

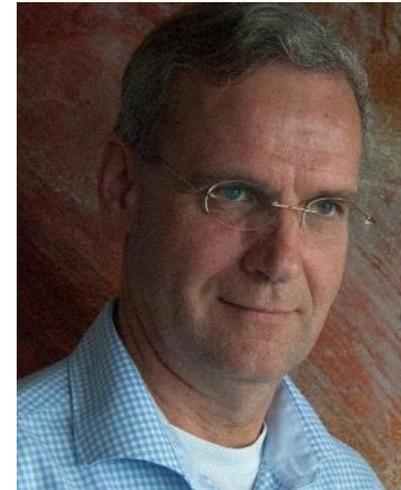
5 OCTOBER 2017

Natural Capital in the Food Sector

SESSION C



Starting with Natural Capital
*David Thelen, Consultant
Natural Capital &
Alexandra Langner,
Environmental Planning
Arcadis*

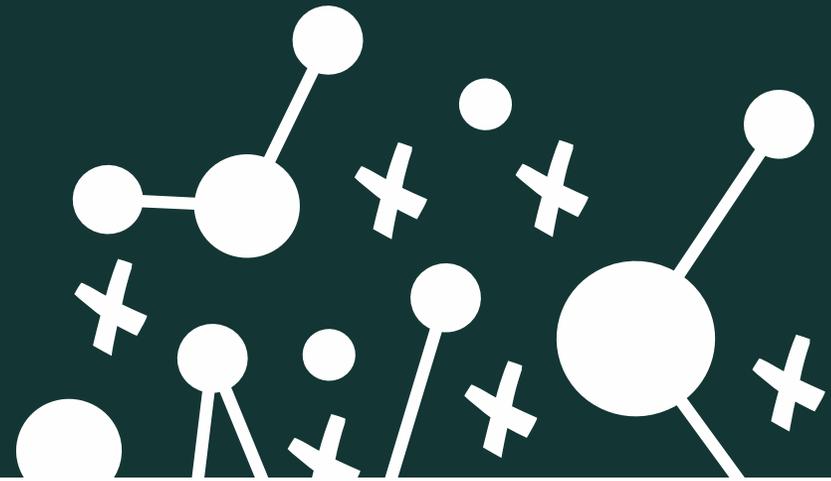


**Frontrunner Experience
in the Food Sector**
*Volkert Engelsman
CEO
Eosta*



TAKING THE FIRST STEPS

Natural Capital in the food sector



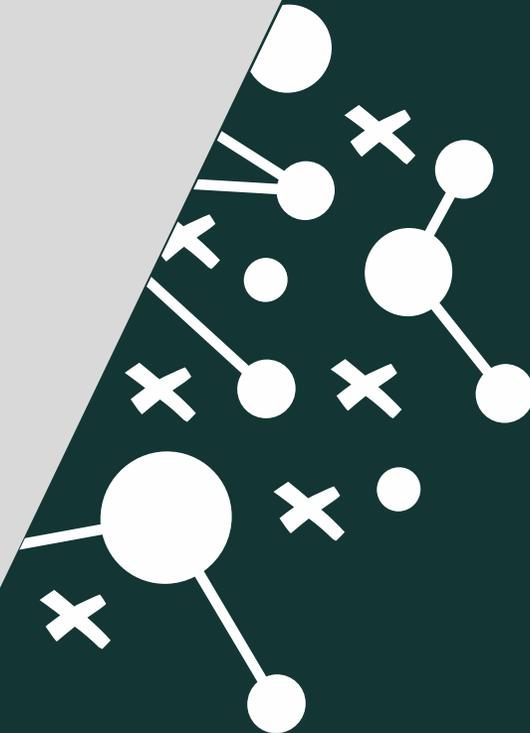
INTRODUCTION

Moderators:

Alexandra Langner

David Thelen

Volkert Engelsman





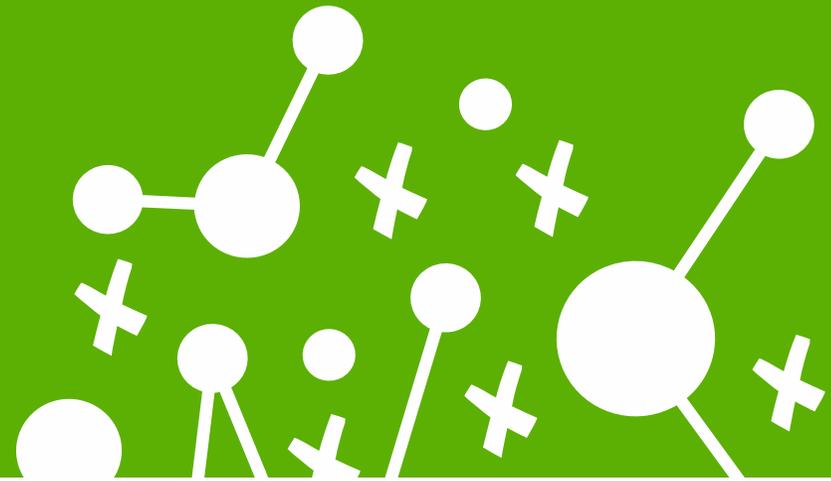
- ALEXANDRA LANGNER
- NATURAL CAPITAL CONSULTANT

