Business training on natural capital

A Deep Dive into Natural Capital Assessment in Business

FIBS training

29 October 2020

Who is your support team for today?

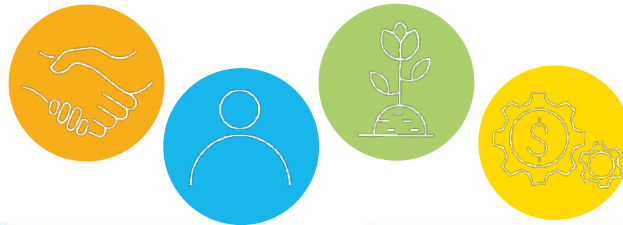Katia Bonga   Nadine McCormick   Tim Polaszek   Rosie Dunscombe

wbcsd   IUCN   CAPITALS COALITION   CAPITALS COALITION

CAPITALS COALITION   WE VALUE NATURE

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WHY

We are failing to tackle **global challenges**

WHAT

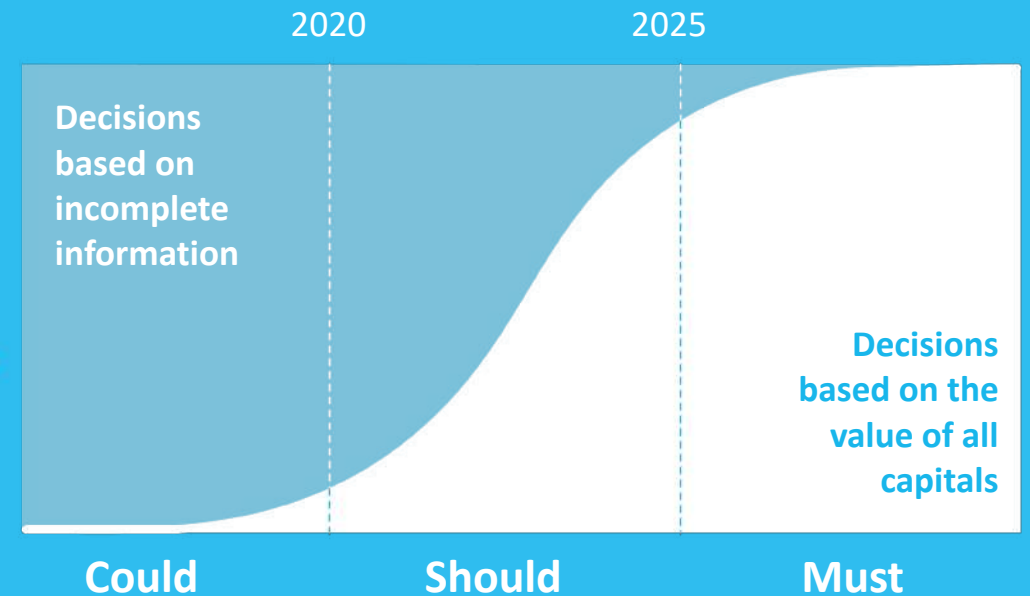We use a capitals approach to transform the way decisions are made

HOW

We work through collaboration with 370+ organizations at the core

Accounting and Standards

Multi-Stakeholder Groups

Finance

Business

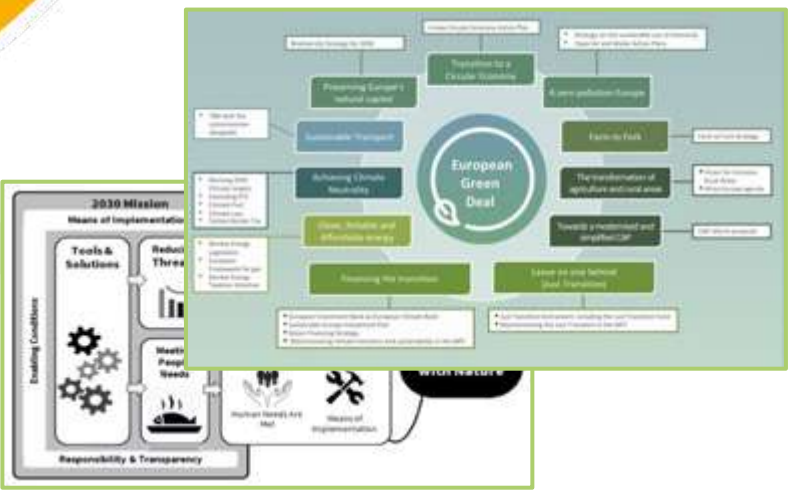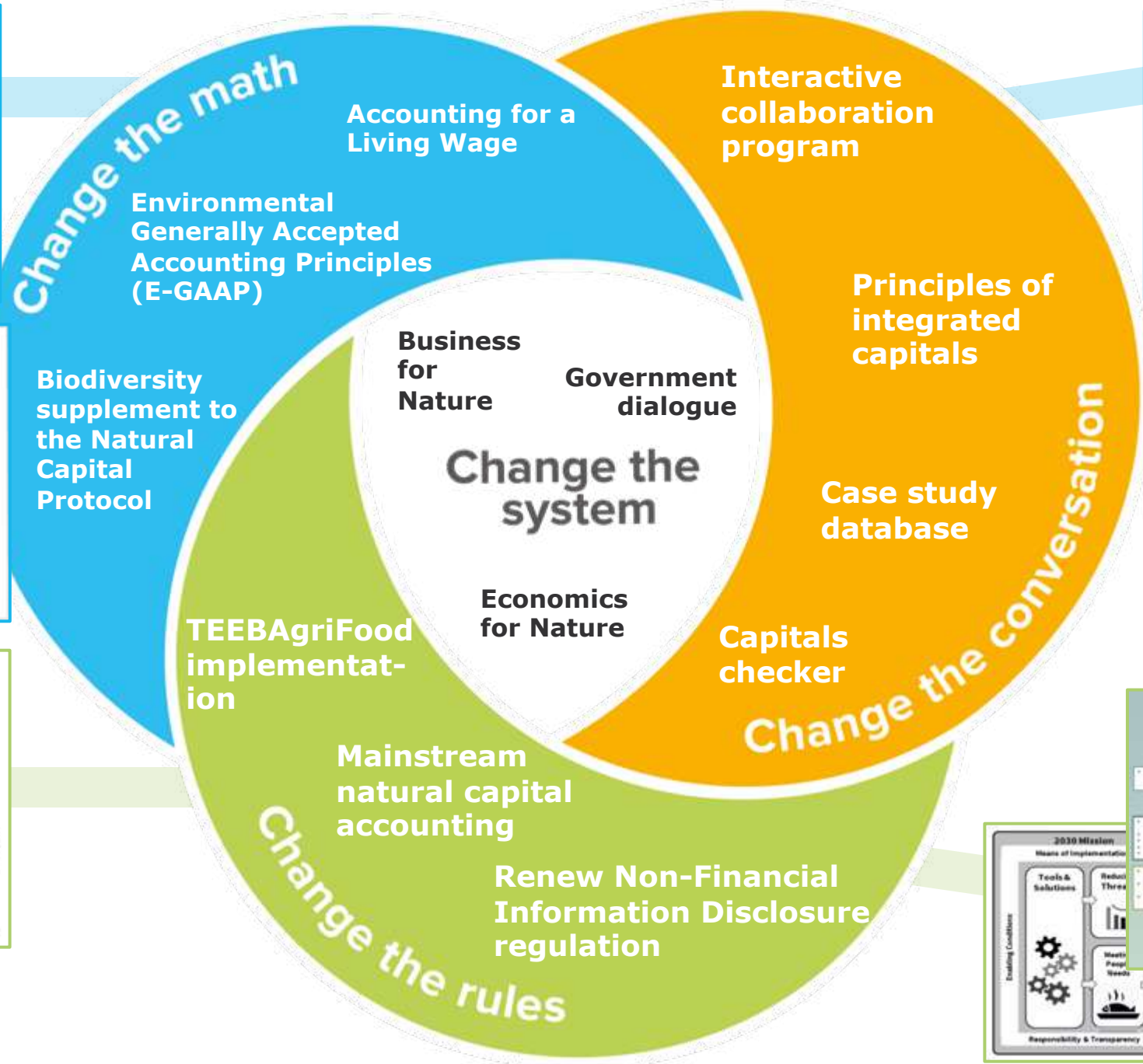Government

Science

Civil Society

SO WHAT

Our ambition is that by 2030 the majority of business, finance and government will include all capitals in their decision making.

Our transformative model covers three phases moving from could, to should, to must.

2020   2025

Decisions based on incomplete information

Decisions based on the value of all capitals

Could   **Should**   **Must**

We Value Nature – Who are we?

We Value Nature is a campaign **supporting businesses** and the **natural capital community** to **make valuing nature the new normal** for business across Europe, by:

1. Sharing **research, resources & best practices**;
2. Identifying **barriers & opportunities** for adopting a natural capital approach;
3. **Providing practical support** to help business improve their risk management, communication & stakeholder engagement;
4. Reinforcing & boosting the work of the **Natural Capital Coalition.**

A few "house rules"

Make sure to be joining us through **Zoom app or computer**

We invite you to **turn on your camera** if possible
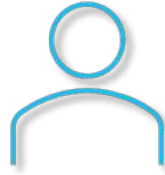
Please **change your username** to your full name and (organization)
E.g. John Doe (WBCSD)

Chatham house rules will apply

Please submit comments or questions in the chat function

We'll also use Menti. Contribute and share your experiences
Ensure that you are on **mute** when not taking part in discussions

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Learning objectives

The aim of today's training is to:

❖ Understand the concepts of natural capital, **natural capital impacts & dependencies** and how these relate to **business risk management & decision-making**

❖ Familiarize yourself with the different steps involved in conducting a **natural capital assessment** following the **Natural Capital Protocol**

❖ Gain practical insights on how to **scope and plan an assessment**

❖ Be introduced to **measurement & valuation approaches** of natural capital

❖ Discover the newly launched **Biodiversity Guidance** to the Natural Capital Protocol and **how it can be applied** in a business context

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Agenda – 1/2

| Time (EET)	Session
09:00	**Welcome** Agenda, objectives & training material
09:20 – 09:30	**Introductions** Getting to know each other
09:30 – 09:40	**Setting the scene** Drawing links with the current context and capitals thinking
09:40 – 10:00	**Introduction to natural capital** Exploring natural capital impacts & dependencies
10:00 – 10:10	**Why is natural capital important** Natural capital risks & opportunities
10:10 – 10:30	**Scoping a first natural capital assessment**
10:30 – 10:45	*Coffee break*

Agenda – 2/2

| Time (EET)	Session
10:45 – 12:00	**Measuring & valuing natural capital** • Group exercise
12:00-12:30	*Lunch break*
12:30 – 12:45	**Brief presentation of the Biodiversity Guidance**
12:45 – 13:15	**Business speaker on Biodiversity Guidance** • 15' presentation • 15' Q&A
13:15 – 13:30	**Wrap-up** Key takeaways, next steps & engagement opportunities
13:30	**End of training**

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What is the Natural Capital Protocol?

The **Natural Capital Protocol** is a

standardized framework for **business**

to **identify, measure and value** its direct

and indirect **impacts and dependencies**

on **natural capital**
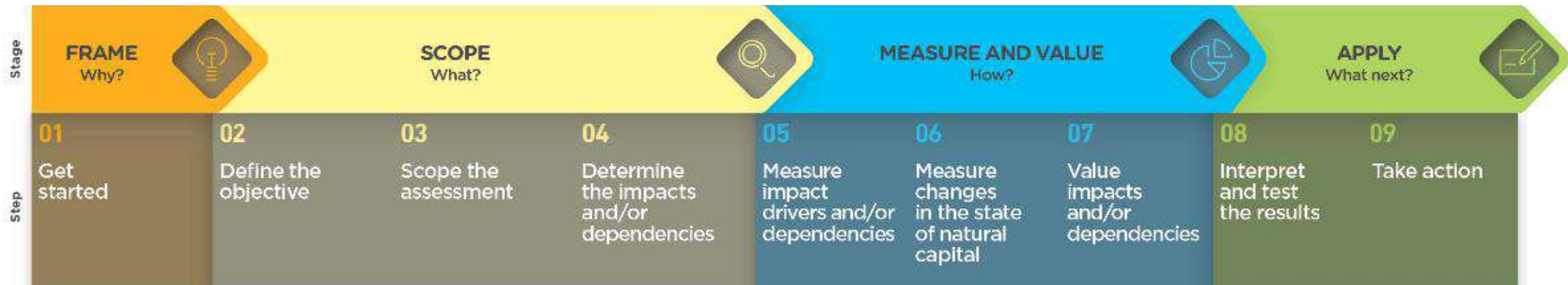
What parts of the Natural Capital Protocol will we cover?
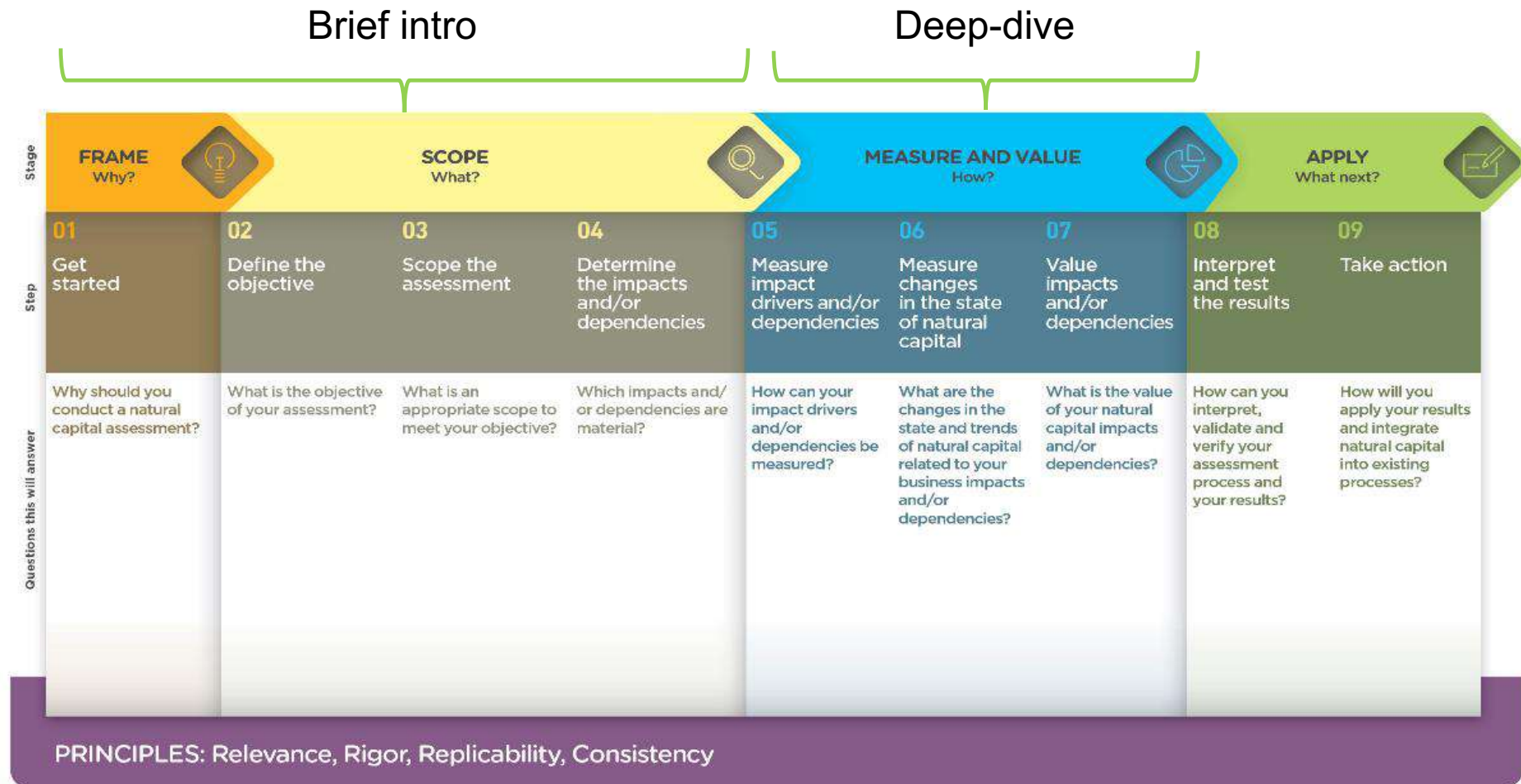
Source: Natural Capital Protocol

Training material

Write down any questions in the chat

Share | Chat | Record

NATURAL CAPITAL PROTOCOL

NATURAL CAPITAL COALITION

Executive summary

Full version

INTEGRATING BIODIVERSITY INTO NATURAL CAPITAL ASSESSMENTS

Introduction
Part of a series of Biodiversity Guidance to accompany the Natural Capital Protocol

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Guidance

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Mentimeter question

How much do
you know
about natural
capital?

How to use Mentimeter

1 Go to **www.menti.com**

2 Enter this code: **19 36 47 5**

3 Submit your answer

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Typical barriers

WVN actions
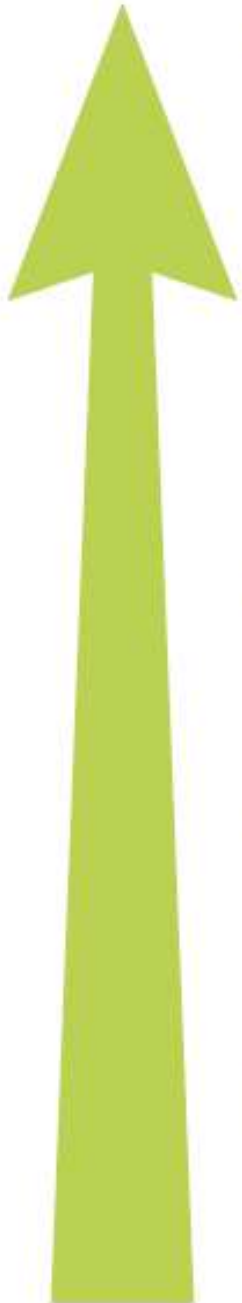
4. Comprehensive
"Natural capital is fully integrated into business decision making and we're adding value to society and nature."

