

Speaking notes:

Module 2 training

Food & Beverage sector

Scoping a natural capital assessment



We Value Nature

Module 2 training

Food & Beverage sector

Scoping a natural capital assessment

Full day training
session

DATE



Developed by:



Nature²Squared

Slide 1



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<https://www.pexels.com/nl-nl/foto/akkerland-azie-boer-bouwland-235731/>

Slide 2

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**.



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101019152



Before kicking-off the training, introduce that this training is being given as part of the We Value Nature Campaign and explain what it is, its purpose, objectives and partners involved:

The We Value Nature Campaign is a €2 million EU-funded campaign supporting businesses and the natural capital community across Europe with the aim of making valuing nature the new normal for business. As we will have a chance to explore during today's training, by valuing nature, businesses can make smarter decisions that benefit themselves, society and the planet as a whole.

The campaign is coordinated by the Institute of Chartered Accountants in England and Wales (ICAEW), World Business Council for Sustainable Development (WBCSD), The International Union for Conservation of Nature (IUCN) and Oppla. And it is supporting the Natural Capital Coalition, which has recently merged with the Social & Human Capital Coalition to become now the 'Capitals Coalition'.

The campaign will aim to increase the uptake of the natural capital approach (**including: natural capital assessment, natural capital accounting, nature-based solutions and green infrastructure**) by identifying barriers and opportunities, providing practical support to business through activities (such as webinars, helpdesk calls, etc.) and training such as this one, as well as by inspiring businesses to adopt the NCP.

Take this opportunity to also thank the different stakeholders that supported the training (if relevant).

Slide 3

Module 2 training development – Acknowledging contributors

We Value Nature's Food & Beverage module 2 training is based on the [Natural Capital Protocol](#) and WBCSD's [BET training material](#).

Module 2 training content and material was developed
in collaboration with [Nature^Squared](#) & [Little Blue Research Ltd.](#)



Slide 4

We Value Nature training is open

You are free to:

- **Share** — copy and redistribute the material in any medium or format.
- **Adapt** — remix, transform, and build upon the material for any purpose, even commercial.

Under the following terms:

- **Attribution** — You must give appropriate credit, link to the licence & indicate if changes were made (but not suggest endorsement).
- **No additional restrictions** — You may not legally restrict others from doing anything the license permits.




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We Value Nature module 2 (We Value Nature, Nature^Squared and Little Blue Research, Ltd., YEAR) and licensed under CC BY 4.0


Slide 5

A few “house rules” – virtual training

- ★ Please rename (under Participants) to have your full name and organization.
- ★ Put yourself on mute when not taking part in discussions.
- ★ But please do feel free to use your camera even when not speaking.
- ★ Use "speaker mode" to help focus your attention.
- ★ Resist the urge to multi-task and be prepared to engage!



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Point 1: Explain that for now are all muted but will unmute when open floor for Qs & discussion – will be flexible with time

Point 2: Encourage to participate – the more discussions, the more beneficial the VO

Point 3: Make sure to explain that will be able to write down their Qs directly in the google document

NOT FORGET to mention that we will then share with them the live document, as well as recording

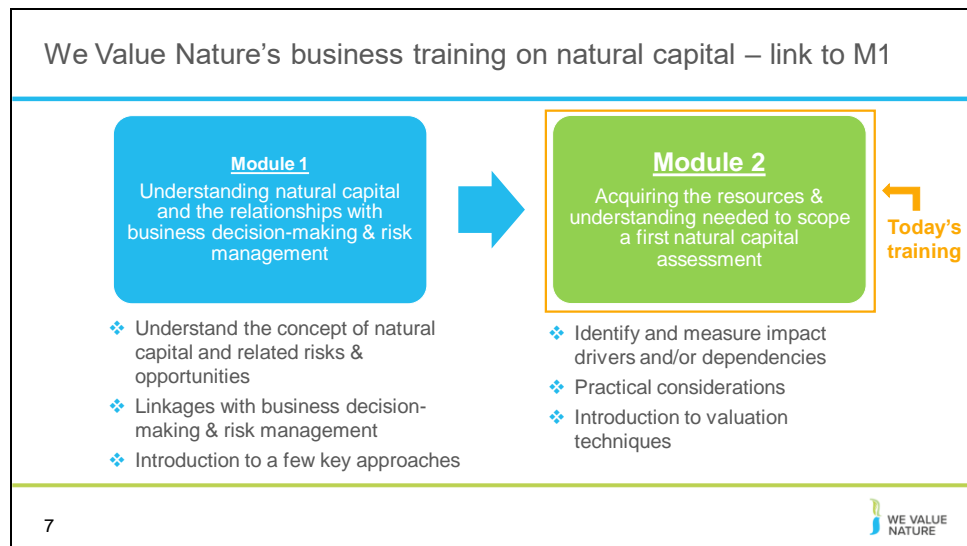
Slide 6

A few “house rules” – in person training



- ✦ Taking part in discussions but respect people's views and session timings.
- ✦ Chatham house rules will apply.
- ✦ We will be using some quizzes during the session.
- ✦ Please ask any questions during the presentations and exercises.
- ✦ Contribute and share your experiences – we can all learn from one another!

Slide 7



Module 1 focused on understanding natural capital and the relations with decision-making & risk management.


Module 2 will focus on acquiring the resources & understanding needed to scope a first natural capital assessment. An introduction to valuation techniques is also included in this training.

Slide 8

Learning objectives of module 2


At the end of the training, you will be able to:

- ❖ Understand how to **identify natural capital impacts and dependencies** that are **important** to your business;
- ❖ Acquire the necessary tools, resources and understanding to **scope your own assessment**;
- ❖ Be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools** to help undertake an assessment;
- ❖ Understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them;
- ❖ **Introduce valuation** following on from the brief overview provided in module 1.



Refer to p. 6 of your workbook

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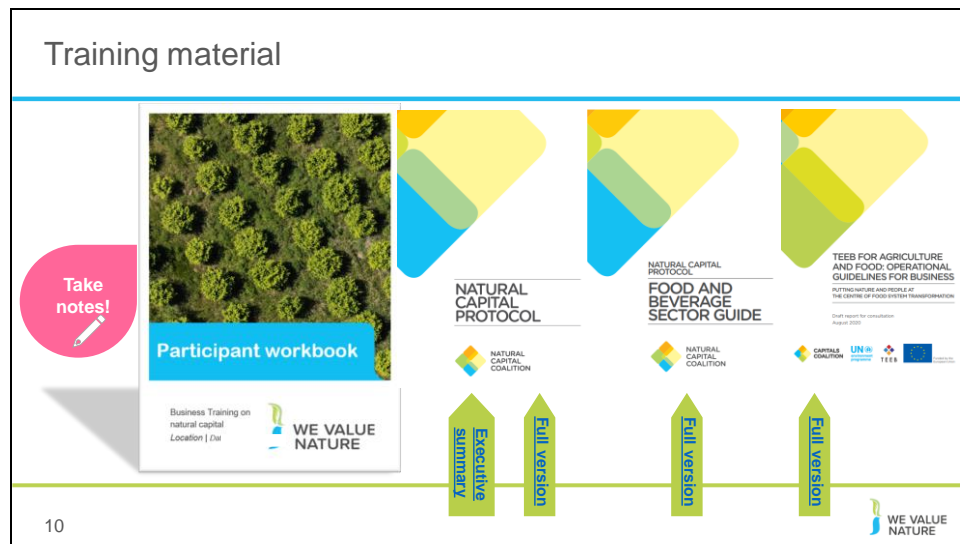


The objectives for today are...

Slide 9

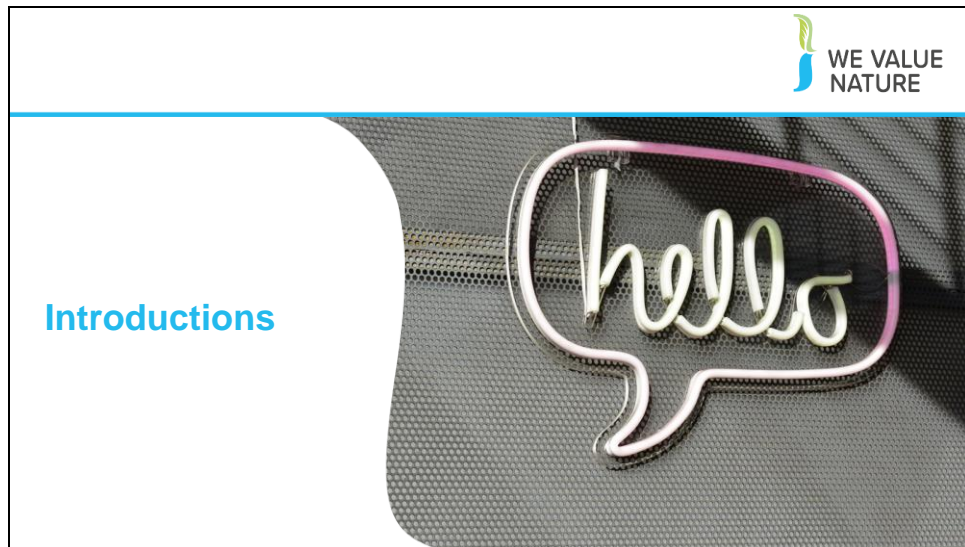
Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

Slide 10







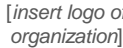
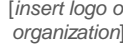
Mention that they should all have a 'Participant workbook' and explain that its purpose is to use it throughout the training. We have included in there some of the slides from the training but also additional information. There is space for them to regularly take notes as well as write down their key learnings through each chapter. The aim is that at the end of the training they have a useful resource to look back to when wanting to get started on the natural capital journey.

Slide 11




Slide 12

Who is your support team for today?


		
Name	Name	Name
		

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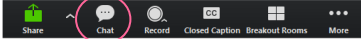


Slide 13


Introductions – who are you?



- Please tell us more by sharing :
 - Role
 - Any specific expectation(s) for today?



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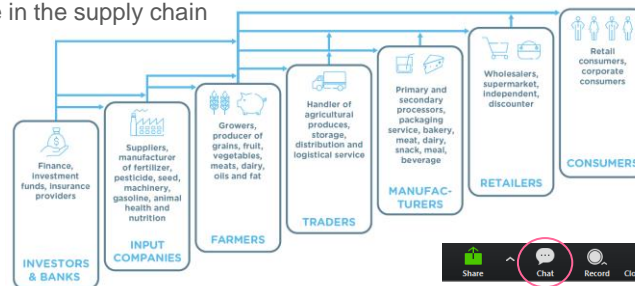


Slide 14

Introductions – who are you?

- Please tell us more about you by sharing your:

- Role in the supply chain




Slide 15

Who is in the room?

NAME Company	NAME Company	NAME Company	

15



Slide 16

Introductions



- **Ice breaker**

- Please introduce yourselves by sharing your name, company, role and why you are interested in scoping a natural capital assessment

Slide 17

Introductions




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Slide 18

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**Setting the scene
and a brief re-cap
on natural capital**



Slide 20

Keeping up momentum during the COVID-19 crisis

- Institutions urging a **green recovery from covid-19**
- Christine Lagarde, President of ECB: "**transition towards a greener economy is a crucial part of economic recovery**"
- "**Business as usual**" is **vulnerable** to a range of outside influences, not just market forces
- The need for business to take into consideration **all capitals**
- The crisis shows why understanding **stakeholder values** is important for decision making

What have
we learned
so far?


Slide 21

Optional videos to set the scene

- Pitch for nature video:
<https://www.youtube.com/watch?v=lyL272Q1N0s>
- WBCSD video – what's your relationship with nature?
<https://www.youtube.com/watch?v=3nLuyyFUIIk>
- GSFA 2019, WBCSD video – Business is investing in nature
https://www.youtube.com/watch?v=LcVGh_UlqIE


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Knowledge check




How do you
define natural
capital?

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Slide 23

Knowledge check



What is NOT a form of natural capital?

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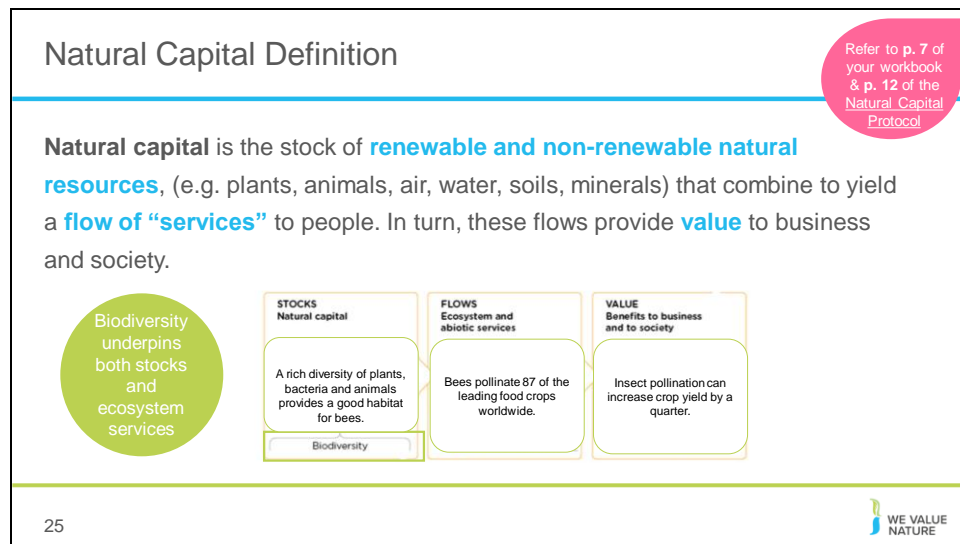


Slide 24

How to use Mentimeter

- 1 Go to www.menti.com
- 2 Enter this code: **XXXXXX**
- 3 Submit your answer

Slide 25



Biodiversity: the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.

We have started thinking about natural resources an agricultural producer relies and impacts on but what do we mean when we talk about natural capital?

Well in fact, everything you have discussed through the previous example is natural capital is some form or another. Whether it is the assets/resources it represents (such as water and soil you have identified as needed for the farm) or the services it brings.

From climate adaptation to ecosystem services, the environmental jargon is everywhere. What is important, is not to remember all the terminology used, but rather that these are all connected to the value of nature and that people have different entry points and priorities and will use one or another terminology based on that. But fundamentally, we are all speaking about the same things, just in different ways.

This is the definition according to the Natural Capital Protocol. Refer to p. 12 of Natural Capital Protocol.

The **stocks** refer to the natural resources available to us (**biodiversity, plants, animals, water, soils and minerals**) while the **flows** refer to the different benefits people receive from ecosystems such as:

- Pollination
- Water regulation & purification
- Pest control
- Climate regulation
- Erosion regulation
- Nutrient retention
- Ecotourism

Abiotic services are benefits to people that do not depend on ecological processes but arise from fundamental geological processes e.g. – supply of minerals, metals and oil and gas, as well as geothermal heat, wind, tides, etc.

In the Protocol biodiversity (part of stocks) is considered to be critical to the health and also the stability of natural capital in so much that it provides resilience to shocks like:

- Floods
- Droughts

As well as supports fundamental processes such as:

- carbon and water cycles
- soil formation

Examples of **values** are **fresh water and agriculture (food)**.

Bee example:

Bees pollinate 87 of the leading food crops worldwide. Insect pollination can increase crop yield by a quarter. (FAO, 2018)

<http://www.fao.org/3/i9527en/i9527en.pdf>

Slide 26

Ecosystem Services


Refer to p. 8 of your
workbook
& p. 111 of the
Natural Capital
Protocol

Ecosystem services are the **benefits to people from ecosystems**
(e.g. climate regulation, water purification, soil biodiversity, pollination, timber, recreation, mental health). These services can be categorized into:

- **Provisioning**
- **Regulating**
- **Supporting**
- **Cultural**





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Provide examples of ecosystem services that are relevant to F&B sector (water purification, soil biodiversity, pollination). Provide examples for provisioning, regulating, supporting, and cultural services.

Presenter to explain ecosystem services using the notes below and referring to p. 12 /111 of the Natural Capital Protocol:

- Ecosystems services are the benefits to people from ecosystems, where an ecosystem is defined as the interaction between complex plants, animals and microorganisms and their non-living environment
- Examples of ecosystem services **include pollination, water regulation & purification, soil biodiversity, pest control, climate regulation, erosion regulation, nutrient retention**
- Ecosystem services can be classified into provisioning, regulating, cultural and supporting services
 - Provisioning: material outputs from nature (**e.g. fresh water, food**) – the F&B sector is highly dependent on water and food to produce their final products.
 - Regulating: indirect benefits from nature generated through regulation of ecosystem processes (**e.g. Erosion prevention and maintenance of soil fertility, pollination, biological control**) – processes such as pollination and prevention of erosion improve soil fertility and can positively impact crop quality and yield.
 - Cultural: non-material benefits from nature (e.g. **recreational, ecotourism, educational, spiritual, ethical**) – while the benefits of cultural ecosystem services may not always be directly visible, they are part of the larger system around food &

beverage production. While these benefits are strongly interlinked, we have provided a dotted line for the services that are most discussed in the F&B sector.

- Supporting: fundamental ecosystem processes that support the delivery of other ecosystem services (e.g. **nutrient cycling, water cycling**) – without these services, the F&B sector would not benefit from the other services provided by the ecosystem such as pollination and fresh water.

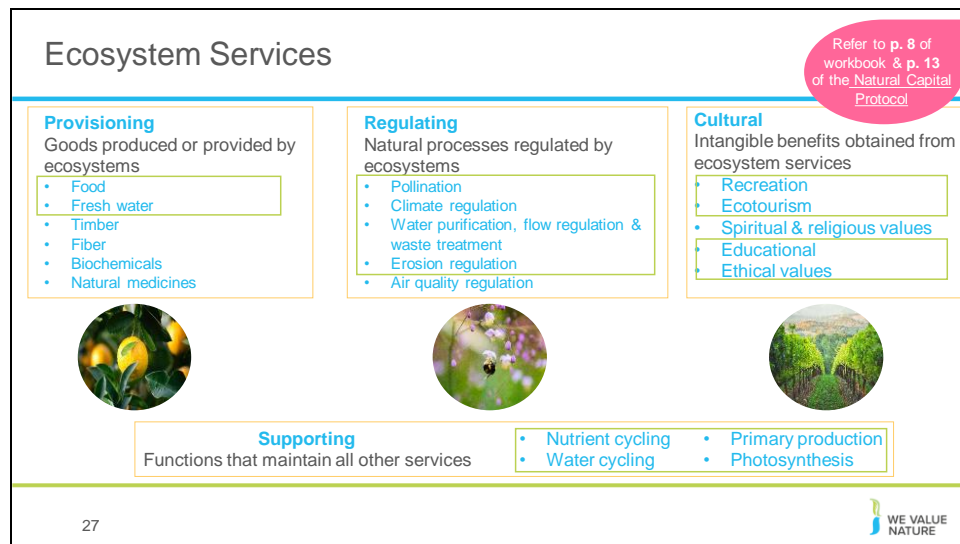
Ecosystem services – key distinction between:

Supporting services: fundamental ecological processes that support the delivery of our ecosystem services

Regulating services: indirect benefits from nature generated through regulation of ecosystem processes e.g. – mitigation of climate change through carbon sequestration, water filtration by wetlands, erosion control and protection from storms

- There are many classification schemes for ecosystem services including the CICES and the FECS-CS which measure ecosystem outputs that are directly consumed or used by beneficiaries

Slide 27



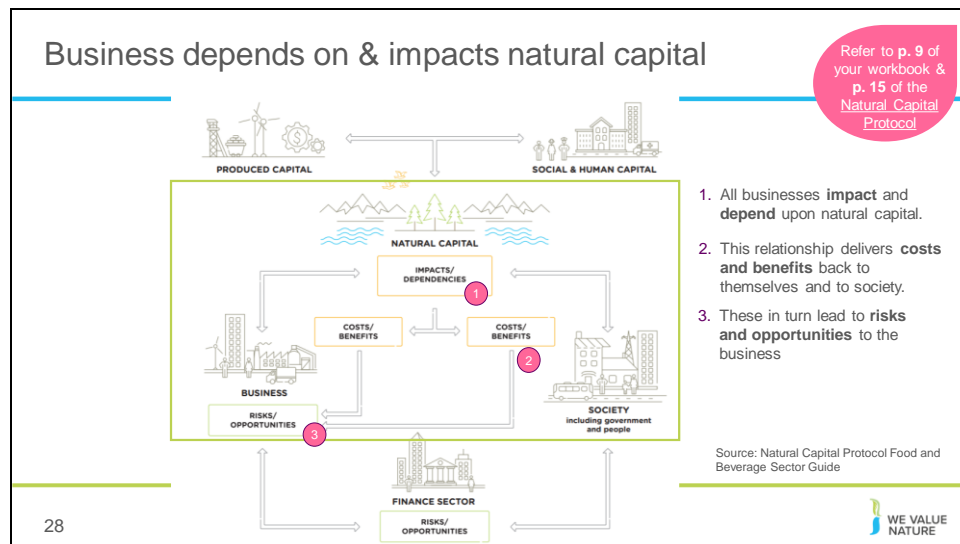
This slide describes the four categories of ecosystem services and provides examples for each of the categories. The green line highlights the ecosystem services that are particularly relevant for the F&B sector.

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Slide 28



- All businesses **impact and depend** upon natural capital

Example impacts: harmful substances used in packaging (waste, greenhouse gas emissions, discharges to soil and water, water extraction)

Example dependencies: health of workers (energy, climate regulation, pollination, materials, erosion and soil regulation, water)

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

Example costs: consumers get ill

Examples benefits: increased productivity due to a program of health checks

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

Example risks: operational, reputational and financial risk (Increased raw material or resource costs, New regulations or license fees, Changing customer values)

Example opportunities: operational opportunity (Reduce the costs of resource inputs (e.g. through efficiency gains or switching suppliers), Reduce environmental fees and charges, Growing demand for credibly certified products)

What the examples show (rice example below) is that natural, social and economic issues are fundamentally interconnected and cannot be separated from one another. It also illustrates how natural capital underpins all the other capitals and without it we would not have social and human or financial capital.

Example: rice

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

Example impacts: **water pollutants**

Example dependencies: water to flood the rice fields

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

Example costs: poor water quality can affect the quality of the rice produced / poor water quality can impact the health of downstream water users

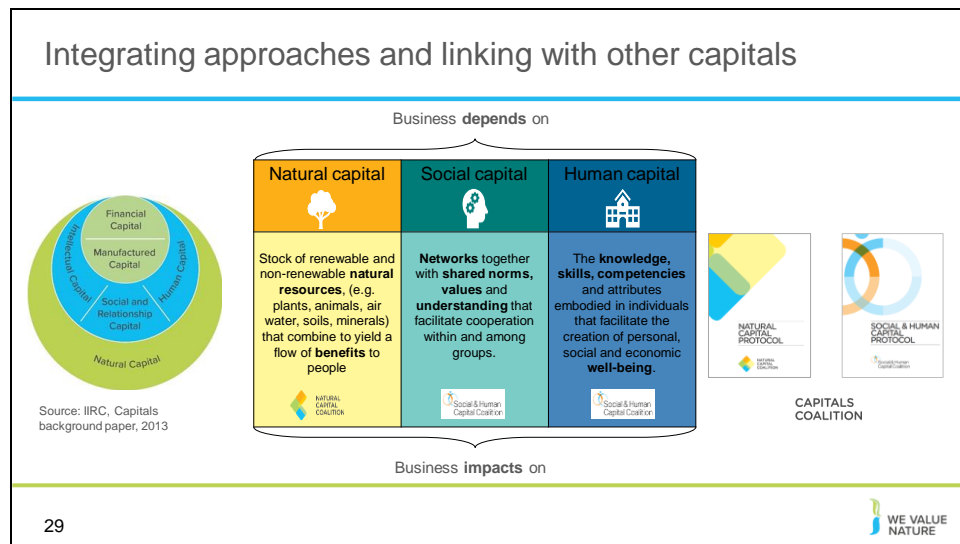
Example benefits: higher quality rice/less absence of employees due to an improved wastewater treatment system

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

Example risks: This may pose operational risks if social conflict over polluted water adds to security costs

Example opportunities: This may also pose societal opportunities if businesses use managed water catchments to improve water quality for local communities

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Presenter to explain that natural capital should not be approached in isolation and that it is closely interlinked with other capitals (incl. social and human capital).

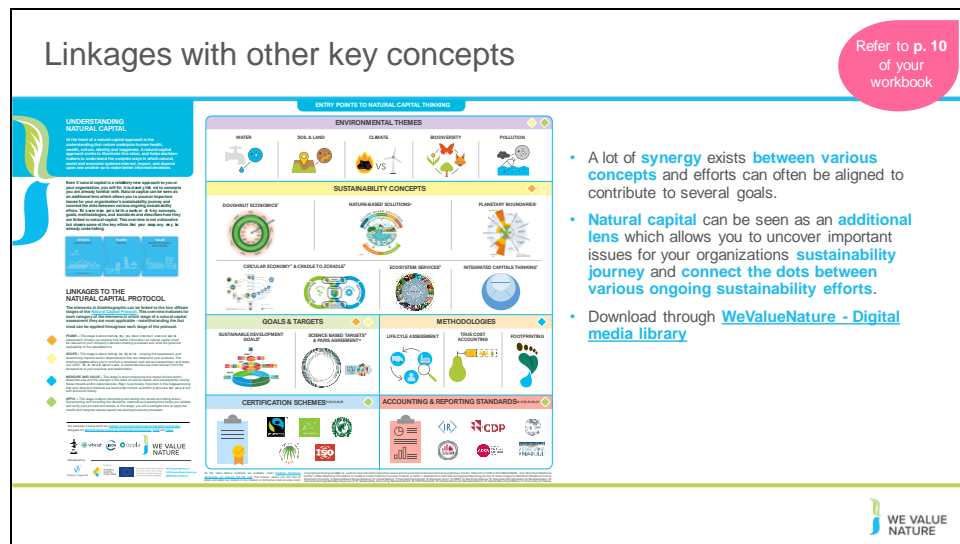
The **International Integrated Reporting Council's (IIRC)** categorization of **six capitals**.