- DAVID THELEN
- NATURAL CAPITAL CONSULTANT



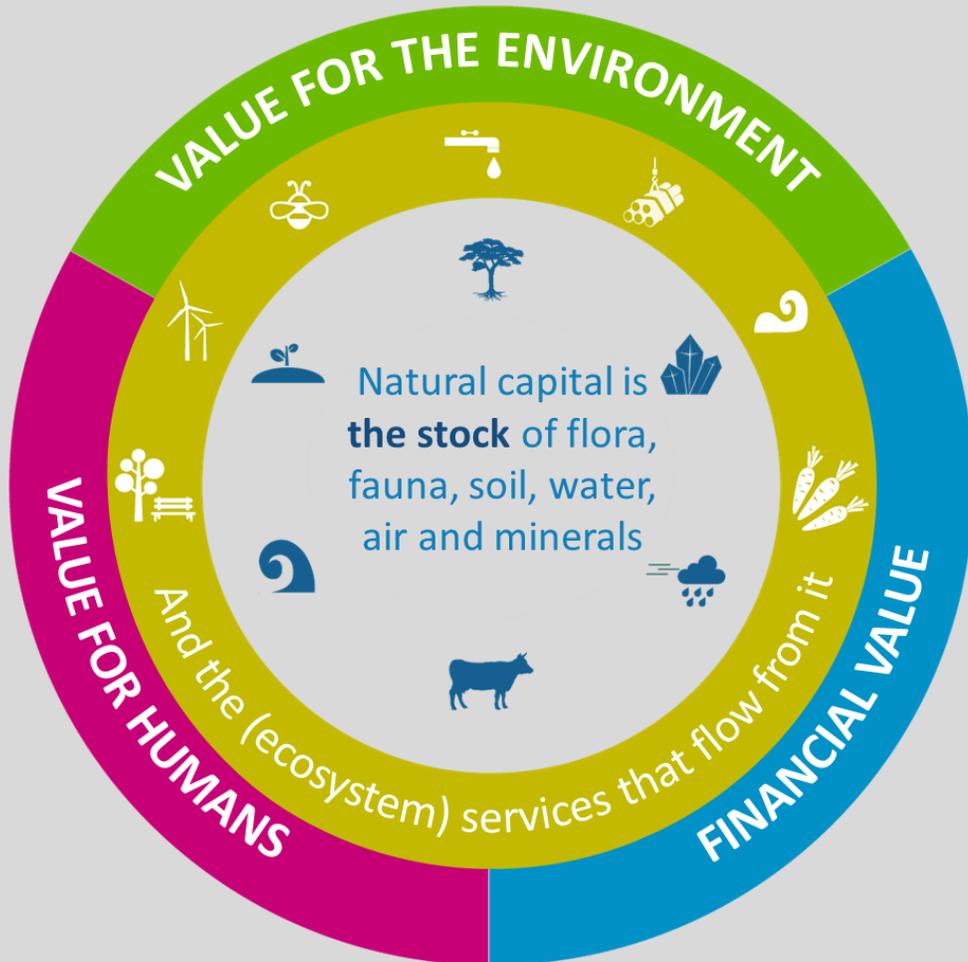
- VOLKERT ENGELSMAN
- CEO EOSTA AND FOUNDER NATURE&MORE

WHAT IS NATURAL CAPITAL?



WHAT IS NATURAL CAPITAL?

- BRING SUSTAINABILITY TO THE CORE OF THE COMPANY
- INVESTIGATE THE VALUE OF NATURAL CAPITAL TO YOUR ORGANIZATION
- “IT IS NOT ABOUT VALUING NATURE, IT’S ABOUT THE VALUE OF NATURE FOR OUR ECONOMY”

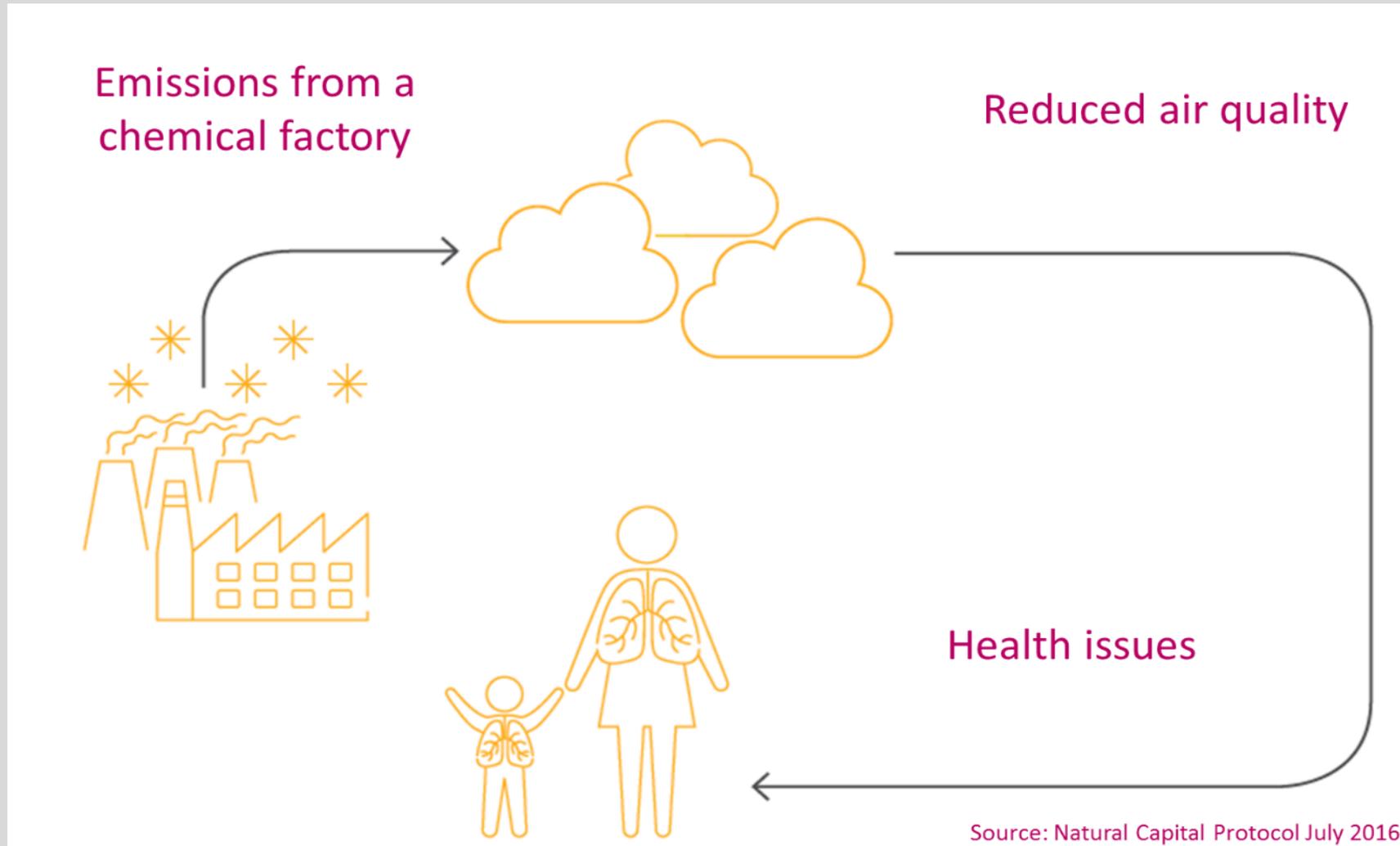


WHAT IS NATURAL CAPITAL?