3. Maturing
"Business decision-making frameworks are influenced by natural capital assessments.

2. Developing
" We have completed a natural capital assessment."

1. First steps
"We're aware of natural capital and interested to learn more.

0. Just starting
"We haven't engaged with natural capital."

| Typical barriers	WVN actions
• Lack of regulatory frameworks • Lack of standards (metrics, reporting etc.) • Focus on single issues	• Case studies on public/private policy • Input into NBS standard
• Lack of data and inputs • Lack of case studies and practical applications • Institutional Inertia	• "Testimonial" case studies • More detailed, specific training
• Perception that it is complex &/or technical • Lack of understanding of the potential benefits	• Introductory training • Simplified, curated communications

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Introductions

Introductions

- **Please tell us more by sharing :**

  - What you are most curious to learn about today? Any specific expectations?
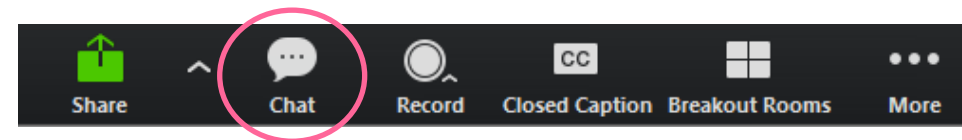
Setting the scene

The scale of the challenge ahead
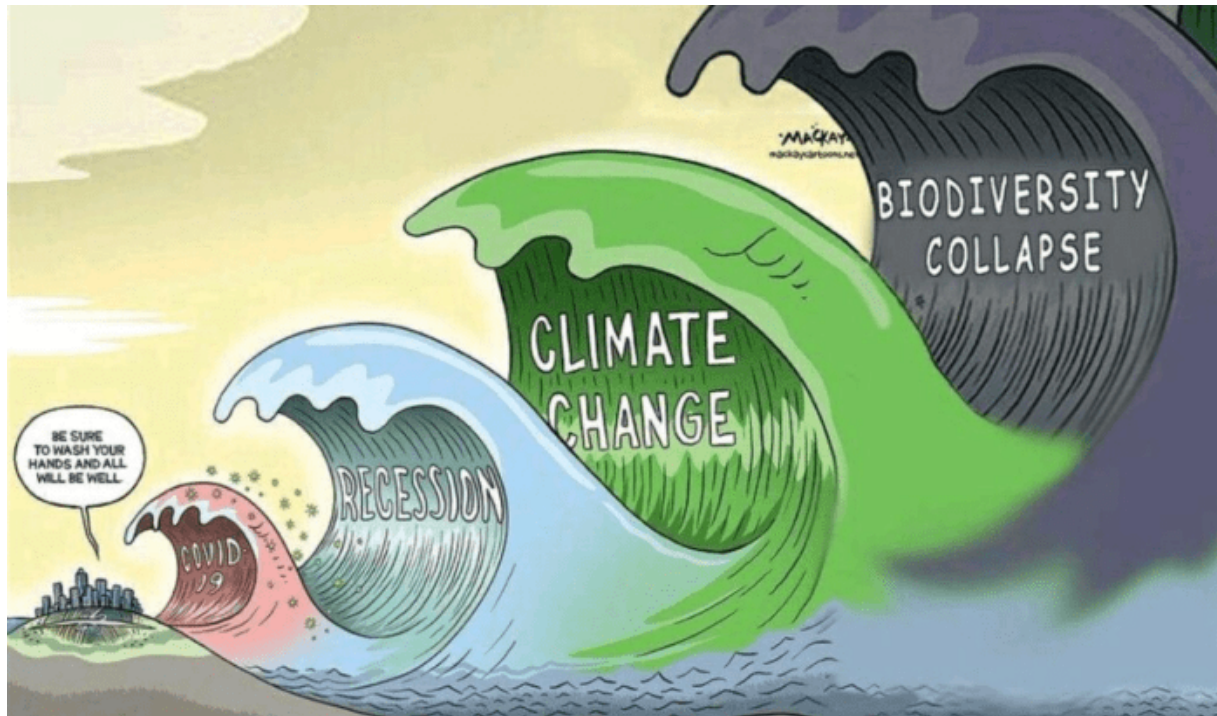
By Graeme MacKay
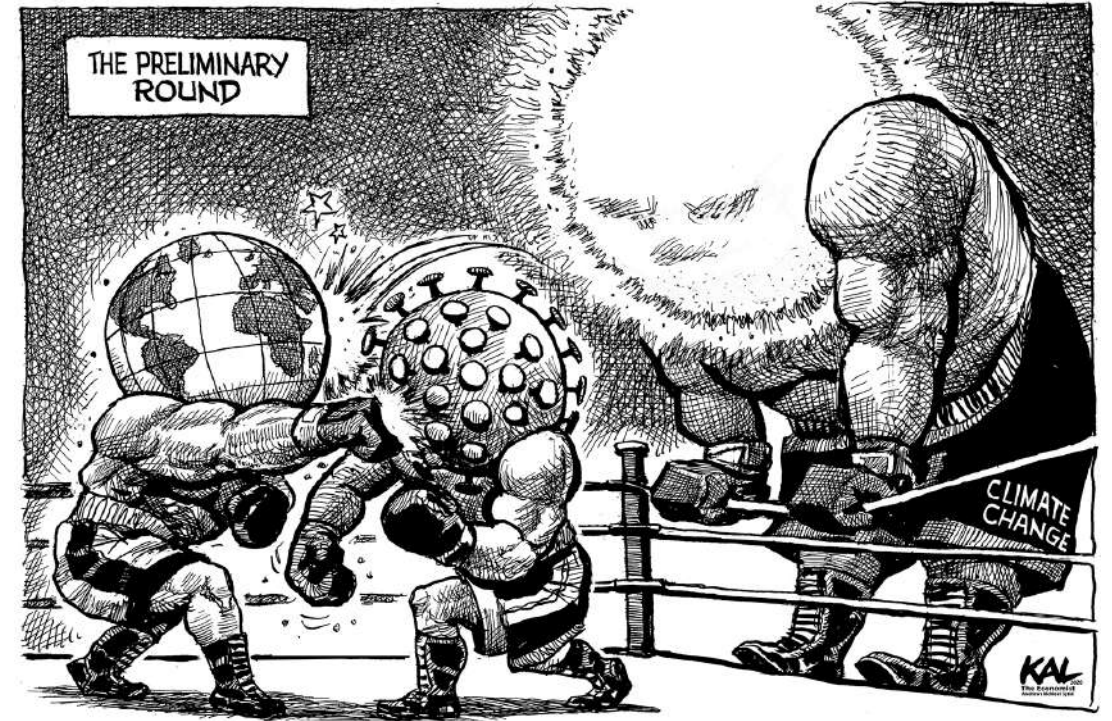
By Kal, The Economist

Keeping up momentum during the COVID-19 crisis

- Institutions urging a **green recovery.** Christine Lagarde, President of ECB: "transition towards a greener economy is a crucial part of economic recovery"

- Crisis shows that **"business as usual" is vulnerable** to a range of outside influences, not just market forces

- Need to consider **all capitals** and **all stakeholder values for decision-making**

Capitals thinking

Business **depends** on

Natural capital	Social capital	Human capital
Stock of renewable and non-renewable **natural resources**, (e.g. plants, animals, air water, soils, minerals) that combine to yield a flow of **benefits** to people	**Networks** together with **shared norms, values** and **understanding** that facilitate cooperation within and among groups.	The **knowledge, skills, competencies** and attributes embodied in individuals that facilitate the creation of personal, social and economic **well-being**.

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Social & Human Capital Coalition

Social & Human Capital Coalition

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Business **impacts** on

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Introduction to natural capital

Natural Capital Definition

Natural capital is the stock of **renewable and non-renewable natural resources**, (e.g. plants, animals, air water, soils, minerals) that combine to yield a **flow of "services"** to people. In turn, these flows provide **value** to business and society.

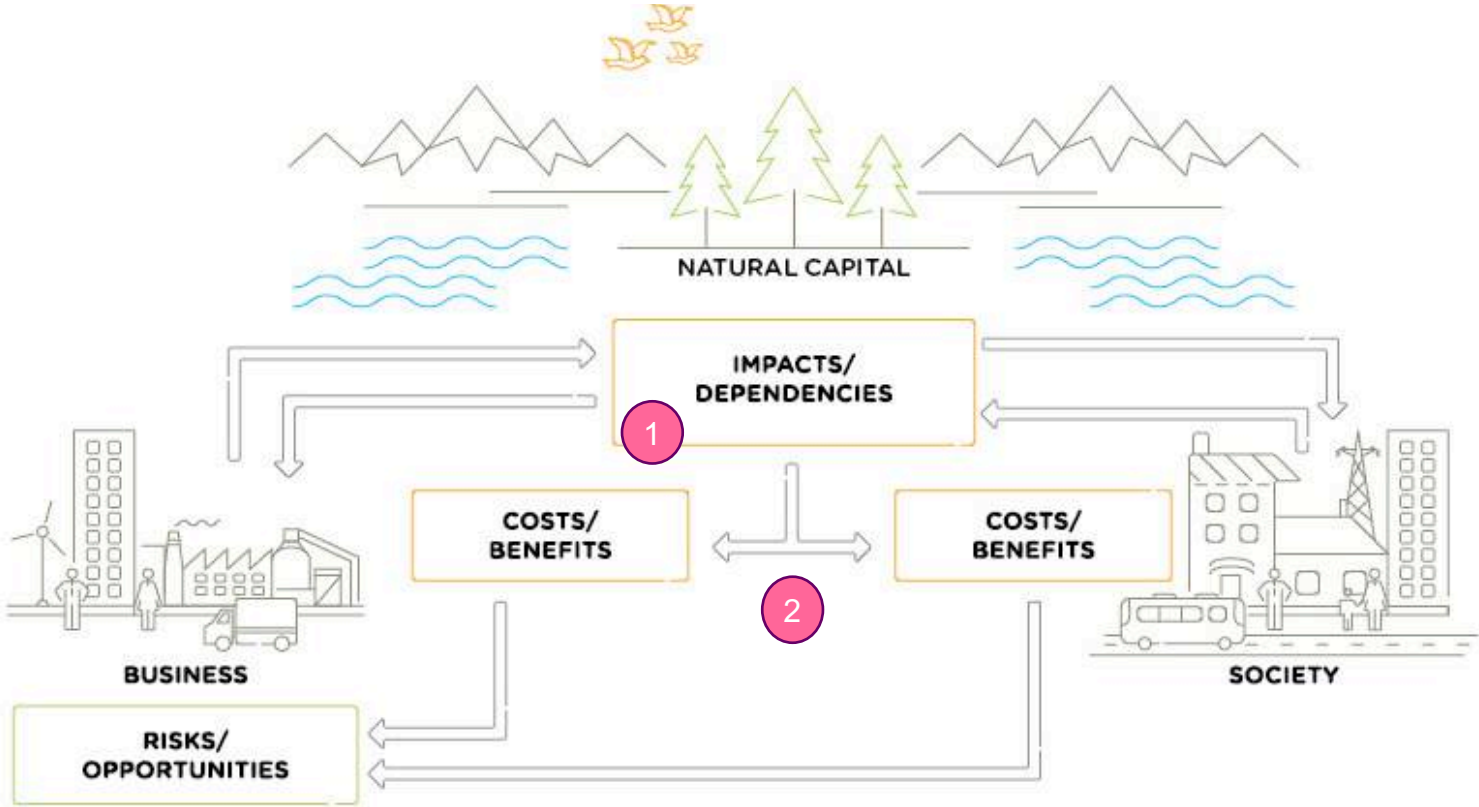Biodiversity underpins both stocks and ecosystem services

STOCKS
Natural capital

Biodiversity

FLOWS
Ecosystem and abiotic services

VALUE
Benefits to business and to society

Source: Natural Capital Protocol

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Business depends on & impacts natural capital

Source: Natural Capital Protocol

1. All businesses **impact** and **depend** upon natural capital.

2. This relationship delivers **costs and benefits** back to themselves and to society.

3. These in turn lead to **risks and opportunities** to the business

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Practical example of impacts / dependencies

Source: example from Haagen-Dazs on their honey bees pollinator habitat project

https://www.youtube.com/watch?v=qtgm-3EQOU4

Natural capital dependencies

A business reliance on or use of natural capital
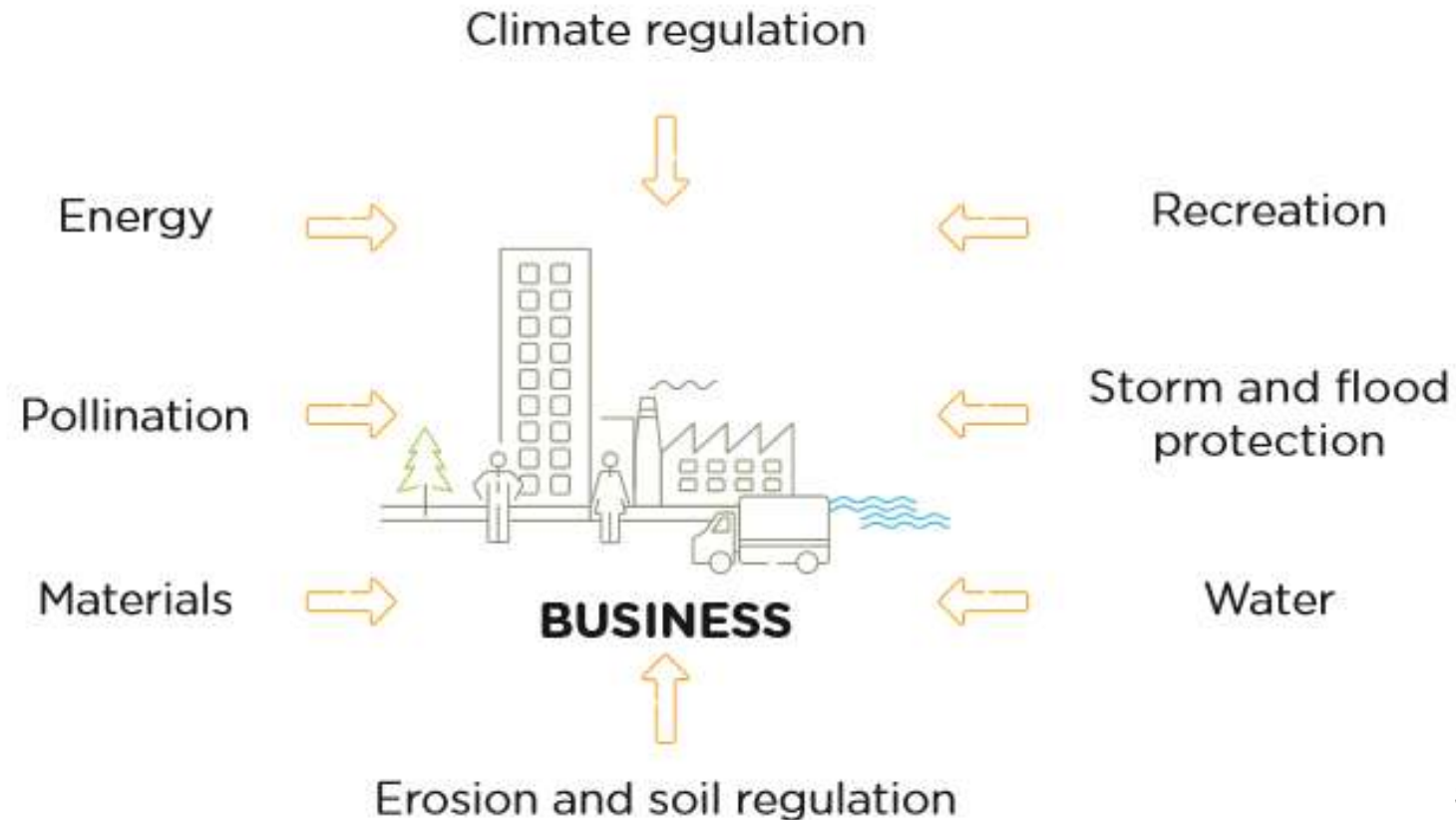
Source: Natural Capital Protocol

Dependency pathways

- Business activities can be **dependent on specific features** of natural capital

- A dependency pathway can **identify how changes** in specific features of natural capital can **affect these activities**

- Knowing how changes affect business activities helps you identify the **cost of doing business**
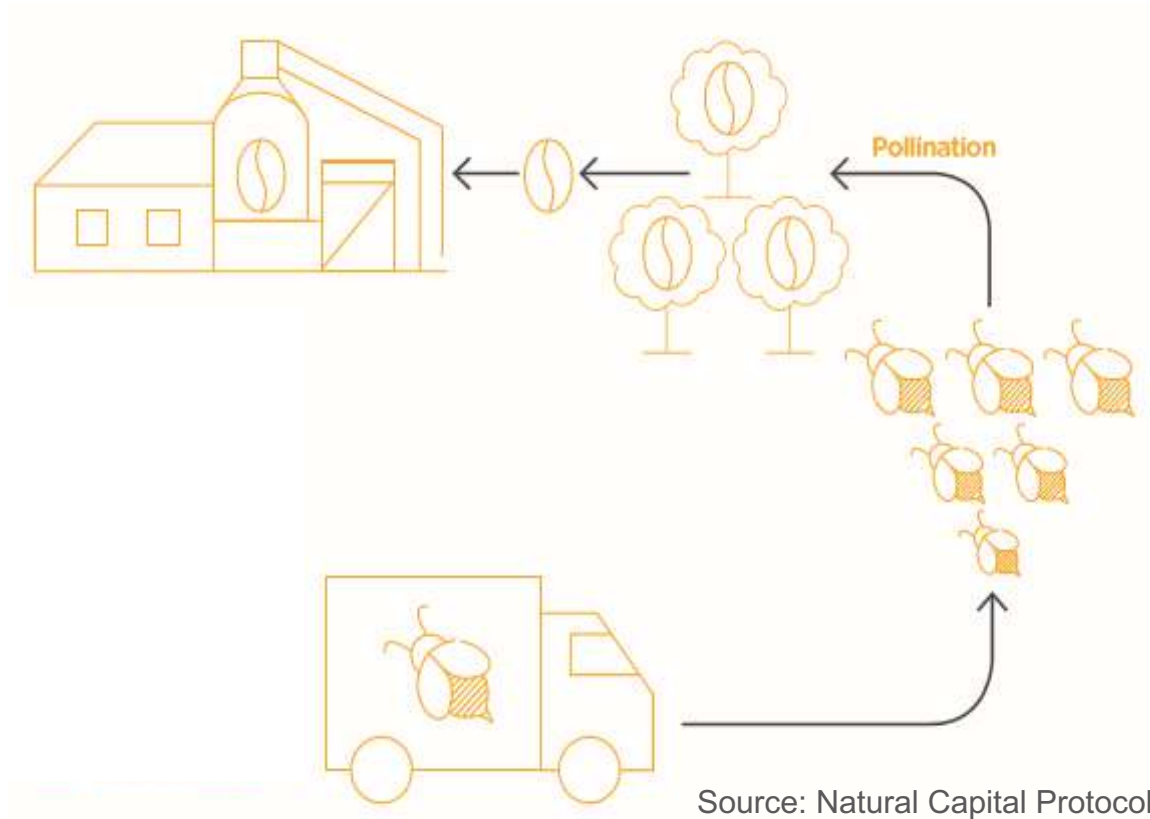
Source: Natural Capital Protocol

Natural capital impacts

The negative or positive effect of business activity on natural capital

Source: Natural Capital Protocol

Impact drivers

Impact drivers are:

- **Measurable quantities** of a natural resource used as an **input** to production

  (e.g. fresh water)

Or:

- Measurable non-product **output** of a business activity

  (e.g. water discharges)

Natural capital impact drivers

INPUTS
E.g. Fresh water, land use

Production of raw materials
E.g. Oil extraction

Processing of raw materials
E.g. Refining and cracking, polymerization

Manufacturing
E.g. Extrusion molding

Natural capital impact drivers

OUTPUTS
E.g. Non-hazardous waste, air pollution, discharges to water

Natural capital dependencies
E.g. Fresh water, land, flood protection, climate control, waste assimilation

Source: Natural Capital Protocol

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Impact pathway

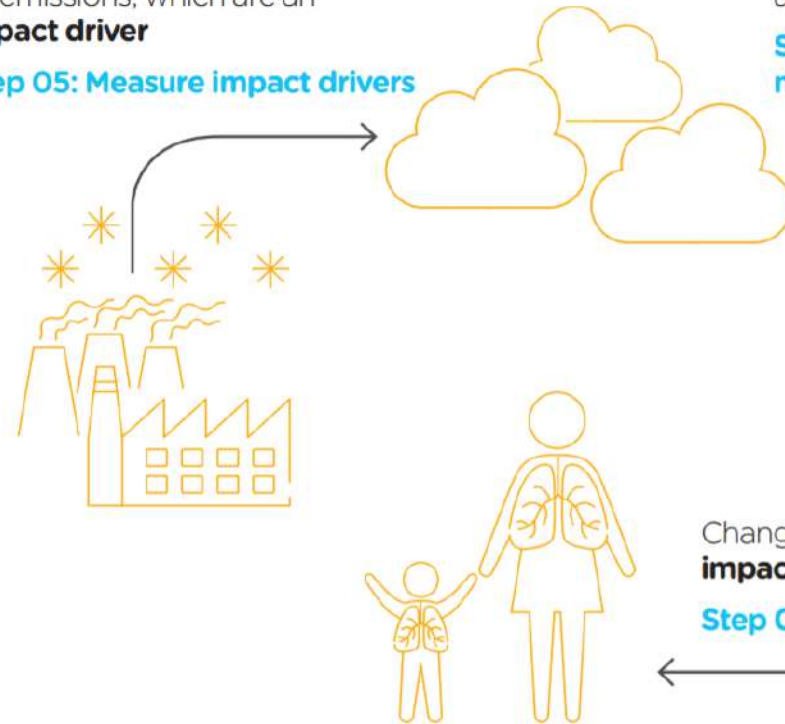- Business activities can **impact on specific features** of natural capital

- Impact pathways describe how, as a result of specific business activity, a particular impact driver results in **changes in natural capital and how these changes impact different stakeholders**

Business activities at a chemical manufacturing plant produce air emissions, which are an **impact driver**
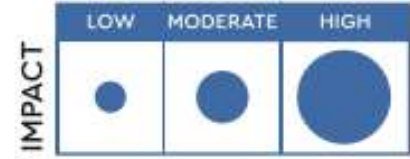
Step 05: Measure impact drivers

Impact drivers lead to **changes in natural capital**, in this case reduced air quality

Step 06: Measure changes in natural capital

Changes in natural capital result in **impacts**, in this case health problems

Step 07: Value impacts

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Food industry example - material impacts

MOST MATERIAL PRACTICES / ACTIONS

FISHING
- Qualitative research:
  - Environmental impact of different species
  - Design a sourcing list
  - Investigate coalition opportunities

GROWING VEGETABLES & HERBS
- Immediate action:
  - Engage the vegetable supplier on sustainable production methods
- Qualitative research:
  - Investigate certifications
- Qualitative research:
  - Calculate used volume & area farmed including costs of land restoration

PACKAGING
- Immediate action:
  - Inquire about packaging options with a packaging specialist
- Qualitative research:
  - Investigate opportunities for non-virgin and degradable materials
- Qualitative research:
  - Calculate impact differentials of recycling vs. degradable and plastic vs. cupboard

OUTBOUND LOGISTICS & SALES
- Immediate action:
  - Less business travel by car. Choose sustainable alternatives.
- Qualitative research:
  - kilometer registration commuting and CO2 measurements

PRODUCT DEVELOPMENT
- Qualitative research:
  - Investigate opportunities for saline-tolerant vegetables
  - Design a checklist with environmental indicators for introducing new products.