Sustainable development is composed of different "spheres" including the **natural environment, society and economy**. The Stockholm Resilience Institute (2016) **represents nature – and natural capital – as the basis of the other development goals. Without a strong natural base, we will not be able to contribute to a resilient economy and just society.**

<https://www.stockholmresilience.org/research/research-news/2016-06-14-how-food-connects-all-the-sdgs.html>

The Natural Capital and Social & Human Capitals Coalition recognized the important linkages between social, human and natural capital, and united their efforts under the **Capitals Coalition (2020)**. The Capitals Coalition works towards transforming the way decisions are made by including the value provided by nature, people & society.

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UNDERSTANDING NATURAL CAPITAL

A lot is happening on sustainability and that can be overwhelming. Luckily, a lot of synergy exists between various concepts and efforts can often be aligned to contribute to several goals. In this infographic we aim to illustrate how natural capital is linked to many sustainability concepts that your company may already be working on.


Even if natural capital is a relative new concept to you or your organizations, you will find it is closely linked to other things you are already familiar with. Natural capital can be seen as an additional lens which allows you to uncover important issues for your organizations sustainability journey and connect the dots between various ongoing sustainability efforts. This infographic explains for each concept, goal, methodology, scheme or framework what it is and how it is linked to natural capital.

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Linkages with other key concepts: examples

Find more quick reference cards through the We Value Nature's [digital media library](#)


PLANETARY BOUNDARIES



Planetary boundaries are a concept developed by Rockström of the Stockholm Resilience Centre, stating that earth has natural boundaries within we must operate. Crossing these boundaries may be catastrophic because this may cause abrupt environmental change within continental-scale to planetary-scale systems. The largest overshoot of these boundaries is currently occurring on the nutrient cycle, biodiversity and climate change.

Natural capital assessments provide insight into how your company is performing against these ecological ceilings. If you are already reporting against indicators for the planetary boundaries, you already have performed at least a partial natural capital assessment.


SUSTAINABLE DEVELOPMENT GOALS



The Wedding Cake Model orders the Sustainable Development Goals (SDGs) across three layers: the biosphere, the socioeconomic and the economic sphere. This model indicates the conditionality and hierarchy between the goals. The bottom layer (biosphere), consisting of Clear Water (6), Climate Action (13), Life Below Water (14) and Life on Land (15), forms a foundation for the layers above.


If your company is already committed to the SDGs, securing goals 6, 13, 14 and 15 is essential to achieve the other goals. By working on natural capital, you are contributing to these goals and the SDGs as a whole.

ACCOUNTING & REPORTING STANDARDS



There is a wide variety of accounting and reporting standards that focus on the disclosure of information beyond financial information only. These standards help improve transparency and accountability and help generate value creation within the organization. A great number of accounting and reporting standards have emerged over the years. Some of these frameworks include various capitals such as the Global Reporting Initiative (GRI) framework (indicators on natural capital include G4-EN1 - G4-EN34), but also Integrated Reporting (IR) and Sustainability Accounting Standards Board (SASB), which will be merged into the new Value Reporting Foundation in the foreseeable future. Other standards are focused specifically on measuring natural capital such as the CDO and Accounting for Nature, or reporting on natural capital such as the Climate Disclosure Standards Board (CDSB) which equates natural capital with financial capital.

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These are three examples of concepts. All key concepts can be found via this link (will be added later).

Planetary Boundaries: Planetary boundaries are a concept developed by Rockström of the Stockholm Resilience Centre, stating that earth has natural boundaries within we must operate. Crossing these boundaries may be catastrophic because this may cause abrupt environmental change within continental-scale to planetary-scale systems. The largest overshoot of these boundaries is currently occurring on the nutrient cycle, biodiversity and climate change. Natural capital assessments provide insight into how your company is performing against these ecological ceilings. If you are already reporting against indicators for the planetary boundaries, you already have performed at least a partial natural capital assessment.

Sustainable Development Goals: The Wedding Cake Model orders the Sustainable Development Goals (SDGs) across three layers: the biosphere, the socioeconomic and the economic sphere. This model indicates the conditionality and hierarchy between the goals. The bottom layer (biosphere), consisting of Clear Water (6), Climate Action (13), Life Below Water (14) and Life on Land (15), forms a foundation for the layers above. If your company is already committed to the SDGs, securing goals 6, 13, 14 and 15 is essential to achieve the other goals. By working on natural capital, you are contributing to these goals and the SDGs as a whole.

Integrated Reporting / SASB: Integrated Reporting is a reporting standard that considers several (financial, manufactured, human, intellectual, natural and social) capitals, and aims to provide an integrated overview of how companies create value. The SASB reporting standard connects businesses and investors on the financial impacts of sustainability. These frameworks will be merged into the new Value Reporting Foundation in the foreseeable future.

future. Within this framework, Natural Capital is one of the key capitals to report on. Performing a natural capital assessment is a way to implement this framework on the element of natural capital.

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Additional guidance and tools

Refer to p. 63-64 of your workbook

- [Natural Capital Protocol](#) – a standardized framework to help businesses identify, measure, and value their impacts and dependences on natural capital.
- [Food & Beverage Sector Guide](#) – a supplement to the NCP specifically developed for the F&B sector.
- [TEEBAgriFood operational guidelines](#) for business which helps the food & beverage industry better understand their specific impact & dependencies not just on natural capital, but also social & human capital.
- [BSI 8632 Natural capital accounting for organizations](#)
- [IUCN's Global Standard for Nature-based Solutions](#) which provides clear parameters for defining Nature-based Solutions and a common framework to help benchmark progress
- The [CBD post-2020 Global Biodiversity Framework](#)
- IUCN's [biodiversity guidelines for planning and monitoring corporate biodiversity performance](#) (incl. key biodiversity indicators).
- [Science Based Targets](#) – targets to reduce GHG that are in line with science to meet the goals of the Paris Agreement (2020), with other targets underway through the [Science Based Targets Network](#).
- [Unified reporting standards](#) - CDP, CDSB, GRI, SASB and IIRC have co-published a framework for comprehensive reporting (2020)
- [Integrated capitals](#) – standardized natural capital accounting principles for businesses from the NCP and SHCP (2020).
- [Water guidance CDSB](#) – framework for water-related disclosures supported by the EU LIFE program (to launch in 2021).
- [TNFD](#) – banks, companies & governments have set up a Task Force on Nature-related Financial Disclosures (to launch 2021), in addition to the existing [Task Force on Climate-related Financial Disclosures](#).


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Knowledge check



What is the
Natural Capital
Protocol?

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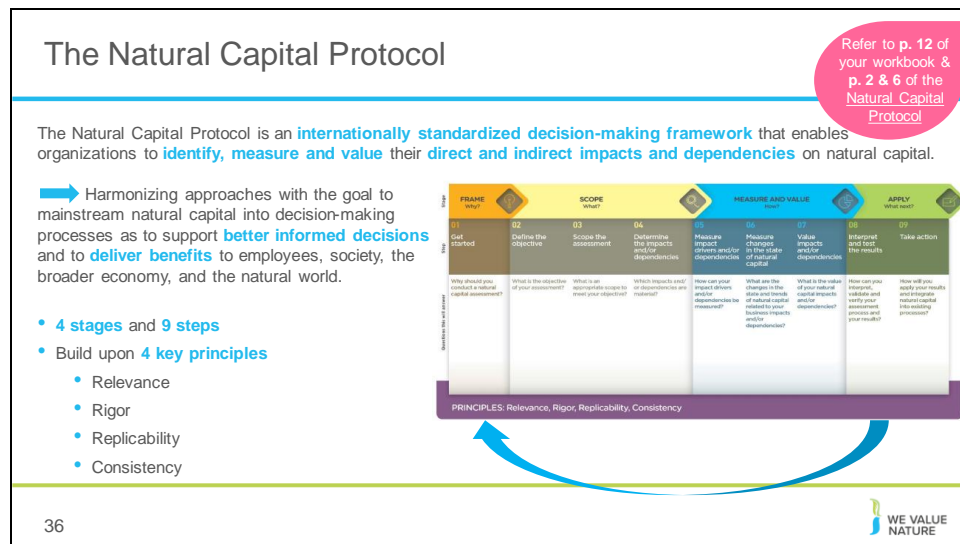


Slide 35

How to use Mentimeter

- 1 Go to www.menti.com
- 2 Enter this code: **XXXXXX**
- 3 Submit your answer

Slide 36



The **Natural Capital Coalition** is a collaborative space to **harmonize approaches to natural capital**.

The network represents over 300 organizations across all parts of society and around the world.

Purpose: **To mainstream** the inclusion of natural capital in decision making, **harmonizing approaches and getting them to scale, quickly**.

The **Protocol** aims to **support better decisions** by taking into account how business interacts with natural capital in decision making. Until now, natural capital has for the most part and still is, being excluded from decisions.

So it is to be understood as a Framework that was really designed to help **generate trusted, credible and actionable information** that business managers need to inform decisions by identifying, measuring and valuing impacts and dependencies on natural capital.

The Protocol **builds upon many approaches** already used within business.

It acts as an **overarching globally accepted framework** to build and expand this information into robust natural capital assessments.

STRUCTURE of the Protocol:

4 overarching stages of frame (why), scope (what), measure and value (how) and apply (so what) and **9 logical steps**. It should be easy to follow and should be suitable for any business across any sector or geography.

The stages and steps are **iterative** so expect that you may need to revisit a previous step.

4 principles:

Relevance: Ensure that you consider the most relevant issues throughout your natural capital assessment including the impacts and/or dependencies that are most material for the

business and its stakeholders (adapted from CDSB 2015 and WRI and WBCSD 2004).

Rigor: Use technically robust (from a scientific and economic perspective) information, data, and methods that are also fit for purpose.

Replicability: Ensure that all assumptions, data, caveats, and methods used are transparent, traceable, fully documented, and repeatable. This allows for eventual verification or audit, as required (adapted from GRI 2013).

Consistency: Ensure the data and methods used for an assessment are compatible with each other and with the scope of analysis, which depends on the overall objective and expected application (adapted from WRI and WBCSD 2004 and IIRC 2013).


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The Natural Capital Protocol

Refer to p.13 of your workbook

What is it and what is it not?		Principles for undertaking integrated capitals assessments
<div style="background-color: #e0f0ff; padding: 5px; margin-bottom: 5px;">The Protocol...</div> <ul style="list-style-type: none"> ✓ builds on existing tools, guides, methods and techniques to identify, measure and value natural capital ✓ focuses on improving internal management decision making ✓ provides a standardized process that is also flexible in the choice of measurement and valuation approaches ✓ provides a process to internally standardize the approach that you take 	<div style="background-color: #e0f0ff; padding: 5px; margin-bottom: 5px;">The Protocol does not...</div> <ul style="list-style-type: none"> ✗ seek to create new tools and methods ✗ provide a framework for external financial reporting, although decisions can be reported ✗ explicitly promote specific tools, methodologies or approaches ✗ necessarily produce results that are comparable within or between different businesses or applications 	<ul style="list-style-type: none"> ❖ Principle 1 — Consider all forms of capital and include all relevant capitals ❖ Principle 2 — Take into account the surrounding system and its inter-connections ❖ Principle 3 — Apply an appropriate level of attribution based on your degree of influence ❖ Principle 4 — Present values at an appropriately granular level for the decision being made ❖ Principle 5 — Specify and address key differences in impacts and dependencies amongst all stakeholders

Source: Principles of Integrated Capitals Assessments

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Important to note that the NCP as an overarching framework, won't give you actual results and need to therefore use the Nat Cap toolkit to get tools.

https://naturalcapitalcoalition.org/wp-content/uploads/2016/07/NCC_Primer_WEB_2016-07-08.pdf

❖ **Principle 1** — Consider **all forms of capital** and include all relevant capitals
 You should take into account all potentially relevant capitals, based on your organization's business model, and where any are deemed not relevant, you should state that they are not relevant, and why. This evaluation of relevance should be achieved through undertaking some form of *materiality assessment* that considers the significance of an issue to your organization and its stakeholders.

❖ **Principle 2** — Take into account the **surrounding system** and its inter-connections
 To be recognized as an integrated capitals assessment, adopting a systems-based approach is essential. The relevant system(s) should be considered, in particular the material *inter-connections within, and between, the different capitals*. This exercise should be initiated in *the Frame and Scope Stages of a capitals assessment*. Systems in this context include for example landscapes, river basin catchments, the broader working conditions within countries of operation, the networks and stakeholders that may be able to help devise or deliver a solution and the inter-connections between nature, people and organizations within these boundaries.

❖ **Principle 3** — Apply an appropriate level of attribution based on your **degree of influence**

Identifying what you are *fully or partially responsible for and the correct level of attribution* is challenging but extremely important. There will be some impacts and dependencies that you are clearly responsible for and others where you may only have a limited degree of influence. To understand the extent to which your organization has actually contributed to a particular impact you should consider *what would have happened anyway in the absence of your activity (i.e. a counterfactual scenario)*.

Levels of attribution: direct, partial direct, indirect, enabling

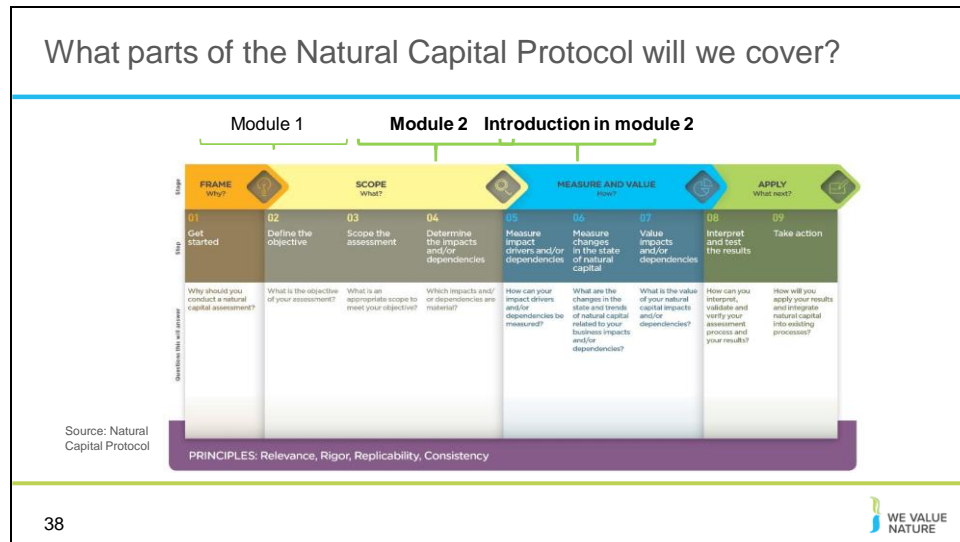
❖ **Principle 4** — Present values at an **appropriately granular level** for the decision being made

The aim of this principle is to ensure that information provided through an assessment is *presented at the right level of detail to be useful* in decision making. This means showing positive and negative values both for each capital, and within each capital, at a suitably granular level.

❖ **Principle 5** — Specify and address **key differences in impacts and dependencies** amongst all stakeholders

When deciding alternative courses of action, there will inevitably be some form of *trade-off between and within the different capitals*. The extent of relevant stakeholder groups becomes broader when more than one capital is part of an assessment, so a *more comprehensive stakeholder mapping* across all capitals is needed.

Slide 38




Highlight that the aim of the training will focus on the second and third stage of the Protocol: going into measurement and valuation technical details.


Slide 39

Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

Slide 40

 WE VALUE
NATURE

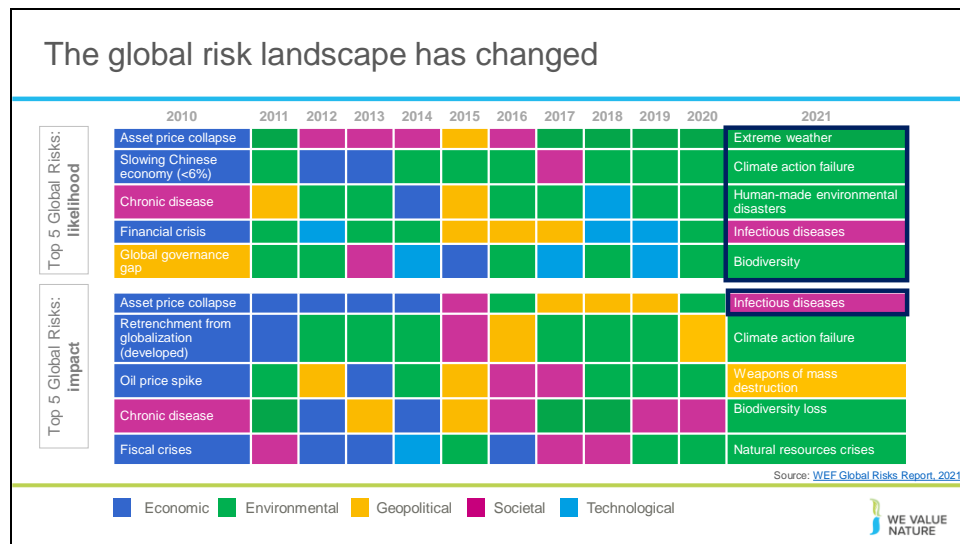
**The business
case for
assessing
natural capital &
common
assessments**



40

Picture source: <https://www.pexels.com/nl-nl/foto/banaan-bananenblad-bananenboom-bladeren-2168838/>

Slide 41



Some you might be familiar with this graphic, this is the WEF Global Risk Report. This puts the world's risk every year into a global context, look how much it has changed since 2010. Aside from the obvious addition of Infectious disease from COVID-19 which has changed the world's priorities drastically. But the Environment risk are still very significant in terms of likelihood and impact.

This shows the real crisis that we are in and that we need to act now

Slide 42



The Protocol highlights key types / categories of risks and opportunities – Refer to p. 18 of the Protocol.

In years gone by, sustainability issues have sometimes taken business by surprise and companies have paid the cost. Companies are increasingly being impacted by the changing risk landscape discussed earlier (WEF report slide).

Operational risk – Crop failure and bankruptcy threaten farmers as drought grips Europe
<https://www.theguardian.com/environment/2018/jul/20/crop-failure-and-bankruptcy-threaten-farmers-as-drought-grips-Europe>

Image source: <https://pixabay.com/nl/photos/korenveld-ma%C3%AFs-veld-akkerbouw-4240209/>

Reputational risk – increased public & consumer awareness of environmental and social damages + consumers are increasingly demanding assurance that the products they buy are produced in way that protect our environment and respect human rights – link with SOCIETAL risks – health impacts on local communities, social license to operate
 Image source: <https://unsplash.com/photos/ycW4YxhRWHM>

Legal risk – baby milk scandal China: <https://www.bbc.com/news/10565838>
 Image source: <https://unsplash.com/photos/OXGhu60NwxU>

Financial risk – Underlying all of these risks & opportunities are financial ones! As we have seen, these risks imply important financial costs. Price of Thai Rice Skyrocket due to Drought in Thailand, Buyers Lean to InSlide
<https://www.grainmart.in/news/price-of-thai-rice-skyrocket-due-to-drought-in-thailand-buyers-lean-to-inSlide/>

Image source: <https://unsplash.com/photos/5gGcn2PRtc>

Biodiversity loss risk: Biodiversity loss comes at the nexus of many other business risks. E.g. through decreasing food security (which itself has economic ramifications) or increasing the likelihood of coastal flooding. Biodiversity loss can be felt through physical risks (increased cost of resources, disruption of operations due to natural disasters unmitigated by appropriate ecosystems), associated regulatory and legal risk, market risk from changing consumer preference as consumers become more aware & discerning RE biodiversity, and supply chain risks.

Examples:

→ **For example, a 28% reduction in mangrove cover between 1980 and 2000 in South East Asia to make way for commercial shrimp farming has contributed to a loss of natural protection against tsunamis and cyclones. This was tragically demonstrated during the 2004 South Asian Tsunami, when coastal areas still covered by mangroves were relatively less affected, with mangroves acting as a natural defense. In addition to their vital role in coastal protection, these coastal features are critical for many marine food chains, comprising vital nursery areas and habitats for commercially valuable fish and shellfish species. As we look to the future, with the prevalence of denser populations in coastal areas, the human and economic costs of damage to coastal ecosystems are set to grow.**

→ **For example, in Guangdong province in China, deforestation and land conversion have led to encroaching desertification. Exacerbated by severe drought, this not only threatens further biodiversity loss but also agricultural productivity and community health.**

→ **Measures to control deforestation and conversion to soy and palm oil production may significantly increase the prices of these commodities which form key inputs for many producers of food and household goods.**

<https://www.pwc.co.uk/assets/pdf/wef-biodiversity-and-business-risk.pdf>

But good news is that, where there is risk, there is opportunity to:

- Secure natural resources
- Save costs
- Manage future risks
- Engage stakeholders

Operational opportunity – General Mills ups the ante on its regenerative agriculture push
<https://www.bakeryandsnacks.com/Article/2020/01/31/General-Mills-ups-the-ante-on-its-regenerative-agriculture-push>

Image source: <https://pixabay.com/nl/photos/tarwe-veld-lente-zomer-frankrijk-3241114/>

Reputational opportunity – Nespresso: every cup of coffee will be carbon neutral by 2022
<https://www.beveragedaily.com/Article/2020/09/17/Nespresso-Every-cup-of-our-coffee-will-be-carbon-neutral-by-2022>

Image source: <https://pixabay.com/nl/photos/nespresso-cupjes-koffie-cupjes-586664/>

Legal opportunity – Starbucks introduces straw free lids:

<https://edition.cnn.com/2020/09/10/business/starbucks-straw-free-lids-plastic-straws-sustainability/index.html> (2020) OR

<https://www.nytimes.com/2018/07/09/business/starbucks-plastic-straws.html> (2018)

Image source: <https://pixabay.com/nl/photos/milieuvriendelijke-stro-rietjes-3562628/>

Financial opportunity – But when these risks are taken into account, we have seen how it can also lead to reduced financial costs, or improved access to finance. Companies like those you can see here have managed to secure substantial billion-dollar loan facilities where the interest rate of repayments is linked to ESG performance. That is to say if the company has strong environmental and social performance they pay back less on the loan.

Slide 43

Reflections, risks and opportunities

Individually reflect on whether each of these ecosystem services pose more of a risk or opportunity?

- **Soil regulation**
- **Pollination**
- **Water extraction**



WHAT DO YOU THINK?

Refer to p. 16 of your workbook

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- **Soil regulation:**
 - Risk: Leaving land sparsely will give wind and rain free rein, which can cause erosion. This can lead to land degradation.
 - Risk: In addition, the regular cultivation of land and the use of chemical fertilizers can affect the land to such an extent that the natural process of soil regulation is disturbed.
 - Opportunity: Reduce input costs (chemical fertilizers)
- **Pollination**
 - Risk: The use of pesticides endangers pollinators.
 - Risk: 75% of our crops need insects for pollination. Commercial value of the pollination contribution is 153 billion euro/year. Pollination losses therefore cost money.
 - Opportunity: A favorable environment for pollinators can therefore also offer opportunities and reduce costs.
- **Water extraction:**
 - Risk: increased resource costs, new regulations or license fees.
 - Opportunity: reduce the costs of resource inputs (e.g., through efficiency gains or switching suppliers).

Slide 44


Why assess your impacts & dependencies? The business case Refer to p. 14 of your workbook

Many natural capital risks and opportunities are becoming increasingly visible, and **businesses need 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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There are evidently a lot of pertinent risks around nature and the environment facing businesses today. Where does natural capital come into this - how can it help you manage these risks?

To assess natural capital is to assess your company's impacts and dependencies on nature.

It provides information that will help you to understand your relationship with nature. By focusing on impacts and dependencies, natural capital provides structure to this understanding.

Once you have a better understanding of your relationship with nature, you can use this to challenge your business model, mitigate risks and create opportunities. Natural capital can also be a valuable tool for broadening the conversation to include all parts of your business, including the finance team.


Slide 45

Business application

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

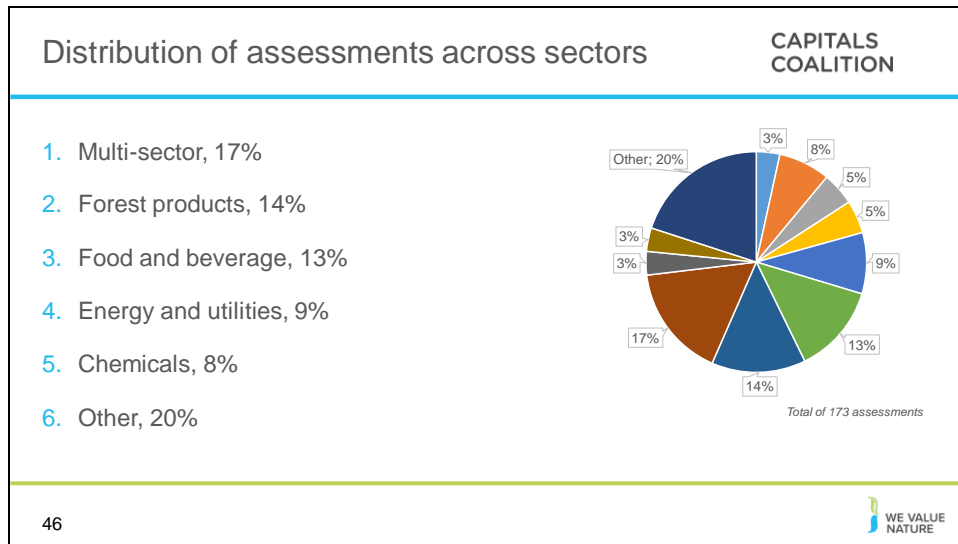
Potential Business Applications
Assess risks and opportunities for the company or a department (new options for ecological product development, the risk associated with increased water stress, etc.)
Compare options e.g. choosing between flood solutions
Assess impacts on stakeholders , how are nearby communities impacted by different factory policies
Estimate total value and/or net impact
Communicate internally or externally

Refer to p. 15 of
your workbook
& p. 20 in the
Natural Capital
Protocol

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A natural capital assessment provides information. Whilst this can be valuable in its own right, this means there are also numerous ways to use this information for further purposes. The NCP focuses on using natural capital for decision-making, measurement and valuation, but it can also be used for disclosure and communication, or to help formulate strategy. The best way for your company to use natural capital information is highly individual – think back to the challenges and risks you identified earlier in the training and consider how exactly how more information could help you meet these challenges.