In the food sector, what are we talking about?

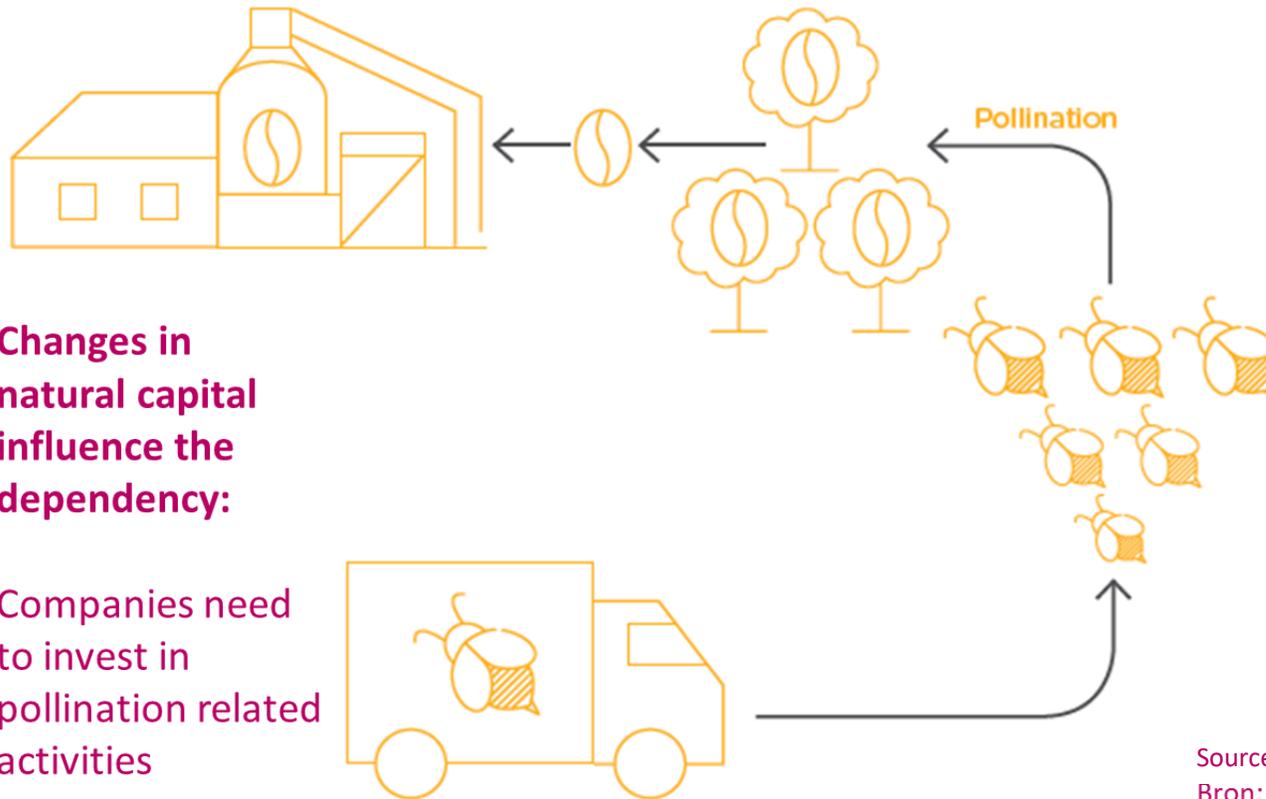
- **IN THE VALUE CHAIN:**
 - Hotspots
 - Transparency
 - Traceability
- **IMPACTS ON WATER, SOIL, AIR, MINERALS, BIODIVERSITY AND ECOSYSTEM SERVICES**
- **INGREDIENTS / PRODUCTS / VALUE CHAINS**
- **AT SITE LEVEL:**
 - Processes / Operations
 - Waste
 - Energy and water
 - Catering
- **IMPACTS ON WATER, SOIL, AIR, MINERALS, BIODIVERSITY AND ECOSYSTEM SERVICES**

Impact on natural capital



Dependency on natural capital

Dependency on pollination of coffee plants



Changes in natural capital influence the dependency:

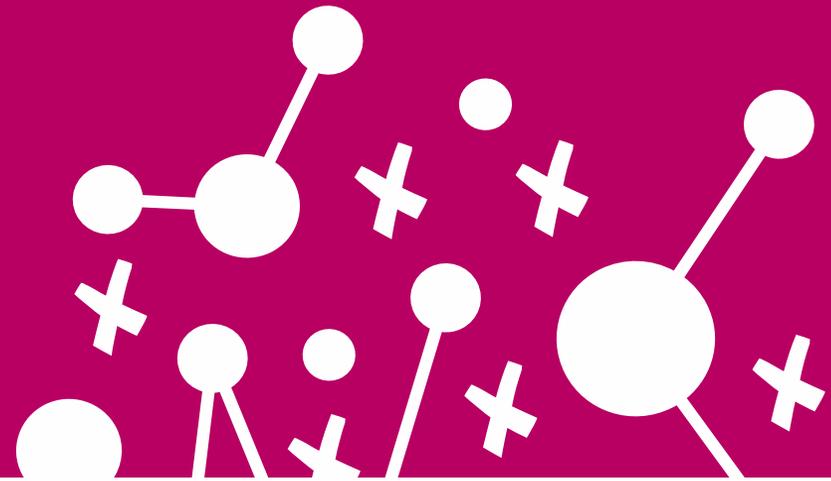
Companies need to invest in pollination related activities

A change in natural capital will result in a decreasing bee population as a consequence of:

- Activities of companies such as the use of too much insecticides
- Natural changes e.g. adverse weather events
- Antropogenic activities such as land use adjacent to nature's production areas.

Source: Natural Capital Protocol July 2016
Bron: Natural Capital Protocol Juli 2016

4 STEPS TO EXPLORE NATURAL CAPITAL



A STEP-BY-STEP APPROACH

START

1.

Explore....

1. What natural capital does my company depend on?
2. Are there any threats to this natural capital?
3. Does my company have any impact on this natural capital?
4. What does my environment do with natural capital?
5. What are possible opportunities and risks?

FOCUS

2.

Investigate....