	Growing vegetables & herbs	Fishing	Processing	Inbound logistics	Operations & storage	Packaging	Outbound logistics & sales
CLIMATE	●	⬤	●	⬤	⬤	●	⬤
WATER USE	⬤		●		⬤	●	
AIR QUALITY	●	⬤	●	⬤	⬤	●	⬤
LAND USE CHANGE	·					●	
SOIL QUALITY	⬤	⬤				●	
WATER QUALITY	⬤	⬤			●	⬤	
BIODIVERSITY	⬤	⬤					·

Source: Nature Squared

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Tools to determine impacts and dependencies

ENCORE (Natural Capital Finance Alliance)

- Impact and dependencies at economic sector level – qualitative

SASB (Sustainability Accounting Standards Board)

- Impacts at a sector level – qualitative

Natural Capital Protocol Sector Guides

- Impacts and dependencies but for limited sectors (food and beverage, apparel and forests)

I360X (Impact 360)

- Impacts across all natural, human, social and financial capital – quantitative and qualitative

What may be the most material natural capital impact and dependency for your business?
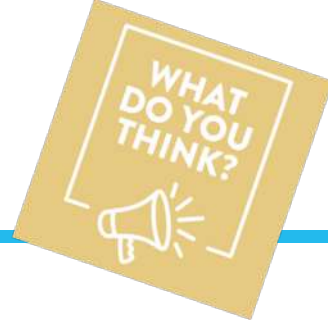
Individually reflect on what would be your business' natural capital impacts & dependencies

➡️ Write down **1 impact & 1 dependency** that seem most material to your business **now and in the future.**

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Mentimeter question

Most material impact in the next 10 years?

Most material dependency in the next 10 years?

Natural Capital Impact
The **negative or positive effect** of business activity on natural capital

Natural Capital Dependency
The **reliance on or use of** natural capital

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How to use Mentimeter

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The business case for assessing natural capital

Operational Risk

Reputational & Societal Risk

Legal Risk

Financial Risk

Risks for business

Why assess your impacts & dependencies? The business case…

Many natural capital risks and opportunities are becoming increasingly visible, and **business needs a way to understand and manage these.**

- Understand **relationships with nature** in a structured way
- Challenge your **business model**
- Mitigate **risks**
- Increased **competitive advantage**

- Create **opportunities**
- **Inform decisions** that are really important to your business
- Access to **finance**
- **Recruitment & retention** of staff
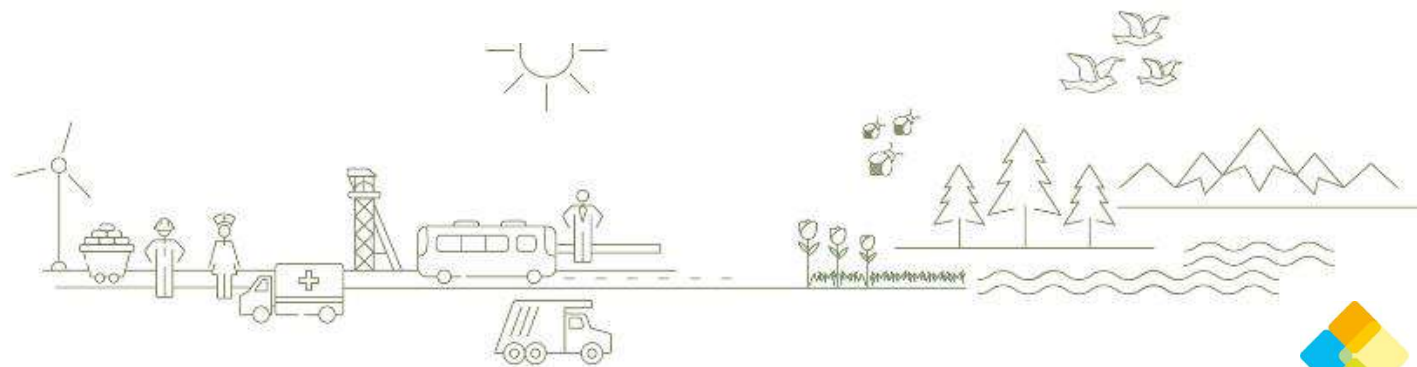
Source: Natural Capital Protocol

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Business **applications**

Natural capital **information** can be used in plenty of ways. You need to decide what information you need and how it will be used.

Potential Business Applications
Assess risks and opportunities
Compare options
Assess impacts on stakeholders
Estimate total value and/or net impact
Communicate internally or externally

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Assessments: **Measure & Value**

To measure ≠ to value

- **To measure:** determine the **amounts, extent and condition** in physical terms
  - e.g. m3, tons, number of injuries, number of jobs

- **To value:** estimate the **relative importance, worth, or usefulness** of natural / social / human capital to people (or to a business), in a particular context.

Qualitative	Quantitative	Monetary

➡️ Costs and benefits to the business, and to society

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Overview of current assessments

NC or SHC

- Unspecified 18 %
- Social and human only 6 %
- Natural, social and human 15 %
- Natural capital only 61 %

Organization type

- Finance 10 %
- Government 25 %
- Business 65 %

Source: Capitals Coalition

Business applications
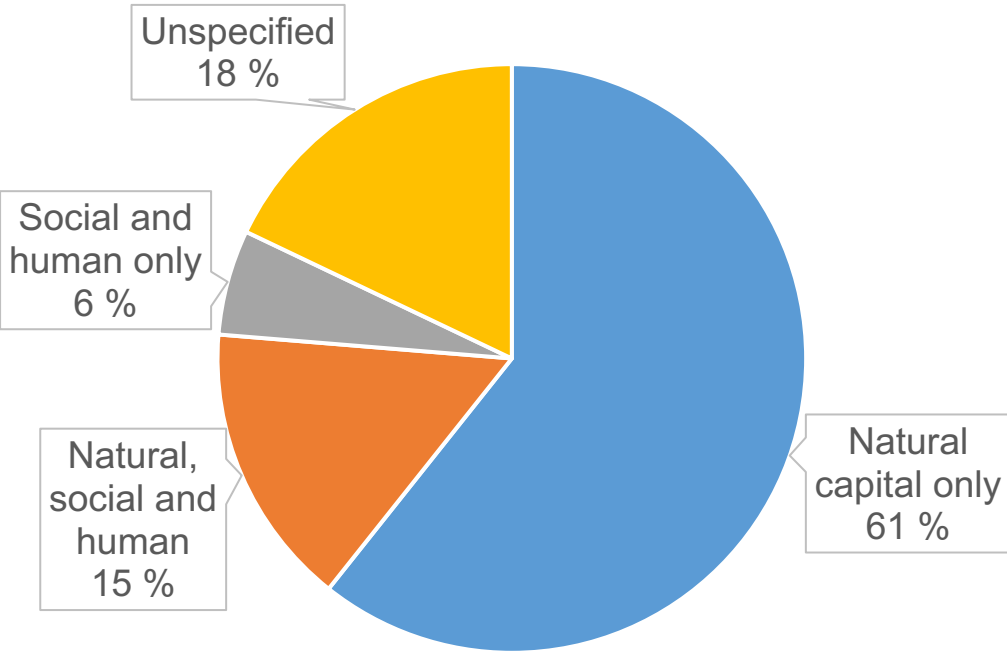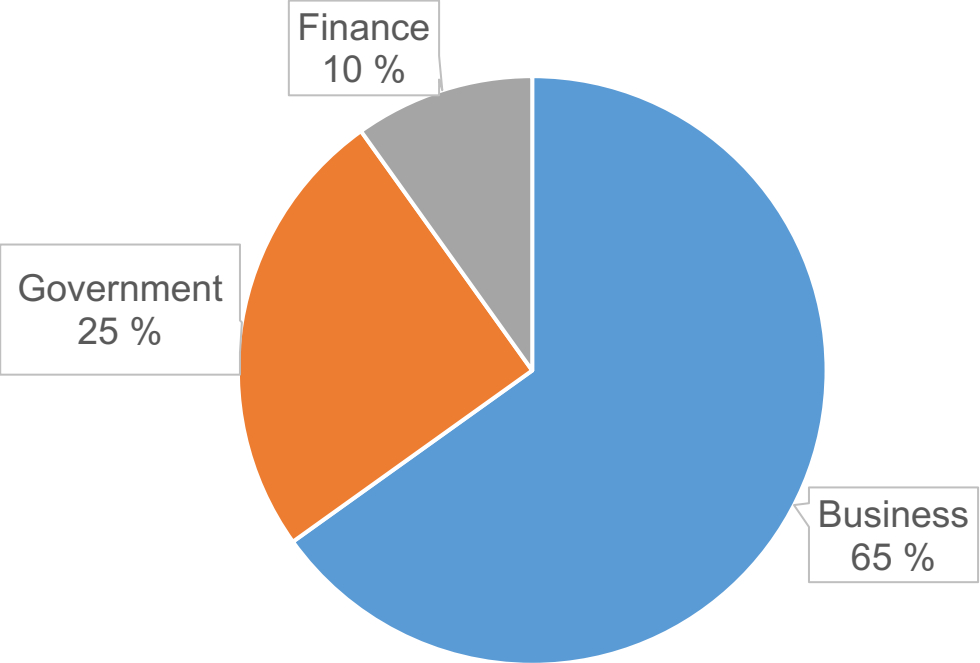
1. **Estimate total value and/or net impact, 34%**
2. **Assess risks and opportunities,   27%**
3. Assess impacts on stakeholders, 13%
4. Integrate and mainstream natural capital into policy, 7%
5. Compare options, 5%
6. Create and support insights, 5%
7. Other, 9%

Other; 9 %
13 %
7 %
27 %
34 %
5 %
5 %

Source: Capitals Coalition

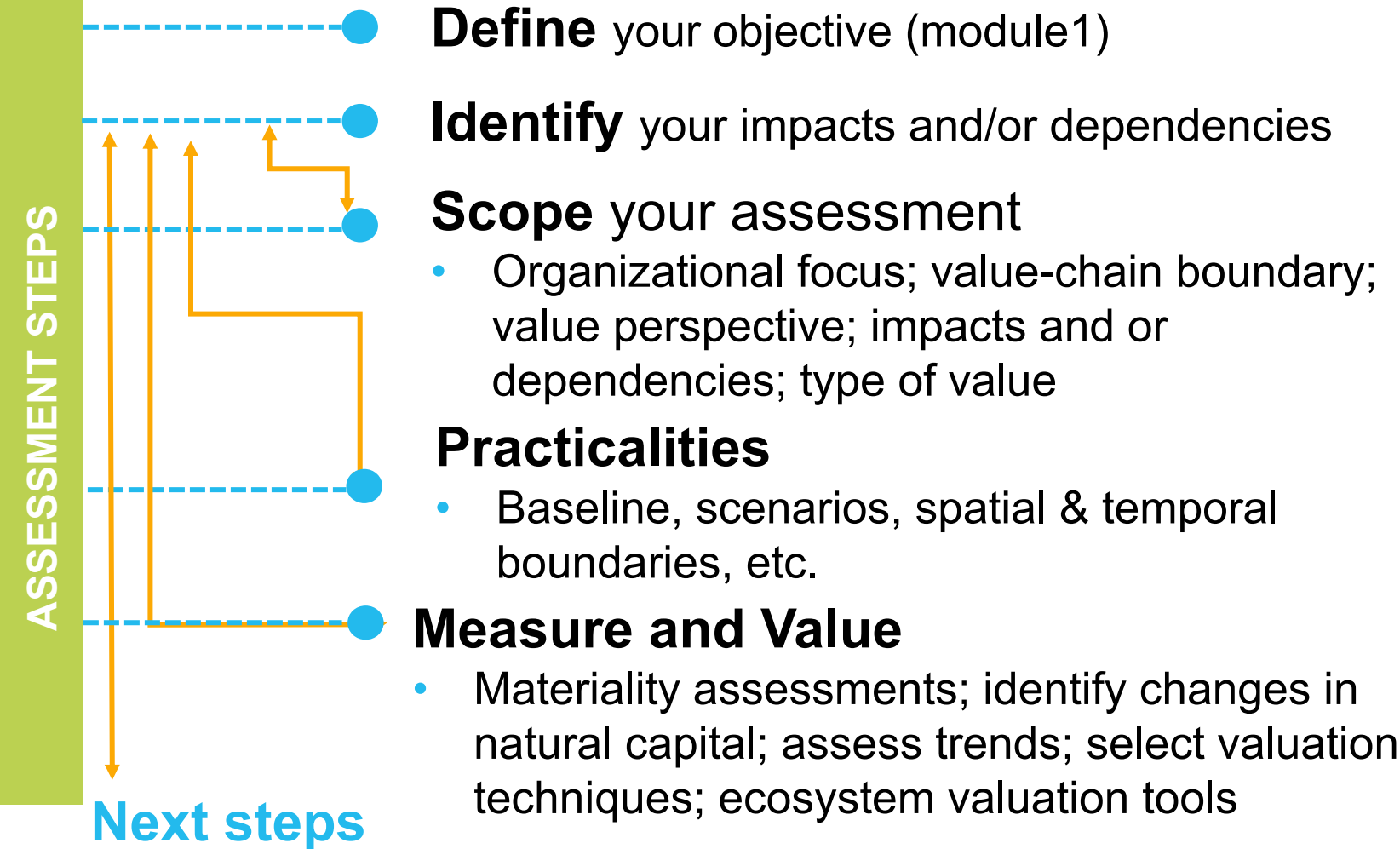CAPITALS
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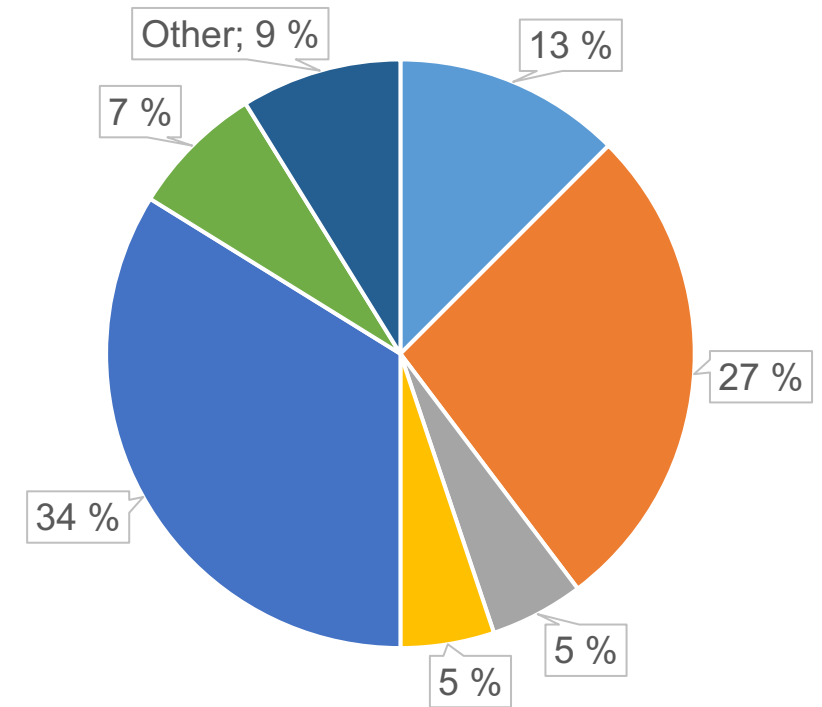
Concrete steps to undertaking a 1st natural capital assessment

ASSESSMENT STEPS

Define your objective (module1)

Identify your impacts and/or dependencies

Scope your assessment
- Organizational focus; value-chain boundary; value perspective; impacts and or dependencies; type of value

Practicalities
- Baseline, scenarios, spatial & temporal boundaries, etc.

Measure and Value
- Materiality assessments; identify changes in natural capital; assess trends; select valuation techniques; ecosystem valuation tools

Next steps

PLANNING

Iterative process

Timing

Skills

Data

Resources

Stakeholders

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Where are we in the learning objectives?

The aim of today's training is to:

✓ Understand the concepts of natural capital, **natural capital impacts & dependencies** and how these relate to **business risk management & decision-making**

- ❖ Familiarize yourself with the different steps involved in conducting a **natural capital assessment** following the **Natural Capital Protocol**

- ❖ Gain practical insights on how to **scope and plan an assessment**

- ❖ Be introduced to **measurement & valuation approaches** of natural capital

- ❖ Discover the newly launched **Biodiversity Guidance** to the Natural Capital Protocol and **how it can be applied** in a business context

Scoping & planning an assessment

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Project ambition: scoping an assessment

Determine the organizational focus	Corporate / product / project
Determine the value-chain boundary	Upstream / direct operations / downstream
Specify whose value perspective	Business / society
Decide on assessing impacts and/or dependencies	Impacts / dependencies / both
Decide which types of value you will consider	Qualitative / quantitative / Monetary

Source: Natural Capital Protocol

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Identifying stakeholders

Examples of Internal Stakeholders:	Examples of External Stakeholders:
Shareholders (if applicable)	Shareholders (if applicable)
Senior executives and directors	Investors
Heads of sustainability, environment etc.	Suppliers
Human resources or auditing and compliance	Government, regulators, customers etc.
Employees and contractors	Experts (e.g. academics, engineers etc.)
Departments like finance, strategy, procurement, marketing, communications, reporting, public affairs, investor relations etc.	• Community and other affected stakeholders (local residents, schools, other businesses, special interest groups, farmers etc.) • Civil society (NGO, labour unions etc.)

Source: Natural Capital Protocol

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Identifying target audience and obtaining buy-in

Why do you need to identify a target audience?

- In order to **help define your objective**, you need to identify the target audience and understand what drives them
- The target audience is the **main user of the assessment output**, this means that outputs must be written with them in mind

Creating buy-in

- In order to help drive your project forward you will need to get internal buy-in this can be achieved by:
  - Identifying **individuals with an interest** in the project and getting them involved
  - Identifying where company operations may be vulnerable in terms of **dependencies**
  - Identifying **areas of opportunity** that fit within the remit of department leaders in product development, etc.
  - Demonstrating how the outputs of an assessment can **help with decision making** where investment decisions are currently being discussed
  - Knowing how to **adapt your language** for the relevant department, to make options easy to understand

Planning an assessment

- **Timescale:** How quickly does the assessment need to be completed

- **Funding/resources:** What budget and human resources are available?

- **Capacity:** What skills are available within the business to undertake an assessment?

- **Data availability and accessibility:** What constraints on data are anticipated?

- **Stakeholder relationships:** To what extent do you need to identify and establish relationships with stakeholders?