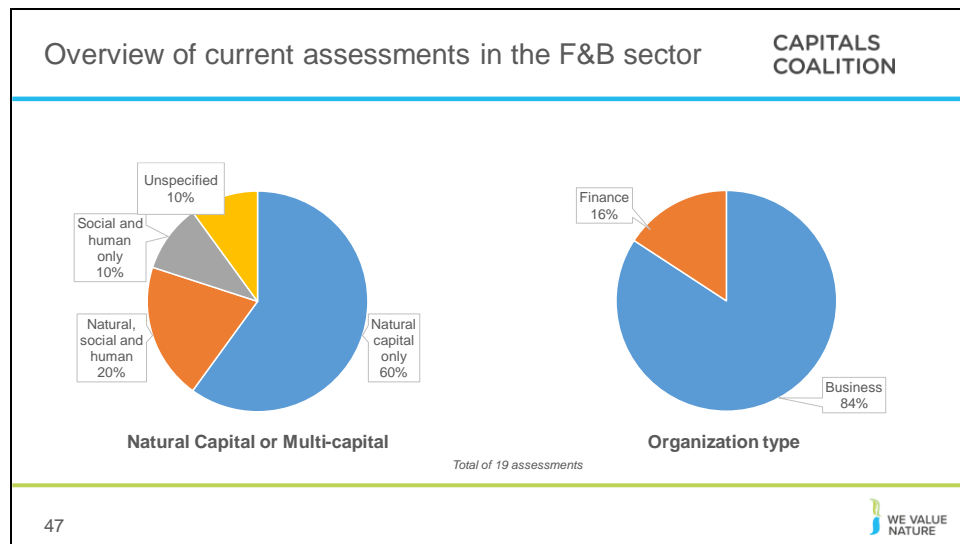
Slide 46



Data from the Natural Capital Coalition Case Study Database

Presenter to give an overview of the pie chart presented on the slide. Presenter to explain that natural capital assessments have been undertaken in a variety of sectors, including forest products, food & beverage, energy and utilities, and chemicals. Next to Forest products, the Food & Beverage sector is the largest sector in terms of assessments.

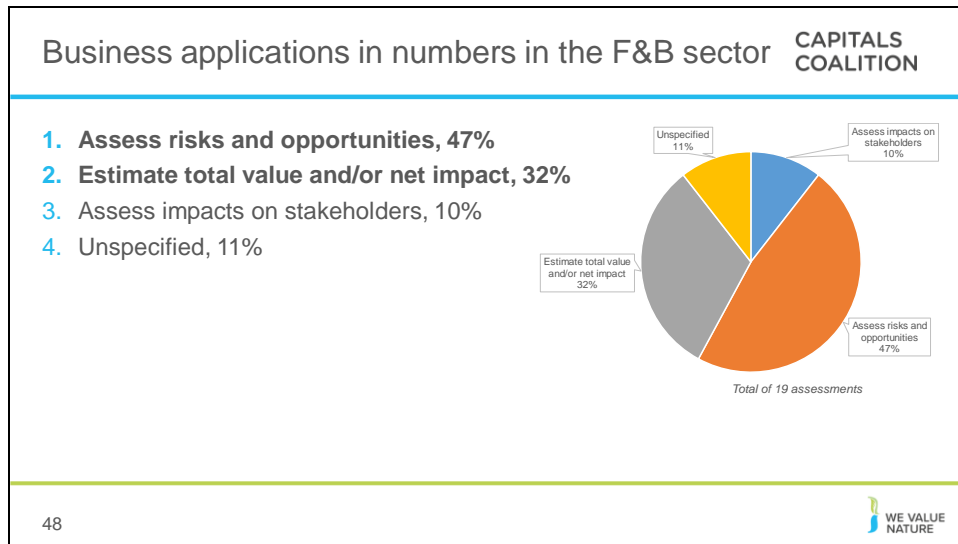
Slide 47



Data from the Natural Capital Coalition Case Study Database

Presenter to give an overview of the pie charts presented on the slide. Presenter to explain that the majority of assessments carried out include only natural capital, and that very few assessments measure social and human capital without also measuring natural capital. Presenter to explain that the majority of companies carrying out assessments are businesses, with governments carrying out 1/4 of all assessments and finance carrying out the fewest.

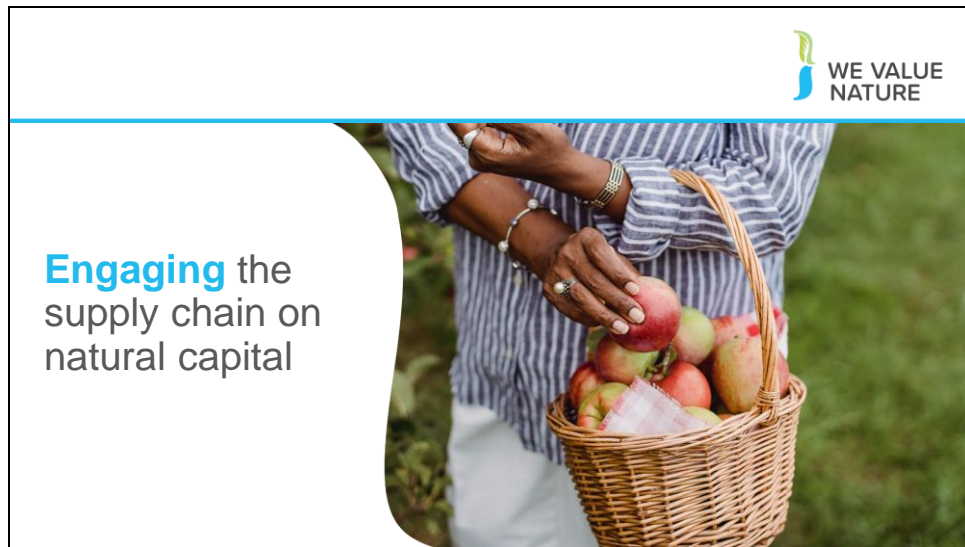
Slide 48



Data from the Natural Capital Coalition Case Study Database

Presenter to give an overview of the pie chart presented on the slide. Presenter to explain that the main purpose for carrying out assessments are to estimate total value/or net impact of/on natural, or social and human, capital. The next greatest application is to assess risks and opportunities for the companies carrying out the assessment, and the third biggest reason is to assess company impacts on stakeholders.

Slide 49



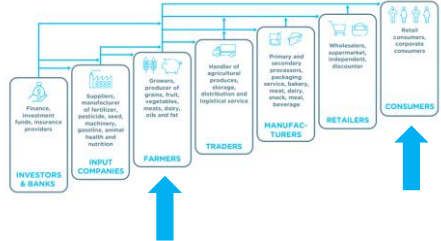
<https://www.pexels.com/photo/crop-ethnic-woman-with-basket-of-apples-5529527/>

Slide 50

Engaging farmers and consumers towards a sustainable F&B sector


Refer to p. 17 of your workbook

- Like in many other sectors, supply chains in the food & beverage sector can be **complex**.
- Every actor in the supply chain has a role to play** in realising a sustainable food & beverage sector.
- Businesses in different parts of the supply chain do not operate independently from each other – they are **strongly interlinked**.
- For most companies, engaging with **farmers and consumers** is key as they are **important leverage points** for becoming more sustainable.



Source: Capitals Coalition, *TEEB for agriculture and food: operational guidelines for business*, 2020

50



Like in many other sectors, supply chains in the food & beverage sector can be **complex**.

- Most supply chains are composed of a variety of actors, including input companies, farmers, traders, manufacturers, retailers and consumers.

Every actor in the supply chain has a role to play in realising a sustainable food & beverage sector.

- E.g. farmers produce the raw materials which are consequently transformed into final products. On the end of the chain – downstream – are the consumers who buy the final products.

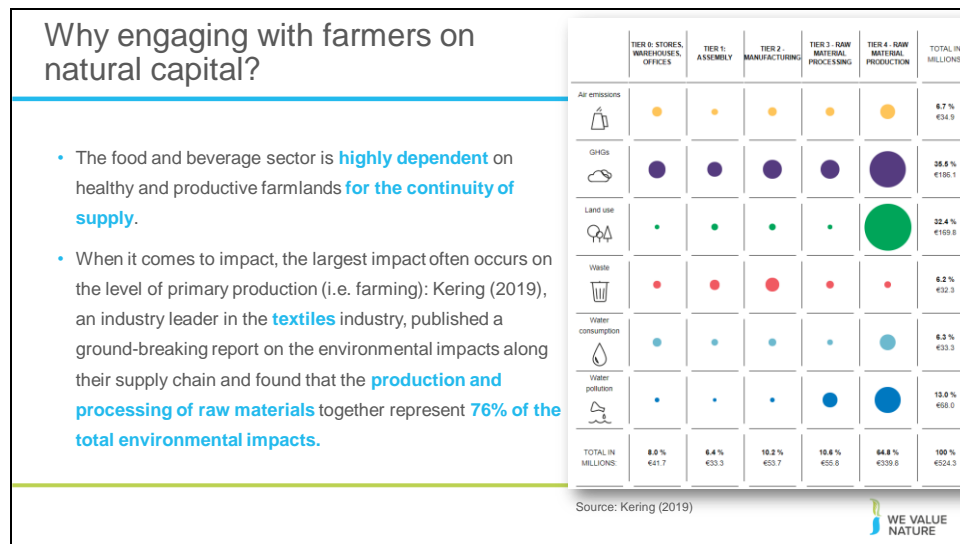
Businesses in different parts of the supply chain do not operate independently from each other – they are **strongly interlinked**.

- Most supply chains are highly efficient: different actors along the supply chain work closely together, moving the product down through the chain up to the consumer.

For most companies, engaging with **farmers and consumers** is key as they are **important leverage points** for becoming more sustainable.

- Mouse click to make the blue arrows appear.

Slide 51



The food and beverage sector is **highly dependent** on healthy and productive farmlands **for the continuity of supply**.

- McKinsey & Company, 2016: <https://www.mckinsey.com/business-functions/sustainability/our-insights/starting-at-the-source-sustainability-in-supply-chains>
GrainCorp, a large Australian agriculture business, reported that a drought cut its grain deliveries by 23%, leading to a 64% drop in 2014 profits. Unilever estimates that it loses some €300 million per year as worsening water scarcity and declining agricultural productivity lead to higher food costs.

- Kering report 2019: <https://kering-group.opendatasoft.com/pages/report-2019/>
The figure shows how the Group's environmental impacts across the supply chain are distributed. We see that the Group's most significant impacts are generated in the supply chain (92%), and in particular from the production and processing of raw materials that together represent 76% of the total environmental impacts. Kering's own operations represent only 8% of the impacts.

Slide 52

Why engaging with farmers on natural capital?

Refer to p.
18 of your
workbook

- Similar to the textiles sector, within the F&B sector the main impacts are also at the level of farmers.
 - E.g. looking at greenhouse gasses, there is a **high concentration at farm level**.
- Hence, there lies a **huge opportunity for sustainable change** at the level of **agricultural production**.



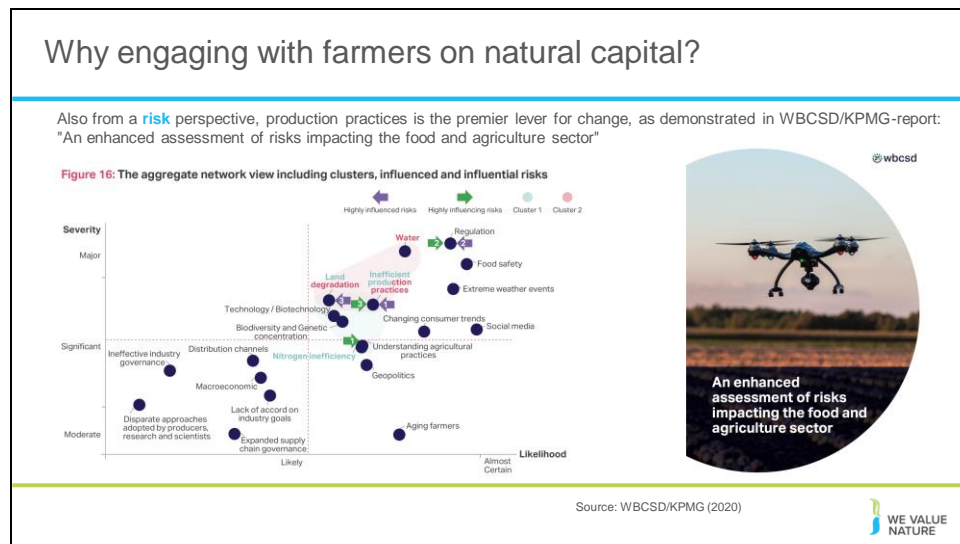
Source: Systain & Adelphi, *Atlas on Environmental Impacts Supply Chains*, 2017

The story is not very different for the Food & Beverage sector. Environmental impacts are unequally distributed along the food chain with a high concentration at the level of agricultural production. This is the case for almost all food products (e.g. Beef, rice, coffee).

<https://www.adelphi.de/en/system/files/meSlidethek/bilder/Umweltatlas%20Lieferkette%20-%20adelphi-Systain-englisch.pdf>

Ourworldindata, 2020: <https://ourworldindata.org/environmental-impacts-of-food>

Slide 53



The food and beverage sector is **highly dependent** on healthy and productive farmlands **for the continuity of supply**.

The report *An enhanced assessment of risks impacting the Food & Agriculture sector* by WBCSD/KPMG (2020) provides a holistic assessment of companies' exposure to food system challenges. The report shows how the different risks are interrelated and categorizes them into:

Top influential risks:

- Understanding agricultural practices
- Regulation
- Inefficient production practices

Top influenced risks:

- Inefficient production practices
- Regulation
- Land degradation

This tells us that the top (influential and influenced) risks are related to primary production – and hence engaging with farmers should be a priority for companies in the food & beverage sector. Supporting farmers with improving agricultural practices is thereby the foremost important risk mitigation strategy.

<https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Enterprise-Risk-Management/Resources/An-enhanced-assessment-of-risks-impacting-the-Food-Agriculture-sector>

Slide 54



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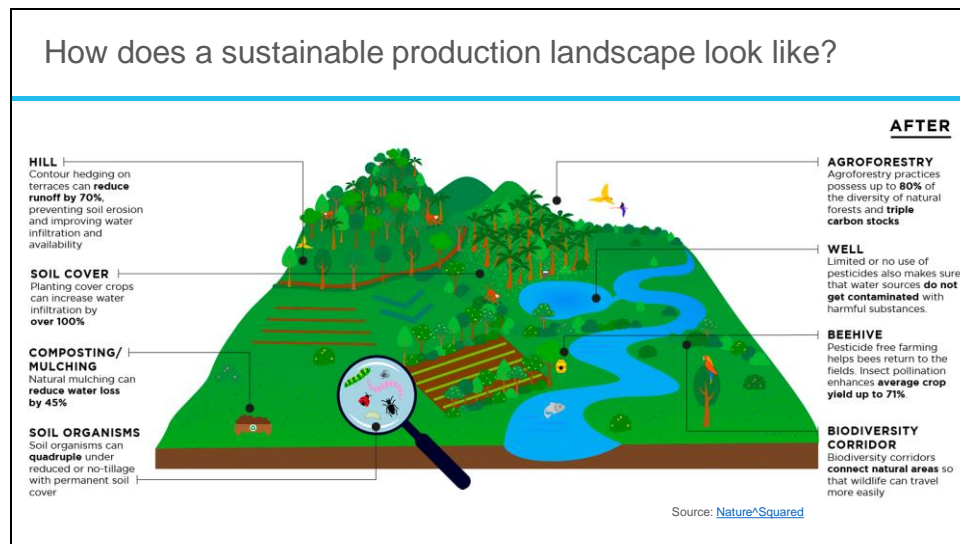
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Slide 55



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Agriculture-sector

Slide 56

How to organize sustainable change at farm level?

Refer to p. 19 of your workbook

Cooperation and partnerships	Certification and standards	Implementing Sustainability Standards in your company's supply chain
<ul style="list-style-type: none"> Can be formed around specific commodities or themes. Pre-competitive – focus on mutual learning and jointly addressing challenges through shared solutions. 	<ul style="list-style-type: none"> Third-party verification enhancing accountability. Particularly beneficial for “commodity” supply chains – indirect sourcing. 	<ul style="list-style-type: none"> Exercising more control over your supply chain e.g. by changing your sourcing model, drafting sustainability supplier requirements, and providing support to farmers.



Categorisation based on SAI report (2015) *Sustainable Sourcing of Agricultural Raw Materials: a Practitioner's guide*:

“https://saipatform.org/wp-content/uploads/2019/04/sai-sustainable-sourcing-guide-_june-2015.pdf”

The report is produced in collaboration with IMD, CSL, International Trade Centre, IDH the Sustainable Initiative with support from BSR, Sedex and the Sustainable Food Laboratory.


Strategies can also be combined.

Slide 57



Cooperation and partnerships


Biodiversity Monitor for Dairy Farming

The collaboration between dairy cooperative [Friesland Campina](#), [Rabobank](#), [WWF](#) and the [Louis Bolk Institute](#) is a great example of a project-led partnership. Together, they have developed the Biodiversity monitor for dairy farming. The monitor helps to quantify the actions of dairy farmers to strengthen biodiversity on their farms and beyond. It also aims to develop new revenue models across the supply chain to reduce dairy farmers' dependence on government funding. Financial partner, Rabobank played a key role in this regard.



- **Industry-wide cooperation** has become increasingly common in the food & beverage sector.
- **Sector/commodity-led roundtables** and partnerships around a variety of products have come into being.
- Next to collaborating with peers/competitors in the industry, businesses are forming **project-led partnerships** with stakeholders including NGOs, local communities, public authorities and the financial sector.



Industry-wide cooperation:

- **OP2B:** One Planet for Business and Biodiversity. An international cross-sectoral, action-oriented business coalition on biodiversity with a specific focus on agriculture. Initiated within French President Macron's One Planet Lab framework, launched at the United Nations Climate Action Summit in New York on 23 September 2019. Hosted by the [World Business Council for Sustainable Development \(WBCSD\)](#).
<https://op2b.org/>
- **BIER:** Beverage Industry Environmental Roundtable. A

Hosted by the [World Business Council for Sustainable Development \(WBCSD\)](#).
<https://www.bieroundtable.com/>

- **SAI platform:** for sustainable agriculture. Non-profit network.
<https://saipatform.org/>

Sector/commodity-led roundtables:ables around specific commodities have come into being, including among others the World Cocoa Foundation, the Ethical Tea Partnership, the Global Roundtable for Sustainable Beef, the Roundtable on Responsible Soy association.

Project-led partnerships:

- Collaborative initiative between Rabobank, WWF and Friesland Campina (Dutch dairy producer) on the creation of a biodiversity monitor for the dairy farming sector:
http://biodiversiteitsmonitormelkveehouderij.nl/docs/Biodiversiteitsmonitor_engels.pdf

Slide 58

Certification & standards

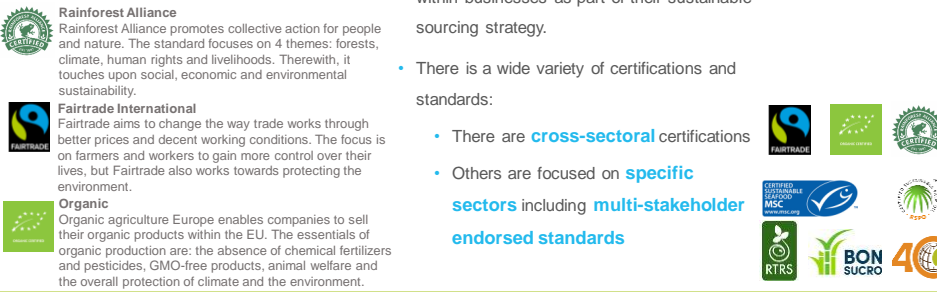
Certification schemes applicable to a wide range of commodities

Rainforest Alliance
Rainforest Alliance promotes collective action for people and nature. The standard focuses on 4 themes: forests, climate, human rights and livelihoods. Therewith, it touches upon social, economic and environmental sustainability.

Fairtrade International
Fairtrade aims to change the way trade works through better prices and decent working conditions. The focus is on farmers and workers to gain more control over their lives, but Fairtrade also works towards protecting the environment.

Organic
Organic agriculture Europe enables companies to sell their organic products within the EU. The essentials of organic production are: the absence of chemical fertilizers and pesticides, GMO-free products, animal welfare and the overall protection of climate and the environment.

- Certification and standards are often used within businesses as part of their sustainable sourcing strategy.
- There is a wide variety of certifications and standards:
 - There are **cross-sectoral** certifications
 - Others are focused on **specific sectors** including **multi-stakeholder endorsed standards**



WE VALUE NATURE

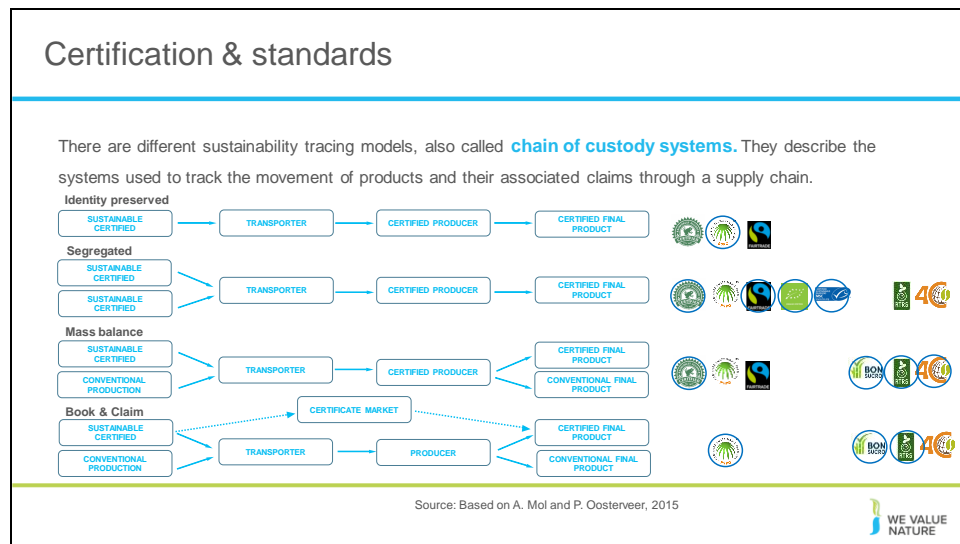
Examples of cross-sectoral certifications in the food & beverage sector:

- Fairtrade - <https://www.fairtrade.net/>
- Organic
- Rainforest Alliance - <https://www.rainforest-alliance.org/>

Examples of certifications/standards for specific commodities:

- RSPO: Roundtable for Sustainable Palm Oil - <https://rspo.org/>
- RTRS: Roundtable for Responsible Soy - <https://responsiblesoy.org/>
- Bonsucro: multi-stakeholder non-profit organization promoting sustainable sugarcane - <https://www.bonsucro.com/>
- MSC: Marine Stewardship Council. Certified sustainable seafood - <https://www.msc.org/>

Slide 59



There are a range of different CoC models that describe the systems used to track the movement of products and their associated claims through a supply chain.

[https://www.isealalliance.org/sites/default/files/resource/2017-](https://www.isealalliance.org/sites/default/files/resource/2017-11/ISEAL_Chain_of_Custody_Models_Guidance_September_2016.pdf)

[11/ISEAL_Chain_of_Custody_Models_Guidance_September_2016.pdf](https://www.isealalliance.org/sites/default/files/resource/2017-11/ISEAL_Chain_of_Custody_Models_Guidance_September_2016.pdf)

Four chain of custody systems can be identified (from a high level of traceability to a low level of traceability):

- **Identity preserved** – this system ensures that the certified product delivered to consumer is uniquely identifiable and can be related to the identity of the producer (farmer). Thus, you know which farmer produced the coffee beans for your cup of coffee. The system results in high costs due to the complex logistics, monitoring, reporting and verification.
- **Segregation** – this system ensures the consumer that the product has been developed in a way that meets all the requirements of a certification scheme. The difference with identity preserved is that the final product cannot be traced back to individual producers. Thus, while you can be certain that your coffee is produced according to the sustainability requirements, you don't know who actually farmed the green beans. Due to economies of scale and increased competition, this model is less costly than identity preserved.
- **Mass balance** – this system ensures that the volume of certified products downstream equal the volume of certified products upstream. The system allows mixing of certified and non-certified produce along the value chain, as long as the volume of certified produce being bought and sold is the same. This means that your sustainable cup of coffee is likely to contain both beans that are certified and beans that are non-certified. As no separate storage, transportation and production processes are needed and less monitoring is required, costs are lower compared to the first two systems.
- **Book and Claim** – this system moves away from any physical link between the certified crop and the final certified product. Producers under this model can register their

sustainable produce at a trading platform and receive a tradable certificate. Companies further down the supply chain can in turn buy these certificates and use these to sell certified sustainable products to their consumers. The price for these certificates is dependent on demand and supply and may vary widely. The major advantage of this system is that no segregation, monitoring and registration is needed, allowing for easy trade of larger volumes of sustainable products.

Source: Arthur P.J. Mol and Peter J.M. Oosterveer, *certification of markets, markets of certificates: tracing sustainability in global agro-food value chains*, 2015.

The blue circles indicate which chains of custody are most commonly used for the certification in question.