1. What can I do to seize the opportunities?
2. What can I do to mitigate risks?
3. What are priority actions?
4. Which activities are realistic on the short term in relation to available resources and opportunity

MEASURE

3.

Measure....

1. How do I know that my actions are successful?
2. Can I measure and follow my impact on natural capital?
3. Can I follow the state of my natural capital?
4. Can I determine the value of natural capital for my company?

DAY-TO-DAY

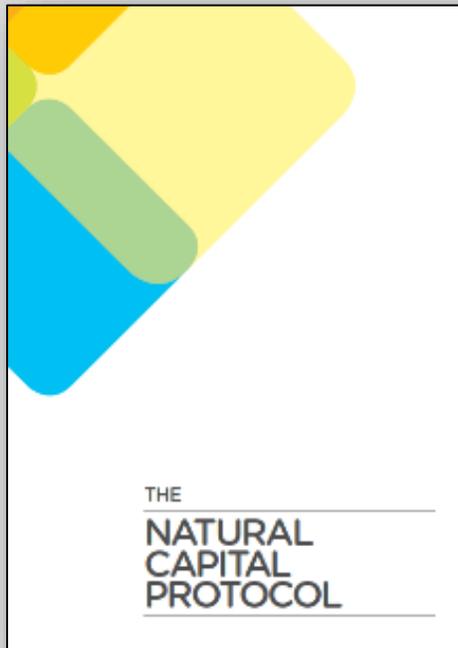
4.

And consider...

1. How can I integrate this new information into my day to day business?
2. How can these new insights influence decisions in order to guarantee business continuity?
3. Would it be relevant to structurally embed natural capital considerations into all of the business decisions?

A STEP-BY-STEP APPROACH

IN LINE WITH THE NATURAL CAPITAL
PROTOCOL



**THE NATURAL CAPITAL PROTOCOL IS A
STANDARDIZED FRAMEWORK FOR BUSINESS
TO IDENTIFY, MEASURE AND VALUE ITS DIRECT
AND INDIRECT IMPACTS AND DEPENDENCIES
ON NATURAL CAPITAL**

A STEP-BY-STEP APPROACH

START

1.

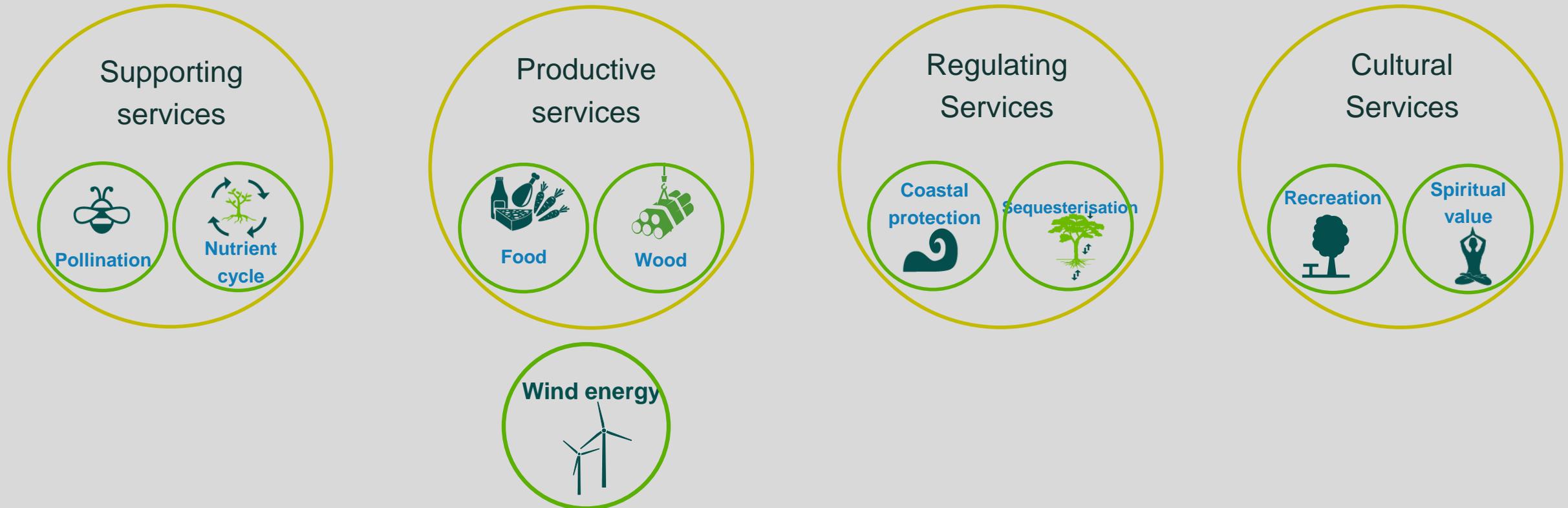
Explore....

1. What natural capital does my company depend on?
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5. What are possible opportunities and risks?

OBJECTIVES:

- A. TO FAMILIARIZE YOURSELF WITH THE CONCEPT OF NATURAL CAPITAL
- B. TO IDENTIFY YOUR IMPACTS AND DEPENDENCIES ON NATURAL CAPITAL
- C. TO EXPLORE WHY NATURAL CAPITAL IS IMPORTANT TO YOUR BUSINESS

WHAT ARE (ECOSYSTEM) SERVICES?



WHY INVEST IN NATURAL CAPITAL?