Source: Natural Capital Protocol

Other considerations

- **Baseline** e.g. current conditions

- **Scenarios** e.g. climate change based on published IPCC predictions

- **Spatial boundary** e.g. 3 largest manufacturing facilities, 3 largest plantations in Kenya

- What are the **corporate boundaries** (i.e. suppliers/ contractors)

- **Temporal boundary** e.g. next 10 years

Source: Natural Capital Protocol

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SHIFT platform and the Natural Capital Toolkit

There are lots of useful tools out there. SHIFT.tools is a searchable repository of tools, including the Natural Capital Toolkit.
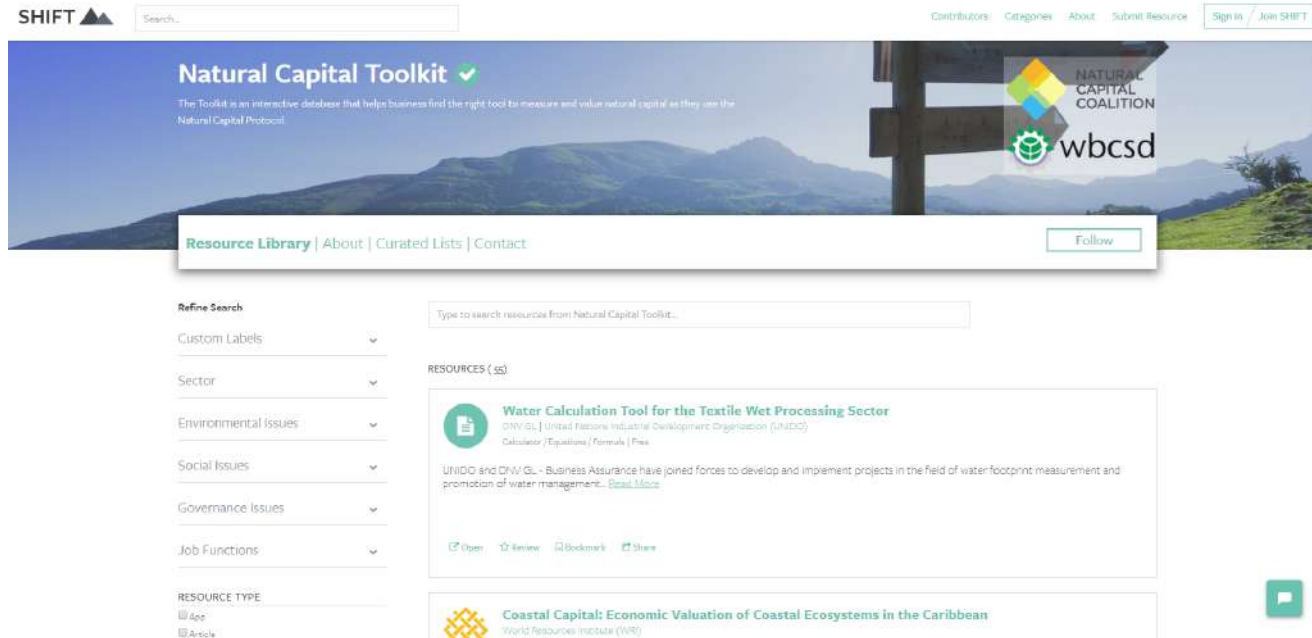
Natural Capital Toolkit example

1. Mining company

2. Conduct a company-wide assessment on its use of water

3. Sustainability team

Sector

- ☐ Apparel
- ☐ Built Environment
- ☐ Chemicals
- ☐ Commercial & Professional Services
- ☐ Consumer Products
- ☐ Energy & Utilities
- ☐ Finance
- ☐ Food, Beverage, Agribusiness, & Fisheries
- ☐ Health Care
- ☐ Hospitality & Tourism
- ☐ Information Technology
- ■ Mining & Metals
- ☐ Paper & Forest Products
- ☐ Retail
- ☐ Transportation & Mobility

Custom Labels

- ☐ Impact Driver: Noise & Light Disturbances
- ☐ Impact Driver: Non-GHG Emissions
- ☐ Impact Driver: Other Resource Use
- ☐ Impact Driver: Soil Pollutants
- ☐ Impact Driver: Solid Waste
- ☐ Impact Driver: Terrestrial Ecosystem Use
- ☐ Impact Driver: Water Pollutants
- ■ Impact Driver: Water Use

Environmental Issues

- ☐ Biodiversity & Ecosystem Services
- ☐ Climate & Air Emissions
- ☐ Energy
- ☐ Land
- ☐ Materials & Resources
- ☐ Noise & Light Disturbances
- ☐ Waste Management
- ■ Water

Job Functions

- ☐ Communication
- ☐ Consultant
- ☐ EHS
- ☐ Entrepreneur
- ☐ Facilities
- ☐ Finance
- ☐ Human Resources
- ☐ Logistics
- ☐ Management
- ☐ Manufacturing
- ☐ Marketing
- ☐ Operations
- ☐ Procurement
- ☐ Product Design
- ☐ Sourcing
- ☐ Strategy
- ☐ Supply Chain
- ■ Sustainability

RESOURCE TYPE

- ☐ App
- ☐ Article
- ☐ Book / Report
- ☑ Calculator / Equations / Formula
- ☑ Case Study
- ☐ Course
- ☑ Data / List of Values
- ☐ Event
- ☑ Framework / Guidelines
- ☐ Other
- ☐ Report
- ☐ Spatial Mapping / GIS Data
- ☐ Suite of Tools
- ☐ Survey / Questionnaire
- ☐ Template / Workbook / Spreadsheet
- ☐ Website

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The NatCap Checker

The NatCap Checker is a voluntary self-assessment tool to check robustness and provide confidence to stakeholders

An excel tool and associated guidance document to help users:

➢ **understand** what a robust assessment looks like;

➢ **work towards** an appropriate level of robustness in assessments;

➢ **communicate** the level of confidence stakeholders can have in assessment results.

To what extent is your natural capital assessment aligned with the Principles of the Natural Capital Protocol?

| Protocol No. Stage	Principle	Headline question	Further guidance	Response			
		What the assessment should be aiming to achieve	How you can demonstrate that you are achieving these 'sub-principles'	Information absent / unable to tell	Requires improvement	Acceptable	Substantially aligned
1 WHY?	Relevance	Is there a clear understanding of why you undertook the assessment?	Was there a decision the assessment was intended to inform, which was highlighted at the outset? Were the potential uses of the assessment results clear in the context of this decision? *Full details provided in Guidance document.*	⦿	○	○	○
2 WHAT?	Rigor	To what extent did you engage internally and externally to provide expert input into the assessment?	Did you engage with others within the business to provide input/feedback into the scoping discussions/full natural capital assessment? Was the relevant expertise available internally, or sourced from external experts (e.g. was internal/external expert input gained to apply valuation techniques)? *Full details provided in Guidance document.*	⦿	○	○	○
3 WHAT?	Consistency	Was an appropriate and consistent scope applied throughout the assessment?	Were scope factors (including baselines, spatial and temporal boundaries, value-chain boundary, impacts vs dependencies) selected appropriately for the objective of the assessment? Was the scope applied consistently throughout the assessment across all these factors? *Full details provided in Guidance document.*	⦿	○	○	○
4 WHAT?	Relevance	Were there clearly defined criteria for the materiality assessment?	Did you identify clear criteria for your materiality assessment to judge which impacts/dependencies are most material (beyond expert judgement) e.g. operational; legal & regulatory; financing; reputational and marketing; societal. Did this include a clear threshold, above which issues were considered material? *Full details provided in Guidance document.*	⦿	○	○	○
5 HOW?	Rigor	Were data and data sources reliable, relevant and as complete as possible?	Was data of appropriate quality availability for the assessment? The preparer should consider what constraints were faced regarding data availability - this may include time and resources, budget, actual existence of data, confidence in the quality of data. Considering whether primary or secondary data was used (and why) may help at this point. *Full details provided in Guidance document.*	⦿	○	○	○
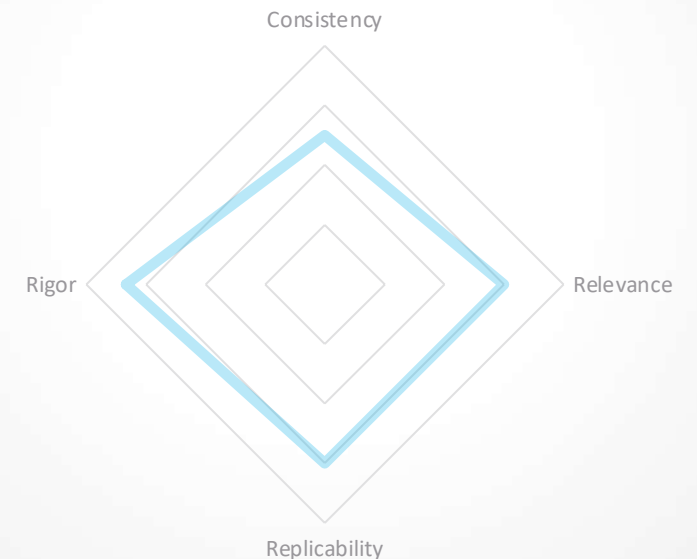
CAPITALS COALITION

15'
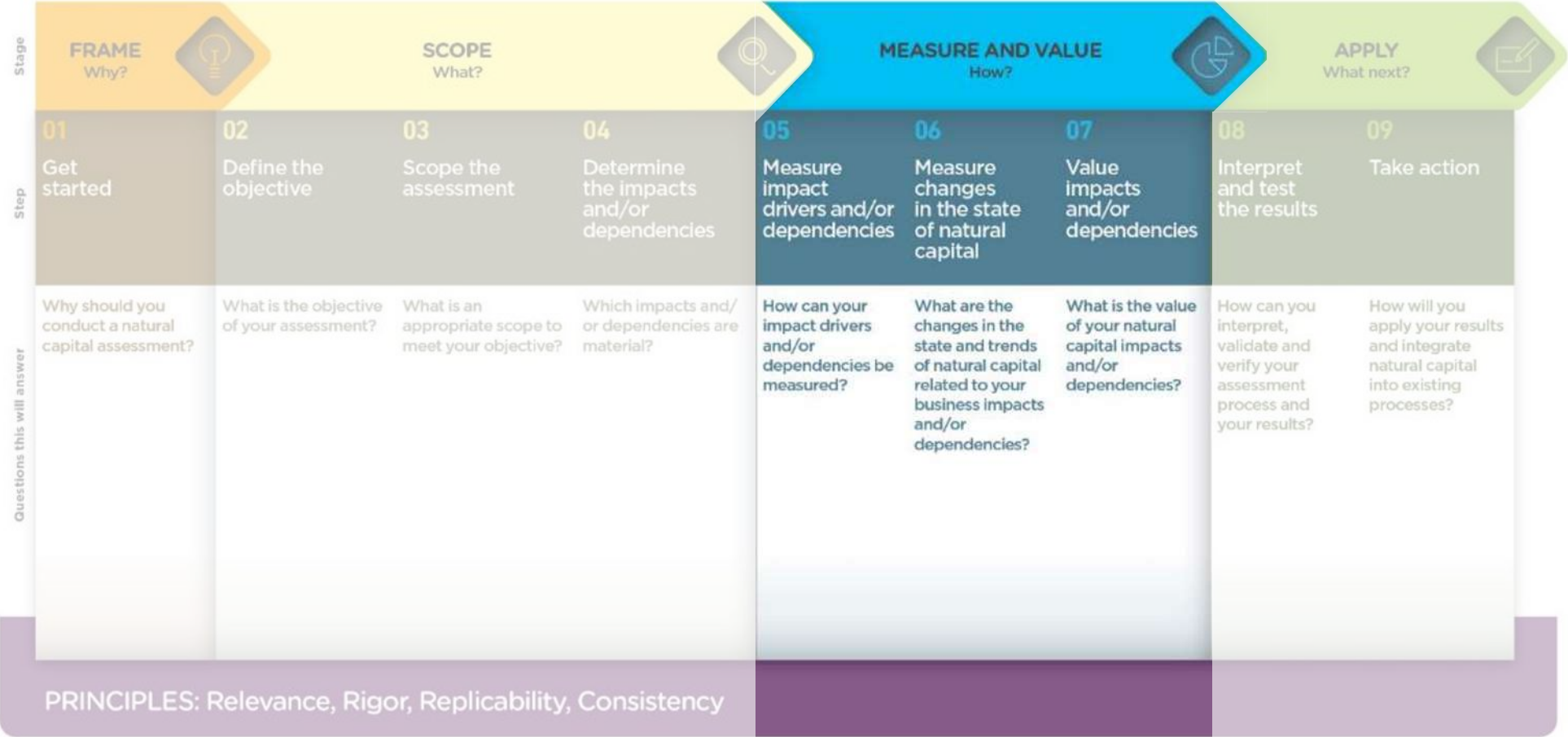
Measuring & valuing natural capital

Measure & Value Stage - How?

GOALS

- Understand how to measure your **impact drivers and dependencies**

- Understand how impact drivers and dependencies link to resultant **changes in capital**

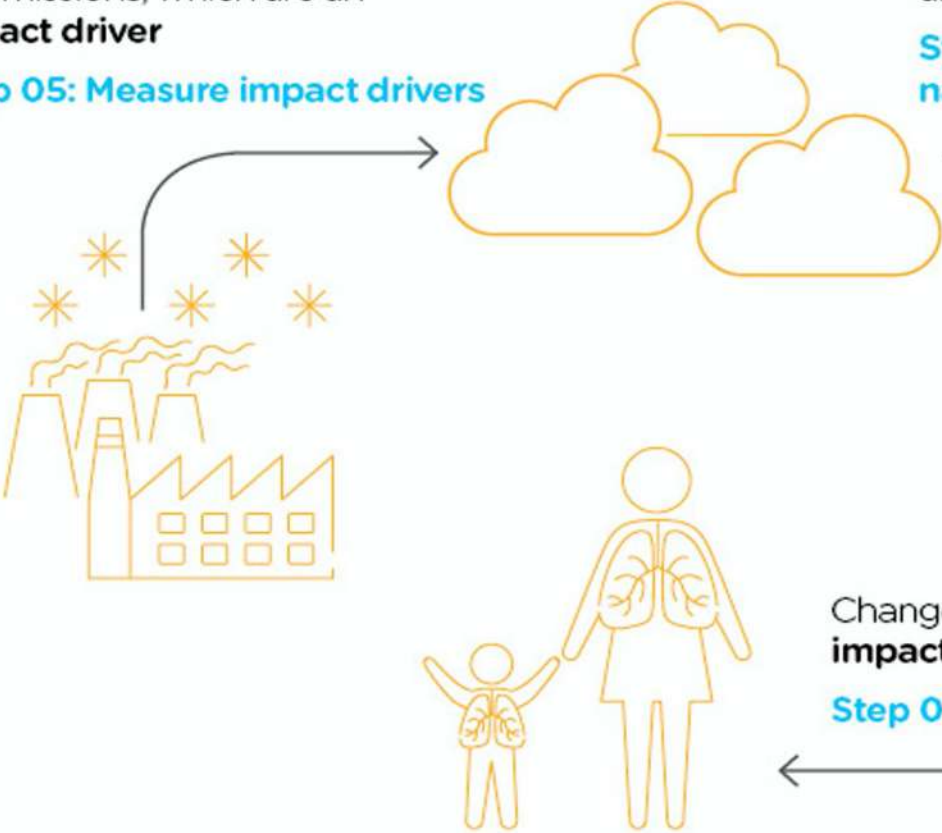- Familiarize yourself with the methods for **valuation**
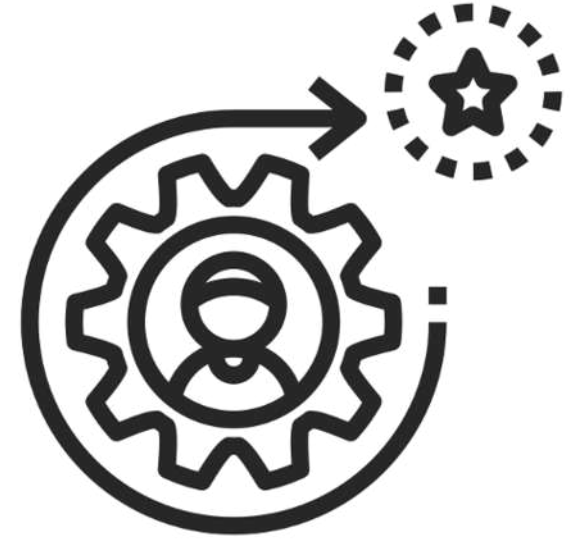
Measure & Value Stage - How?

Impact pathway

Business activities at a chemical manufacturing plant produce air emissions, which are an **impact driver**

Step 05: Measure impact drivers

Impact drivers lead to **changes in natural capital,** in this case reduced air quality

Step 06: Measure changes in natural capital

Changes in natural capital result in **impacts,** in this case health problems

Step 07: Value impacts

Measure & Value Stage - How?

Measure impact drivers and/or dependencies

Actions

Map your activities against impact drivers and/or dependencies
Define which impact drivers and/or dependencies you will measure
Identify **how** you will measure impact drivers and/or dependencies
Select **methods** for measuring changes
Collect data

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WE VALUE NATURE

Measure impact drivers and/or dependencies

Measurement of the material impact drivers an/or dependencies can be either qualitative or quantitative.

Qualitative indicators may be based on professional judgement and can be informed by the opinions of stakeholders. Qualitative measures may involve a subjective assessment of high, medium, or low, or other defined criteria

Quantitative indicators are typically in physical units, such as amount of different pollutants emitted (e.g., tons) or the amount of resources consumed (m^3 water, ha of habitat), or a rate of consumption over the duration of a project (m^3/day). Although this provides an amount it is rarely precise because of the need to estimate.

Impacts and dependencies

Whose value perspective?
- Business
- Society

Impacts and/or dependencies?
- Impacts on your business
- Your impacts on society
- Your business dependencies

	Value to business	Value to society
Impacts	**Business Impacts** Costs/benefits to the business of its own impacts	**Societal Impacts** Costs/benefits to society of business impacts
Dependencies	**Business Dependencies** Costs/benefits to the business of its dependencies	Dependencies that results in societal costs/benefits are the same as impacts

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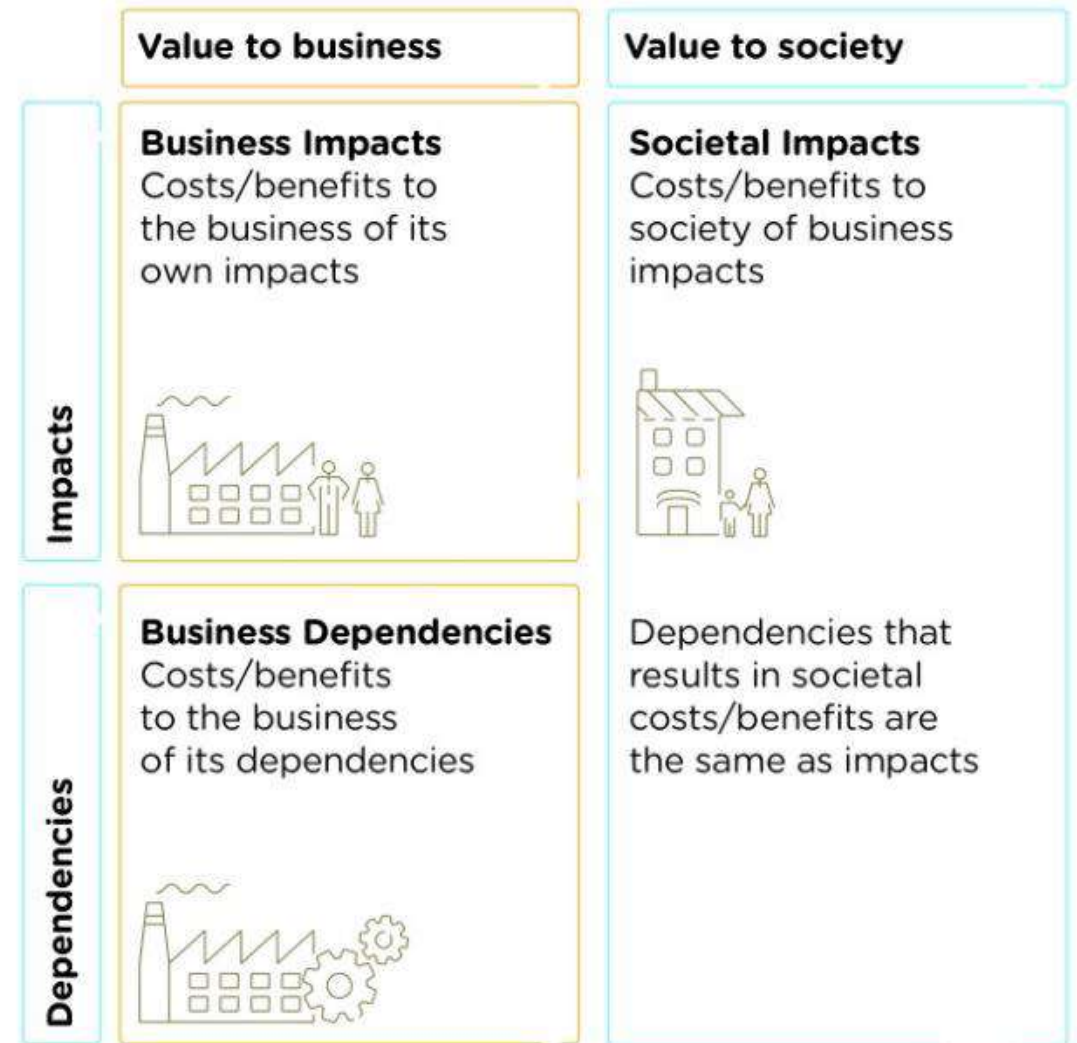
Indicators for impact drivers