Slide 60

Implementing Sustainability Standards in your Company's Supply Chain

Jerónimo Martins

Jerónimo Martins made a commitment to only sell fish species whose capture or production does not cause overexploitation. To meet this commitment, the Group carries out an assessment every three years (following the [IUCN Red List](#)) of the level of vulnerability of all the fish species sold in their companies.

The assessment provides clear lines of action, informing Jerónimo Martins' strategy on sustainable fishing. The group completely bans critically endangered species (such as eel) and no longer sells endangered species unless sourced from sustainably produced stocks or when sustainably certified. Moreover, the Group limits the sourcing of vulnerable species and finds the stocks that are best managed.

- Businesses can also directly **implement sustainability standards in their own supply chain**
- They can do this by:
 - **Integrating sustainable sourcing requirements into the existing sourcing model** (e.g. by including sustainability issues in supplier requirements) - or **adapting the sourcing model** (e.g. to a direct sourcing model);
 - **Supporting farmers and suppliers** (e.g. with trainings and premiums);
 - **Monitoring the implementation** of the sustainable sourcing strategy (including e.g. blockchain, tools and scorecards).



SAI report (2015) *Sustainable Sourcing of Agricultural Raw Materials: a Practitioner's guide*:
https://saipatform.org/wp-content/uploads/2019/04/sai-sustainable-sourcing-guide-_june-2015.pdf

Slide 61

How to engage with farmers on the topic of natural capital?

Refer to p.
19 of your
workbook

- When discussing natural capital, it is key to **bring farmers into the discussion**. *"Bring in the supply side companies to talk about challenges and solutions at farm level"* (Ruth Thomas, director Global Agribusiness Alliance (GAA)). Also leverage their **local knowledge** of the area when addressing issues such as biodiversity, water, etc.
- **Natural capital may not be the best entry point** for a conversation. Rather, focus on **the day-to-day realities farmers face** – what specific issues are they confronting? What is urgent to them? *"Be specific. Talk about soil or water for example. Do not use jargon"* (Jane Duncan, SAI Platform).
- In a conversation, be clear about what natural capital is e.g. **an integrated approach that includes so many areas** that farmers are already working on. *"You want to avoid is creating confusion by bringing in too many concepts"* (Jane Duncan, SAI Platform). **Start with practical on the ground issues** that relate to other capital themes (e.g. biodiversity, air, climate).

Slide 62

How to engage with farmers on the topic of natural capital?



- On [We Value Nature's website](#), you can find action cards describing [useful actions](#) for a [farmer](#) & [ways to engage others](#) in the company on natural capital.

Slide 63

Mentimeter

Refer to p. 20 of your workbook

What top 2 risks at farm level have you identified for your company?

How does your business organize sustainable change at farm level?

WE VALUE NATURE

First ask respondents about the top 2 risks that they see for their company at farm level? The next question revolves around how they organize sustainable change at farm level, using the categories as explained in the previous slides:

- Industry wide cooperation & partnerships
- Standards and certification
- Implementing sustainability requirements in company's supply chain
- Other

Slide 64

Moving to the other end of the supply chain: the consumer Refer to p. 21 of your workbook

- **Moving downstream** the supply chain, businesses engage with consumers who buy their food & beverage products.
- Here is where the **marketing** of your sustainability efforts take place and where consumers reward your efforts by **buying** your products.



Source: Capitals Coalition, *TEEB for agriculture and food: operational guidelines for business*, 2020

64 

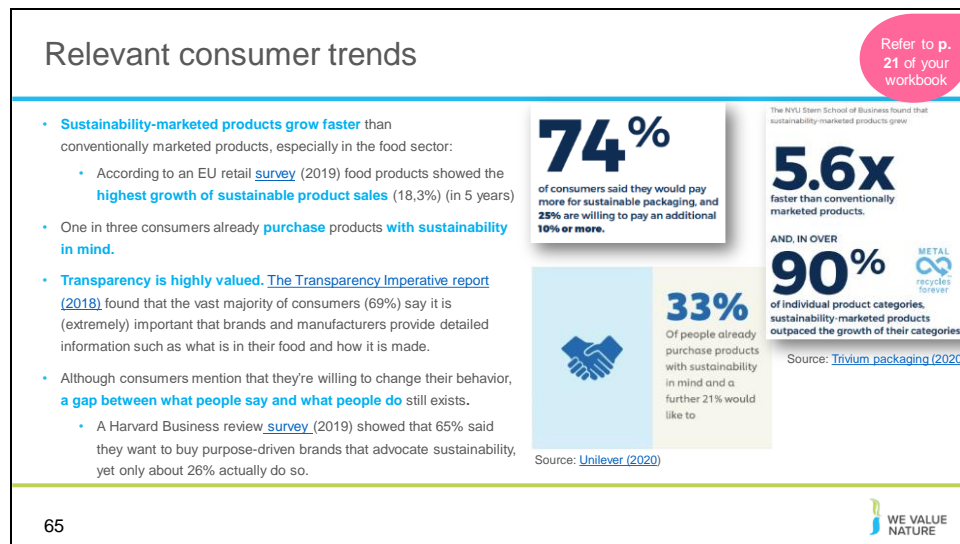
Presenter to explain why businesses should engage with consumers on the topic of natural capital.

- Consumers are the actors in the supply chain who eventually buy the F&B products.

Finding a market for sustainably produced products is important for your business. It is therefore key to engage consumers on the topic of natural capital.

TEEB FOR AGRICULTURE AND FOOD: OPERATIONAL GUIDELINES FOR BUSINESS

Slide 65



Presenter to explain that there are positive consumer trends on natural capital.

Consumers find it increasingly important to buy products that are produced sustainably. The market for sustainable products is now growing faster than the market for conventional products.

However, we still see a mismatch in what people say and how they act (in the supermarket).

Harvard Business review 2019 survey

<https://hbr.org/2019/07/the-elusive-green-consumer#:~:text=In%20one%20rec>

The European Union market for sustainable products (2019)

<https://www.intracen.org/publication/The-European-Union-market-for-sustainable-products/>

FMI-Label Insight (2018):

<https://www.fmi.org/blog/view/fmi-blog/2018/09/21/transparency-can-impact-the-bottom-line>

Unilever (2020) – Consumers and sustainability

<https://www.unilever.com/sustainable-living/our-strategy/consumers-and-sustainability/ent%20survey%2065,about%2026%25%20actually%20do%20so.&text=We%20have%20been%20studying%20how,marketing%2C%20economics%2C%20and%20psychology>

2020 Global Buying Green Report

<https://triviumpackaging.com/sustainability/2020BuyingGreenReport.pdf>

Slide 66


How to engage consumers on natural capital?

Refer to p. 22 of your workbook

Useful resource: WBCSD: Food & Agriculture Roadmap – Chapter on policy recommendations from a consumer perspective

Third-Party Certification	Storytelling	Blockchain technology	True Cost Accounting
<ul style="list-style-type: none"> Useful mechanism to communicate wider sustainability efforts. Helps build credibility towards consumers as the sustainability performance has been verified by an external party. Labelling is an effective instrument to guide consumer choices if done in a clear manner. 	<ul style="list-style-type: none"> Strong in communicating a narrative that helps to emotionally connect consumers to your product. Particularly helpful to communicate about specific sustainability activities, above industry standards. Often not externally verified. 	<ul style="list-style-type: none"> Providing far-reaching transparency on the product's supply chain. Effective in communicating information on pricing and quality. Its strong traceability helps create trust among consumers. 	<ul style="list-style-type: none"> Strong in informing people about a wide range of sustainability aspects related to a product. Putting a price on social and environmental issues to influence consumer choices.

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Slide 67

Third-Party Certification

Clipper



In their quest to become more natural and reduce their impact on the environment, all Clipper teas are organic certified. This means that Clipper only uses ingredients from non-GM sources and that the use of chemicals is discouraged.

Clipper is committed to organic production as: *"Frankly, there's no reason not to choose organic tea! It's better for wildlife and the environment and, arguably best of all, still tastes absolutely delicious".*

- Third-Party certification means that an **independent organization** has reviewed the production process of a product and has independently determined that the final product **complies with specific standards** for safety, quality or performance.
- There are various third-party certifications that include natural capital topics such as Fairtrade and Organic.
- These help create **credibility** towards consumers and can be communicated **on-packaging**.



Slide 68

Storytelling

Nespresso

"For over 30 years, we have been learning how to integrate sustainability into our activities, seeking to improve our operations and generate positive impact. Today, we call this The Positive Cup."

Nespresso is strong in communicating stories about the origin of their product: coffee. Through inspiring [videos](#), Nespresso tells personal stories of farmers' relation with nature and how their livelihoods have changed.



- Storytelling is about using a narrative to **communicate a message**.
The aim is to **convey a feeling** to inspire people to **take action**.
- Storytelling is a process of **emotionally connecting** consumers to the product, i.e. how did the product come into being? Whose faces and stories are behind the product?
- It can be a useful instrument to engage consumers and give them **sustainability ownership**.
- Formulating a **clear purpose and a set of values** will serve as a critical reference point to your story.
- Storytelling can be done through **on-product and off-product communication** (e.g. website/social media/advertising).


Slide 69

Storytelling



<https://www.youtube.com/watch?v=9il8B7ixa2o>

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Slide 70




Blockchain Technology

Verstegen Spices & Sauces

Verstegen Spices & Sauces works together with [Fairfood](#) on the use of blockchain to make the production of nutmeg transparent. Through the use of QR-codes, blockchain technology provides insight to consumers into the origin of the nutmeg and gives farmers useful information about the supply chain.


Verstegen aims to involve consumers and strengthen collaborations with farmers by using blockchain. Ultimate goal is to empower farmers and stimulate farmer entrepreneurship.



	Jemi 2,070.10 Kilogram 20 Transactions Balane, Indonesia
	Emawati 307.30 Kilogram 11 Transactions Tabawa, Indonesia
	Tony 416.00 Kilogram 10 Transactions Ukuanano, Indonesia

- A blockchain is a **digital record of transactions**.
- Blockchain can be used to provide a **high degree of transparency**. Through the necessary **encryption and control mechanisms**, blockchain safeguards transparency by storing information in such a way that it cannot be altered without recording the changes made.
- Blockchain technology facilitates end-to-end **traceability** of a product, stimulating greater customer involvement. It can be used to create an **honest and trustworthy** brand.
- This can be done in an **online environment** (e.g. QR-codes/website/social media).

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Slide 71

True Cost Accounting

Useful resource:
WBCSD- [The true value of food](#)

Eosta



Eosta is a distributor of fair and organic fruits and vegetables. They have developed a practical tool for True Cost Accounting in the Financial, Food and Farming Sectors.

Eosta reveals the monetary value of social and environmental impacts that are related to organic and non-organic fruits and vegetables. This true pricing helps inform consumers about the hidden impacts of the products they buy in the supermarket. As the price of externalities is higher for non-organic products, the pilot can be an important mechanism to stimulate consumers to buy organic.



- True cost accounting is a **new type of bookkeeping** that does not just include the usual financial values within a company, but also **the impacts on the natural and social environment** in which a company operates. These impacts are calculated in monetary terms, so they can be incorporated into a new profit definition.
- A true price consist of **the market price plus social and environmental externalities**.
- True costs accounting shows consumers that there is an **environmental and social price tag** attached to the production of products. This **creates awareness** and helps conscientious consumers to **choose the right product**.

Slide 72

True Cost Accounting

Useful resource:
WBCSD - [The true value of food](#)

wbcsd



people are living well and within the boundaries of the planet.

<https://www.youtube.com/watch?v=T3oh95Ec2p0>

72




Slide 73

Creating an inductive company environment for integrating natural capital


Refer to p. 23
of your
workbook

- Integrating natural capital into business decision-making is a **collaborative process**.
- Each person in a company has its **own role** to play in driving sustainability. Sometimes, i.e. in the case of SMEs, one person can embody different roles.
- To empower your colleagues and managers and collaborate effectively, you need to be aware of the **challenges and needs** for each role.
- Please visit [WeValueNature's digital media library](#), to find all action cards describing **useful actions** for a **various roles & ways to engage others** in the company on natural capital.


Sustainability Manager




Chief Executive Officer




Chief Financial Officer




Procurement Officer




Marketing manager



Farmer



73


Companies need to secure internal buy-in to get the green light for starting a natural capital assesement and to ensure that the results will be used in future decision-making proceses. Point out that under WeValueNature's meSlide library, participants can find **persona actions cards** for key roles within a company (e.g. CEO, CFO, sustainability manager, procurement manager, marketing manager, farmer), describing useful actions that he/she can take, the challenges and needs, and guidance for effectively engaging on the topic of natural capital.

Slide 74

Mentimeter

Refer to p. 22 of your workbook

What top 2 challenges do you face in marketing your sustainability efforts?

How does your business engage with consumers?

WE VALUE NATURE

First ask respondents about the top 2 risks that they face in marketing their sustainability efforts.

The next question revolves around how they engage with consumers, using the categories as explained in the previous slides:

- Third party certification
- Storytelling
- Blockchain technology
- True cost accounting
- Other

Slide 75

Creating an inducive company environment for integrating natural capital

Sustainability Manager

Natural Capital Persona Action Card

Actions

- Collaborate & identify allies – bring on board relevant departments and colleagues, and learn from experts and other companies that have already started the journey

Needs

- Cross-collaboration & support – create cross-departmental connections to support your sustainability journey
- Financial support – more clarity on where and how to get started, what are the most useful tools to build on and which tools are not relevant

Challenges

- Getting internal buy-in and support – share your vision and vision documents and explain the importance of natural capital in your business
- Translating complex environmental issues into a language that is understood by others in the company
- Retrieving needed resources and datasets

How to engage with a Sustainability Manager on natural capital?

- Be open to making changes – when you get the business case, and identify relevant opportunities in your sustainability
- Be patient and see questions to understand why natural capital is important for the business
- Be clear on your goals and see them as a long-term strategy
- Find out the most relevant natural capital metrics and dependencies, focusing on those that are outside of the current sustainability strategy to ensure relevant data gaps

Chief Executive Officer

Natural Capital Persona Action Card

Actions

- Understand your company's link to sustainability, and in particular the current natural capital challenges

Needs

- Cross-collaboration & support – create cross-departmental connections to support your sustainability journey
- Financial support – more clarity on where and how to get started, what are the most useful tools to build on and which tools are not relevant

Challenges

- Getting internal buy-in and support – share your vision and vision documents and explain the importance of natural capital in your business
- Translating complex environmental issues into a language that is understood by others in the company
- Retrieving needed resources and datasets

How to engage with a CEO on natural capital?

- Point the overall picture why is natural capital important for the company? Start on the main risks and opportunities
- Communicate how natural capital issues tie to the company's overall strategy
- Include what other companies are already doing
- Share CEO and company's strategy and vision on natural capital
- Be clear on your goals and see them as a long-term strategy
- Find out the most relevant natural capital metrics and dependencies, focusing on those that are outside of the current sustainability strategy to ensure relevant data gaps

Find a personas action card for each identified role through We Value Nature's [digital media library](#)

Sustainability Manager

Actions

- Collaborate & identify allies
- Identify entry points
- Mitigate & manage your impacts and dependencies
- Set targets
- Monitor & report
- Integrate & take action

Needs

- Cross-collaboration & support
- Financial support
- More clarity on how and where to get started

Barriers

- Getting internal buy-in and support
- Translating complex environmental issues into a language that is understood by others
- Retrieving needed resources and datasets

How to engage?

- Be open to making changes

- Be curious and ask questions
- Discuss how natural capital relates to the current sustainability strategy
- Point out the most material natural capital impacts and dependencies

CEO

Actions

- Understand your company's link to sustainability
- Strategize and allocate resource
- Governance
- Set ambitious goals and targets
- Develop and implement scalable solutions
- Be vocal and challenge peers
- Lead

Needs

- Clear and concise messaging
- Good understanding of the urgency and business case
- Information translated into actionable options

Barriers

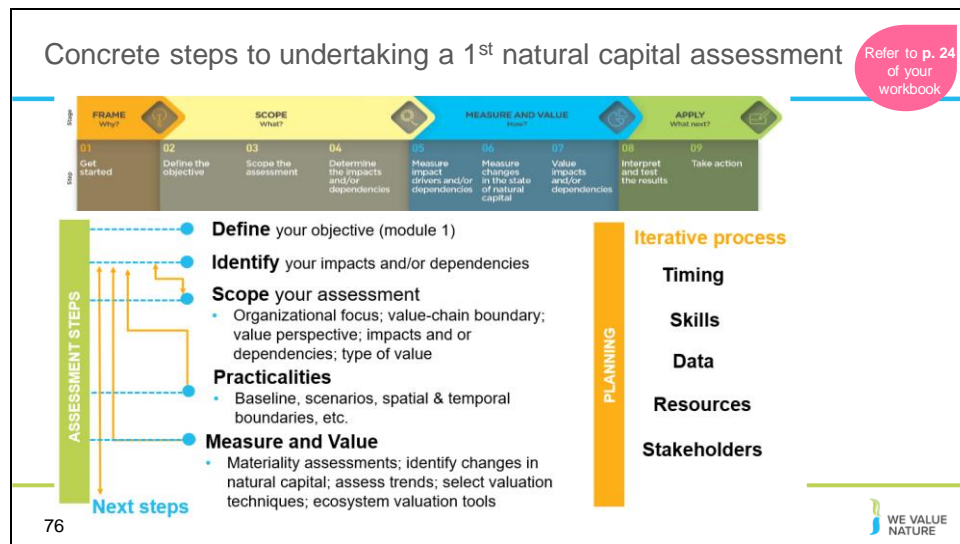
- Understanding the complexities of sustainability
- Limited time
- Balancing responsibility for nature with responsibilities towards shareholders

How to engage?

- Paint the overall picture of why NC is important to the company
- Show how NC related to the current strategy
- Indicate what other companies are already doing
- Ask for commitment, even when starting small

All cards can be retrieved through: [LINK FORTHCOMING](#)

Slide 76



Presenter to explain the steps to undertaking a 1st natural capital assessment using the Slidegram on the slide.

Slide 77

Re-cap of the learning objectives module 2


- ❖ To understand how to **identify natural capital impacts and dependencies** that are **important** to your business
- ❖ Acquire the necessary tools, resources and understanding to **scope your own assessment**
- ❖ To be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools** to help undertake an assessment
- ❖ To understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them
- ❖ To **introduce valuation** following on from the brief overview provided in module 1



Slide 78

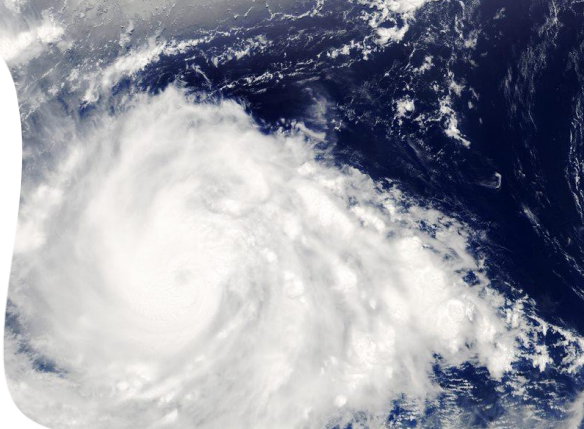
Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

Slide 79

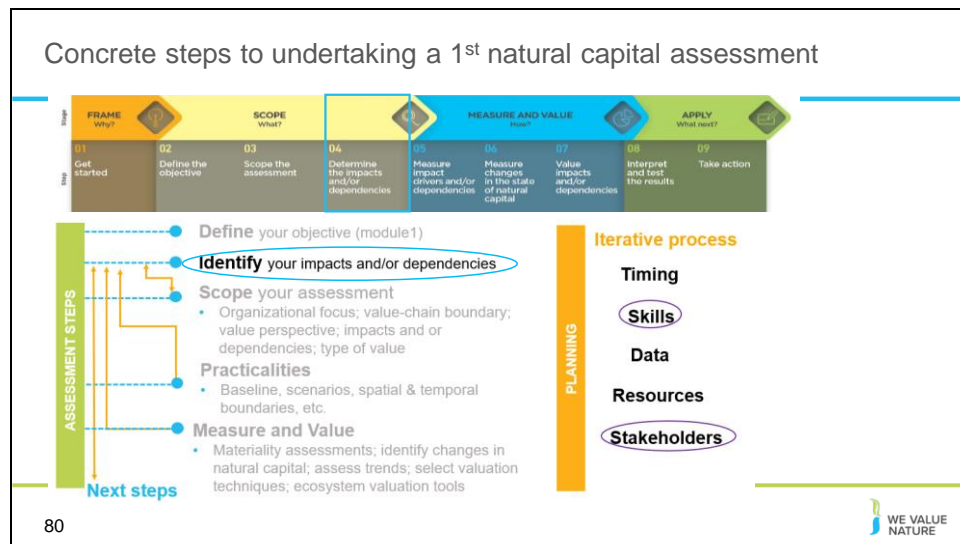


**Identifying your
natural capital
impacts &
dependencies**

*Impact drivers and
dependency pathways*



Slide 80



Presenter to explain the steps to undertaking a 1st natural capital assessment using the Slidegram on the slide. Presenter to explain that defining the objective has been explained in module 1. The next step is identifying your impacts and/or dependencies.

Collecting this information may involve:

- Seeking expert opinion and/or analysis, or leveraging existing information (e.g., results of an environmental impact assessment) and local knowledge of key issues;
- Consulting stakeholders (internal and/or external) (e.g., interviews, workshops, questionnaire surveys);
- Compiling publicly available information on specific issues (e.g., case studies from relevant locations, land-use maps, species threat assessments);
- Conducting a rapid assessment of value (e.g., what proportion of total sales revenue depends upon a specific ecosystem and/or abiotic service? What is the financial value of the production asset involved?); and, where available,
- Referring to dedicated sector guidance (e.g., sector guides accompanying the Natural Capital Protocol).

It is recommended to establish a panel of relevant people with a broad range of skills to complete the materiality assessment, and to ensure the panel is consistent throughout the assessment.

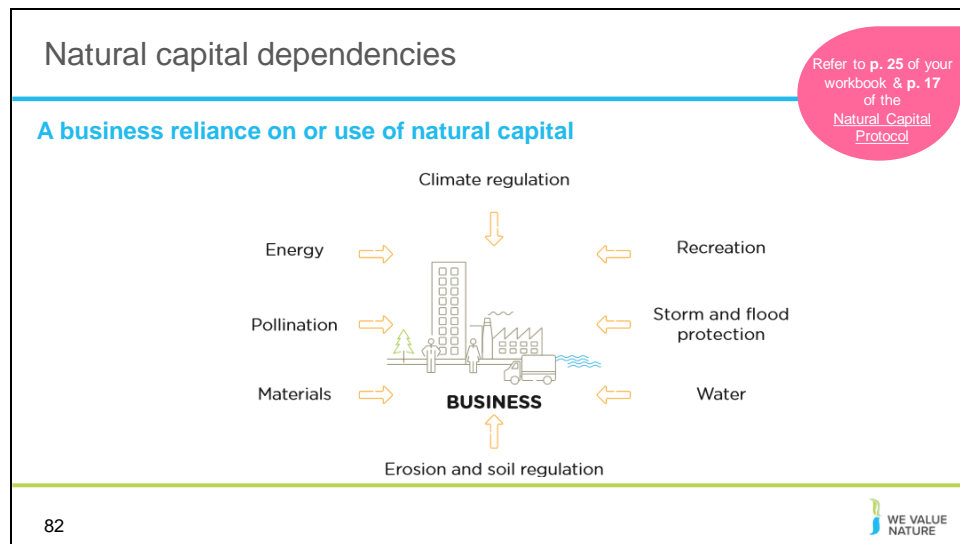
Slide 81

Optional video – practical example of impacts/dependencies



Source: example from Haagen-Dazs on their honeybees pollinator habitat project
<https://www.youtube.com/watch?v=qtgm-3EQOU4>

Slide 82



Presenter to provide detail on natural capital dependencies using the notes below and referring to p. 34 of the Natural Capital Protocol:

The protocol defines natural capital dependency as: A business reliance on or use of natural capital. This can occur in your direct operations or somewhere else in your value chain.

Presenter to link natural capital dependencies with the risks and opportunities material covered in M1, using the notes below. Presenter to elaborate on the business impact Slidegram, using some examples:

- Again, thinking back to some of the content in M1, we can see how natural capital dependencies can pose different risks and opportunities for businesses. This is useful in establishing the value of natural capital dependencies in relation to other inputs and services that you rely on.
- **Energy e.g. energy as a critical production input in a factory**
 - A reliance on energy may pose financial risks due to volatilities in the energy market which could impose higher costs on the business
 - This could also open up financial opportunities if “green funds” become available for more renewable energy sources
- **Pollination e.g. regulating service critical in agriculture**
 - This may pose an operational risk for agricultural sectors if pollination services start to vary
- **Materials e.g. reliance on food crops**

- This may pose a societal risk if local communities start to experience reduced access to woodland or related ecosystem services as a result of business activities
- This may pose a societal opportunity if local communities start to benefit from agriculture
- **Erosion and soil regulation e.g. essential for beverage companies**
 - This may pose legal and regulatory risk if businesses are faced with fines, penalties, compensation or legal cost from regulation efforts
- **Water e.g. reliance on water to produce beer**
 - This may pose reputational and marketing risk if loyalty of key suppliers of business services in the water industry falls
- **Storm and flood protection e.g. local flood barriers**
 - Reliance on flood barriers could pose increasing risk as climate change makes flooding more likely in certain regions
 - Investing in natural flood measures could provide wider benefits to local communities and thus benefit the business through reputation
- **Recreation e.g. for tourist attraction**
 - If businesses rely on recreation such as tourist attractions to raise employee morale, they may be at risk of attracting and retaining their employees due to the volatility of the tourism industry – this could lead to higher recruitment and retention costs
- **Climate regulation e.g. natural filtration of water**
 - This may provide an operational opportunity if businesses invest in green infrastructure like water filtration services, thus reducing overall costs


Slide 83

Dependency pathway

- 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**

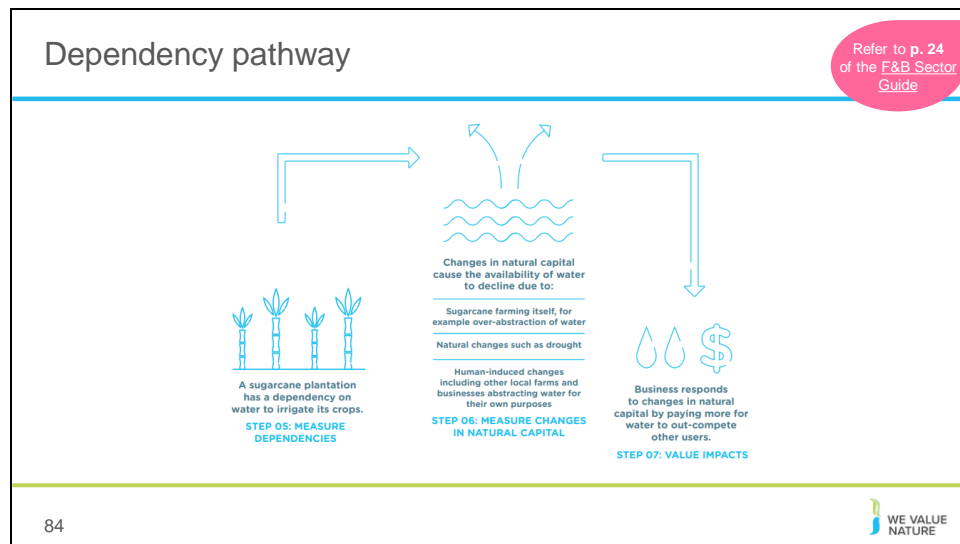
Refer to p. 24 of the F&B Sector Guide

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Presenter to explain dependency pathways, using the notes on the slide.