START

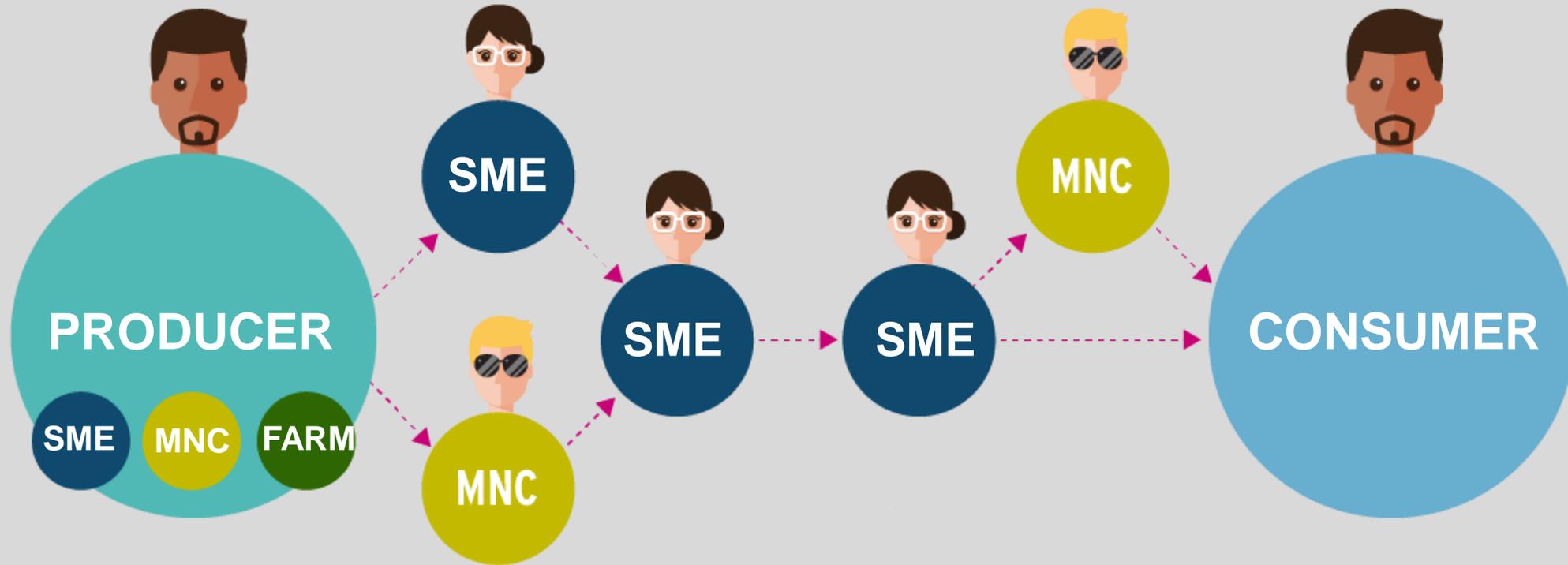
1.



YOUR POSITION IN THE VALUE CHAIN

START

1.



SME = Small and Medium Sized Company
MNC = Multinational Company

- A. Changing resource costs, continuity and quality
- B. Changes in the availability of ecosystem services, e.g. protection against adverse weather events, flood protection and pollination
- C. Increased need for alternatives and innovations

Payment for Ecosystem Services

Indications for the costs (and value) of these services

Alternative resources

Replacing non-renewable resources with e.g. biobased

Circular economy

Development of a circular economy to reduce the dependency on new resources and to reduce impact on natural capital



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A STEP-BY-STEP APPROACH

FOCUS

2.

Investigate....

1. What can I do to seize the opportunities?
2. What can I do to mitigate risks?
3. What are priority actions?
4. Which activities are realistic on the short term in relation to available resources and opportunity

OBJECTIVE

- A. TO WORK TOWARDS A FOCUS OF THOSE IMPACTS AND DEPENDENCIES THAT ARE MATERIAL TO YOUR ORGANIZATION
- B. TO IDENTIFY RISKS AND OPPORTUNITIES

Operational

For which operations is natural capital essential? E.g. resource production or electricity.

Legislation and regulation

How could your impact on natural capital conflict with legislation and regulations? E.g. emissions or acquiring permits.

Financial

How could our impact on natural capital influence our access to finance? E.g. investments or subsidies.

Reputation and Marketing

How could our impact on natural capital influence our reputation? E.g. in client relations or marketing of innovations.

Society

How could our impact on natural capital influence society? E.g. health related issues.



STRATEGIC

- A. OPERATIONAL
- B. LEGISLATION AND REGULATIONS
- C. FINANCIAL
- D. REPUTATION AND MARKETING
- E. SOCIETAL

(IN LINE WITH THE NATURAL CAPITAL PROTOCOL)

PRACTICAL

- A. SHARED VALUE (COMPANY AND NATURAL CAPITAL)
- B. DATA REQUIREMENTS
- C. SYNERGY (AND CONNECT WITH EXISTING INITIATIVES)
- D. QUICK WINS
- E. CAPACITY



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A STEP-BY-STEP APPROACH

MEASURE

3.

Measure....

1. How do I know that my actions are successful?
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OBJECTIVE

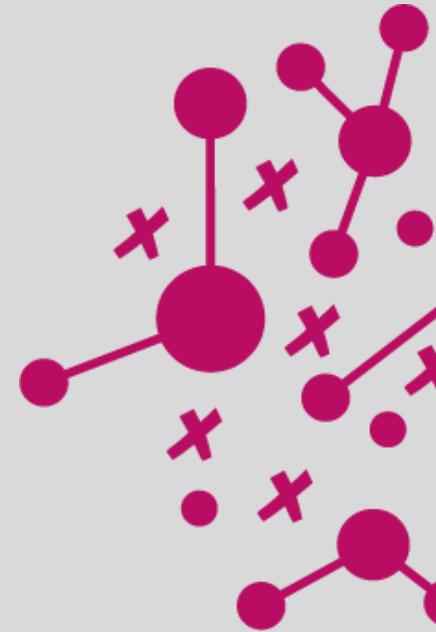
- A. TO MEASURE AND QUANTIFY IMPACTS AND DEPENDENCIES THAT WERE PRIORITIZED IN THE PREVIOUS STEP

- A. MEASURE THE EXTEND OF THE IMPACT
- B. MEASURE THE DEPENDENCY

“WE USE (DEPEND ON) X M³ WATER FOR OUR PROCESSES / FOR THE PRODUCTION OF 1 KG OF RAW MATERIAL. THIS COSTS US / THE PRODUCER XX\$.

AFTER ITS USE, THE WATER IS POLLUTED. TO RESTORE THE WATER TO ITS INITIAL STAGES COSTS XX\$ (WHICH IS AN ESTIMATION OF THE COSTS OF THE IMPACT).

MORE CHALLENGING: THE VALUE OF BIODIVERSITY, RECREATIONAL ECOSYSTEM SERVICES, ETC.



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A STEP-BY-STEP APPROACH

DAY-TO-DAY 4.