- Mapping **activities**

- Developing **indicators**

Natural capital impact drivers		Natural capital impact drivers
INPUTS E.g. Fresh water, land use	**Production of raw materials** E.g. Oil extraction	**OUTPUTS** E.g. Non-hazardous waste, air pollution, discharges to water
	Processing of raw materials E.g. Refining and cracking, polymerization	
	Manufacturing E.g. Extrusion molding	

Natural capital dependencies E.g. Fresh water, land, flood protection, climate control, waste assimilation

Impact driver category	Example qualitative indicators according to set criteria	Example quantitative indicator (for a given location and over a given period of time)
Water use		Cubic meters of water abstracted from surface water
Terrestrial ecosystem use		Hectares of degraded land converted to agricultural land
		Number of species "threatened with extinction" on the IUCN Red List and hectares of critical habitat for these species in areas affected by operations
		Local proportion of habitat converted to monoculture
Fresh water ecosystem use		Hectares of valley flooded for a dam
Marine ecosystem use		Hectares of mangrove protected and/or restored
Other resource use		Tons of Atlantic Cod caught
GHG emissions		Tons of CO_2e
Non-GHG air pollutants		Tons of $PM_{2.5}$ released to air
Water pollutants		Kilograms of arsenic released to surface water
Soil pollutants		Kilograms of organophosphate pesticide discharged to soil
Solid waste		Tons of non-hazardous waste avoided
Disturbances		Decibels of noise above normal level

Large to small — High to low — Severe to minor

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WE VALUE NATURE

Intermediate indicators

Value chain / site identifier	Activity / Process	Impact driver category	Intermediate indicator	Method for intermediate indicator	Calculation of indicator of impact driver	Indicator of impact driver
Coffee manufacturer	Industrial roasting	GHG emissions	Electricity use (kWh)	Collected using survey	Emission factor for grid	CO_2e (kg)
Coffee manufacturer	Industrial roasting	Water use	Water withdrawal (m^3)	Measured on site	Measured on site	Water consumption (m^3)
Coffee logistics	Transport to roasting facility	Non-GHG air pollutants	Diesel fuel use (l)	Calculated from fuel invoices	Emission factor for truck	$PM_{2.5}$, PM_{10}, NO_x, SO_x, VOCs (kg)

CAPITALS COALITION

WE VALUE NATURE

Measure impact drivers and/or dependencies

What? Kilograms of Phosphorus in fertilizers applied

How? On farm data

Step 05: Measure impact drivers

Question

You are a flower bulb farmer, what are potential impact drivers?
Select all that apply

1. **Soil pollution**

2. **Pollination**

3. **Water extraction**

4. **Land use**

How to use Mentimeter

1   Go to **www.menti.com**

2   Enter this code: **19 36 47 5**

3   Submit your answer

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WE VALUE NATURE
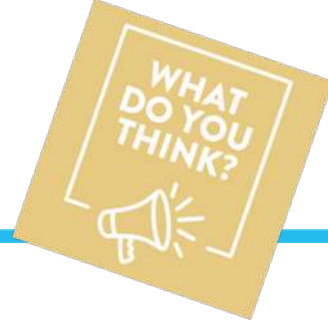
Question

How could you quantitatively measure soil pollutants?
Select all that apply

1. **Water use in m3**

2. **Volume of waste matter discharge on land in m3**

3. **Herbicide use in kg/ha**

4. **Land use change in ha**

How to use Mentimeter

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2 Enter this code: **19 36 47 5**

3 Submit your answer

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Measure & Value Stage - How?
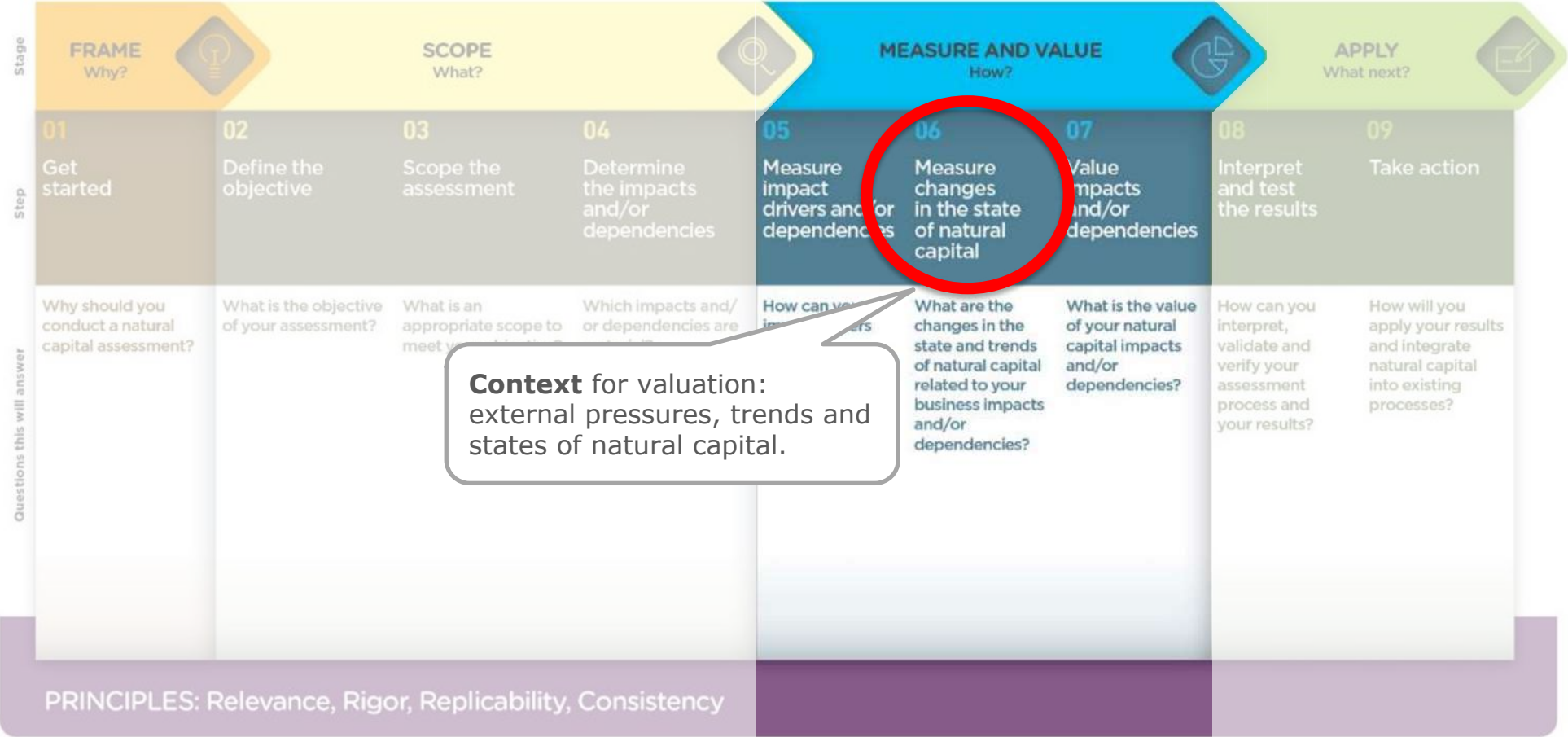
Measure changes in the state of natural capital

Actions

Identify **changes in natural capital** associated with your business activities and impact drivers
Identify changes in natural capital associated with **external factors**
Assess **trends** affecting the state of natural capital
Select **methods** for measuring changes
Undertake or commission measurement

Measure changes in the state of natural capital

From **business activities** and impact drivers/dependencies

Change in capital

From **external factors**

Company water use

External factors; e.g. other producers

Trends

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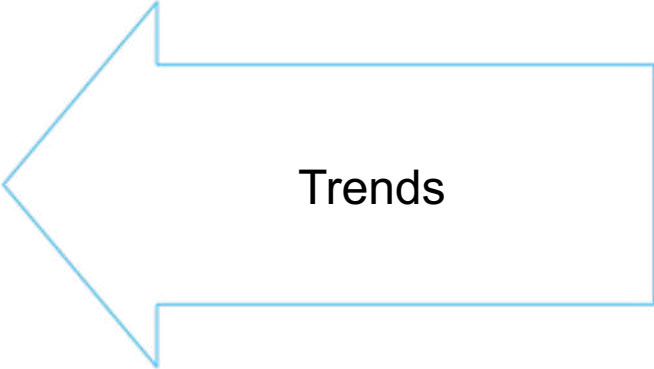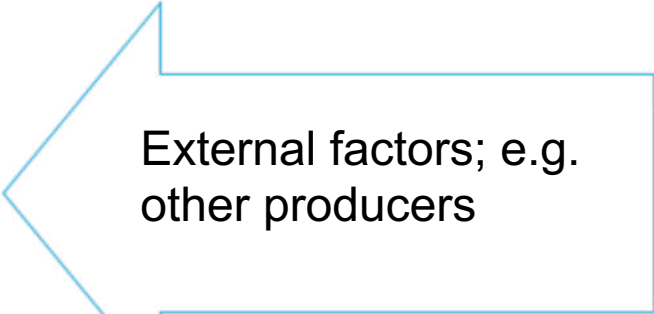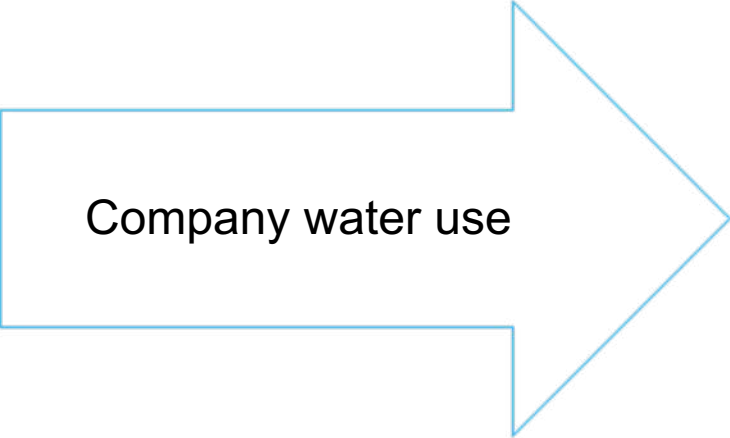
Measure changes in the state of natural capital

Example indicator in a given location (see indicators in Step 05)	Impact driver category	Example of changes in natural capital, in a given location, resulting from the impact driver
Cubic meters of water consumed from surface water	Water use	Change in physical water resources (may be seasonal)
Hectares of forests converted to pasture	Terrestrial ecosystem use	Change in wildlife populations, stocks of timber and non-timber forest products, erosion control

Changes in natural capital	Direct measurement methods	Modeling methods	Modeling methods – more detailed methods
Change in physical water scarcity	Direct measurement of renewable fresh water reserves.	Water stress or scarcity indices are available at different geographical scales and can be used to estimate changes following increased or decreased consumption.	Hydrological models provide a simplified view of the processes in the water cycle to estimate how changing the balance of these processes will impact the availability of water in different parts of the system.
Change in flooding	Direct measurement of change in flooding frequency and actual flooding damages.	Risk assessment based on historical events.	Hydrological models can be used to calculate risk factors based on physical features of the landscape and climate projections.

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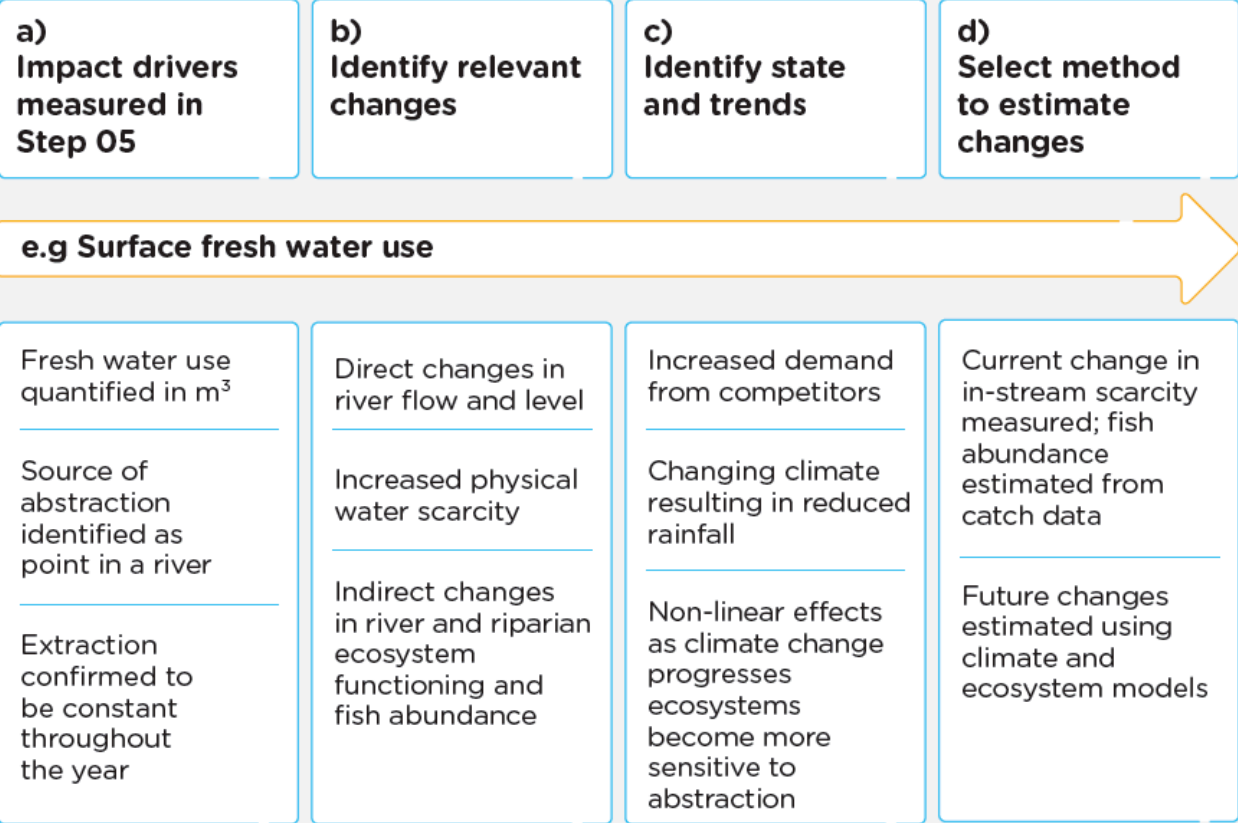
Figure 6.1
Example of how to identify natural capital changes related to impact drivers and external factors

Measure impact drivers and/or dependencies

What? Kilograms of Phosphorus in fertilizers applied
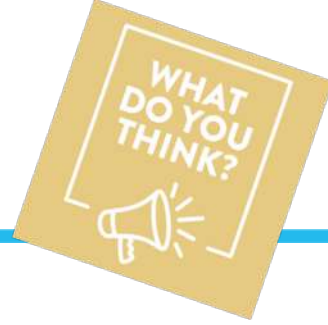
How? On farm data

Step 05: Measure impact drivers

What? Change in number of species in water ecosystems due to changes in nutrient level in water (eutrophication)

How? Life Cycle Impact assessment (characterization factors)

Step 06: Measure changes in capitals

Question

What could be useful methods for measuring changes in land cover?
Select all that apply

1. **Direct observations of vegetation cover, species distribution, soil quality**

2. **Using public soil and rainfall data, deducing probabilities of land cover change**

3. **Remote sensing data modelling carbon storage and primary productivity**

4. **Public datasets on changes in population demographic**

How to use Mentimeter

1 Go to **www.menti.com**

2 Enter this code: **19 36 47 5**

3 Submit your answer

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Measure & Value Stage - How?
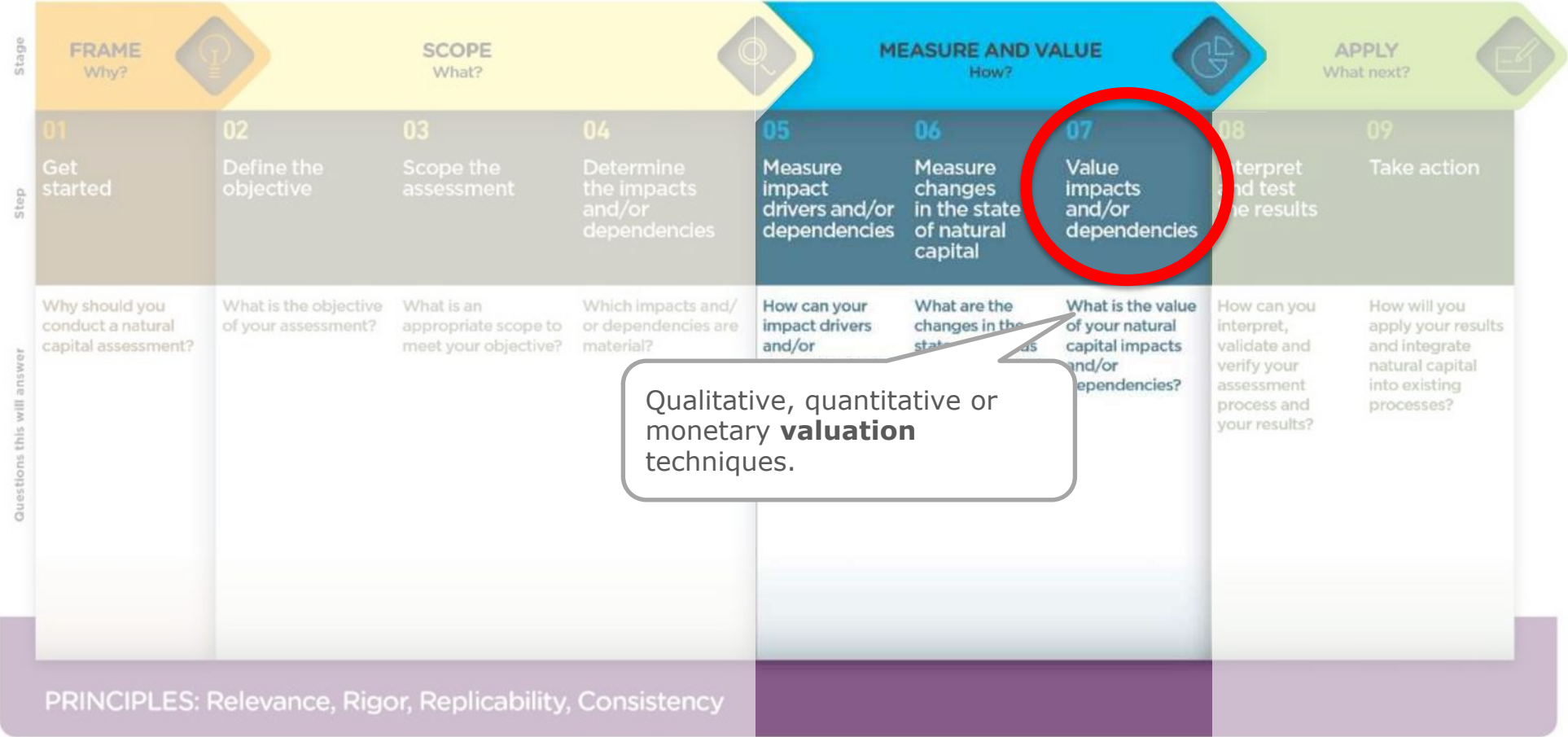
Value impacts and/or dependencies

Actions

Define the consequences of impacts and/or dependencies
Determine the **relative significance** of associated costs and/or benefits
Select appropriate **valuation techniques**
Undertake or commission valuation

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WE VALUE NATURE

Valuation techniques

Qualitative valuation techniques are used to inform the potential scale of costs and/or benefits expressed through qualitative, non-numerical terms (e.g., increase in air emissions, decrease in social benefits of recreation).