Slide 84



Presenter to then walk through the sugarcane example using the notes below and referring to p. 24 of the F&B sector guide:

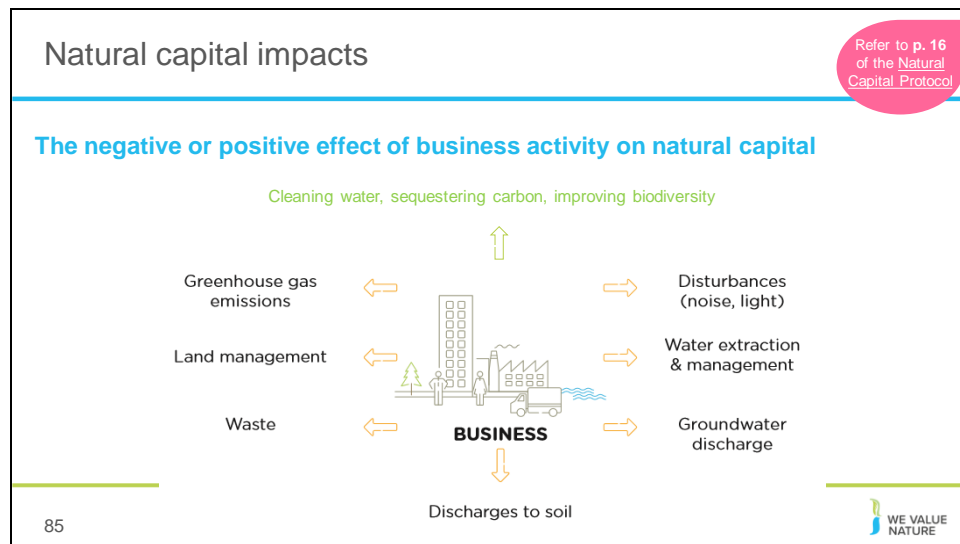
- Business activities at a sugarcane plantation have a dependency on water to irrigate the crops.
- Changes in natural capital cause the availability of water to decline due to:
 - Sugarcane farming itself, for example over-abstracting of water
 - Natural changes such as drought
 - Human-induced changes including other local farms and businesses abstracting water for their own purposes

The company may be paying more for the water now, but at some point, it may no longer have access to water in the area, no matter how much it costs - and this puts the company at risk, not just the cost of doing business.

Changes in natural capital affect business dependency (by paying more for water to out-compete other users), so water availability is important.

Links to risk – read one example from module 1

Slide 85



Presenter to provide detail on natural capital impacts using the notes below and referring to p. 16 of the Natural Capital Protocol:

The Protocol defines a natural capital impact as: The negative or positive effect of business activity on natural capital. They can arise directly from business operations or indirectly from the use of products and services. As a result of your impact on natural capital you can generate impacts on your business as well as impacts on society.

Presenter to link natural capital impacts with the risks and opportunities material covered in M1, using the notes below. Presenter to elaborate on the business impact Slidegram, using some examples:

- Thinking back to some of the content in M1, we can see how natural capital impacts can pose different risks and opportunities for businesses.
- GHG emissions e.g. transportation, primary production**
 - This may pose societal risks for businesses due to the health risks arising from the effect of air pollution on respiratory disease
 - On the other hand, this could pose a reputational and marketing opportunity due to new revenue streams offered in areas like carbon offsetting
- Land management e.g. forest management**
 - This may pose an operational risk by increasing natural hazard costs through degradation of natural ecosystems

- This may also pose an operational opportunity if businesses invest in sustainable and green land management, reducing costs by protecting against natural hazards and contributing to tackling the loss of biodiversity
- **Waste e.g. post-consumer waste**
 - This may pose legal and regulatory risks if new laws or license fees are established, charging more for waste disposal
 - This may also pose an operational opportunity for businesses if they minimise or add value to waste and recapture valuable materials otherwise discarded
- **Discharges to soil e.g. fertilizers & pesticides**
 - This may pose a financial risk if the business' sales fall due to negative publicity about the business' impacts on natural capital
- **Groundwater discharge e.g. wastewater**
 - This may pose operational risks if social conflict over polluted water adds to security costs
 - This may also pose societal opportunities if businesses use managed water catchments to improve water quality for local communities
- **Water extraction and management e.g. factory equipment cleaning**
 - This may pose a financial opportunity if businesses alter the way in which they go about water extraction, thus attaining "green funds" or investor interest in sustainability
- **Disturbances e.g. heavy machinery operation**
 - This may pose societal issues again as wider society is impacted negatively from heightened noise and light

Links to risk – read one example from module 1

Reputation risk – increased public & consumer awareness of environmental and social damages + consumers are increasingly demanding assurance that the products they buy are produced in way that protect our environment (link to pollution)

Legal risk – California looks set to regulate groundwater for the first time

Source: <https://www.theguardian.com/sustainable-business/2014/sep/03/california-drought-water-groundwater-regulation-bill-law-farm>

Financial risk – Underlying all of these risks & opportunities are financial ones! As we have seen, these risks imply important financial costs. Oatly, the plant-based brand, is facing consumer backlash following a recent investment round led by Blackstone – a name muddled by alleged ties with deforestation in the Amazon.

Source: Food Navigator (2020) https://www.foodnavigator.com/Article/2020/09/04/Oatly-cancelled-Fans-pledge-boycott-over-contentious-shareholder-Blackstone?utm_source=copyright&utm_medium=OnSite&utm_campaign=copyright

Campaigners defeat Coca-Cola plant in South India because it would worsen the already existing water shortages in the area and bring more pollution into the area.

Source: The Ecologist (2015) <https://theecologist.org/2015/apr/21/campaigners-defeat-coca-cola-plant-south-inSlide>

Links to opportunity

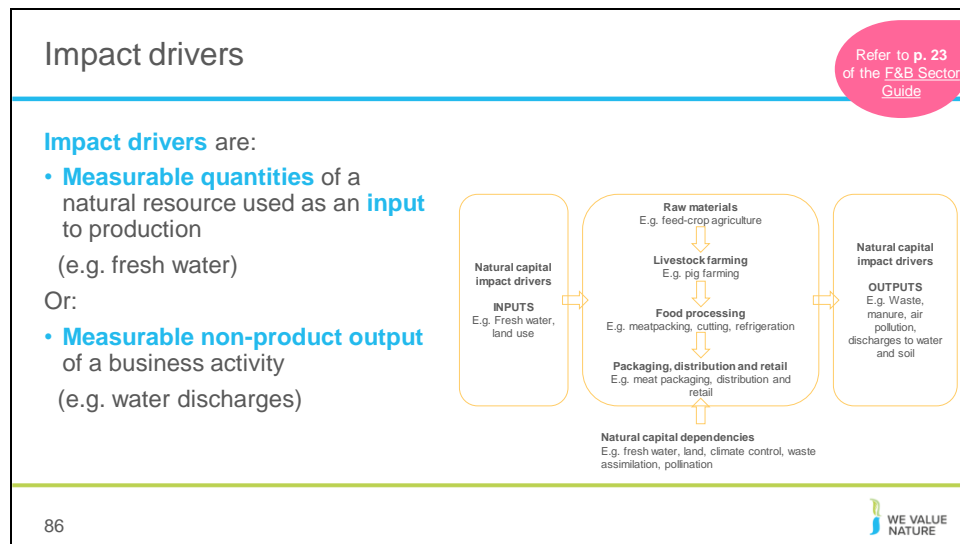
Operational opportunity – Adnams, a beer producing company in the UK, implemented rainwater harvesting and grey water recycling systems. The company uses around three pints of water for every pint of beer produced: that's almost half the industry average.

Source: <https://www.theguardian.com/sustainable-business/localism-water-security-food-drink-industry> (2012)

Reputation opportunity – Heineken's goal is to be fully circular by 2030, with breweries that are completely climate neutral.

Source: <https://www.foodbev.com/news/heineken-beer-in-the-netherlands-brewed-with-green-energy/> (2020)

Slide 86



Presenter to list some example impact drivers for the pork processor below:

Pork processor

Inputs: fresh water, land use

Outputs: waste, manure, water and soil discharges, air pollution


Slide 87

Impact pathway

- Business activities can **impact specific features** of natural capital
- An impact pathway can **identify how changes** in specific features of natural capital can **impact these activities**
- Knowing how changes affect business activities helps you identify the **cost of doing business**

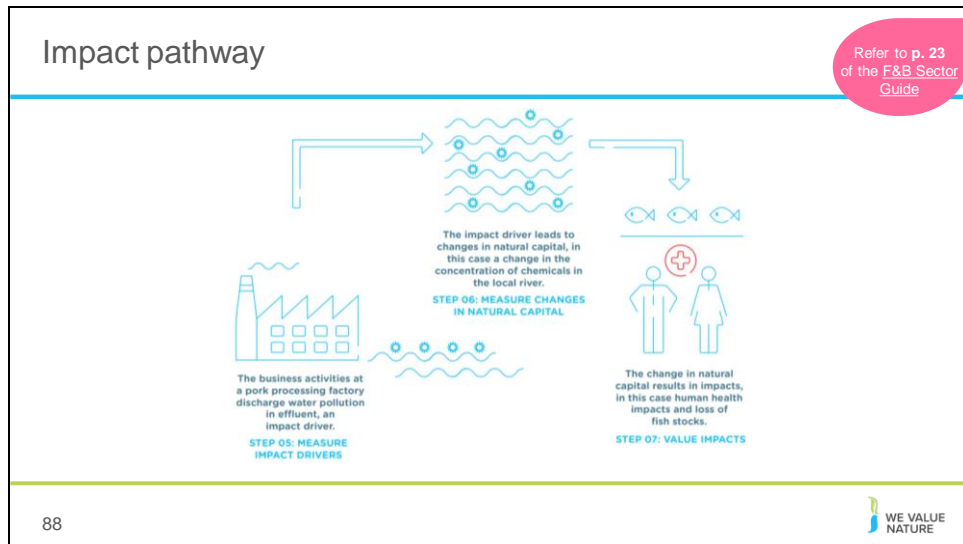
Refer to p. 27 of your workbook and p. 23 of the F&B Sector Guide

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Presenter to walk through the slide, explaining the general steps of an impact pathway.

Slide 88




Presenter to walk through the slide, explaining the general steps of an impact pathway, using the notes below and referring to p. 23 of the F&B sector guide:

- Business activities produce an impact driver (e.g. water pollution)
- Impact drivers lead to changes in natural capital (e.g. polluted river)
- Changes in natural capital result in impacts (e.g. health problems, decreasing fish stocks)

Slide 89

Knowledge check




Refer to p. 28
of your
workbook

Impacts,
dependencies,
or both?


Are the following examples of impacts or dependencies, or both?

- Soil regulation
- Pollination
- Water extraction

Dependency / Impact

0  10

89



Presenter to read the question on the slide.

Once poll is complete, presenter should explain that there are different answers:

- Impacts and dependencies are interrelated. Your assessment may cover your impacts, dependencies or both. This, in part, depends on business application and your objective. A complete assessment considers both impacts and dependencies to gain a full understanding of your company's risk and opportunity related to natural capital.
- Soil regulation – fundamental ecological process related to maintaining soil health (e.g. nutrient cycling, soil formation)
 - Businesses can be dependent on soil regulation. For example in the agricultural industry, businesses may be dependent on nutrient cycling in the soil to grow crops.
 - At the same time, heavy use of soil by a business can degrade the quality of the soil. For example, if an agricultural company uses chemical fertilisers or pesticides on the soil which harm soil quality
- Pollination
 - Businesses can be dependent on pollination. Bees pollinate 87 of the leading food crops worldwide. Insect pollination can increase crop yield by a quarter. (FAO, 2018)
<http://www.fao.org/3/i9527en/i9527en.pdf>
 - Yet agricultural practices themselves can profoundly affect pollinator supply and pollination. Extensive monocultures are associated with a limited pollinator supply and reduced pollination, whereas agricultural diversification can enhance both (Global Change Biology, 2019)

Source: Global Change Biology, 2019:
<https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14736>

- Water extraction
 - Businesses can be dependent on water resources as critical production inputs in their business
 - At the same time, water use by a company will often mean less water or lower quality water available for other stakeholders

This shows how dependencies on natural capital can result in natural capital impacts
– they are interrelated

Slide 90

How to use Mentimeter


- 1 Go to www.menti.com
- 2 Enter this code: **XXXXXX**
- 3 Submit your answer

Slide 91


Business example – Los Fiordos

Refer to p.
29 of your
workbook

- Los Fiordos is a **salmon farming company based in Southern Chile**, specializing in the production of Coho and Atlantic salmon and producing a variety of goods as well as portions and filets.
- Los Fiordos is a **vertically integrated company**: they supply their own fodder, eggs and juvenile fishes, own the largest salmon processing plant in Chile, and manage the freight of the produced goods.
- Most of the company's feedlot centers are located in Melinka and Puerto Cisnes, **two high value conversation zones**.



Source: [An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos \(2016\)](#)

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<https://www.pexels.com/photo/photo-of-person-holding-knife-3296280/>

Slide 92

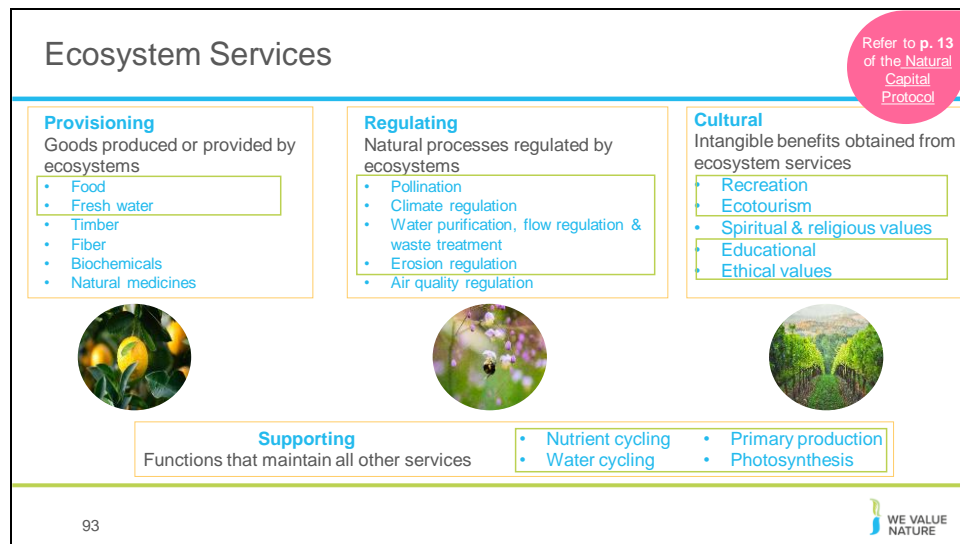
Business example – Los Fiordos (continued)

- The majority of salmon produced by Los Fiordos is **exported to foreign markets** such as the US (23.3%), Japan (18.5%) and Brazil (16.4%).
- The company's **main clients are supermarkets** (42.4%), **traditional markets** (44.6%), food service (12.8%), and industrial clients (0.2%) ([Agrosuper, 2014](#)).
- The company is a frontrunner in adopting sustainable practices and is part of **different initiatives focused on the development of a sustainable aquaculture**.
- Los Fiordos is **one of the largest** aquaculture businesses in Chile.



Source: [An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos \(2016\)](#)

Slide 93



Quick recap of the different ecosystem services.

This slide describes the four categories of ecosystem services and provides examples for each of the categories. The green line highlights the ecosystem services that are particularly relevant for the F&B sector.

- Ecosystems services are the benefits to people from ecosystems, where an ecosystem is defined as the interaction between complex plants, animals and microorganisms and their non-living environment
- Examples of ecosystem services **include pollination, water regulation & purification, soil biodiversity, pest control, climate regulation, erosion regulation, nutrient retention**
- Ecosystem services can be classified into provisioning, regulating, cultural and supporting services
 - Provisioning: material outputs from nature (**e.g. fresh water, food**) – the F&B sector is highly dependent on water and food to produce their final products.
 - Regulating: indirect benefits from nature generated through regulation of ecosystem processes (**e.g. Erosion prevention and maintenance of soil fertility, pollination, biological control**) – processes such as pollination and prevention of erosion improve soil fertility and can positively impact crop quality and yield.
 - Cultural: non-material benefits from nature (e.g. **recreational, ecotourism, educational, spiritual, ethical**) – while the benefits of cultural ecosystem services may not always be directly visible, they are part of the larger system around food & beverage production. While these benefits are strongly interlinked, we have provided a dotted line for the services that are most discussed in the F&B sector.

- Supporting: fundamental ecosystem processes that support the delivery of other ecosystem services (e.g. **nutrient cycling, water cycling**) – without these services, the F&B sector would not benefit from the other services provided by the ecosystem such as pollination and fresh water.
- There are many classification schemes for ecosystem services including the CICES and the FEES-CS which measure ecosystem outputs that are directly consumed or used by beneficiaries

Slide 94

Group exercise

Refer to p.
29-30 of
your
workbook

Natural Capital Impact:
The negative or positive effect of business activity on natural capital (e.g. water extraction)

Guiding questions:


- Impact on quantity or quality
- Does it affect the ability of others to benefit from ES?

Natural Capital Dependency:
Business reliance on or use of natural capital (e.g. pollination)

Guiding questions:

- Does it enhance/enable performance?
- Does it have cost-effective substitutes?

Los Fiordos' key impacts and dependencies		
Key ecosystem services	Dependency	Impact
Provisioning		
Food (crops, fish)		
Regulating		
Oxygen supply		
Water purification and waste treatment		
Maintenance of soil quality		
Pest mitigation		
Cultural		
Recreation and ecotourism		
Ethical and cultural values		

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Provisioning

Goods produced or provided by ecosystems

- Food (crops, fish): crops and fish (anchovies and sardines) needed to feed the salmon

Regulating

Natural processes regulated by ecosystems

- Oxygen supply: the supply of oxygen in the water
- Water purification and waste treatment: purification of the water and the decomposition of organic matter
- Maintenance of soil quality: soil quality is important for primary production
- Pest mitigation: In a healthy and biodiverse ecosystem, pests are controlled through other species in the trophic chain.

Cultural

Intangible benefits obtained from ecosystem services

- Recreation and ecotourism: recreational pleasure people derive from natural or cultivated ecosystems
- Ethical and cultural values: conservation of certain species (which are important for the nation)

Slide 95

Group exercise in breakout rooms

Refer to p.
30 of your
workbook

- We will now split into **breakout rooms**
 - Approx. 3 groups of 4 persons
- You will work through a table of **impacts & dependencies for Los Fiordos' operations in Chile**
- You will have **20 minutes** to discuss in your group
- You will be notified when you have **5 minutes** left
- Each group will have one of the **support team members to take notes**
- One member per group will be asked to provide **feedback in plenary** on the main points & reflections that came out of the discussion



Slide 96

Group exercise at tables

Refer to p.
30 of your
workbook

- Form groups of 3-4 at your tables
- You will work through a table of **impacts & dependencies for Los Fiordos' operations in Chile**
- You will have **20 minutes** to discuss in your group
- You will be notified when you have **5 minutes** left
- Each group will have one of the **support team members to take notes**
- One member per group will be asked to **feedback in plenary** on the main points & reflections that came out of the discussion



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Los Fiordos' key impacts and dependencies		
Key ecosystem services	Dependency	Impact
Provisioning		
Food (crops, fish)	Medium	Medium
Regulating		
Oxygen supply	High	High
Water purification and waste treatment	Medium	High
Maintenance of soil quality	High	High
Pest mitigation	High	High
Cultural		
Recreation and ecotourism	Low	High
Ethical and cultural values	Low	High

Source: [An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos \(2016\)](#)

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Priority ecosystem services are essential for the company's performance (**dependencies**) or the company has a rather significant, real or perceived, negative **impact** on the availability of ecosystem services used by others.

Questions to help determine dependency:

Does it enhance/enable performance?

Does it have cost-effective substitutes?

Questions to determine impact:

Impact on quantity or quality

Does it affect the ability of others to benefit from ES?

Provisioning:

Crops and industrial fisheries (Medium impact and dependency: The company has a medium dependence on crops and industrial fisheries, as they constitute the main source of protein in the fodder. Crops have gained an increasingly important role in fish feed. There are cost-effective substitutes to feed-fish such as soybean.)

Artisanal fisheries (Low dependency: Los Fiordos has a low dependency on this priority ecosystem service, since artisanal fisheries do not enhance Los Fiordos' performance. However, it is possible that some of Los Fiordos' practices contribute to the degradation of ecosystems on which other stakeholders depend. High impact: Through potentially enhancing eutrophication and increasing hypoxia, Los Fiordos may have an impact on the quantity of the benthic species and thereby the quality of the ecosystem service)

Regulating:

Oxygen supply (High dependency: the oxygen level in the water is essential for salmon production. Artificial oxygen supply does not represent a cost-effective solution as it requires

high investments. High impact: The large quantity of salmon being grown in the area requires large amounts of oxygen and may limit the oxygen availability to other salmon farms and other organisms living near the concessions)

Water purification, waste treatment, and maintenance of soil quality (High impact and medium dependency: a number of organism in the marine ecosystem support the decomposition of organic matter generated by aquaculture. However, when the level of hypoxia⁶ reaches a certain threshold, the ability to treat waste degrades -> soil quality degradation which could lead to a loss in productivity)

Pest mitigation (High dependency: A healthy and biodiversity ecosystem control pests, decreasing the risk of virus outbreaks that negatively impacting salmon production. No effective vaccine has been found. Furthermore, use of antibiotics and vaccines may lead to a resistance of fish outside net pens against diseases. There is no cost-effective substitute to this ecosystem service. High impact: pests can spread more easily since aquacultures mainly produce one specific species.)

Cultural:

- **Ethical and cultural values** (Low dependency: Los Fiordos' business operations are not directly affected by ethical or cultural values. High impact: one important ethical issue identified is the importance of the conservation of cetaceans. Whales and dolphins in particular, are national and pride symbols for the two locations. However, according to stakeholder representatives the number of cetaceans-sightings close to the shore has decreased since aquaculture operators started their business in the area. This could negatively affect the image of Los Fiordos as well as the willingness of communities to collaborate with the company)
- **Recreation and tourism** (Low dependency: Recreation and ecotourism is not a part of Los Fiordos' value-chain. High impact: stakeholder representatives criticize the visual contamination net pens generate, arguing that they obstruct tourism activities in the area. Hence, the activities of Los Fiordos and other aquaculture companies have a high negative impact on this cultural ecosystem service)

Slide 98

Los Fiordos' Value Added Statement

- The **Ecosystem Services Review** was the **first step** to create awareness of and to demonstrate the interdependence between a healthy aquaculture business and healthy ecosystems.
- They assess **ecosystem services** based on their importance to the company's performance and their availability and value to other stakeholders.
- The analysis includes information from **Los Fiordos' production operations** on the feedlot and pisciculture centers, located in the areas Melika and Puerto Cisnes.




Source: [An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos \(2016\)](#)

Slide 99


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 at the moment.



Use the blank spaces of your workbook p. 31 & refer to p. 47-48 of the Natural Capital Protocol

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Give participants 5' to reflect individually on both questions (again, depending on the time you have, you may want to spend more time on this).

Business impacts and dependencies are closely linked. For example, a company may depend on water, while the quality of its water management practices will affect the scale of impacts generated through its use of water.