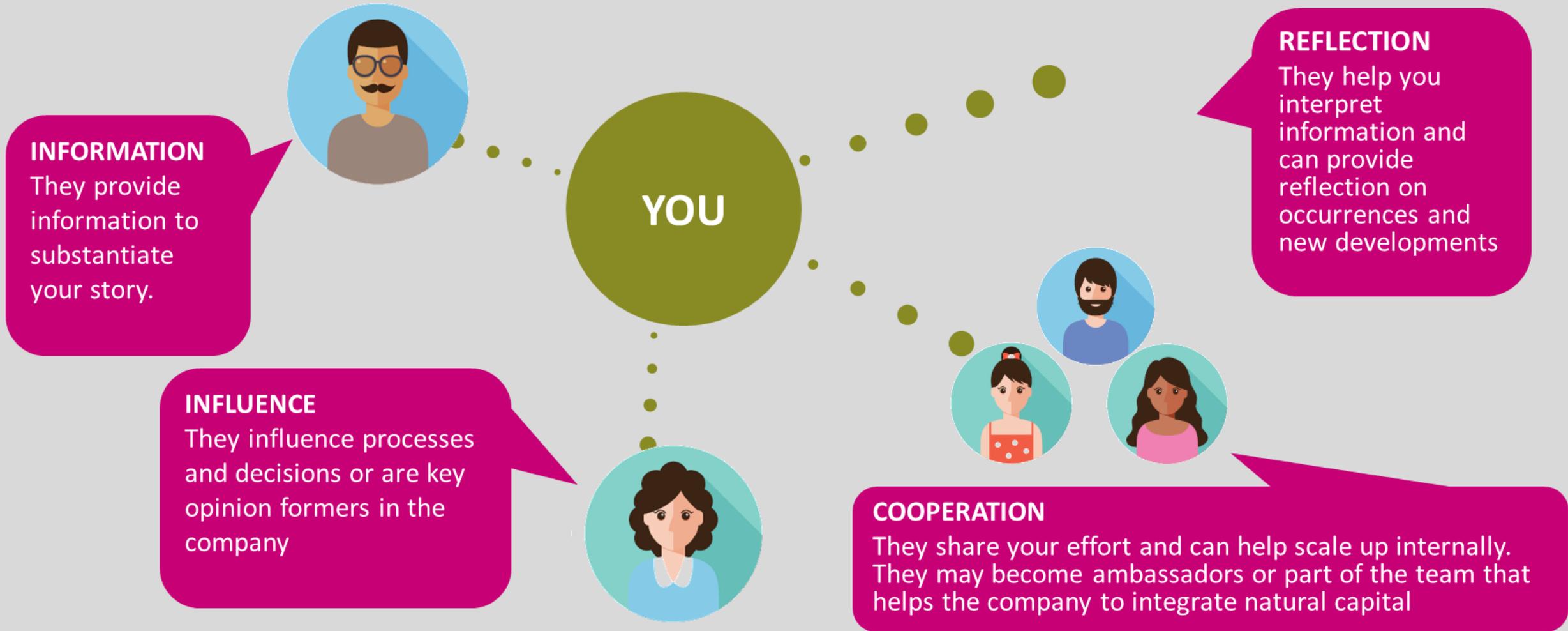
And consider...

1. How can I integrate this new information into my day to day business?
2. How can these new insights influence decisions in order to guarantee business continuity?
3. Would it be relevant to structurally embed natural capital considerations into all of the business decisions?

OBJECTIVE

- A. TO VALIDATE THE FINDINGS OF THE PREVIOUS STEP, TRANSLATE THEM TO SPECIFIC STAKEHOLDERS
- B. TO EXPLORE HOW THIS NEW INFORMATION CAN BE INTEGRATED INTO YOUR DAY – TO – DAY BUSINESS.

WHY CONNECT TO STAKEHOLDERS?



WHO DO YOU INVOLVE WITHIN YOUR ORGANIZATION?



The **marketing manager** can benefit from natural capital as an topic that is of **interest to clients and benefits the company image**



The **facility manager** may use the concept of **natural capital to upgrade the company site**, e.g. by the use of plants and other natural elements



The **CEO** can stimulate natural capital to be part of the **business strategy, mission and vision**, to ensure business continuity



The **Purchasing manager** may select more sustainable resources and **improve resource security** based on natural capital trends



The **product manager** may use the natural capital concept as starting point **for innovations and cost reductions**



The **CSR manager** can stimulate and support Natural Capital to become part of the core of companies and hence let the **company stand out in relation to its competition**

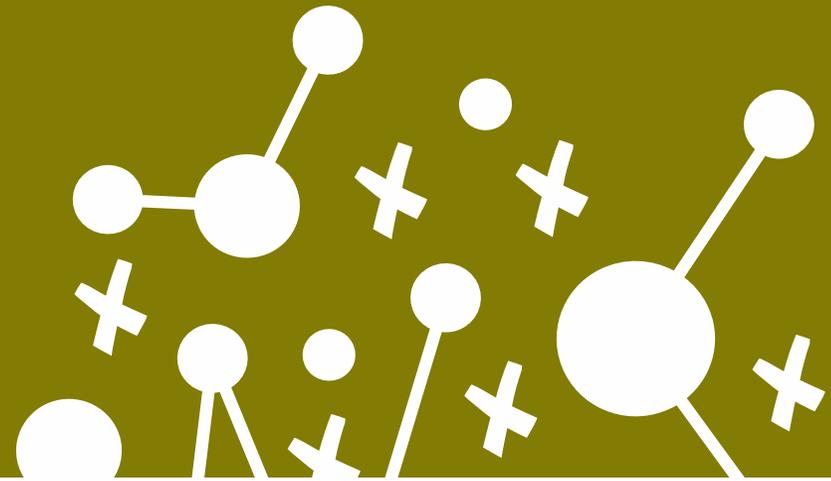


The **process manager** may **increase the efficiency of company processes** based on natural capital dependency and impact.

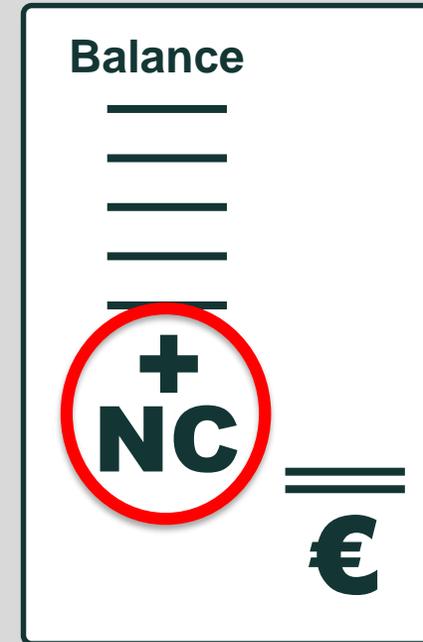
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THE RESULT FUTURE PROOF COMPANY



Dot on the horizon: To integrate natural capital into day-to-day business



AVAILABLE SUPPORT

START

1.