Quantitative valuation techniques, in turn, focus on numerical data which are used as indicators for these costs and/or benefits (e.g., changes in tons of pollutants, decrease in number of people benefitting from recreation).

Monetary valuation techniques, translate quantitative estimates of costs and/or benefits into a single common currency.

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MEASURE AND VALUE STAGE: HOW?

Selecting the right type of valuation techniques

Qualitative

- **Non-numerical**
- Opinion survey
- Deliberative approaches
- Expert opinion
- Relative valuation
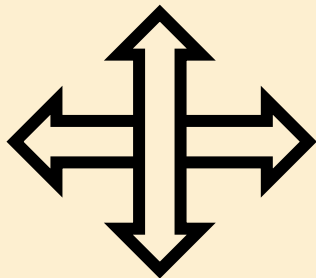
Quantitative

- **Numerical**
- Structured surveys
- Indicators
- Multicriteria analysis

Monetary

- **Common currency**
- Market prices
- Production function
- Cost based approaches
- Revealed preference approaches
- Stated preference approaches
- Value transfer

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Monetary valuation techniques
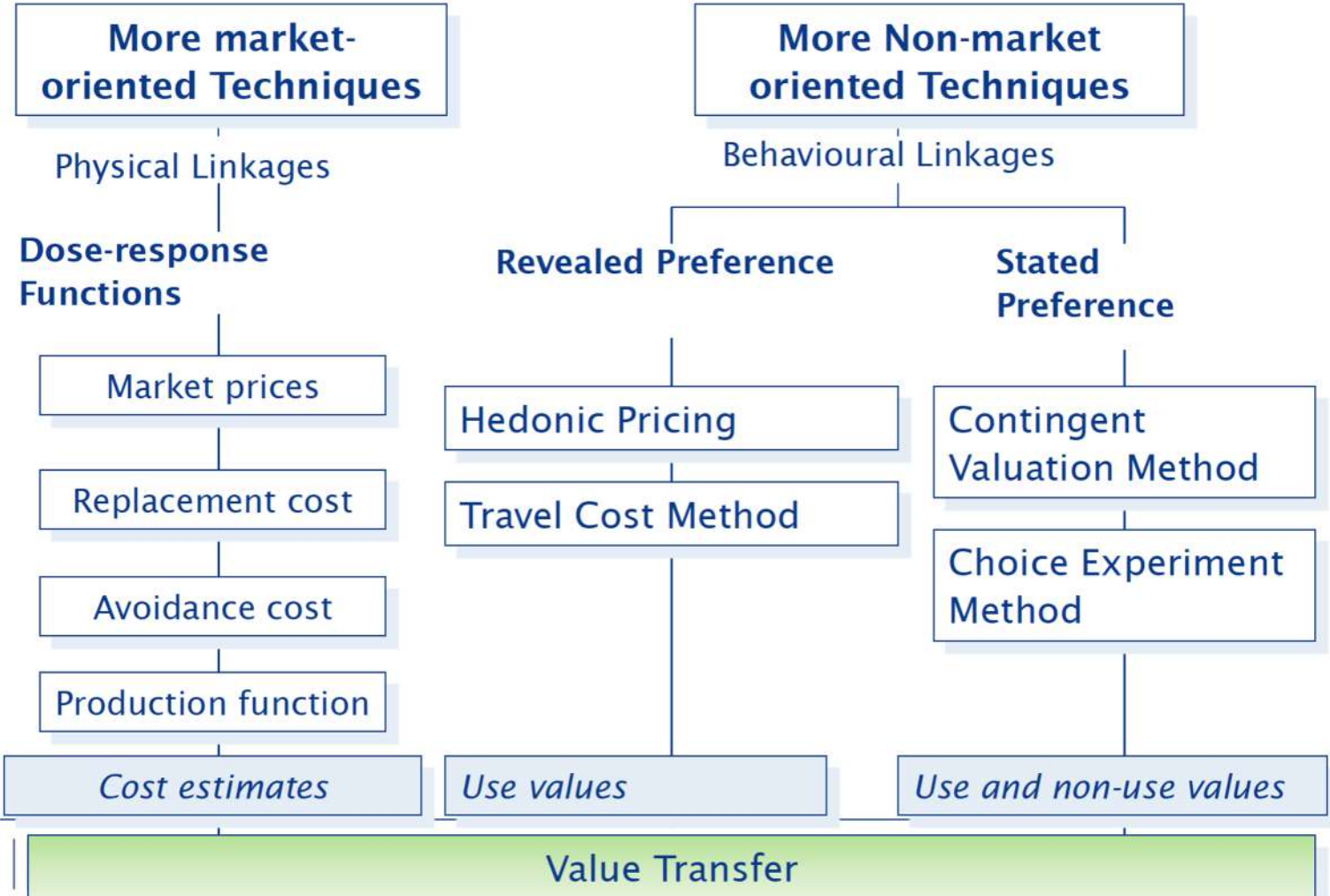
Overview of Valuation Techniques
(type, time and resources)

	Technique	Description	Time	Budget	Resources
Cost Based Approach	Replacement Costs	The cost of replacing an ecosystem good/service with artificial or man-made products etc., in terms of expenditures saved	Days - Weeks	($100s-1000s; low budget)	Cost (market price) of replacing an ecosystem good or service with a man-made equivalent e.g. bottled water in production processes
	Damage costs avoided	The costs incurred to property, infrastructure, etc. when ecosystem services which protect valuable assets are lost (i.e., expenditures saved).	Weeks	($100s-1000s; low budget)	Data on costs incurred to property, etc. as a result of loss of ecosystem services Damages under different scenarios
Stated Preference Approach	Contingent valuation	Infer ecosystem values by asking people directly what is their willingness to pay (WTP) for them or their willingness to accept (WTA) compensation for their loss saved.	Weeks - Months	($10,000s – 100,000s; high budget)	Stated value that people place on an ecosystem good or service Demographic and biographical information on survey respondents.
	Choice experiments	Presents a series of alternative resource or ecosystem use options, each defined by various attributes set at different levels and asks respondents to select which option	Weeks - Months	($10,000 – 100,000s; high budget)	As for CV above, although CE contrasts several different scenarios (appropriate set of levels needed for different parameters)

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Measure impact drivers and/or dependencies

What? Kilograms of Phosphorus in fertilizers applied

How? On farm data

Step 05: Measure impact drivers
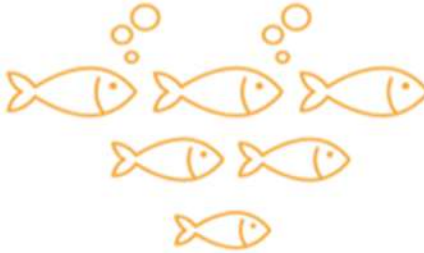
What? Change in number of species in water ecosystems due to changes in nutrient level in water (eutrophication)

How? Life Cycle Impact assessment (characterization factors)

Step 06: Measure changes in capitals

What? Loss of fish stocks

How? Market valuation

Step 07: Value impacts

Why is monetary valuation useful and/or contentious?

Useful	Contentious
• **Common unit** of measure • Can measure **social preferences** • Used to determine **overall value for money of a project** (i.e. whether it should go ahead or not; do the benefits exceed the costs) • Can be used to **measure risks** and **mitigate them** before these are quantified by others	• **Not everything can be quantified in monetary terms** (e.g. biodiversity) • Can be **time consuming/ expensive** depending on technique or approach used • Need to avoid **double counting** • Potential **reputational impacts**

Measure and value in practice

Impacts of water consumption

What?

Human health

Ecosystem services

Malnutrition

Soil quality loss

Quantitative valuation

How?

Disability Adjusted Life Years
The years of healthy life lost as a result of the impact driver

Loss in crop harvests
Market-based valuation of provisioning service loss

Monetary valuation

Willingness to Pay
Maximum amount someone would be prepared to pay for a good or service

Ecosystem Service Valuation
Database provides values for all provisioning, regulating and cultural terrestrial ecosystem services

Mentimeter questions

Question
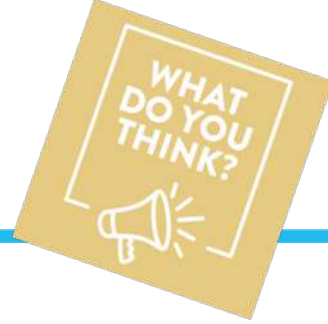
You work at a supermarket chain, sourcing vegetables. You need insight into which of your current farmers/suppliers will be more resilient to changes in climate in the future. Which of the following would be a useful natural capital approach?

1. Quantitative measurement of greenhouse gas emissions for each supplier

2. A monetary valuation of effects of climate scenarios on health, nutrient content and yield, for each supplier

3. Mapping suppliers' dependencies on natural capital, and measuring local trends of changes in natural capital

4. Monetary valuation of recreational use of the suppliers' land

How to use Mentimeter

1   Go to **www.menti.com**

2   Enter this code: **19 36 47 5**

3   Submit your answer

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Examples

Quantitative Valuation

What
Compare options for recreation uses at their reservoir at Little Don, Yorkshire, UK

How?
Compared 5 options for investing in the site:
    Inclusive environment
    Active recreation
    Active biodiversity
    Sustainable farming
    Sustainable forestry

	Inclusive environment	Active recreation	Active biodiversity	Sustainable farming	Sustainable forestry
Carbon removed from atmosphere (tCO_2e)	12,000	24,000	10,000	5,000	27,000
Quality Adjusted Life Years generated from exercise on site (years)	1.4	4.4	1.1	1.3	0.1
Number of jobs created	3	10	1	1	0
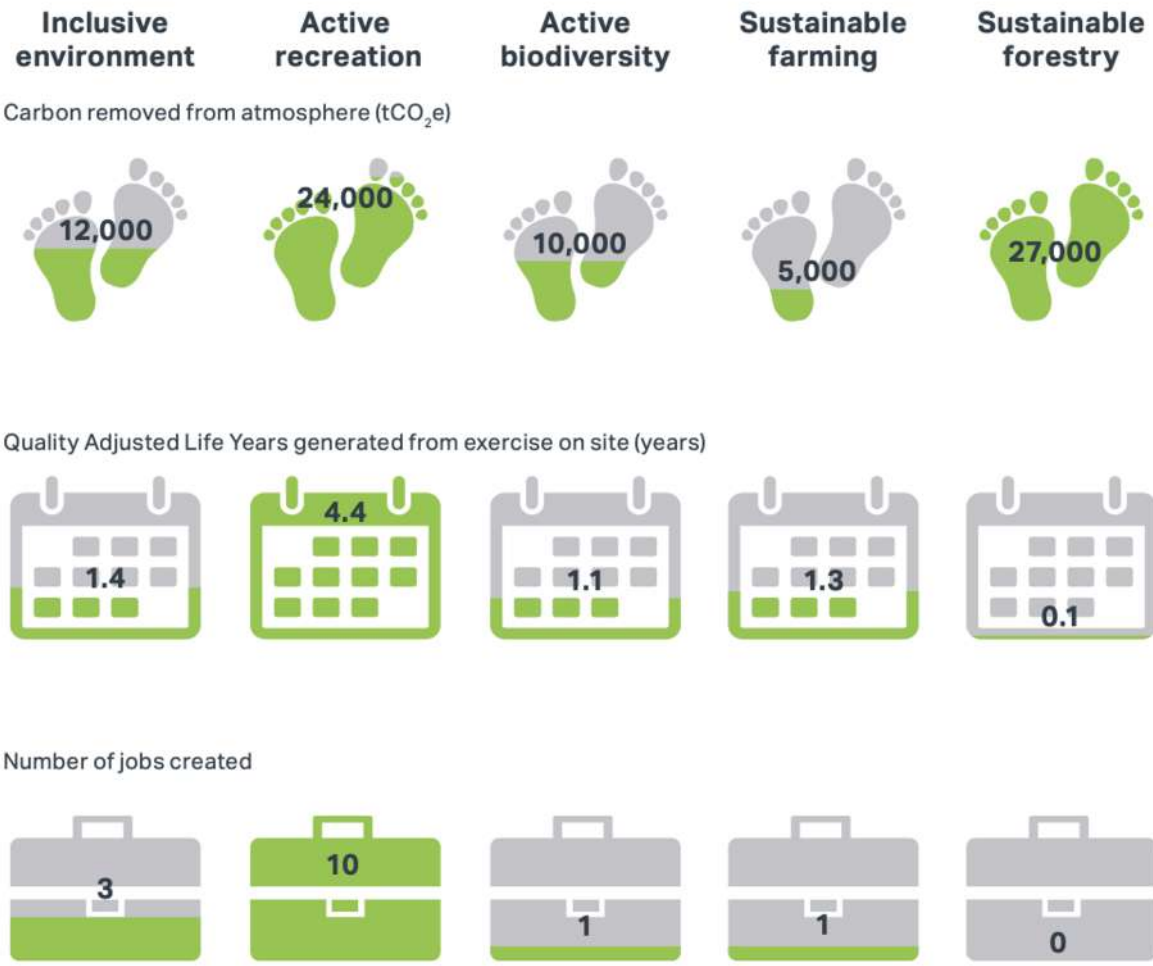
Examples

Monetary Valuation

What?

Compared organic and non organic produce by quantifying the true cost of fruit and vegetables and creating an integrated profit & loss account (IP&L)

How?

Used different methodologies to measure and monetize impacts on

Livelihoods: Gross Value Added
Health: Productive years lost due to injury
Soil: Universal Soil Loss Equation erosion model
Water: Global Water Footprint Network guidelines
Climate: Greenhouse Gas Protocol measured in CO_2e
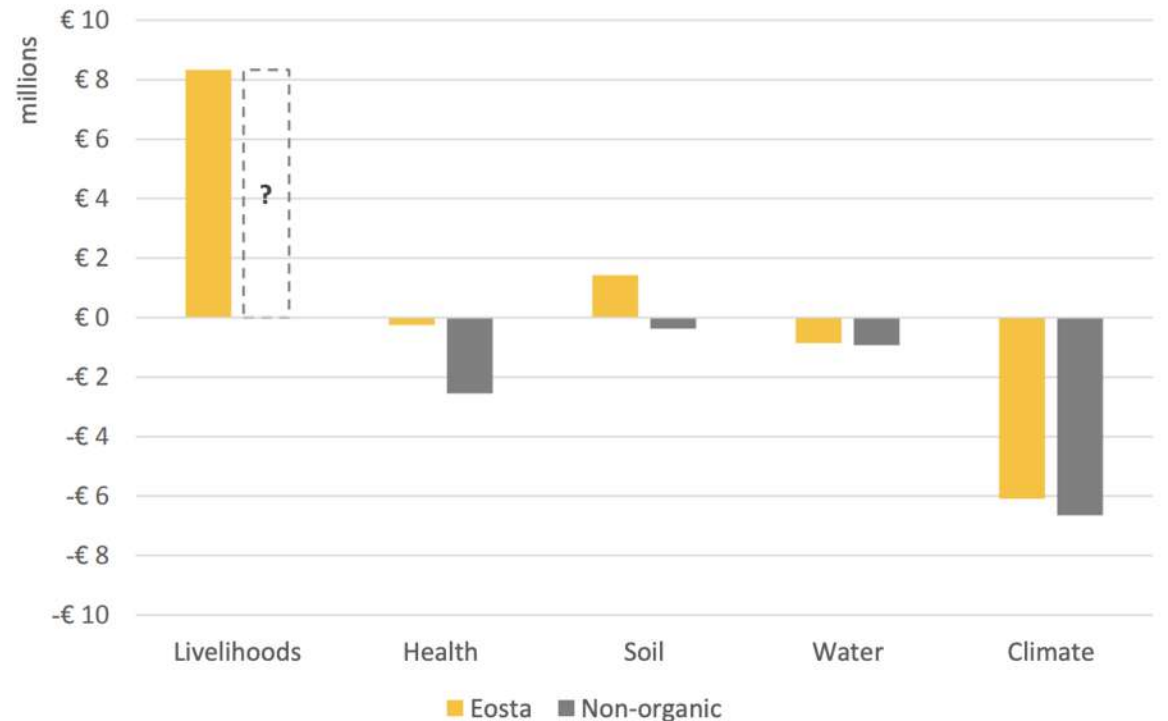
SSE: OBJECTIVES

- SSE instructed by **Regulator** to upgrade power line across Scotland
- Vocal **objections** led to proposed Mitigation Measures, at **significant cost to the taxpayer**

*Did those measures represent **value for money?***
*How can understanding impacts support transparent **evidence based discussion** and lead to **faster planning approvals** in the future?*

SCOPE, BOUNDARY & BASELINE

Indicator boundary:
- Multi-capital 'total' impact

Scope:
- Scotland-only
- In-use and construction

Baseline:
- Regulated business - assumed line would go ahead
- Comparing two design options

Figure 1: The original plan

Figure 2: The new plan mitigation measures (as built)

VISUAL AMENITY OF CULTURAL HERITAGE: IMPACT PATHWAY

Impact drivers

Changes to Capitals

Impacts on people

Building more & larger pylons

Change in vista:
- Natural landscape
- Cultural heritage sites
- Urban areas
- Private residence

Change in enjoyment of:
- Natural landscape
- Cultural heritage sites
- Urban areas
- Private residence

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Figure 3: Measuring the impact of the mitigation measures
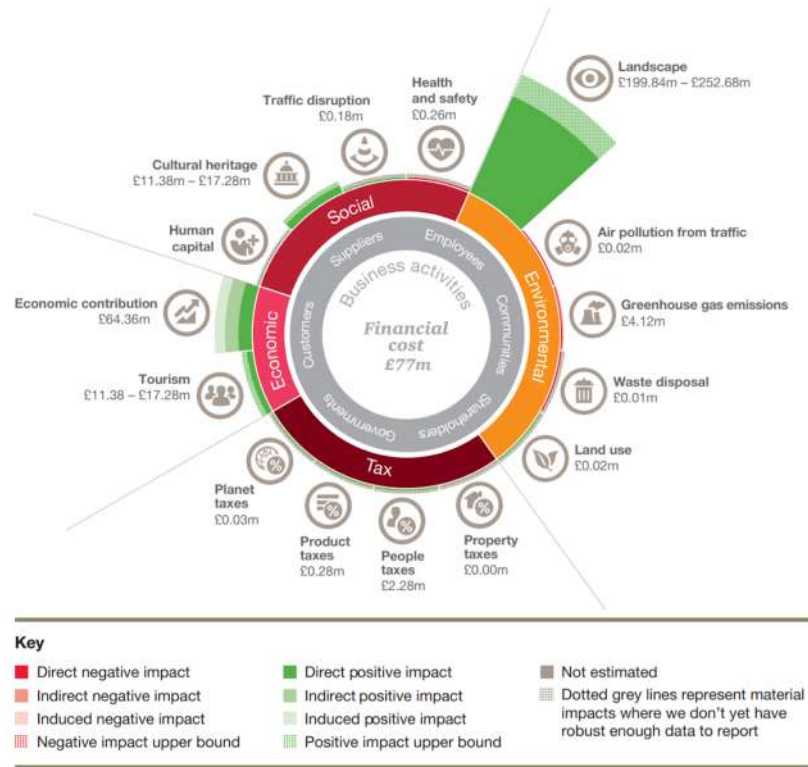
Figure 4: Value to society delivered by each pound spent on mitigation measures

Activity: Valuing Nature - BREAKOUT
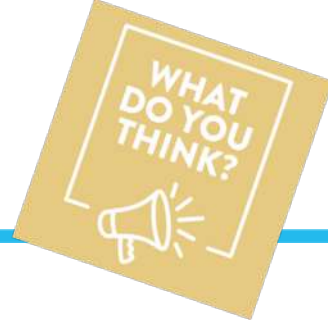
Having an understanding of **how valuable natural capital is** to a business and its operations, helps identify its relative significance in terms of impacts, dependencies, risks and opportunities.