Slide 100

Where we are in the learning objectives



- ✓ To understand how to **identify natural capital impacts and dependencies** that are **important** to your business
 - ❖ Acquire the necessary tools, resources and understanding to **scope your own assessment**
 - ❖ To be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools** to help undertake an assessment
 - ❖ To understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them
 - ❖ To **introduce valuation** following on from the brief overview provided in module 1

Slide 101



Slide 102

Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

Slide 103

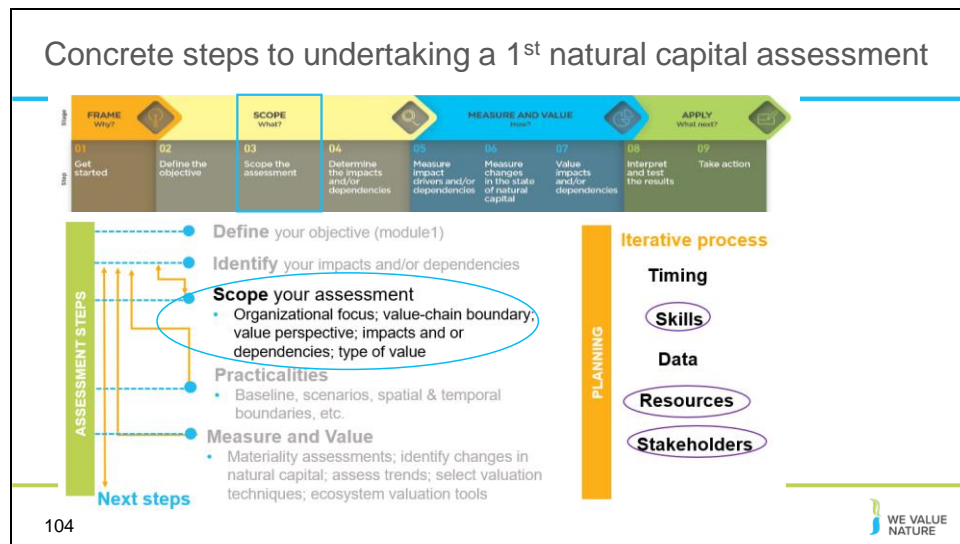


Scoping an assessment



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Slide 104



The following step is scoping an assessment. Based upon the business application you have chosen, you may decide to have a broad and shallow approach (i.e., assessing multiple impacts across the entire company or value chain) or you may choose a narrow and deep approach (i.e., fewer issues and a tighter scope with more detailed analysis).

The resources and skills required, and the degree of stakeholder involvement depend on the scope of your assessment.


Slide 105

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

Refer to p. 33 of your workbook & p. 42 of the Natural Capital Protocol

Source: Natural Capital Protocol

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The table shows the different components within the step 'scoping an assessment'.

Organizational focus: the part or parts of the business to be assessed (e.g., the company as a whole, a business unit, or a product, project, process, site, or incident). For simplicity, these are grouped under three general levels as below:

- Corporate: assessment of a corporation or group, including all subsidiaries, business units, divisions, different geographies or markets, etc.
- Project: assessment of a planned undertaking or initiative for a specific purpose, and including all related sites, activities, processes, and incidents.
- Product: assessment of particular goods and/or services, including the materials and services used in their production.

Value-chain boundary: The part or parts of the business value chain to be included in a natural capital assessment. An assessment of the full lifecycle of a product would encompass all three parts.

- Upstream (cradle-to-gate): covers the activities of suppliers, including purchased energy.
- Direct operations (gate-to-gate): covers activities over which the business has direct operational control, including majority owned subsidiaries.
- Downstream (gate-to-grave): covers activities linked to the purchase, use, re-use, recovery, recycling, and final disposal of the business' products and services.

Value perspectives: the perspective or point of view from which value is assessed; this determines which costs or benefits are included in an assessment.

- Business value: The costs and benefits to the business, also referred to as internal, private, financial, or shareholder value.
- Societal values: The costs and benefits to wider society, also referred to as external, public, or stakeholder value (or externalities).

Impacts and/or dependencies: the focus of your assessment; will you focus on measuring impacts and/or dependencies.




- Impacts on natural capital
- Dependencies on natural capital
- Both: an assessment that focuses both on the impacts created by business operations as well as their dependencies on natural capital

Types of value: The type of value you'll use when assessing your company's impacts/dependencies on nature (see next slide).


- Qualitative
- Quantitative
- Monetary

Slide 106

Ways of describing value

Qualitative	Quantitative	Monetary
 <p>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)</p> <p>Methods</p> <ul style="list-style-type: none"> • Non-numerical • Opinion surveys • Deliberative approaches • Expert opinions • Relative valuation 	 <p>Quantitative valuation techniques 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).</p> <p>Methods</p> <ul style="list-style-type: none"> • Numerical • Structured surveys • Indicators • Multi-criteria analysis (MCA) 	 <p>Monetary valuation techniques translate quantitative estimates of costs and/or benefits into a single common currency.</p> <p>Methods</p> <ul style="list-style-type: none"> • Numerical • Market and financial prices • Production function • Cost based approaches • Value transfer

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There are different ways of valuing – could be qualitative, quantitative and monetary

Important to note that quantitative data and how it is calculated is similar to what companies are used to in sustainability reporting.

Important to note that monetary values without any context (i.e. accompanying quantification) are less meaningful!

The method you choose depends on which natural capital impact drivers or dependencies you wish to assess, the chosen value perspective (e.g. business, societal, or both), the ultimate objective of your assessment, and the time and resources available.

Slide 107

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.	<ul style="list-style-type: none"> Community and other affected stakeholders (local residents, schools, other businesses, special interest groups, farmers etc.) Civil society (NGO, labor unions etc.)

Refer to p. 34 of your workbook & p. 26-27 of the Natural Capital Protocol

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Various stakeholders may contribute significant insights into the assessment and its results.

Internal stakeholders may be able to provide useful insights. E.g. colleagues from procurement have great knowledge of the supply chain.

External stakeholder input can provide greater robustness and credibility to the results.


Engaging with external stakeholders is certainly to be encouraged, bearing in mind that you may have to give some background on the basic concepts of a natural capital assessment.

Slide 108

Identifying target audience and obtaining buy-in

Refer to p. 26-27
of the
Natural Capital
Protocol

<p>Why do you need to identify a target audience?</p> <ul style="list-style-type: none"> 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 	<p>Creating buy-in</p> <ul style="list-style-type: none"> In order to help drive your project forward you will need to get internal buy-in this can be achieved by: <ul style="list-style-type: none"> 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
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Identifying the target audience and understanding what drives them is key in defining your objective as it will influence **the way the assessment is conducted, the type of outputs to be delivered, and the desired outcomes.**

Support from key external stakeholders can also help to strengthen internal buy-in and improve the quality of the assessment.

Slide 109

Recap Business example – Los Fiordos

- Los Fiordos is a **salmon farming company based in Southern Chile**, specializing in the production of Coho and Atlantic salmon and producing a variety of goods as well as portions and filets.
- The company is a **a subsidiary of Agrosuper** which is one of the largest animal food production companies in Chile.
- Los Fiordos is a **vertically integrated company**: they supply their own fodder, eggs and juvenile fishes, own the largest salmon processing plant in Chile, and manage the freight of the produced goods.
- Most of the company's feedlot centers are located in Melinka and Puerto Cisnes, **two high value conversation zones**.



Source: [An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos \(2016\)](#)

Slide 110

Business example – Los Fiordos, Chile

Target Audience:	Stakeholders:


Target Audience = main user of the assessment output (i.e. those people that will read and use the output to make decisions)

Stakeholder = any individual, organization, sector or community with an interest or stake in the outcome of a decision or process

Natural Capital Impact:
The negative or positive effect of business activity on natural capital (e.g. water extraction)

Natural Capital Dependency:
Business reliance on or use of natural capital (e.g. pollination)

Refer to p. 36 of your workbook & p. 26-27 of the Natural Capital Protocol

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Slide 111

Who could the stakeholders and target audience be for Los Fiordos?	
Target Audience:	Stakeholders:
CEO and Board of Directors	Departments of Finance, Communications, HR, Investor Relations, Operations and Environment
Shareholders committee	Employees
Sustainability Team	Investors, partners, suppliers
Salmon sector	Scientific community
	Policy-makers
	Local stakeholders (fishermen, residents, tourist sector)

Refer to p. 26-27
of the Natural
Capital Protocol

Slide 112

Business example – Los Fiordos, Chile

Refer to p. 37 of
your workbook & p.
42 of the
Natural Capital
Protocol

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

Objective = calculate the net value generated to society from their externalities to provide the company with a comprehensive view on how to retain, add or reduce value.


Slide 113

So what could the scope of work look like for Los Fiordos based on the information we have?

Refer to p. 42 of the Natural Capital Protocol

Determine the organizational focus	Corporate
Determine the value-chain boundary	Upstream / direct production operations
Specify whose value perspective	Mix of business and societal
Decide on assessing impacts and/or dependencies	Impacts and dependencies
Decide which types of value you will consider	Qualitative

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An Ecosystem Services Review on Salmon Aquaculture in Chile – Los Fiordos (2016)


Slide 114

Business example –

THE *Coca-Cola* **COMPANY**


Refer to p. 38
- 40 of your
workbook

- The Coca-Cola Company (TCCC) is the **world's largest beverage company**.
- The TCCC has a truly global presence, collaborating closely with 225 bottling partners worldwide in more than **200 countries**.
- Coca Cola Europe is the largest Coca-Cola bottler by revenue.
- In 2007, the TCCC set an ambitious global water stewardship target with a view to **become water neutral by 2020**.



Source: [Coca Cola Europe](#)

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The Coca-Cola Company: The Coca-Cola Company (TCCC) quantified ecosystem services related to freshwater sources to better capture and communicate impacts of water community projects beyond replenishment.

Having invested a lot in water replenishment projects, TCCC was driven to understand the variety of benefits that these projects provide to people and society beyond water volumes only. A natural capital assessment was initiated to monetize the ecosystem services in order to identify opportunities and maximize impact. Together with their partners, they developed and piloted a methodology in seven of their European projects. While monetizing impacts was not always easy, the results were clear: water restoration projects can enhance a range of other ecosystem services. If done right, these benefits outweigh the original project investment in a limited period of time. The assessment helped TCCC progress on their natural journey.


Slide 115

Business example –

THE *Coca-Cola* COMPANY


Refer to p. 38
- 40 of your
workbook

- Started undertaking a natural capital assessment in 2019 to **quantify ecosystem services** from their freshwater programs.
- The objective of the assessment is to **increase the potential of Coca Cola's replenishment programs by quantifying the ecosystem service benefits that arise from these programs.** This may further enhance the impact of the renewed water strategy.



Source: [Coca Cola Europe](#)

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Slide 116

Business example – The Coca-Cola Company

Refer to p. 38
- 40 of your
workbook


Target Audience:	Stakeholders:

Target Audience = main user of the assessment output (i.e. those people that will read and use the output to make decisions)

Stakeholder = any individual, organization, sector or community with an interest or stake in the outcome of a decision or process

Natural Capital Impact:
The negative or positive effect of business activity on natural capital (e.g. water extraction)

Natural Capital Dependency:
Business reliance on or use of natural capital (e.g. pollination)

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Slide 117

Who could the stakeholders and target audience be for The Coca-Cola Company ?

Refer to p. 38
- 40 of your
workbook

Target Audience:	Stakeholders:
The Coca-Cola Company senior management	NGO implementation partners (WWF)
Shareholders committee	Local communities
Sustainability team	Bottling partners

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Slide 118

Business example – The Coca-Cola Company

Refer to p. 38
- 40 of your
workbook

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

Objective = The objective of the assessment is to increase the potential of Coca-Cola's replenishment programs by quantifying the ecosystem service benefits that arise from these programs. This may further enhance the impact of the renewed water strategy.

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Slide 119

So what could the scope of work look like for
The Coca-Cola Company based on the information we have?

Refer to p. 38
- 40 of your
workbook

Determine the organizational focus	Project (water projects)
Determine the value-chain boundary	Direct operations (bottling partners)
Specify whose value perspective	Society
Decide on assessing impacts and/or dependencies	Impacts
Decide which types of value you will consider	Quantitative and monetary (creating a better overview of the diversity of impacts)

Slide 120

The Coca-Cola Company' Natural Capital assessment

Refer to p. 38
- 40 of your
workbook

- The natural capital assessments allowed TCCC to **assess and communicate the variety of impacts** arising from their water programs.
- They are now planning to use the assessment as **input for decision making and an important communication tool.**



Source: [Coca Cola Europe](#)

Slide 121

Reflections, scoping your assessment


Individually reflect on the following questions in the context of scoping your own assessment:

- What would the **value-chain boundary** be?
- Would you assess **impacts and/or dependencies**?
- Which **types of value** would you consider?


→ The bottom line is that although carrying out a natural capital assessment is technical, it's also achievable.

Refer to p. 41 of your workbook

WHAT DO YOU THINK?




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- What would the **value-chain boundary** be?
 - Upstream
 - Direct operations
 - Downstream
- Would you assess **impacts and/or dependencies**?
 - **Impacts on your business** (as a result of your impacts on natural capital)
 - **Your impacts on society** (as a result of your impacts on natural capital)
 - **Your business dependencies** (benefits that your business receives from natural capital)
- Which **types of value** would you consider?
 - Qualitative
 - Quantitative
 - Monetary

Slide 122

Natural Capital Stories



Eosta's natural capital story on true cost accounting

Inspiring natural capital journeys from the food & beverage industry


The natural capital accounting story of Eosta

Summary

Eosta valued the true cost of various fruits and vegetables through developing an integrated profit and loss account of these products based on true cost accounting. It was the first Small and Medium sized enterprise (SME) in the food & agribusiness to do so.

This was achieved by monetizing their environmental and social impacts, including the hidden costs of their products, such as the cost of water, energy, and labor. This allowed Eosta to make more informed decisions about their business and to communicate the true value of their products to their customers.

The natural capital accounting story of Eosta is a powerful example of how a small business can make a big impact on the environment and society. It shows that true cost accounting is not just a theoretical concept, but a practical tool that can be used by businesses of all sizes to improve their sustainability and profitability.



Eosta's natural capital story on true cost accounting

Inspiring natural capital journeys from the food & beverage industry

Summary


Eosta valued the true cost of various fruits and vegetables through developing an integrated profit and loss account of these products based on true cost accounting. It was the first Small and Medium sized enterprise (SME) in the food & agribusiness to do so.


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The natural capital accounting story of Eosta is a powerful example of how a small business can make a big impact on the environment and society. It shows that true cost accounting is not just a theoretical concept, but a practical tool that can be used by businesses of all sizes to improve their sustainability and profitability.




where ecology meets economy





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Presenter to explain that companies are experimenting and learning. On the We Value Nature MeSlide library, you can find inspiring examples of (F&B) companies who have undertaken a natural capital assessment, including practical information and tips and key lessons learned.

Eosta: a NL based, international distributor of organic fruits and vegetables. Eosta valued the true cost of various fruits and vegetables through developing an integrated profit and loss account of these products based on true cost accounting. It was the first Small and Medium sized enterprise (SME) in the food & agribusiness to do so.

To inform better and more sustainable decision-making, EOSTA decided to develop a practical tool for True Cost Accounting in the Financial, Food and Farming Sectors (TCA-TFFF) that includes environmental and social values for a range of products. By monetizing their impacts, EOSTA moved up along their natural capital journey towards full integration of natural capital into business decision making.

Metro: a leading international specialist in food wholesale. METRO AG compared the hidden costs and benefits of METRO's Food Service Distribution (FSD) business model with those of its traditional wholesale stores by monetizing their impacts on the society and the environment. In 2015, METRO started rolling out their Food Service Distribution model next to their traditional model of direct buying (Cash & Carry). To understand whether this was a positive development, METRO initiated an assessment to assess how these different business models impact the society and the environment. With the support of Denkstatt, METRO conducted sustainability accounting and found that the new FSD model was inherently more sustainable, offering additional benefits for customers, the society and the environment, valued at € 60 per € 1000 of sales.

The Coca-Cola Company: The Coca-Cola Company (TCCC) quantified ecosystem services related to freshwater sources to better capture and communicate impacts of water community projects beyond replenishment.

Having invested a lot in water replenishment projects, TCCC was driven to understand the variety of benefits that these projects provide to people and society beyond water volumes only. A natural capital assessment was initiated to monetize the ecosystem services in order to identify opportunities and maximize impact. Together with their partners, they developed and piloted a methodology in seven of their European projects. While monetizing impacts was not always easy, the results were clear: water restoration projects can enhance a range of other ecosystem services. If done right, these benefits outweigh the original project investment in a limited period of time. The assessment helped TCCC progress on their natural journey.

Jerónimo Martins: a Portugal-based international group operating in the Food Distribution and Specialized Retail sectors. Jerónimo Martins applied the Natural Capital Protocol to measure and value the comparative life cycle societal impacts of PVC use and alternative plastic materials in packaging components.

The environmental performance of PVC in packaging was highlighted as a key issue which triggered Jerónimo Martins to further research its effects and their options for sustainable packaging. Jerónimo Martins carried out an in-house natural capital assessment. While challenged by the lack of data, the assessment helped build in-depth knowledge on the societal impacts of the use of PVC, and prepared the company for comprehensive future assessments. In 2019, a roadmap on eliminating PVC from Private Brand packaging was defined.

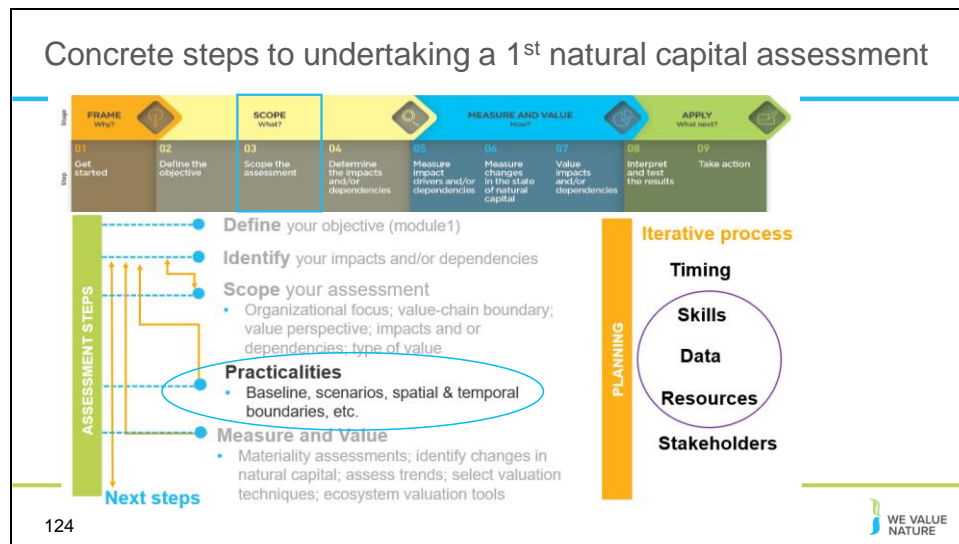
Slide 123

Where we are in the learning objectives



- ✓ To understand how to **identify natural capital impacts and dependencies** that are **important** to your business
- ✓ Acquire the necessary tools, resources and understanding to **scope your own assessment**
 - ❖ To be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools** to help undertake an assessment
 - ❖ To understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them
 - ❖ To **introduce valuation** following on from the brief overview provided in module 1

Slide 124



The following step is practicalities, which addresses technical issues and key planning issues.

Slide 125

 **Nature² Squared**
CONNECTING ECOLOGY
AND ECONOMICS

 **WE VALUE
NATURE**

**Practical
considerations**




Slide 126

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?

Refer to p. 42 of your workbook & p. 41 of the Natural Capital Protocol

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Your answers to the scoping questions outlined in the slides before may need to be adjusted in light of planning and resource constraints, which will determine what scope is actually achievable. These constraints may also be considered as “critical success factors”:

- Timescale
- Funding/resources
- Capacity
- Data availability and accessibility
- Stakeholder relationships


Slide 127

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

Refer to p. 42 of the Natural Capital Protocol

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- **Baseline:** is the starting point or benchmark against which changes in natural capital can be compared.
- **Scenario:** The concept of valuation is based on being able to compare outcomes and impacts across at least two scenarios: the baseline discussed above, and a chosen scenario that is being “valued”.
- **Spatial boundary:** Establishing the spatial boundary means deciding what geographic area the assessment will consider. The answer depends on various factors, including the organizational focus, value-chain boundary, and chosen value perspective, which you will have already decided earlier.
- **Temporal boundary:** Identifying a temporal boundary means determining an appropriate time frame for the assessment (i.e., over how many days, months, or years should impacts and/or dependencies be assessed and compared?). The assessment period should relate to your objective and correspond to the organizational focus and material impacts and/or dependencies under consideration.

Slide 128


Practical tips & success factors

- Define a clear **purpose**
- **Engage stakeholders**
- Address relevant issues, make your project **tailor-made**
- **Simple and accessible** results
- Develop clear **recommendations and an action plan**

→ Highlight **insights** rather than absolute numbers

Refer to p. 42
of your
workbook

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WE VALUE
NATURE


Some extra practical tips & success factors are..

Slide 129

Useful tools & resources

Refer to p. 43 of your workbook

There are lots of useful tools out there. [SHIFT.tools](#) is a searchable repository of tools, including the [Natural Capital Toolkit](#).



Natural Capital Toolkit ✓

SHIFT

WBCSD

[TEEBAgriFood Operational Guidelines for Business - Annex A](#)

Annex A: Examples of sector-specific published literature to inform capitals assessments for food sector businesses

Tool	Area	Description	Relevant Capitals	Relevant SDGs
Food and Agriculture Capitals Assessment Framework	Food and Agriculture	The Framework provides a structured approach to assess the impacts and dependencies of food and agriculture businesses on natural capital.	Natural Capital, Financial Capital, Human Capital, Social Capital	SDG 2, SDG 12, SDG 13, SDG 14, SDG 15
Food and Agriculture Capitals Assessment Framework	Food and Agriculture	The Framework provides a structured approach to assess the impacts and dependencies of food and agriculture businesses on natural capital.	Natural Capital, Financial Capital, Human Capital, Social Capital	SDG 2, SDG 12, SDG 13, SDG 14, SDG 15
Food and Agriculture Capitals Assessment Framework	Food and Agriculture	The Framework provides a structured approach to assess the impacts and dependencies of food and agriculture businesses on natural capital.	Natural Capital, Financial Capital, Human Capital, Social Capital	SDG 2, SDG 12, SDG 13, SDG 14, SDG 15

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WBCSD WE VALUE NATURE

The slide shows that there are many tools out there, many of which are freely accessible and readily available for companies to use and start assessing their natural capital impacts and dependencies.

Briefly explain SHIFT platform, that it is a searchable repository of tools. It is an interactive database for businesses to find the right tool(s) to assess their relationship with nature or “natural capital”. The SHIFT platform includes the Natural Capital Toolkit . Can give further background on the reason why this toolkit was transferred onto the SHIFT platform – to encourage standardization & harmonization of tools.

The TEEBagrifood Operational Guidelines for Business brings together the TEEBagrifood Evaluation Framework and the Capitals Protocol. The guidelines:

- Provide context on why capitals are relevant to any business in the food system and how businesses benefit from them.
- Develop the business case for integrated capitals assessments in the food sector.
- Identify material impacts and dependencies on different capitals relevant to businesses across the value chain of the food sector.
- Use practical examples to demonstrate sector-specific business applications.

Slide 130

Natural Capital Toolkit example

1. F&B fishery company

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

2. Conduct a company-wide assessment on biodiversity

Custom Labels

- Impact Driven: Biodiversity**
- Impact Driven: Fresh Water Ecosystem Use
- Impact Driven: GHG emissions
- Impact Driven: Marine Ecosystem Use
- Impact Driven: Noise & Light Disturbances
- Impact Driven: Non-GHG Emissions
- Impact Driven: Other Resource Use
- Impact Driven: Soil Pollutants

Environmental Issues

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

3. Sustainability team

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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wbcsd WE VALUE NATURE

An example of how the platform works, providing a fictional scenario.

Conclusion is that:

There are no perfect answers!

The choice of tool will depend on various factors:

What is the objective / what are you trying to achieve? / What decision are you trying to inform? – Is it to inform business strategy? Business management? Or operating decision?

What is the scope? Are you looking at product, corporate level?

What perspective are you looking at? Business? Societal? Both?

How much resources do you have available to conduct the assessment?

How much information / data do you already have?

Will you need external help?


Etc.

Slide 131

Tools to Determine Impacts and Dependencies

Refer to p. 44
of your
workbook

- [ENCORE \(Natural Capital Finance Alliance\)](#)
 - Impacts and dependencies at economic sector level – qualitative
- [SASB \(Sustainability Accounting Standards Board\)](#)
 - Impacts at a sector level – qualitative
- [Natural Capital Protocol: Food and Beverage Sector Guide](#)
 - Impacts and dependencies for the food and beverage sector – qualitative
- [TEEBAgriFood Operational Guidelines for Business](#)
 - Impacts and dependencies across food value chains - qualitative, quantitative or monetary
- [I360X \(Impact 360\)](#) •
 - Impacts across all natural, human, social and financial capital – quantitative and qualitative
- [Corporate Ecosystem Valuation \(CEV\)](#)
 - Impacts and dependencies on ecosystem services – quantitative and monetary
- [InVest](#) •
 - Dependencies – how do goods and services from nature sustain human life – modelling, monetary

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Presenter to point out that there are a lot of useful tools out there that businesses can use to determine their impacts and dependencies. The tools differ in their focus: impacts/dependencies or both, the types of natural capital they include (only water, biodiversity?), and the method of valuation (qualitative, quantitative, monetary). Qualitative valuation is often considered to be very important at the start of an assessment as it can give businesses a good understanding of where their main impacts and dependencies are and where additional information may be needed to inform decision-making. The black dots mark the tools that require more technical knowledge and that are more difficult to implement.

- **ENCORE (Natural Capital Finance Alliance):** The aim of the project is to help financial institutions to better understand, assess and integrate natural capital risks in their activities. It helps measure impacts and dependencies in a qualitative way.
<https://encore.naturalcapital.finance/en>
- **SASB (Sustainability Accounting Standards Board):** Focus on financially material information on environmental and social topics and the governance of those topics. By focusing on financially material issues, SASB aims to help companies around the world to report on sustainability topics that matter most to investors.
<https://www.sasb.org/>
- **Natural Capital Protocol: Food and Beverage Sector Guide:** Guide specified to the Food & Beverage sector. Through a stepwise approach, the Guide helps F&B companies to determine their main impacts and dependencies.
<https://naturalcapitalcoalition.org/natural-capital-protocol-food-and-beverage-sector-guide/>
- **TEEB AgriFood Operational Guidelines for Business:** Developed to support businesses in implementing the TEEBAgriFood Evaluation Framework, these Guidelines provide a practical way for businesses to understand and act upon their impact and

dependency on natural, human, social, and produced capital.

