erosion risk in AOI
   - High dependency on soil & erosion control

3. **Disease and pest control risk**
   - High habitat loss reducing pest & disease control
   - High dependency on disease & pest control,

4. High deforestation and resulting impact on habitat and endangered species

5. High risk of pollution to water and soil

6. High GHG emissions from deforestation

Financial risk / nature / society impact

1. Rising rubber prices for Michelin and raised tyre prices for KIO (chronic): reduced supply because of **a) reducing productivity** of rubber, and **b) Increasing costs of production**

2. Variable/unpredictable productivity of rubber leads to:
   - **a) Uncertain prices for tyres (chronic)**
   - **b) Sudden shortages of tyres and/or sudden price rises (acute)**

3. Stakeholder, regulatory or customer pressure because of its supply chain forest impacts (chronic/acute).

4. Continued and increasing deforestation rates, increasing GHG emissions and global knock-on effects risk irreversible ecological damage (systemic)

5. Increasing local and global extinction risk and incidents.

6. Livelihoods and wellbeing of communities at risk due to soil and water risk

Mitigation Measures & Opportunities at a Global level

A zero deforestation/zero conversion commitment for supply chains

New tyre materials that require less rubber, or enable re-use and recycling of existing tyres

Reforestation in rubber landscape (beyond requirement to address impacts)

Explore Nature-based Solutions and sustainable practices to address water and soil risks in the rubber landscape

Engaging Michelin to address their impacts through avoiding conversion of forest, restoring and compensating for existing losses (including historical)

Assess and address deforestation threats in the landscape surrounding the rubber plantation

AngloAmerican

Fauna & Flora

Thank you

BREAKOUT GROUPS

Assessing value chains and defining commitments and targets:

- What approaches are your organisation taking to understanding your value chains and how is this feeding into your commitments and targets?
- Are you receiving data from suppliers or through company-driven approaches (such as life-cycle assessments)? Where are there gaps and how are you looking to fill these?
- What challenges are you facing when undertaking value chain assessments?
- What additional support or data do you need in order to effectively assess up- and downstream value chains?

30 mins of discussion + 10 mins report back


Coffee break

BREAKOUT GROUPS

Transformation across the landscape and disclosure of value chain impacts and dependencies:

- How are you moving (or intending to move) from value chain assessments into taking actions with suppliers or in landscapes?
- How are you intending to approach disclosure of your value chain impacts and dependencies? What metrics and measurements are required for your business/sector?
- What challenges are you facing in taking action or disclosing on your value chains?
- What additional support do you need?

30 mins of discussion + 10 mins report back

Key takeaways and meeting reflections

Corli Pretorius, Deputy director, UNEP-WCMC
Matt Jones, Head of Nature Economy, UNEP-WCMC
Stacey Baggaley, Proteus Partnership Manager, UNEP-WCMC

Proteus Annual Meeting

2023

Thank you

UN environment programme

WCMC