**Kering's environmental profit & loss statement** identifies their costs related to water as **€38million.**

- How do you think they arrived at this number?
- What do you think they took into account or considered when valuing water?
- How else could you value water if you didn't use money?

KERING

Group discussions in **breakout rooms**

- We will split into breakout rooms
  - Between 3-4 per group

- You will have **15'** to discuss in your group

- You will be notified of the amount of time you have left

- We will then all come back in plenary to share key highlights from each group
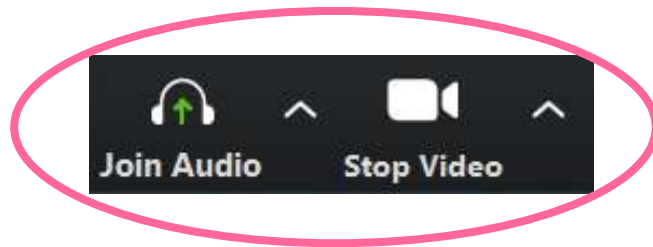
1 person from each group to share screen & take notes in live Google doc.

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What key points came out from your discussions?

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Valuing natural capital

- In the pre-reading material, a **qualitative assessment** of the value of these elements of natural capital was included

KERING

How Kering determines monetary value:

- Identify changes in the environment and the **costs incurred** by the public due to their impact
- Calculate coefficients to convert the data into **impacts on human wellbeing**. This will consider if impact differs between urban and rural populations, dry and wet countries, etc…
- Assess the environmental impact and its **consequences** for human wellbeing
- Analyze the environmental costs and benefits

What Kering learned:

- Calculating the monetary value of the impact helps to **broaden the discussion** within Kering

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Summary of lessons learnt
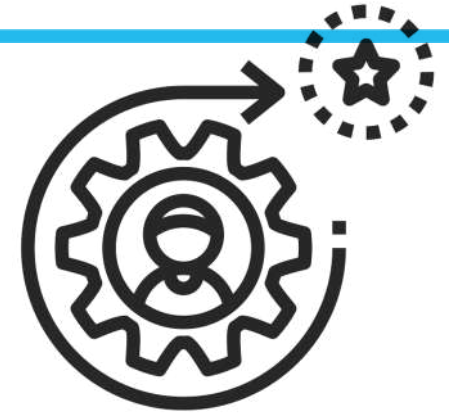
Now you have the knowledge to:

Measure your impacts and dependencies on the capitals

Measure the changes in capital as a result of your business and external activities

Value the consequences of this change in capital

Ready for your challenge?

WE VALUE NATURE

Where are we in the learning objectives?

The aim of today's training is to:

✓ Understand the concepts of natural capital, **natural capital impacts & dependencies** and how these relate to **business risk management & decision-making**

✓ Familiarize yourself with the different steps involved in conducting a **natural capital assessment** following the **Natural Capital Protocol**

✓ Gain practical insights on how to **scope and plan an assessment**

✓ Be introduced to **measurement & valuation approaches** of natural capital

❖ Discover the newly launched **Biodiversity Guidance** to the Natural Capital Protocol and **how it can be applied** in a business context
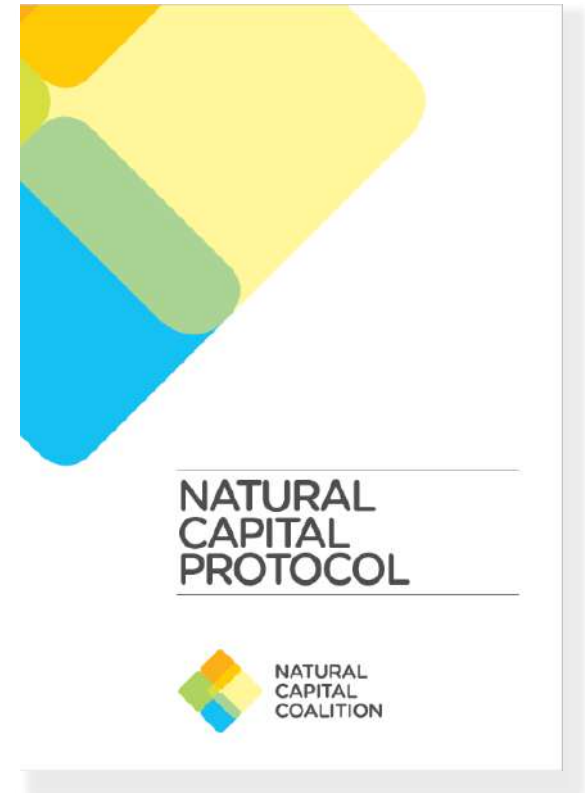
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30'
lunch break

THE BIODIVERSITY GUIDANCE

HOW DOES THE BIODIVERSITY GUIDANCE RELATE TO THE NATURAL CAPITAL PROTOCOL?

- **Why** is further guidance on biodiversity required?

- **Who** has developed the Biodiversity Guidance?

- **How** can the Biodiversity Guidance be used alongside the Protocol?

WHAT DOES THE BIODIVERSITY GUIDANCE COVER?

The Biodiversity Guidance does:	The Biodiversity Guidance does not:
build on the Natural Capital Protocol	replace the Protocol or seek to create new tools and methods
provide a standardized process to incorporate biodiversity into internal decision making	provide a framework for external financial reporting (although decisions can be reported)
allow flexibility in the choice of measurement and valuation approaches	explicitly promote specific tools, methodologies or approaches
allow users to take a consistent approach	produce results that are comparable within or between different businesses or applications

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COALITION

CambridgeConservationInitiative

THE STRUCTURE
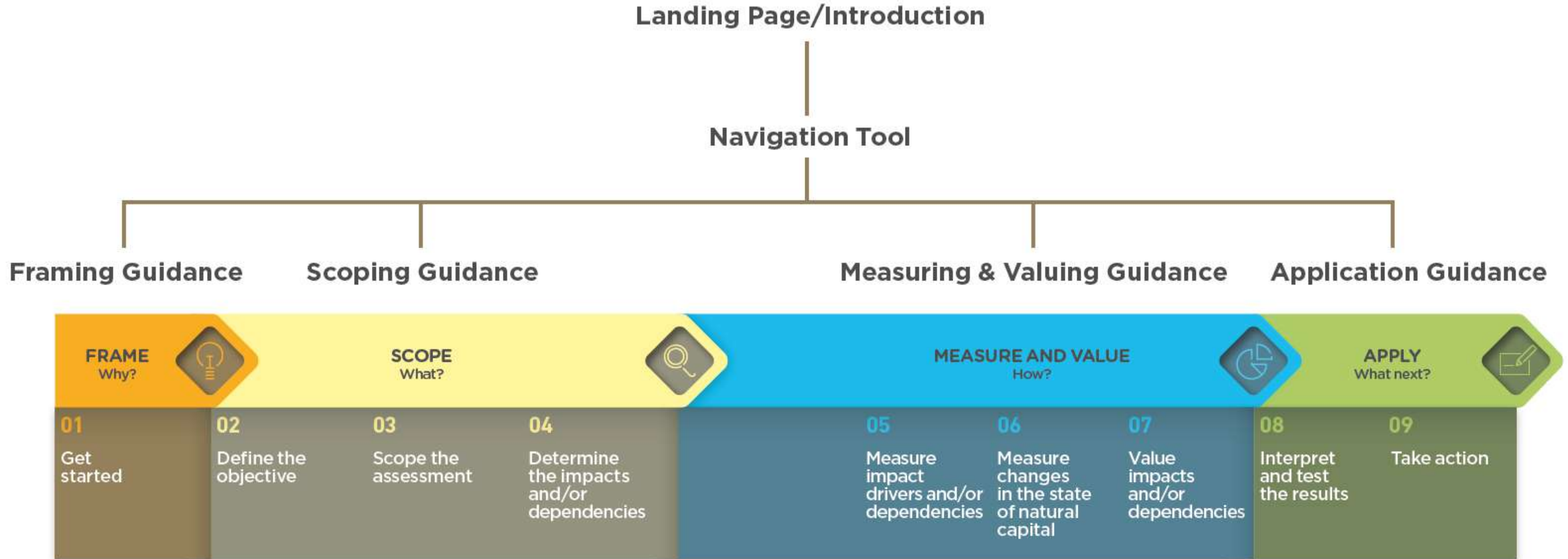
WHY IS BIODIVERSITY IMPORTANT?

Biodiversity: 'The variability among living organisms from all sources including, *inter alia*, terrestrial, marine, and other aquatic ecosystems and the **ecological complexes** of which they are a part; this includes **diversity within species, between species, and of ecosystems**' (Art 2, CBD 1992).

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CambridgeConservationInitiative
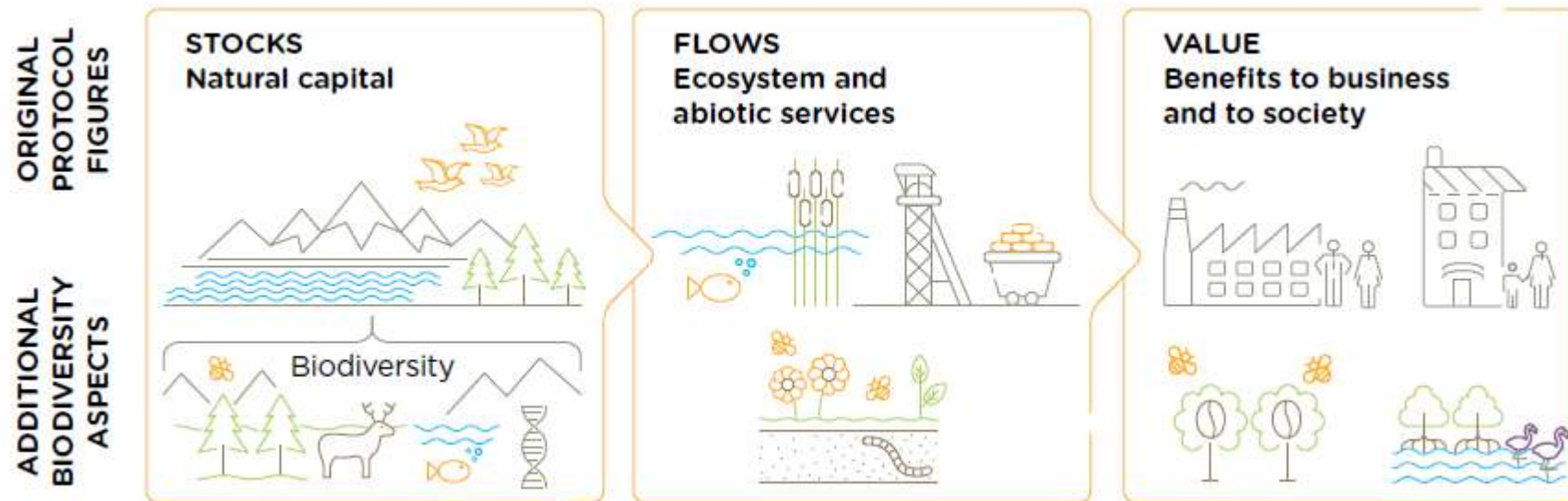
MEASURE AND VALUE
How?

How to measure and value biodiversity impacts and dependencies

05 Measure impact drivers and/or dependencies

Step 05 - measure your relevant impact drivers and/or dependencies by providing examples of a range of appropriate indicators and methods for analysis.

- Biodiversity impact drivers can be direct or indirect.
- The data used may be primary data or secondary data.
- It is important to consider both impacts **and** dependencies for biodiversity.

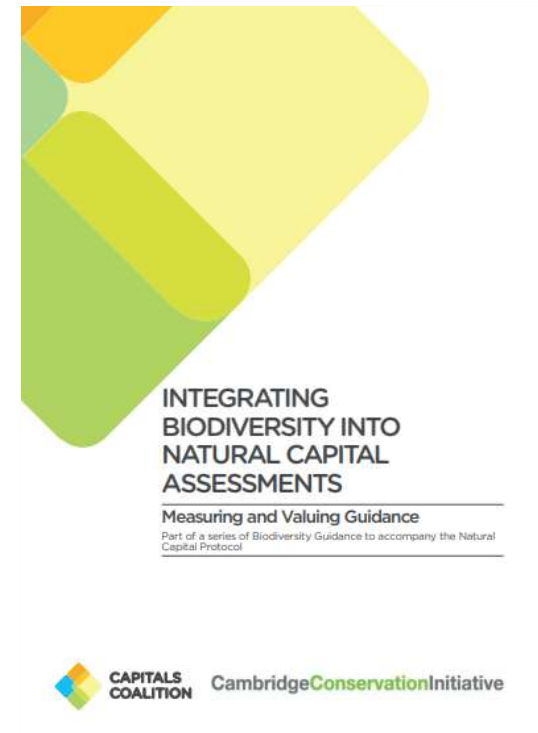**06** Measure changes in the state of natural capital

Step 06 - measure changes in the state of biodiversity.

- A number of measurement methods are available to help businesses quantify their impacts. Methods to measure dependencies on biodiversity remain a gap
- Data gaps and uncertainties need to be considered before undergoing measurement.
- Progressing from measurement to valuation can help you understand the relevance and magnitude of your impacts and dependencies

07 Value impacts and/or dependencies

Step 07 - describes the main valuation techniques and helps you select the most appropriate one(s) for your assessment.

- There are a variety of valuation approaches available (qualitative, quantitative, and monetary).

INTEGRATING
BIODIVERSITY INTO
NATURAL CAPITAL
ASSESSMENTS
Measuring and Valuing Guidance
Part of a series of Biodiversity Guidance to accompany the Natural Capital Protocol

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THE NAVIGATION TOOL

- **Guides** you through a biodiversity-inclusive natural capital assessment (online tool).

- Follows the steps outlined in the **Natural Capital Protocol** and suggests a number of **tools** and **methodologies** to successfully complete the process.

Can be used to include biodiversity in a first-time natural capital assessment, or to incorporate into an existing one.

Action and associated question

Action 3.2.1: What is the organizational focus of your assessment?

Response	User is referred to	Notes
Product or **Service** level (e.g., the creation of a product encompassing the entire supply chain)	**Additional resources** Section 3.4 of the EU B@B Report on Assessment Visual Matrix provided on page 27 of the EU B@B Report	User will consider the Organizational Focus of their assessment. This will help lead the user to specific measurement approaches applicable to their Organizational Focus.
Site and **Project** level (e.g., a site-based assessment for a mine)		
Supply chain level (i.e., upstream part of the value chain)	**Next step**	Applicable measurement approaches will not be revealed until all questions within the Measure and Value section are answered using the online tool. The database of appropriate tools is currently being collated and, for this reason, is not presented within this report.
Corporate level (i.e., covering all activities of the value chain, at all locations)	The next question	
Sector or **Portfolio** level (e.g., financial institutions)		

Discrete list of responses

Additional resources and next step

MUD JEANS

Impact of Fashion

10
Around 10% of the world wide CO_2 emissions are caused by fashion.[3]

2
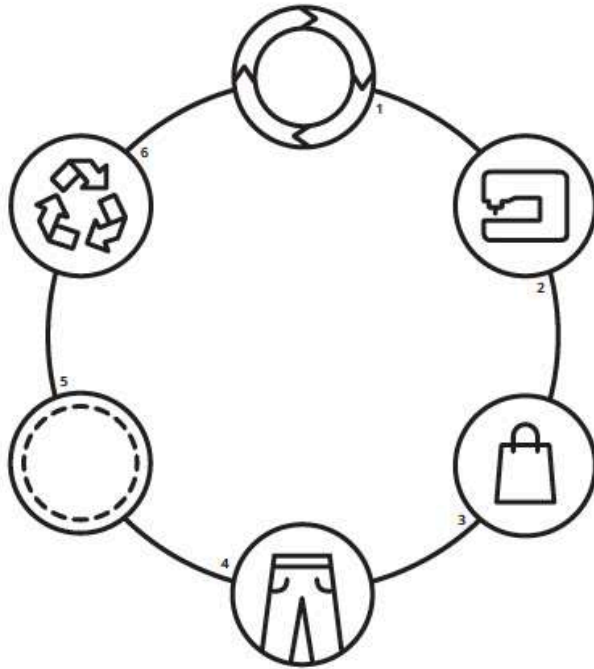Almost 2 billion pairs of jeans were sold in 2017.[1]

1
1 garbage truck full of textiles is being trashed every second.[2]

16
Cotton production uses 2.5% of the world's arable land, but accounts for 16% of all pesticides used.[2]

1
Less than 1% of the material used to produce clothing is recycled into new clothing.[2]

Our Circular Economy

1 Circular Design – Zero Waste
2 Production – Safe resources
3 Lease or Buy – Use over ownership
4 Use & Return – We take responsibility
5 Upcycle – Giving a second chance
6 Recycle – At the end of the product's life

Cetifications

Organic Cotton:
- GOTS Certified
- OCS

Recycled Cotton:
- GRS Certified
- OEKO-TEX Standard 100

Buttons & Rivets:
- OEKO TEX
- ISO 14001 & ISO 19000 Certified

Indigo Dystar Dye:
- C2C certified

Dry Indigo:
- Aitex

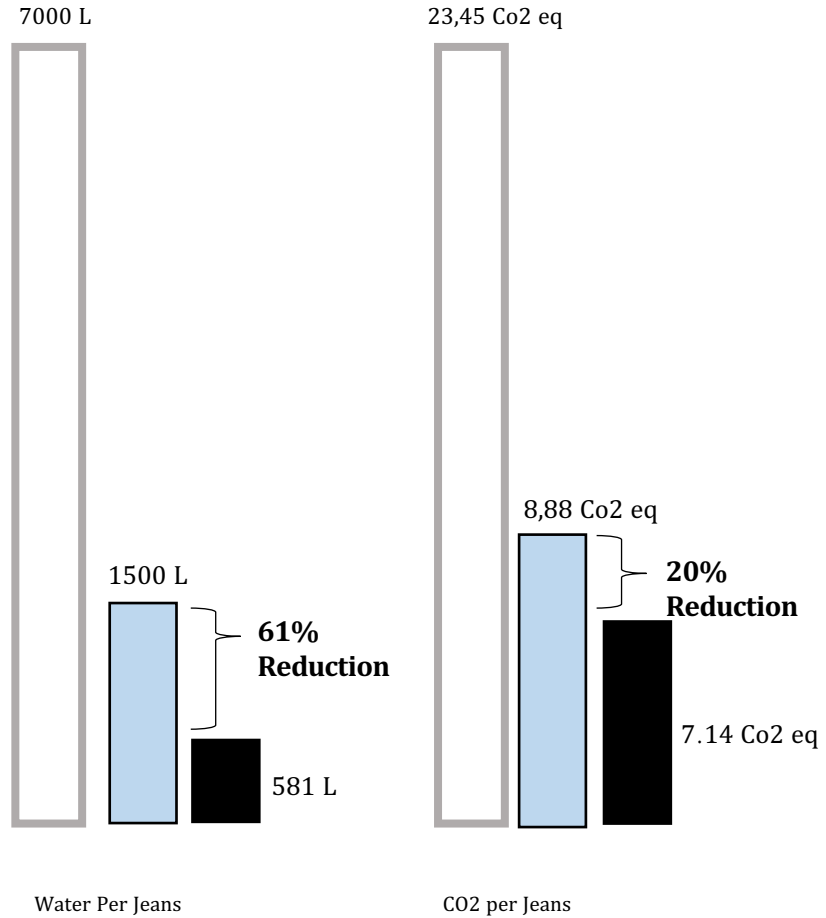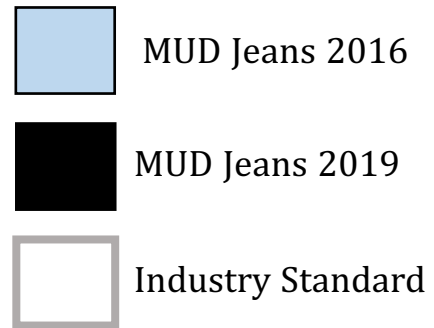**Paper labels:**
- C2C certified