<https://naturalcapitalcoalition.org/wp-content/uploads/2020/08/DRAFT-TEEBAgriFood-Operational-Guidelines.pdf>

- **I360X (Impact 360):** The tool can be used to make a qualitative and quantitative assessment of the sustainability impacts on a range of capitals, including natural, social and human capital.
<https://www.gstimpact.com/i360xn.php>
- **Corporate Ecosystem Valuation (CEV):** This first-of-its-kind framework enables companies to consider the actual benefits and value of the ecosystem services they depend upon and impact, giving them new information and insights to include in business planning and financial analysis.
<https://www.wbcsd.org/Programs/Redefining-Value/Business-Decision-Making/Assess-and-Manage-Performance/Resources/Guide-to-Corporate-Ecosystem-Valuation>
- **InVEST:** InVEST is a suite of free, open-source software models used to map and value the goods and services from nature that sustain and fulfill human life. If properly managed, ecosystems yield a flow of services that are vital to humanity, including the production of goods (e.g., food), life-support processes (e.g., water purification), and life-fulfilling conditions (e.g., beauty, opportunities for recreation), and the conservation of options (e.g., genetic diversity for future use).
<https://naturalcapitalproject.stanford.edu/software/invest>

Slide 132

Tools to Determine Impacts and Dependencies

Refer to p. 44
of your
workbook

ARIES •

- Dependencies – how does nature provide benefits to people – linking ecosystems and the human economy – modelling

[Toolkit for Ecosystem Service Site-Based Assessment \(TESSA\)](#)

- Impacts on natural capital and ecosystem services of actual and potential changes at individual sites– qualitative and quantitative

[Farm Sustainability Assessment](#)

- Impacts across environmental, social and business - applicable to all agricultural crops - qualitative and quantitative

[The Cool Farm Tool](#)


- An assessment tool to measure impacts on greenhouse gases, biodiversity and water - quantitative

[CROPWAT](#)

- Dependencies – calculating the required water supply for a variety of crops – quantitative

[BioScope](#)

- Impacts on biodiversity – measuring major impacts on biodiversity arising from the supply chain - using the ReCipe method for Life Cycle Impact Assessment

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Presenter to point out that there are a lot of useful tools out there that businesses can use to determine their impacts and dependencies. The tools differ in their focus: impacts/dependencies or both, the types of natural capital they include (only water, biodiversity?), and the method of valuation (qualitative, quantitative, monetary). Qualitative valuation is often considered to be very important at the start of an assessment as it can give businesses a good understanding of where their main impacts and dependencies are and where additional information may be needed to inform decision-making. The black dots mark the tools that require more technical knowledge and that are more difficult to implement.

- **ARIES:** ARIES redefines ecosystem services assessment and valuation in decision-making. The ARIES approach to mapping benefits, beneficiaries, and service flows is a powerful new way to visualize, value, and manage the ecosystems on which the human economy and well-being depend.
<http://shift.tools/iframe/1377?>
- **[Toolkit for Ecosystem Service Site-Based Assessment \(TESSA\):](#)** Understanding the impacts on natural capital and ecosystem services of actual and potential changes in state at individual sites to promote better planning decisions and support biodiversity conservation and ecosystem service delivery. This toolkit is designed to provide practical guidance on how to identify which services may be significant at a site of interest, what data are needed to measure them, what methods or sources can be used to obtain the data and how to communicate the results.
<http://tessa.tools/>
- **Farm Sustainability Assessment (FSA):** is a set of tools for food and drink businesses that want to assess, improve and validate on-farm sustainability in their supply chains. The

tools enable effective and efficient supply chain collaboration right down to the level of the farmer.

https://saipatform.org/our-value/what-we-do/#Programmes_and_Tools:

- **The Cool Farm Tool:** An online greenhouse gas, water, and biodiversity calculator for farming (free for farmers)
<https://coolfarmtool.org/coolfarmtool/>
- **CROPWAT:** CROPWAT is a decision support tool developed by the Land and Water Development Division of FAO. It facilitates the calculation of crop water requirements and irrigation requirements based on soil, climate and crop data. CROPWAT informs the development of irrigation schedules for different management conditions and the calculation of required water supply for varying crop patterns.
<http://teebweb.org/wp-content/uploads/2018/11/Ch7.pdf>
- **BioScope:** Platform BEE's BioScope provides businesses with a simple and fast indication of the most important impacts on biodiversity arising from their supply chain. The focus is on climate change and agricultural land occupation as these are the two main impact drivers on biodiversity.
<https://bioscope.info/>

Slide 133

Where we are in the learning objectives




- ✓ To understand how to **identify natural capital impacts and dependencies** that are **material** to your business
- ✓ Acquire the necessary tools, resources and understanding to **scope your own assessment**
- ✓ To be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools**
 - ❖ To understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them
 - ❖ To **introduce valuation** following on from the brief overview provided in module 1


Slide 134

Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

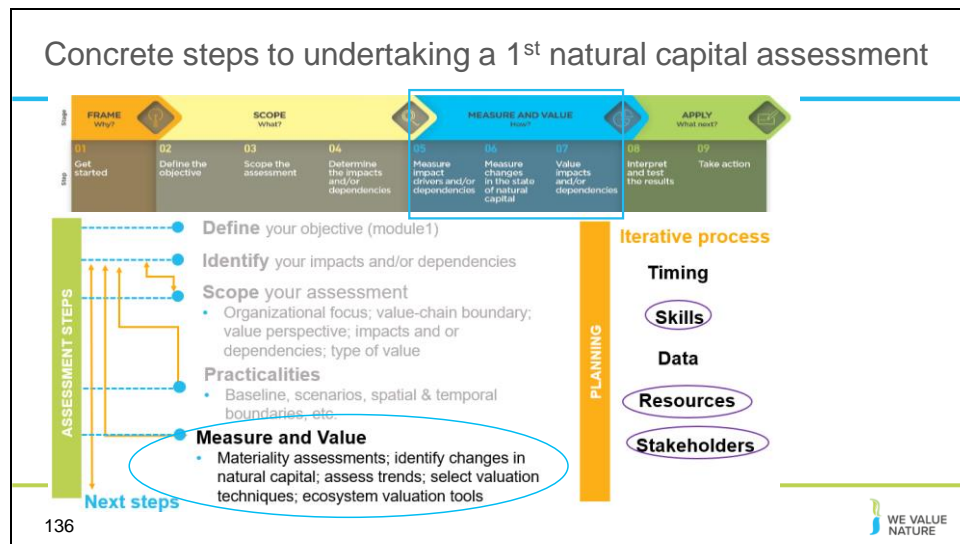
Slide 135



**Measure &
value: Materiality**



Slide 136



The following step is Measure and Value. This step consists of materiality assessments, identifying changes in natural capital, assessing trends, selecting valuation techniques and ecosystem valuation tools.


Slide 137

Definition from Protocol


Materiality –
an impact or dependency on natural capital is material if consideration of its value, as part of the set of information used for decision making, has the potential to alter that decision

Materiality assessment –
the process that involves identifying what is (or is potentially) material in relation to the natural capital assessment's objective and application

Refer to p. 45 of your workbook & p. 43-52 of the Natural Capital Protocol



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In the Protocol, an impact or dependency on natural capital is **material** if consideration of its value, as part of the set of information used for decision making, has the potential to alter that decision.

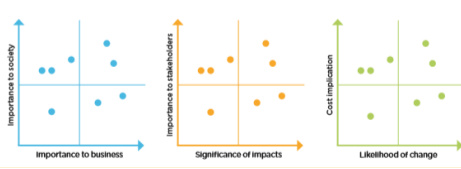
A **materiality assessment** is the process that involves identifying what is (or is potentially) material in relation to the assessment's objective and application.

Slide 138

How to measure & links to guidance

Refer to p. 48-50
of the
Natural Capital
Protocol

- Identify the **criteria** for your assessment to identify which **impacts and dependencies** are most significant
- Potential criteria may include: **operational; legal and regulatory; financing; reputational and marketing; and societal**
- Gather relevant information and use this to **assess which impacts and/or dependencies are most material** to include in your assessment



A matrix may be useful to plot potentially material impacts and dependencies

Once you have compiled a short list of potentially material issues, you will need to identify criteria to judge which impacts and dependencies are most significant. Before you identify the criteria though you will need to identify who the impacts and dependencies are most significant for.

Potential criteria may include:

- Operational:** the extent to which the natural capital impact or dependency may significantly affect business operations, project implementation, or the value of existing or new product(s).
- Legal and regulatory:** the extent to which the natural capital impact or dependency may trigger a legal process or liability (e.g., emission fees or extraction quotas, environmental impact mitigation requirements).
- Financing:** the extent to which the natural capital impact or dependency may influence “cost of capital” or your access to capital, investor interest, or insurance conditions.
- Reputational and marketing:** the extent to which the natural capital impact or dependency may affect the product portfolio, company image, or relationship with customers and other stakeholders (e.g., changing customer preferences).
- Societal:** the extent to which the natural capital impact or dependency may generate significant impacts to society.

Based on the materiality criteria you have selected, you should next gather the necessary information to assess the potential material significance of each natural capital impact and/or dependency.

The type of information you collect might include:

- Type of impact and/or dependency
- Scale of impact and/or dependency
- Consequence of impact and/or dependency (on business, society, or both)
- Time scale (short, medium, and long-term)

Slide 139


Food Industry Example – Dutch Seafood Company

Based on the following points, which impacts and dependencies would be material?

- A **small seafood company** based in Amsterdam undertook a materiality assessment to see where their biggest impacts and dependencies were.
- The company **grows vegetables and herbs** and is also involved in **local fishing in the North Sea**.
- The company moreover **processes food** and **packages the food** and is involved in **transporting the food** to and from storage.

Refer to p. 46 of your workbook

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Presenter to point out that this is an example of a Dutch SME company in the seafood industry who has undertaken a qualitative natural capital assessment.

Materiality – an impact or dependency on natural capital is material if consideration of its value, as part of the set of information used for decision making, has the potential to alter that decision.

Materiality assessment – the process that involves identifying what is (or is potentially) material in relation to the natural capital assessment's objective and application.

Slide 140

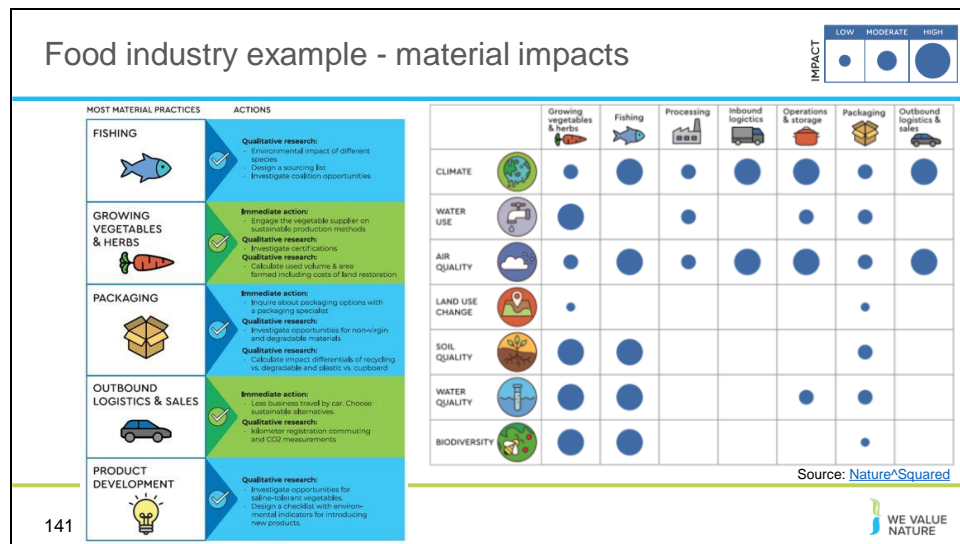
Food industry example - material impacts

		Growing vegetables & herbs	Fishing	Processing	Inbound logistics	Operations & storage	Packaging	Outbound logistics & sales							
CLIMATE									<div>IMPACT</div> <table><tr><th>LOW</th><th>MODERATE</th><th>HIGH</th></tr><tr><td></td><td></td><td></td></tr></table>	LOW	MODERATE	HIGH			
LOW	MODERATE	HIGH													
															
WATER USE															
AIR QUALITY															
LAND USE CHANGE															
SOIL QUALITY															
WATER QUALITY															
BIODIVERSITY															

Source: [Nature^Square](#)

Source: [Nature^Squared](#)

Slide 141



This is an example of how you can conduct a qualitative assessment of your natural capital impacts and dependencies and how this can already translate into concrete actions. This slide only displays the impacts, but the same exercise was undertaken for dependencies too. To complete the work, they discussed relative importance with different stakeholders and simply provided relative orders of magnitude, based on resources but also on influence on the issue.

From this, they were able to identify most material elements of their practices and then prioritise which actions to take.

One of the surprising insights for this company, a seafood producer, producing soups and burgers, was that they had a blind spot on the sourcing of vegetables, although they used a higher share of vegetables than actual seafood in many of their products.

This exercise can be repeated in consultation with your own employees and stakeholders. You don't necessarily need to measure and value your impacts. This type of assessment can already be very informative without taking up a lot of time, expertise or budget. Again, it depends on what the objective is.

Most material practices:

- Fishing
- Growing vegetables & herbs
- Packaging
- Outbound logistics & sales
- Product development

Slide 142

Where we are in the learning objectives



- ✓ To understand how to **identify natural capital impacts and dependencies** that are **important** to your business,
- ✓ Acquire the necessary tools, resources and understanding to **scope your own assessment**,
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Slide 143

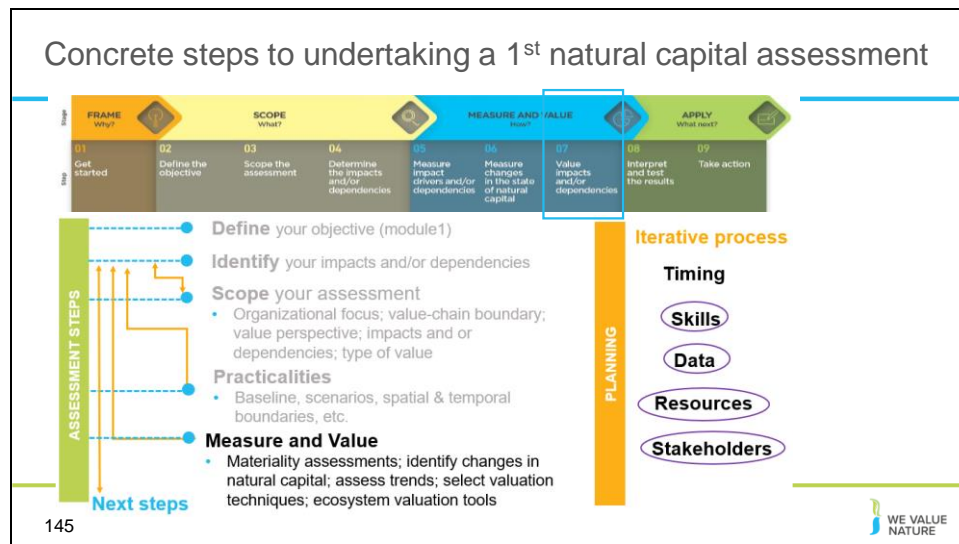
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Slide 144



Photo by [Micheile Henderson](#) on [Unsplash](#)

Slide 145



The following step is Measure and Value. This step consists of materiality assessments, identifying changes in natural capital, assessing trends, selecting valuation techniques and ecosystem valuation tools.


Slide 146

Assessments: Measure & Value


Refer to p. 47 of your
workbook & p. 84 of
the Natural Capital
Protocol

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

There are different ways of valuing – could be qualitative, quantitative and monetary

Important to note that monetary values without any context (i.e. accompanying quantification) are less meaningful!

The method you chose depends on which natural capital impact drivers or dependencies you wish to assess, the chosen value perspective (e.g. business, societal, or both), the ultimate objective of your assessment, and the time and resources available.

Monetary valuation: some find it difficult to accept or interpret monetary valuation of certain benefits (e.g. spiritual values). In such situations, special efforts may be required to explain the advantages and also to acknowledge the limitations of monetary valuation.

Advocates of natural capital are sometimes accused of ‘putting a price on nature’ or ‘pricing the priceless’, but in fact our core assertion is that prices have failed to reflect the **true value** of the natural world, and that the economic systems that we are using are broken.

We use the common definitions of price and value: Where price is ‘the quantity of one thing that is exchanged or demanded in barter or sale for another/the amount of money given or set as consideration for the sale of a specified thing’ and value as ‘The regard that something is held to deserve; the importance, worth, or usefulness of something i.e. “your support is of great value”. If something is not for sale, we do not describe it as having a ‘price’, but we may nevertheless recognise the value that it holds, and make decisions on this basis.


Slide 147

Assessments: **Measure & Value**

- **Before monetary valuation can occur impacts and/or dependencies must be measured** i.e. the **amount of change determined, extent and condition** in physical terms e.g. m³, tons, number of injuries, number of jobs.
- **It is worth noting that we do not detail the complications of measurement within this section i.e. data availability, accuracy and calculations.** However, this can be a complex process in its own right.
- This section provides an introduction to monetary valuation so that those considering an assessment may consider whether they want to include this approach as part of their project ambition.

Refer to p. 82 of the
Natural Capital
Protocol

147



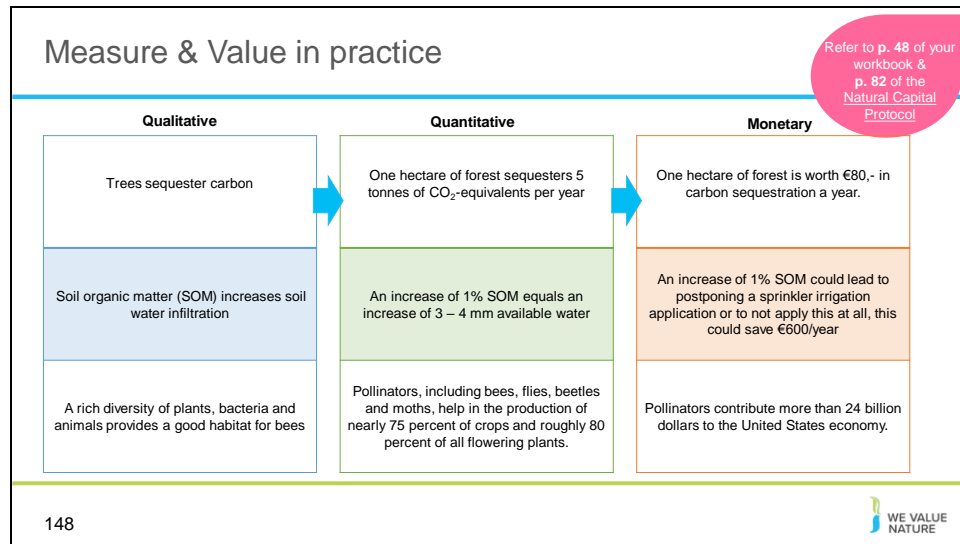
Before monetary valuation can occur, impacts and/or dependencies must be measured. The following slides provide an introduction to monetary valuation so that those considering an assessment may consider whether they want to include this approach as part of their project ambition.

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Slide 148



Three examples of qualitative, quantitative and monetary valuation

Slide 149

Measure & Value in practice		
Qualitative	Quantitative	Monetary
Valuation of pollination in kiwifruit Step 05: Measure impact drivers and dependencies What? Pollination by bees How? Workshop Step 06: Measure changes in the state of natural capital What? Effectiveness of pollination How? Expert judgement Step 07: Value impacts and dependencies What? Effectiveness of pollination How? Relative valuation (low, medium, high)	Valuation of water consumption in rice production Step 05: Measure impact drivers and dependencies What? Water use How? m ³ water used Step 06: Measure changes in the state of natural capital What? Reduced water availability How? Life Cycle Impact Assessment Step 07: Value impacts and dependencies What? Impact of water consumption How? Quantitative – human health impact of water scarcity using DALYs per unit of water consumed	Valuation of fish stock losses due to fertilizer use Step 05: Measure impact drivers and dependencies What? Kilograms of Phosphorus in fertilizers applied How? On farm data Step 06: Measure changes in the state of natural capital What? Change in number of species in water ecosystems due to changes in nutrient level in water (eutrophication) How? Life Cycle Impact assessment Step 07: Value impacts and dependencies What? Loss of fish stocks How? Market valuation

Refer to p. 48 of your workbook & p. 82 of the Natural Capital Protocol

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• **Qualitative valuation techniques**

Step 05: Measure impact drivers and dependencies

What? Pollination by bees

How? Workshop

Step 06: Measure changes in the state of natural capital

What? Effectiveness of pollination

How? Expert judgement

Step 07: Value impacts and dependencies

What? Effectiveness of pollination

How? Relative valuation (low, medium, high)

• **Quantitative valuation techniques**

Valuation of water consumption in rice production

Step 05: Measure impact drivers

What? Water use

How? m³ water used

Step 06: Measure change in capital

What? Reduced water availability

How? Life Cycle Impact Assessment

Step 07: Value impacts

What? Impact of water consumption

How? Quantitative – human health impact of water scarcity using DALYs per unit of water consumed

- Monetary valuation techniques
- Valuation of fish stock losses due to fertilizer use**

Step 05: Measure impact drivers

What? Kilograms of Phosphorus in fertilizers applied

How? On farm data

Step 06: Measure changes in capitals

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 07: Value impacts

What? Loss of fish stocks

How? Market valuation

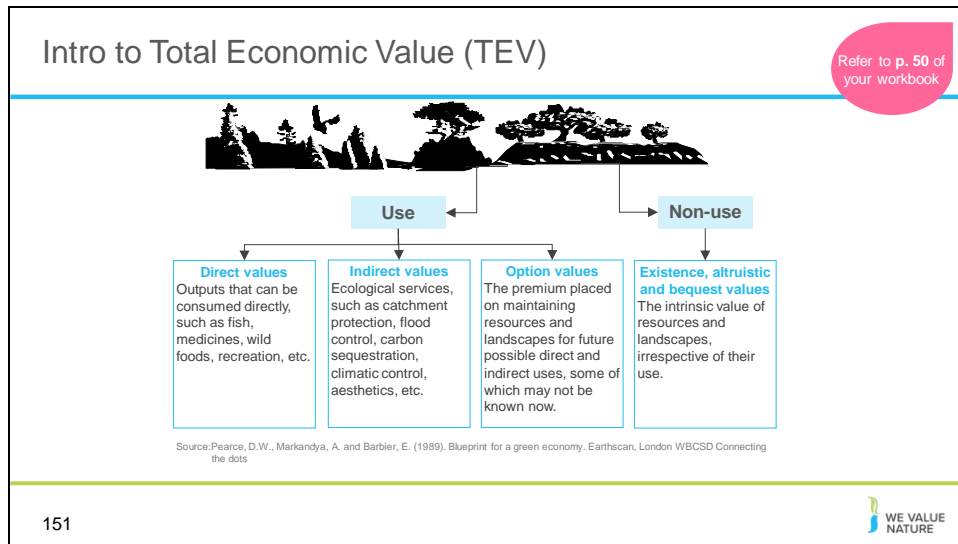
Note: If the monetary valuation is used, it should be clear whether the value used was market price only, as this can make a difference.

Slide 150

Why is monetary valuation useful and/or contentious?	
Useful	Contentious
<ul style="list-style-type: none"> • 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 • Can be used as a communication tool (internal and external) 	<ul style="list-style-type: none"> • 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

Refer to p. 49 of your workbook & p. 37-38 of the Natural Capital Protocol

Slide 151



The total economic value of **biodiversity** includes what economists refer to as “**existence value**”: the value that people place on the continued existence of species or ecosystems, regardless of whether they themselves will ever encounter the species or experience the ecosystem.

Slide 152


Reflections, total economic value

Individually reflect on what value your business gets from different ecosystem goods or services

- Direct value
- Indirect value

Refer to p. 51 of your workbook


WHAT DO YOU THINK?



Direct value = Outputs that can be consumed directly, such as fish, medicines, wild foods, recreation etc.

Indirect value = Ecological services, such as catchment protection, flood control, carbon sequestration, climatic control, aesthetics, etc.

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Presenter to read the question and the definitions on the slide. Once reflection is complete, presenter should explain that the type of value your business extracts from ecosystem goods and services is dependent on many factors.

Direct value: Outputs that can be consumed directly, such as fish, medicines, wild foods, recreation

Indirect value: Ecological services, such as catchment protection, flood control, carbon sequestration, climatic control, aesthetics, etc.