(Sector specific) examples / inspiration:

- [Cases van Natural Captains](#)
- [Helpdesk Natural Capital](#)
- Sector guides van [NCC](#), [WBCSD](#), etc. Mostly for large companies
- [Biodiversity in good company](#)
- [Real Examples](#) and cases (1), (2) and (3) EU Business @ Biodiversity Platform
- [Management Handbook](#) 'Biodiversity in Good Company' initiative

FOCUS

2.

Geographical tools that help to understand impacts and risks (in sourcing / value chain).

- [Atlas Natural Capital \(ANK\)](#)
- [IBAT](#)
- [Natural Capital Toolkit](#) of the WBCSD
- [Bioscope](#), a tool to scan the biodiversity impact of purchased resources

MEASURE

3.

Tools that help to value natural capital (qualitatively, quantitatively or monetary) :

- [QUICK SCAN](#) of PLATFORM BEE
- (parts of the) [Natural Capital Protocol](#)
- The ISO management system and the protection of biological diversity (indicators)
- Sector factsheets EU Business @ Biodiversity Platform (indicators)

DAY-TO-DAY

4.

Tools that support decision making in your company

- (Parts of the) [Natural Capital Protocol](#)
- [Natural infrastructure for business.](#)
- [D-tool](#) (various sustainability tools)
- [Decision model](#) to create focus in your activities from the EU business @ Biodiversity platform

ANY QUESTIONS?



ANY MORE QUESTIONS?



COFFEE BREAK!

Water

- Water from well
- Groundwater infiltration and purification
- Sewer system

Cup

- Ecosystem impact of clay production / mining
- Waste streams pigment production
- Energy requirements of backing
- Carbon emission



Coffee:

- Impact on biodiversity in production area
- Water issues in production area
- Carbon emissions related to production, roasting and transport

Sugar:

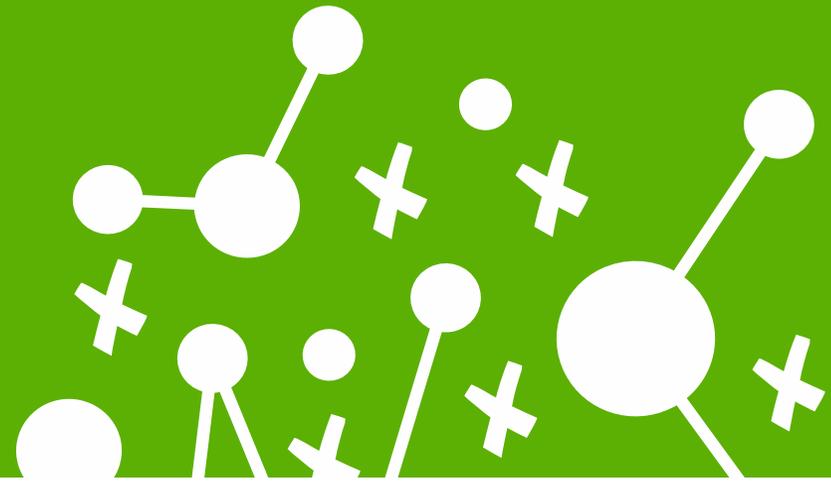
- Biodiversity impact of production
- Air emissions during production process

MANY THANKS!



Time	Topic	Explanation
13:45	Introduction on Eosta and Arcadis	A brief introduction on the session leaders from Eosta and Arcadis and inventory of participants
13:50	Short recap of NC in the food sector	Focus on the food sector
13:55	The 4 steps	A short to-the-point explanation of the four steps in the approach.
14:00	Step 1 Start	Arcadis explains the step in more detail. Eosta explains its experience (if relevant an if any)
14:10	Step 2 Focus	Arcadis explains the step in more detail. Eosta explains its experience (if relevant an if any)
14:20	Step 3 Measure	Arcadis explains the step in more detail. Eosta explains its experience (if relevant an if any)
14:30	Step 4 Day-2-Day	Arcadis explains the step in more detail. Eosta explains its experience (if relevant an if any)
14:40	Wrap-up	Asking the audience what is their take away message / learning.
14:45	End	

ADDITIONAL SLIDES



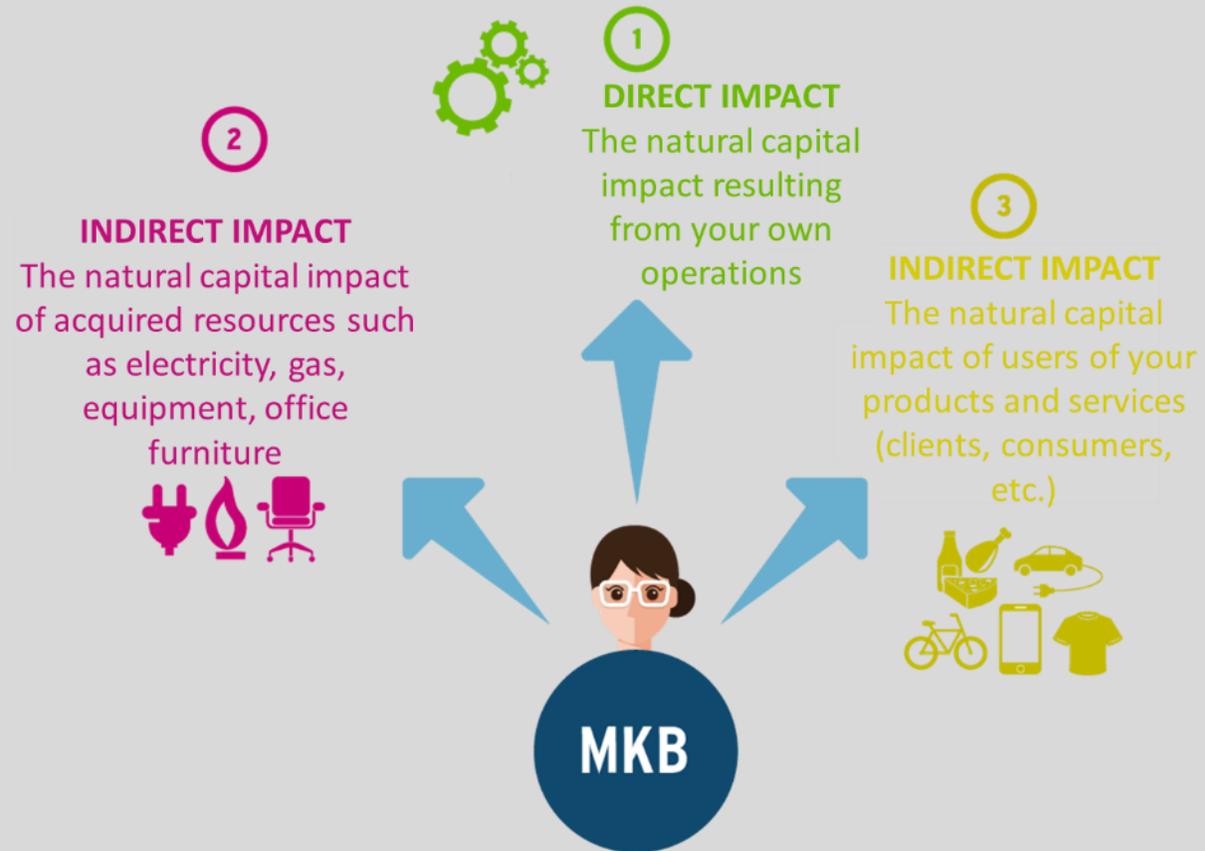
WHERE DO YOU ENCOUNTER NATURAL CAPITAL?