Zippers:
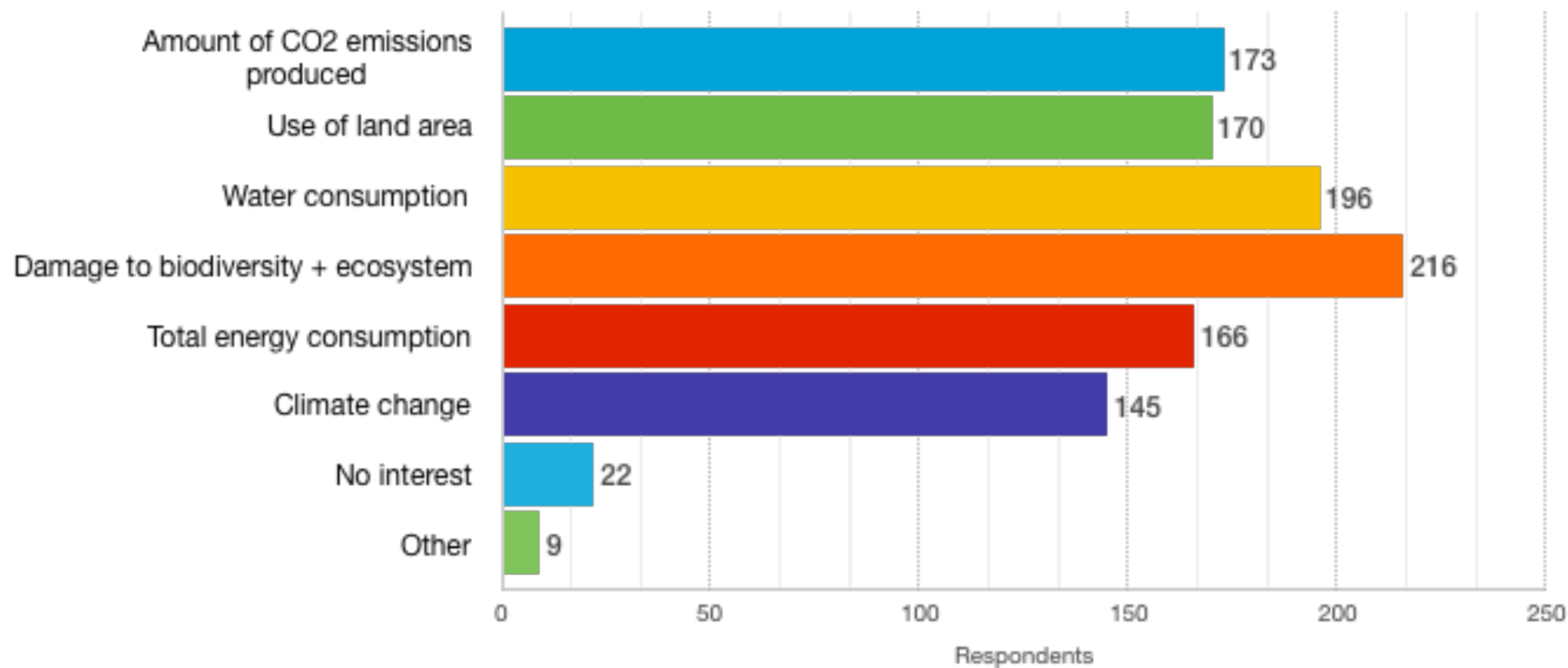- ISO 900 | ISO 14001| ISO/TS 16949,
- OEKO-TEX Standard 100

MUD Jeans:
- Nordic Swan Ecolabel Certified
- PETA approved Vegan

The environmental impact categories of MUD Jeans products

Category	Respondents
Amount of CO2 emissions produced	173
Use of land area	170
Water consumption	196
Damage to biodiversity + ecosystem	216
Total energy consumption	166
Climate change	145
No interest	22
Other	9

Respondents
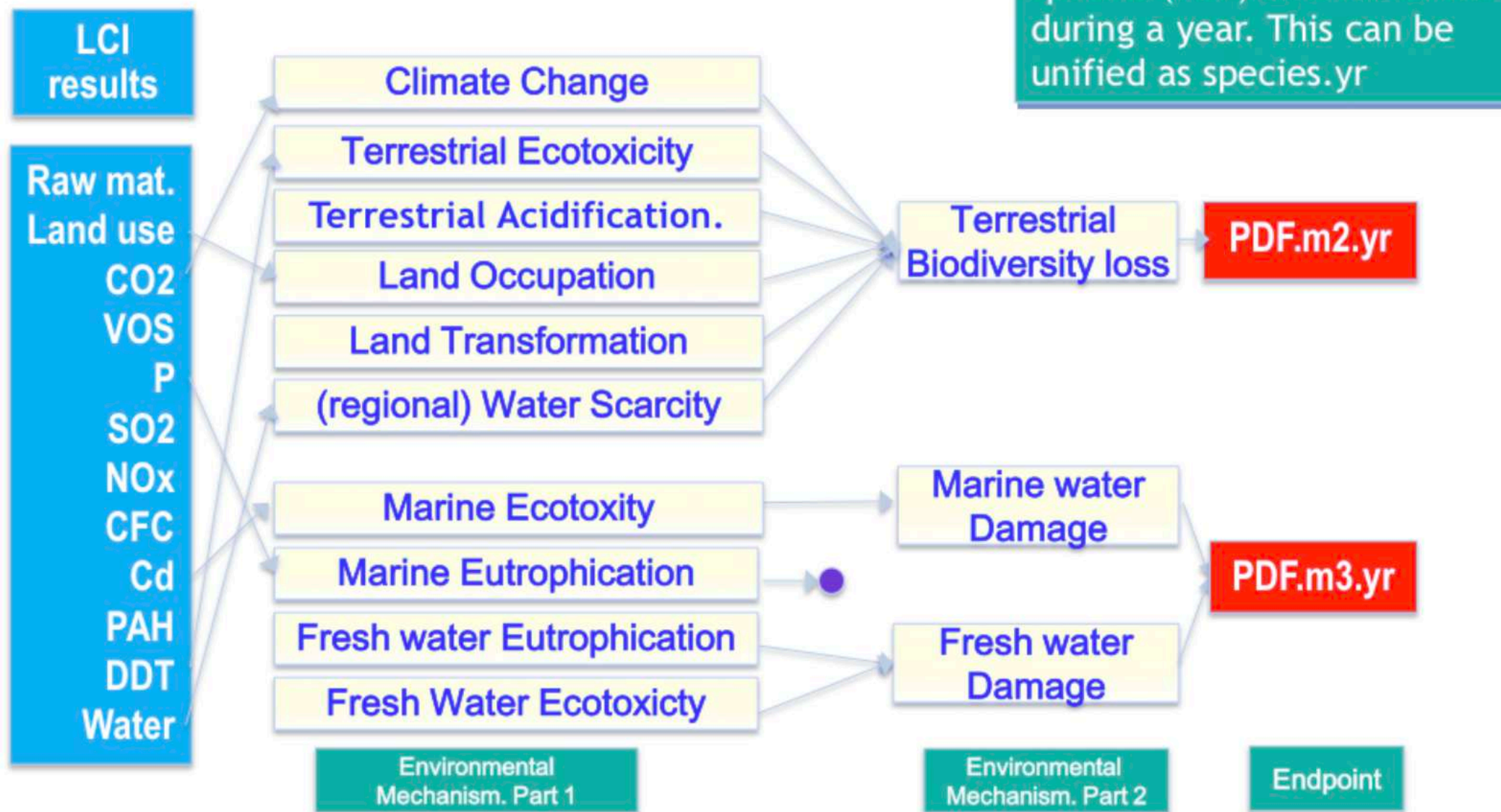
MUD Jeans and our Biodiversity Impact

46% lower biodiversity impact than industry standard

Industry Standard

Average Mud Jeans

-57%

Industry Standard

Regular Dunn True Indigo

Cotton + Elastan

-52%

Fabric Loss

-2%
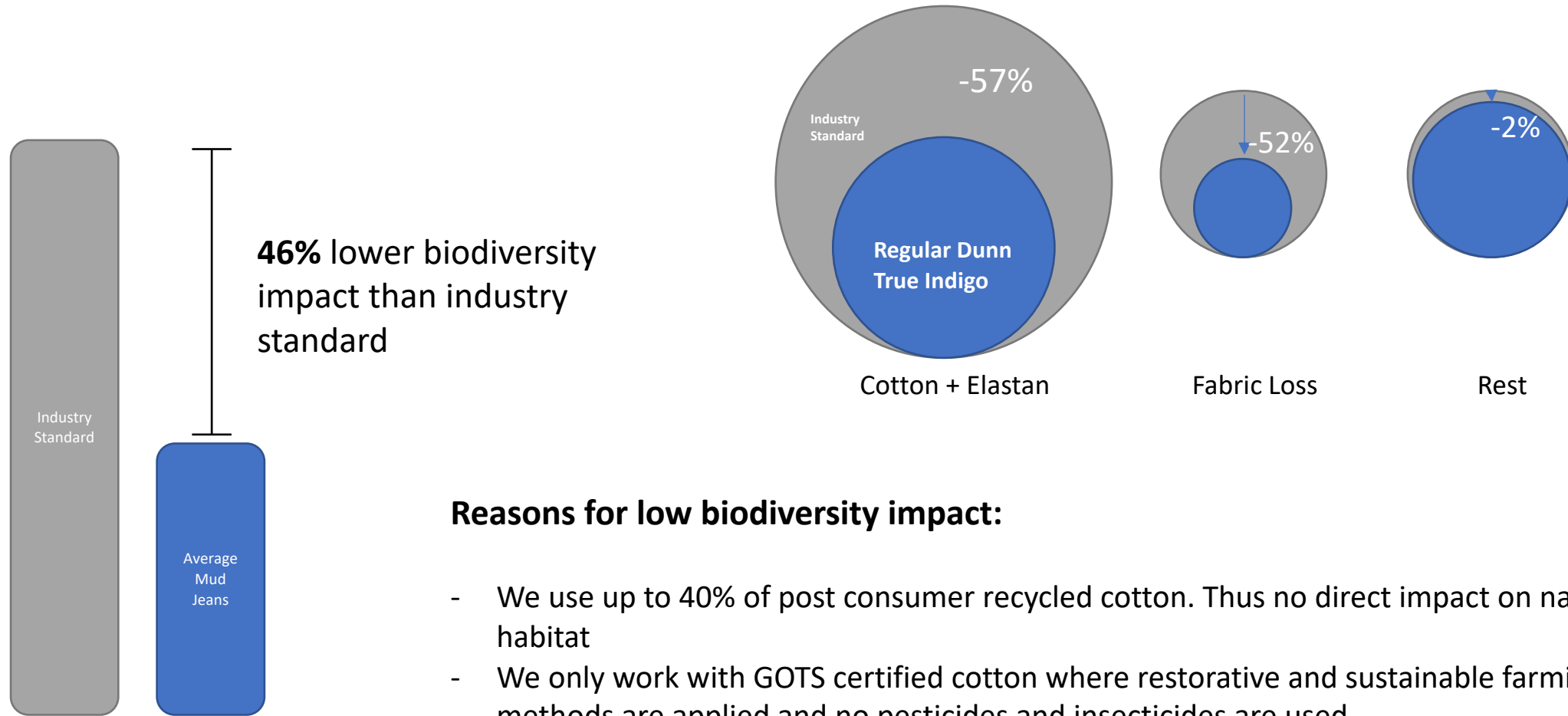
Rest

Reasons for low biodiversity impact:

- We use up to 40% of post consumer recycled cotton. Thus no direct impact on natural habitat
- We only work with GOTS certified cotton where restorative and sustainable farming methods are applied and no pesticides and insecticides are used
- Thanks to the water filtration technology applied and zero toxic chemicals used in our production process

Ecochain

An overview

Average impact value: 0.499

Biodiversity Impact overview for every MUD Jeans Style
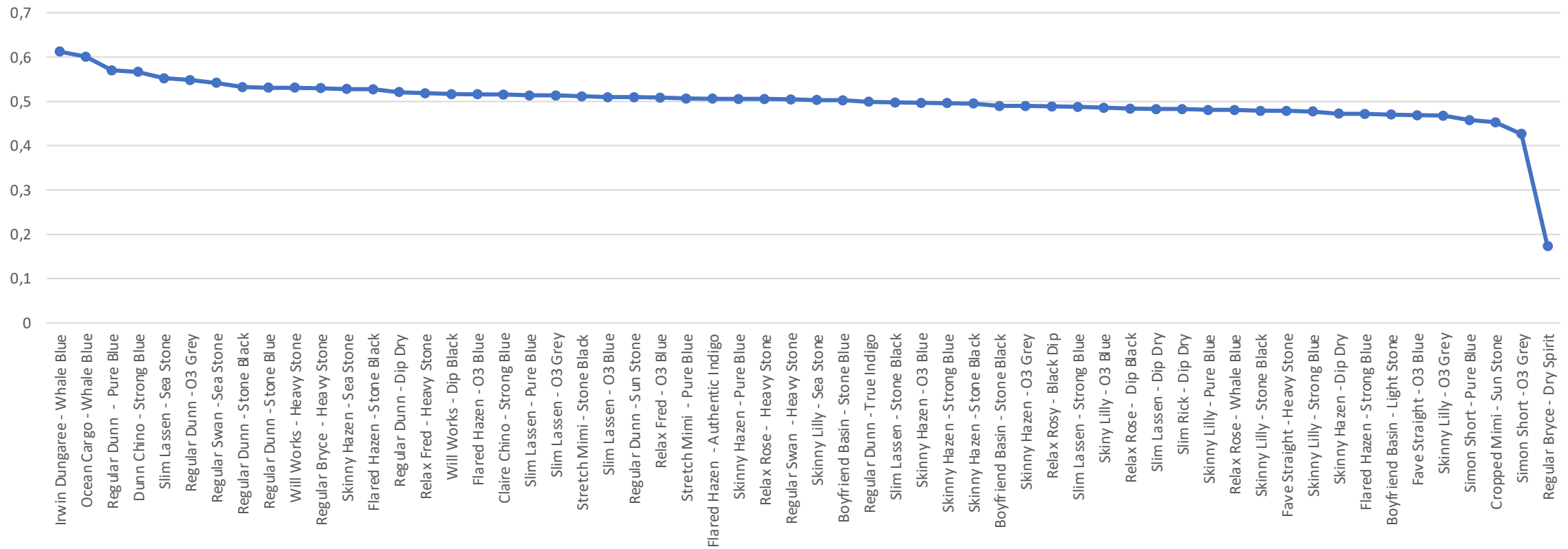
bleach

What do I save?

Recycled cotton
Through recycling old jeans, using organic cotton and eliminating toxic chemicals, such as PP-spray, our jeans are better for the environment.

Less water
Innovative production and dyeing techniques allow us to save water throughout our supply chain. Our fabric and jeans partners recycle 100% of their production water, eliminating environmental pollution. Our Tunisian jeans partner filters the water through reversed osmosis, the residue is used to create building materials.

See what your jeans save, compared to industry standards. Measured by Ecochain, from Cradle To Gate.

Read the full Sustainability Report 2019 here.

92%	69%	47%	46%
538l	7.29kg CO2 eq	5.33m2	0.5 loss of species
WATER	CO2	LAND USE	BIODIVERSITY
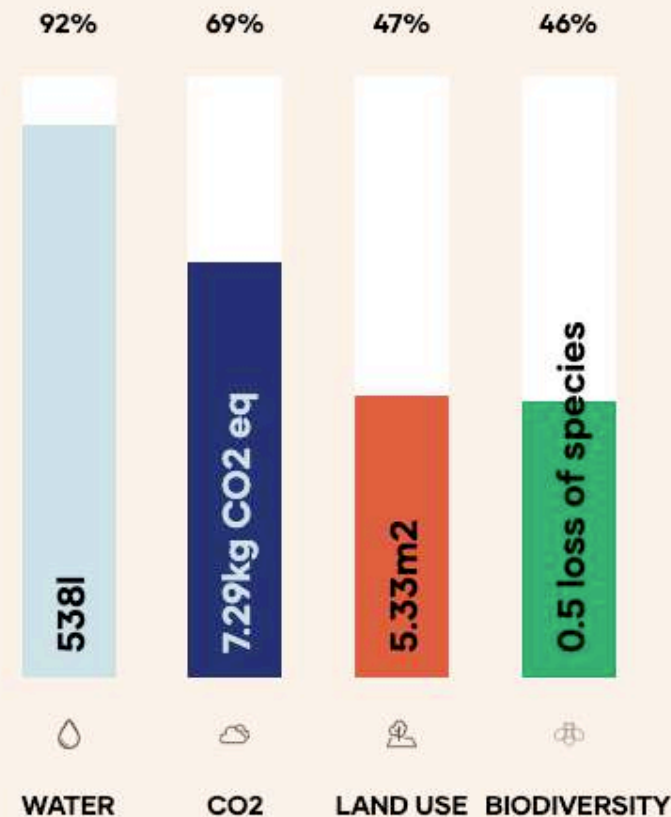
MUD JEANS

Check us out: www.mudjeans.eu

Q&A

Where are we in the learning objectives?

The aim of today's training is to:

✓ Understand the concepts of natural capital, **natural capital impacts & dependencies** and how these relate to **business risk management & decision-making**

✓ Familiarize yourself with the different steps involved in conducting a **natural capital assessment** following the **Natural Capital Protocol**

✓ Gain practical insights on how to **scope and plan an assessment**

✓ Be introduced to **measurement & valuation approaches** of natural capital

✓ Discover the newly launched **Biodiversity Guidance** to the Natural Capital Protocol and **how it can be applied** in a business context

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Wrap-up & next steps

Key take-aways / Closing word

1. **Business impacts and depends on nature**

2. **Applying a natural capital approach helps make better & more informed decisions**

3. **There are many existing tools & resources - Define a clear objective!**

4. **Engage the right stakeholders & address issues relevant to your case**

5. **Buy-in must extend beyond the sustainability team**

6. **Use data and techniques that provide accuracy appropriate for your aims**

7. **Understand the system within which you operate (impacts vs. dependencies)**

8. **Just get going, don't let perfection be the enemy of the good**

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WE VALUE NATURE

Mentimeter closing questions
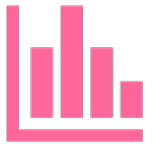
What is your
1 key learning
from the
training?

Share 1 concrete
next action you
will take after this
training

How to use Mentimeter

1   Go to **www.menti.com**

2   Enter this code: **19 36 47 5**

3   Submit your answer

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Eager to get started?

WE VALUE NATURE

Training resources

Download module resources dependent on the length of your training event:

| 1 Hour | 2 Hours | Half Day | Full Day | Other useful resources |

Objective: To achieve an understanding of what natural capital is and why businesses should care with a few examples of businesses that have integrated natural capital in their decision-making processes.

Resources

Facilitator Agenda

A facilitator agenda for a one hour delivery of the We Value Nature Module 1. The agenda includes preparation, materials, and a step-by-step guide of activities for the training.

Rights: Creative Commons Attribution 4.0

DOWNLOAD 193.06 KB DOCX

Participant agenda

An agenda for participants laying out the timings and topics of the one hour We Value Nature module 1 training.

Rights: Creative Commons Attribution 4.0

DOWNLOAD 129.26 KB DOCX

Workbook

Participant workbook including useful resources and space for reflection and note-taking.

Rights: Creative Commons Attribution 4.0

NATURAL CAPITAL COALITION

Natural Capital Protocol Training

Through this series of videos you will be asked to take the role of a sustainability or strategy representative and decide where your company should make its next acquisition. It will walk you through the stages of a natural capital assessment, asking the same questions that are relevant to any business decision: *why, what, how, and what next.*

Whatever your sector, the natural capital approach taken in this example, and the questions it raises, will be relevant to you.

Natural Capital Protocol Training Film 1: O...

NATURAL CAPITAL COALITION

Natural Capital Protocol

Training

134

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WE VALUE NATURE

How to engage

Join the Coalition

Collaborate

Learn

CAPITALS COALITION

Apply
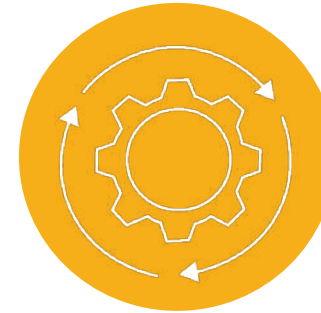
Contribute

Upcoming We Value Nature events:

WE VALUE NATURE

Module 2 train-the-trainer
2 Nov.
13:00-15:30 CET

Register here

Virtual office hour call
26 Nov.
11:00-12:00 CET

On the Biodiversity Guidance

Keep in touch & sign-up: https://wevaluenature.eu/

Exchange with peers (Linkedin group):

We Value Nature - Natural Capital uptake support group

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