Slide 153

Overview of Valuation Techniques (type, time and resources)				
Technique	Description	Time	Budget	Resources
Market and financial prices	<ul style="list-style-type: none"> Costs/prices paid for goods and services traded in markets Other internal/financial information (e.g. estimated financial value of liabilities, assets, receivables) Other interpretations of market data (e.g. derived demand functions, opportunity costs, mitigation costs/aversive behavior, cost of illness) 	Days - Weeks	(\$100s-1000s; low budget)	Market prices of ecosystem goods and/or services, and costs involved to process or bring the product to market (e.g. crops)
Production function (change in production)	Empirical modelling approach that relates change in the output of a marketed good or service to a measurable change in natural capital inputs (e.g. the quality or quantity of ecosystem services)	Days-Weeks	(\$100s-1000s; low budget)	Data on changes in output of a product, and data on cause and effect relationship (e.g. crop losses due to reduced water availability)

Refer to p. 52-54 of your workbook & p. 84-87 of the Natural Capital Protocol

Slide 154

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)

Refer to p. 52-54 of your workbook & p. 84-87 of the Natural Capital Protocol

Slide 155


Overview of Valuation Techniques (type, time and resources)					
Refer to p. 52-54 of your workbook & p. 84-87 of the Natural Capital Protocol					
	Technique	Description	Time	Budget	Resources
Revealed Preference Approach	Market Prices	How much it costs to buy an ecosystem good or service, or what it is worth to sell.	Days	(\$100s-1000s; low budget)	Market price of ecosystem goods or services e.g. timber Costs involved to bring the product to market
	Effect on Production	Relates changes in the output of a marketed good or service to a measurable change in ecosystem goods.	Days	(\$100s-1000s; low budget)	Data on changes in output of a product Data on cause and effect relationship
	Travel costs	Using the amount of time and money people spend visiting an ecosystem for recreation purposes to elicit a value per visit	Weeks - Months	(\$10,000s; high budget)	Data on time and money that people spend visiting ecosystems for leisure e.g. nature reserves Motivations for travel
	Hedonic pricing	The difference in property prices or wage rates that can be ascribed to the different ecosystem qualities or values.	Weeks	(\$1000s-10,000s; medium budget)	Data on differences in property prices or wage rates that can be ascribed to the different ecosystem qualities

Slide 156

Overview of Valuation Techniques (type, time and resources)					
	Technique	Description	Time	Budget	Resources
Value Transfer	Value Transfer	Involves transferring value estimates from existing economic valuation studies to the study site in question, making adjustments where appropriate.	Days	(\$100s-1000s; low budget)	Valuations from similar studies elsewhere. Data on key variables from different studies (e.g. GDP per person)

Refer to p. 52-54 of your workbook & p. 84-87 of the Natural Capital Protocol

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Slide 157

Hypothetical Case Study examples –
which valuation approaches or techniques would you use?

Refer to p. 56 of your workbook & p. 84-87 of the Natural Capital Protocol

Vegetarian products (soy-based)	Dairy Company
<ul style="list-style-type: none"> • Objective: provide the foundation to implement targeted measures to achieve more environmentally-friendly production and distribution of its products • Material Impacts for Valuation: Ecosystem quality for raw materials (i.e. crops, water and soil for soy) • Time: 3 months • Budget: £10,000 • Location: 1 country of operation • Expertise: no economist; hiring outside consultancy 	<ul style="list-style-type: none"> • Objective: calculate the net value generated to society from their externalities to provide the company with a comprehensive view on how to retain, add or reduce value • Material Impacts for Valuation: Water use across the entire company and biodiversity lost as a result of company operations • Time: 6 months • Budget: £50,000 • Location: 5 countries of operation • Expertise: external consultants provided

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Two hypothetical case studies:

- Vegetarian products (soy-based)
- Dairy company

The idea here is that the participants must choose a valuation approach or technique for each hypothetical case study example. They can choose an approach from the next slide.

Slide 158

Hypothetical Case Study examples – which valuation techniques would you use?									
Technique	Description	Data required	Indicative duration	Indicative budget	Skills required	Advantages	Disadvantages (including applicability to case studies)		
Cost-based approaches	Replacement costs The cost of replacing natural capital with an artificial equivalent (e.g. a service or infrastructure). May be estimated, observed, or modelled.	The cost (or market price) of replacing natural capital or associated ecosystem goods or services with man-made equivalents (e.g. replacing flow regulation of natural rivers with flood defence schemes).	Days – weeks	\$	Basic economics, engineering	Provides surrogate measures of value for regulatory services which are difficult to value by other means. A readily transparent method when based on market data.	Does not consider social preferences for services or services in the absence of the services. The replacement service probably only represents a portion of the full range of services provided by the natural resource.		
	Damage costs avoided The potential costs of property, infrastructure, and production losses due to natural capital degradation. Treated as a "saving" or benefit from conserving natural capital. May be estimated, observed, or modelled.	Data on costs incurred to property, infrastructure, or production as a result of decline in natural capital or the loss of associated ecosystem services. Damages under different scenarios.	Weeks	\$\$	Engineering and bio-physical processes	Provides surrogate measures of value for regulatory services that are difficult to value by other means (e.g. storm, flood, and erosion control).	The approach is largely limited to services related to protection, assets, and economic activities. Can overestimate values.		
Revealed/preferred (indirect)	Hedonic pricing Based on the observation that environmental factors are one of the determinants of the market price of certain goods (e.g., the environmental quality of a neighbourhood affects the price of properties located there). This technique models variations in market prices, controlling for other variables to isolate the environmental factor of interest. The extent to which prices vary with this factor reveals its value.	Data relating to differences in property prices or wages that can be attributed to the different natural capital qualities (e.g., status of the area or green status, distance from forest).	Days – months	\$\$\$	Econometrics	Readily transparent and defensible method once based on market data and WTP. Property and wage markets are generally very responsive to environmental quality.	Approach is largely limited to costs and benefits related to property or wages. The property and wage market is affected by a number of factors in addition to environmental attributes, so these need to be identified and controlled for (e.g., number of bedrooms, housing insulation).		
	Travel costs Based on the observation that environmental and recreational goods and services are often complementary. E.g. you need to spend money and valuable time (e.g. travel) to visit a place where you can enjoy natural benefits. Recreational travel and other costs incurred when visiting a natural asset for recreation or leisure, to visit a valued user visit. Assumes such spending is a maximum expression of the value of recreational experience (otherwise people would not take the trip).	The amount of time and money people spend visiting a site for recreation or leisure purposes. Motivations for travel.	Weeks – months	\$\$\$	Questionnaire design, interviewing, econometrics	Based on actual behavior (not stated preference) and rather than a hypothetical stated WTP. Results are relatively easy to interpret and explain.	Approach is limited to use of recreational benefits. Difficulties in separating costs when trips are to multiple places or are for more than one purpose.		
Stated preference	Contingent valuation (CV) When ecosystem values by asking individuals their maximum willingness to pay (or willingness to accept compensation) for a specified change in the relevant non-market good or service from natural capital.	Socio-economic and demographic information on survey respondents.	Weeks – months	\$\$\$	Questionnaire design, interviewing, econometrics	Captures both use and non-use values. Economically flexible – can be used to estimate the economic value of virtually anything.	The results are hypothetical in nature and subject to numerous different biases from respondents.		
	Choice experiments (CE) Individuals are presented with alternative goods/ services with different characteristics (e.g., various attributes or levels, such as distance, number of species present, or some other aspect of natural capital), as well as different prices. They are asked to choose their preferred option, from which the value for the relevant non-market good or service from natural capital may be inferred.	As for CV above. An appropriate set of "levels" are needed for key parameters (e.g., from medium quality and excellent river water quality).	Weeks – months	\$\$\$	Questionnaire design, interviewing, econometrics	Captures both use and non-use values. Good for providing breakdown of estimated marginal changes (e.g., value per % increase in water quality).	Results are subject to bias from respondents and are hypothetical in nature. Choices given to respondents must be limited to what they can understand and weigh up during the duration of the survey.		
Value Transfer		Values in respect of similar items transfer from an existing evidence base identified using one or more of the above techniques (e.g., observed market values). Specific adjustments should be made to account for differences between the two contexts.	Days – weeks	\$	Knowledge of above techniques and the ability to identify similar items, and economic analysis of using functions.	Low cost and rapid method for estimating values. Can be used to provide a range of values.	Although simple to use, it needs to be applied carefully. Results are likely to be subject to higher levels of uncertainty compared to well-conducted primary research. The extent to which this can be accounted for depends on the decision context. Existing valuation studies will be more robust and numerous for some services / impacts than for others.		

Refer to p. 84-87 of the Natural Capital Protocol

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One page 84-87 of the NCP, an overview of different valuation techniques can be found. The participants have to choose which technique fits the case study best.

Slide 159

Hypothetical Company: Vegetarian Products – Valuation Techniques Discussion

Objective: implement targeted measures to achieve more environmentally-friendly production and distribution of products

Other details: 3 months, £10,000, 1 country, no economist, hiring outside consultancy













Ecosystem quality for raw materials: water


- Cost based approach like replacement cost or value transfer approach using contingent valuation
- Days – Weeks; Low Budget

Ecosystem quality for raw materials: soil and crops

- Market price approach linked to effect on production
- Days; Low Budget

Refer to p. 57 of your workbook

	RAW MATERIAL PROCESSING	RAW MATERIAL PRODUCTION
GHGS 		
LAND USE 		
WATER CONSUMPTION 		
WATER POLLUTION 		

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Hypothetical example: Vegetarian products

- Raw materials: water
 - Cost based approach: cost or value transfer approach using contingent valuation (days – weeks, low budget)
- Raw materials: soil and crops
 - Market price approach: linked to effect on production (days, low budget)

Figure: <https://keringcorporate.dam.kering.com/m/788c4d5588730055/original/Kering-EP-L-report-2019.pdf>

Slide 160

Hypothetical company: Dairy – Valuation Techniques Discussion

Refer to p. 57 of your workbook

Objective: calculate the net value generated to society from their externalities to provide the company with a comprehensive view on how to retain, add or reduce value


Other details: 6 months, £50,000, 5 countries of operation, external consultants provided

Water use across the entire company


- Cost based approach like replacement cost or applying shadow prices for water
- Days-Weeks; Low Budget

Biodiversity lost as a result of company operations

- Stated preference approach like contingent valuation
- Alternatively, value transfer using data on fragmented habitats
- Weeks-Months; High Budget



The materiality matrix plots 19 issues based on 'Relevance for our Stakeholders' (y-axis) and 'Relevance for the Business' (x-axis). Issues are categorized by color: Green (Economic), Blue (Environmental), and Grey (Social). Issues 1-19 are numbered circles. Issues 1-10 are in the high-relevance quadrant, while 11-19 are in the low-relevance quadrant.

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Hypothetical example: Dairy company


- Water use across entire company
 - Cost based approach: replacement cost or applying shadow prices for water (days-weeks, low budget)
- Biodiversity lost as a result of company operations
 - Stated preference approach: contingent valuation
 - Value transfer: using data on fragmented habitats
 - Weeks – months, high budget

Slide 161

Ecosystem Quantitative Valuation: data sources

Refer to p. 58 of your workbook

Cross thematic	Theme specific
<ul style="list-style-type: none"> • Ecoinvent – lifecycle Inventory Database on the environmental impact for thousands of products • AGRIBALYSE program – lifecycle Inventory Database of the main French agricultural products at farm gate • World Food LCA Database – high-quality emissions factors and environmental footprint data (including carbon, water, and land) • EFSA Comprehensive European Food Consumption Database – data on food consumption across Europe 	<ul style="list-style-type: none"> • IUCN Red List – list of threatened species • WWF Living Planet Report 2020 – trends in biodiversity • Eurostat – statistics on waste generation and treatment • The Marine Plastic Footprint – data on marine plastic leakage • EPA – air emissions • EMEP/EEA – European air pollutant emissions • WaterStat – statistics on water footprint • Greenhouse Gas Protocol – GHG calculation tools

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- **Ecoinvent:** a life cycle inventory database. The ecoinvent database provides process data for thousands of products, helping you make truly informed choices about their environmental impact.
- **Agribalyse program:** The AGRIBALYSE® program consisted in elaborating a database of Life Cycle Inventories (LCI) of the main French agricultural products at the farm gate.
- **World Food LCA Database:** . The World Food LCA Database provides players across the agri-food value chain with high-quality emissions factors and environmental footprint data (including carbon, water, and land) to help them better understand the impacts of their products and bolster decision-making.
- **EFSA Comprehensive European Food Consumption Database:** a source of information on food consumption across the European Union (EU). It contains detailed data for a number of EU countries. The database plays a key role in the evaluation of the risks related to possible hazards in food in the EU and allows estimates of consumers' exposure to such hazards.
- **IUCN Red list:** The International Union for Conservation of Nature's Red List of Threatened Species is the world's most comprehensive information source on the global conservation status of animal, fungi and plant species.
- **WWF Living Planet Report (2020):** The Living Planet Report documents the state of the planet—including biodiversity, ecosystems, and demand on natural resources—and what it means for humans and wildlife.
- **Eurostat – waste:** Eurostat produces regular statistics on waste generation and treatment for the whole economy and on specific waste streams.
- **The Marine Plastic Footprint:** a comprehensive framework to measure the inventory of marine plastic leakage, step-by-step and using a life-cycle perspective. It also offers generic data that can be used to calculate marine plastic leakage for a defined list of

identified sources, including plastic waste, textile fibres, tyre dust, micro beads in cosmetics, and fishing nets.


- EPA – air emissions: Emissions factors are tools for building emissions inventories, guiding air quality management decisions and developing emissions control strategies. This website provides current information on these tools and provides support for using them.
- EMEP/EEA: The EMEP/EEA air pollutant emission inventory guidebook is prepared by the UNECE/EMEP Task Force on Emissions Inventories and Projections (TFEIP) and published by EEA. The Guidebook provides a guide to European atmospheric emissions inventory methodologies and emission factors
- WaterStat: statistics on the water footprint. Part of the Water Footprinting - the Global Water Footprint Assessment Standard lays out the internationally accepted methodology for conducting a Water Footprint Assessment.
- Greenhouse Gas Protocol: Greenhouse Gas Protocol provides the world's most widely used greenhouse gas accounting standards for companies.

Slide 162

Ecosystem Monetary Valuation: data sources

Refer to p. 58 of your workbook

Cross thematic	Theme specific
<ul style="list-style-type: none"> • Environmental Value Look-up (EVL) – monetary values for a range of environmental impacts • EU KIP-INCA – Datasets on monetary valuation of ecosystems and their services • De Groot, et al. (2012). Global estimates of the value of ecosystems and their services in monetary units. Ecosystem services, 1(1), pp.50-61 – monetary valuation of ecosystem services 	<ul style="list-style-type: none"> • The Economics of Ecosystems and Biodiversity (TEEB) – economic impacts of biodiversity loss • Ecosystem Services Valuation Database (ESVD) – monetary values of ecosystem services across all biomes • Social Cost of Carbon (SCC) – costs resulting from emitting one additional ton of GHG into the atmosphere • Social Value UK – database on social values, social return on investment, and cost-benefit analysis • Environmental Prices Handbook EU28 version – prices for the social cost of pollution (e.g. air, water, soil) • OECD Meta-analysis of Value of Statistical Life estimates – Mortality Risk Valuation estimates in Environment, Health and Transport policies

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- EVL: The Environmental Value Look-Up (EVL) Tool is a searchable database which contains indicative monetary values for a range of environmental impacts.
- EU KIP-INCA: An integrated natural accounting system for ecosystems and their services and associated data sets is being developed by the Knowledge Innovation Project (KIP INCA).
- De Groot et al. (2012): This paper gives an overview of the value of ecosystem services of 10 main [biomes](#) expressed in monetary units.
- TEEB: The aim of TEEB is to assess the economic impacts of biodiversity loss and to offer practical responses to ecosystem decline
- ESVD: The Ecosystem Services Valuation Database (ESVD) is a follow-up to the “The Economics of Ecosystems and Biodiversity” (TEEB) database which contained over 1,300 data points from 267 case studies on monetary values of ecosystem services across all biomes.
- Social Costs of Carbon: The SCC is a tool that estimates, in dollars, the economic damages that would result from emitting one additional ton of greenhouse gases into the atmosphere
- Social Value UK: [database](#) of over 800 social value, SROI and cost benefit analysis report.
- [Environmental Prices Handbook EU28 version](#) – Environmental prices are prices for the social cost of pollution, expressed in Euros per kilogram pollutant. Environmental prices indicate the loss of economic welfare that occurs when one additional kilogram of the pollutant finds its way into the environment. Captured in a single monetary unit.
- [OECD Meta-analysis of Value of Statistical Life estimates](#) - It is increasingly common to include estimates of value of statistical life (VSL) in analyses of proposed policies that affect people’s mortality risks. The analysis is presented in the publication [Mortality Risk Valuation in Environment, Health and Transport Policies](#).

Slide 163

Ecosystem (Monetary) Valuation Tools						
	ENCORE	NatCap checker	TESSA	CEV	ARIES	InVEST
Identifying new investments, markets, prices and products				✓	✓	
Managing risks	✓	✓	✓	✓	✓	✓
Articulating environmental performance and costing environmental impacts			✓	✓	✓	✓
Difficulty to implement	•	•	••	••	•••	•••

Refer to p. 59 of your workbook

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ENCORE: The aim of the project is to help financial institutions to better understand, assess and integrate natural capital risks in their activities. It helps measure impacts and dependencies in a qualitative way.

NatCap checker: The Natural Capital Checker (NatCap Checker) provides a self-assessment tool to enable users to assess, communicate and improve the level of confidence in their natural capital assessment.

TESSA: The Toolkit for Ecosystem Service Site-based Assessment (TESSA) is a rapid, low-cost, participatory valuation tool designed to be used by non-experts for assessing the benefits that people get from nature (ecosystem services).

CEV: This first-of-its-kind framework enables companies to consider the actual benefits and value of the ecosystem services they depend upon and impact, giving them new information and insights to include in business planning and financial analysis.

ARIES: ARIES redefines ecosystem services assessment and valuation in decision-making. The ARIES approach to mapping benefits, beneficiaries, and service flows is a powerful new way to visualize, value, and manage the ecosystems on which the human economy and well-being depend.




InVEST: InVEST is a suite of free, open-source software models used to map and value the goods and services from nature that sustain and fulfill human life.

Note: some of these tools (e.g. ARIES and InVEST) require a lot of data and effort. But there are also less complicated tools (e.g. Encore and NatCap checker – but these are not monetary valuation tools)


Slide 164

Tips for Valuation

- Test more than one value (sensitivity testing)
- Report a **range**
- Convert values to the **same time period**
- Consider **local country context of values**
- Understand where the **tipping point** leads to a **change in a decision**
- Consider using **peer reviewers**



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Several tips for valuation are...

Slide 165

Where we are in the learning objectives

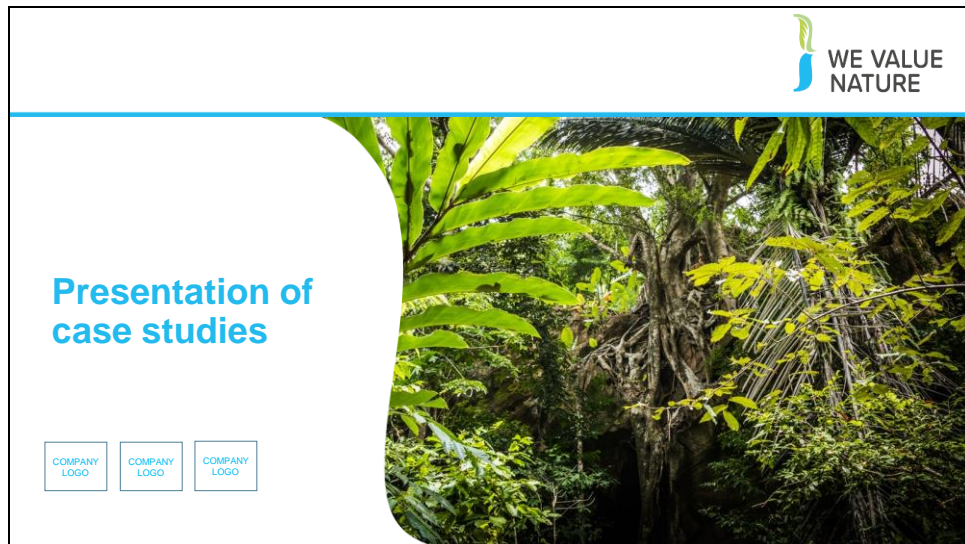


- ✓ To understand how to **identify natural capital impacts and dependencies** that are **important** to your business
- ✓ Acquire the necessary tools, resources and understanding to **scope your own assessment**
- ✓ To be introduced to the key **practical considerations and steps** to take when undertaking a first natural capital assessment as well as some **tools** to help undertake an assessment
- ✓ To understand **materiality assessments** in the context of **impacts and dependencies** and how to undertake them
- ✓ To **introduce valuation** following on from the brief overview provided in module 1

Slide 166

Agenda	
TO ADAPT	
Time (xxx)	Session
10	Introductions
15	Setting the scene and a brief re-cap on natural capital
10	The business case for assessing natural capital & common assessments
15	Identifying your natural capital impacts & dependencies
25	Coffee Break
20	Scoping an assessment
20	Materiality
20	Introduction to monetary valuation for scoping an assessment
15	Case study presentation

Slide 167



3 speakers from 3 different companies will be invited to the training to share their experience in integrating natural capital into their business decision-making processes.

Speakers will be encouraged to share:

- Their experience
- The solutions put in place
- Challenges/barriers faced, how these were overcome and what would they do differently looking back
- Collaboration with stakeholders involved in the process – who was key in supporting the solution, making it happen and perhaps also discussion around communications, how do you have to communicate differently e.g. if trying to convince risk management vs

During presentation of case studies, participants will be encouraged to take note of:

- Challenges & barriers
- Solutions, activities
- Key stakeholders / enablers in the process

Encourage case studies speakers to also discuss how they would have done things differently.

Slide 168


Case study presentation from xyz

Refer to p. 61-66 of your workbook


Pay attention to the following elements while listening to the presentation:

Barriers, challenges and how overcame these	Objective of assessment & process undertaken (incl. tools, methodologies adopted)	Decision-making, collaboration, next steps
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 WE VALUE NATURE

Slide 169



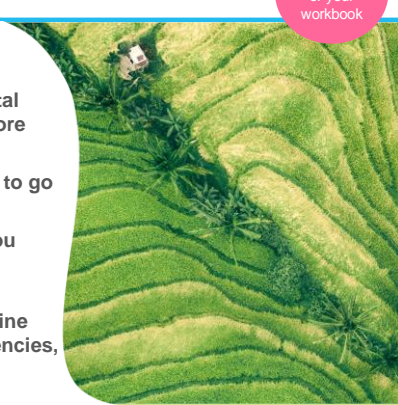
Wrap-up & next steps



Slide 170


Key take-aways / Closing word

1. Business impacts and depends on nature
2. Identifying, measuring and valuing your natural capital impacts and dependencies helps make better and more informed decisions
3. The Natural Capital Protocol provides the framework to go through that process
4. There are many existing tools & resource: the one you choose depends on the objective & scope of your assessment
5. The first steps to assessing natural capital are to define your objective, identify your impacts and/or dependencies, and scope your assessment



Refer to p. 67 of your workbook

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- **Business impacts and depends on nature** – the NCP provides the framework to identify and assess impacts and dependencies,
- Understanding, measuring and valuing natural capital (i.e. taking into account) will help business **make better decisions**,
- **There are many existing tools & resources** to measure and value impacts and dependencies. The one you chose depends on the information you are aiming to get or the decision you are trying to inform,
- **Companies can start to conduct an assessment themselves** by getting the project going, scoping the assessment and integrating natural capital considerations into internal processes,
- For natural capital to become strategically important, **buy-in must extend beyond the sustainability team.**

ADDITIONAL BACKGROUND INFORMATION

How much will an assessment cost?

Some of the Protocol pilot testers - like our members Nestlé and Roche - estimated they spent about USD \$50,000 on consulting services for their assessments over a six-month period. Some companies spend less, others spend more.

Dow, Kering and Natura have invested significantly more over a longer term, for in-depth assessments that contribute to their multi-year strategic ambitions

The Protocol can help companies navigate these kinds of situations by making sure the services required align with the assessment's objective.

Skills & data needed:

It's usually much more efficient to build on existing data that's readily available in-house, and the Protocol provides guidance on gathering and using that data too.

For example, many companies have data on their own GHG emissions, water, waste, and some also have results of product Life Cycle Assessments - this existing information can provide a really good starting point for a natural capital assessment. How applicable it is will depend on the objectives and scope of the assessment though, so it's important to find the balance between getting perfect data (e.g. from monitoring in the field) and using proxies that are not as accurate but can be more practical and still lead to better decisions.

Internal buy-in:

In many cases, natural capital assessments can be a bottom-up effort. Trying to drive natural capital assessments from sustainability, environment or health and safety departments is sometimes difficult, but nevertheless, the Protocol provides guidance on integrating the assessment into the business itself.

One way to facilitate engagement internally can be to show that "many companies are already doing natural capital assessments; they're just using different terminology and steps. To support this engagement, it is important to look beyond those benefits that can be valued through the natural capital assessment itself, and acknowledge how a natural capital approach can motivate organizational change in support of broader business goals." This means that there will be more leadership from the top to better measure, value and then integrate natural capital into business.

The bottom line is that although carrying out a natural capital assessment is technical, it's also achievable. Not every assessment has to be a huge undertaking, so companies should start off with a scope that makes most sense to their situation. The Protocol will help you do this.

Finally, we must make sure the information obtained from the assessment is included in core business decision-making. This will ensure you have the best possible impact on your business, and on the environment.

Slide 171


Mentimeter closing questions

Refer to p. 68 of your workbook

What are your 2 key learnings from the training?

Share 1 concrete next action you will take after this training

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Through Mentimeter, we will ask you to share:

2 key learnings that were most useful to you today,

1 concrete next step / activity you could take to move your company forward in the natural capital journey?

Slide 172

How to use Mentimeter

- 1 Go to www.menti.com
- 2 Enter this code: **XXXXXX**
- 3 Submit your answer

Slide 173

Eager to get started?



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](#) 153.06 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.
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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 COALITION

Natural Capital Protocol

Training

Check out NCC's interactive [training videos](#)

Make use of WVN's [training resources](#)

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Next steps that YOU can take

TO ADAPT

- Download & familiarize yourself with the **Natural Capital Protocol** - Food and Beverage sector guide
- **Share training learnings & material** with colleagues and your manager over coffee
- Use & present the training slides to your team & manager – You want to **find some allies!**



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We are here to help!

Deep-
dive
webinars

In-
person
training

Helpdesk
calls

Virtual
office
hour/
Q&A


Online
training

Train-
the-
trainer




Keep in touch & sign-up:
wevaluenature.eu

Exchange with peers:
[We Value Nature - Natural](#)
[Capital uptake support group](#)


Provide your feedback: [Survey](#)



We want to learn
too – how have
we helped?

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WHAT ELSE would you need? What support would you need?

Sign-up for in-person day training, t-t-t

If want support, need to fill out survey (Google form survey)

Refining training further, keen to know how have used this training and catch-up via call (if don't want to, let us know)

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Disclaimer

Disclaimer

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