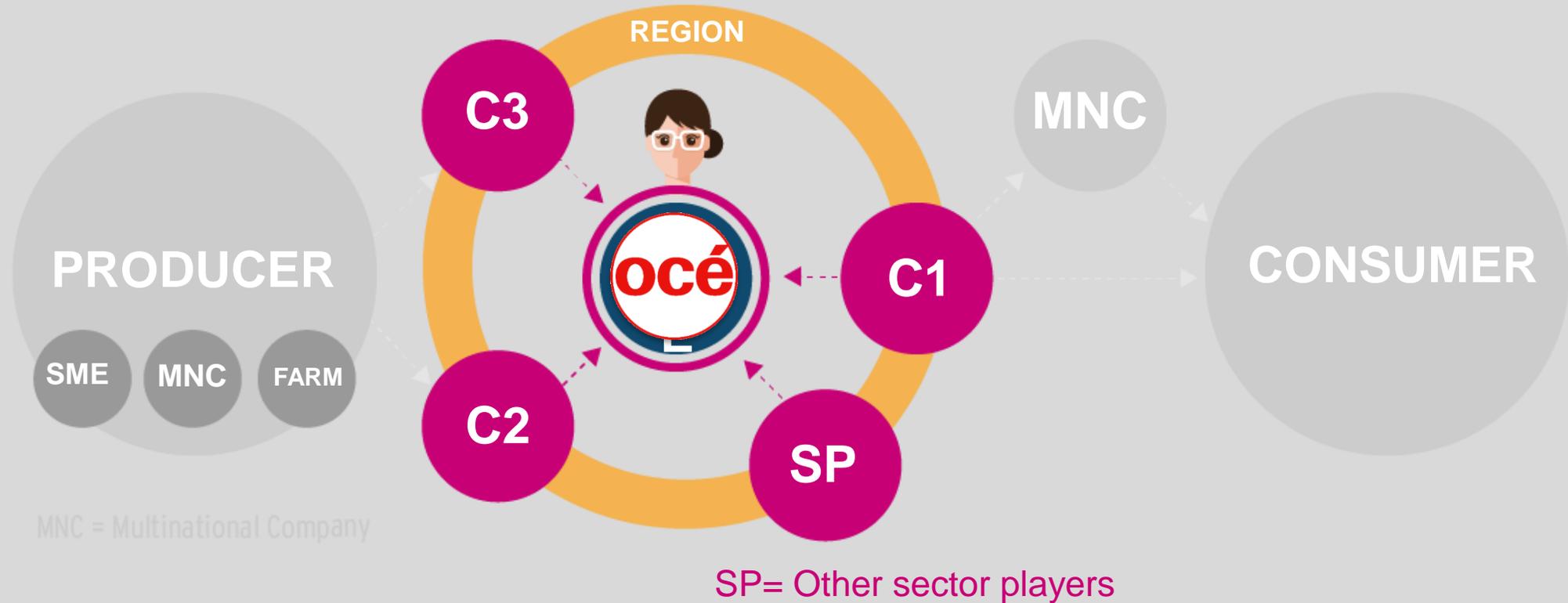
WHAT HAPPENS IN THE WORLD AROUND US?



Where do I impact natural capital?



Where do you start?



CANVAS

WHAT IS MY NATURAL CAPITAL?

Think of water, soil, flora fauna (biodiversity) air, minerals and ecosystem services.

WHY IS IT IMPORTANT?

Think of water, soil, flora fauna (biodiversity) air, minerals and ecosystem services.

WHAT DO I WANT TO KNOW?

Think of water, soil, flora fauna (biodiversity) air, minerals and ecosystem services.

WHAT IS NEEDED TO KNOW MORE?

Think of water, soil, flora fauna (biodiversity) air, minerals and ecosystem services.

- Vollcers int.
- Production of voltaic cells and other batteries
- International setting, we have a sustainability policy but now we encounter the challenge to implement it. We realize that we have insufficient knowledge of our long term sustainability. We are just slightly aware of our dependency on natural capital

Today we follow this company as an example



We introduce:



Remko van der Lis

CEO



To Vollcers Natural Capital is important because several reasons:

- 1) Our clients demand a sustainable partner. We think that natural capital provides us with a framework that helps us to demonstrate that we are that partner
- 2) We think that applying the concept of natural capital we will be better able to investigate our 'tier 2 and 3' impact and dependencies. This can help us in our sourcing. We e.g. depend largely on the resources provided by the extractive industry
- 3) We can use the concept for innovations, using more sustainable materials.
- 4) As we strive to help the world in its energy transition, providing buffer solutions, we can also link our branding and marketing to natural capital.



We introduce:



Remko van der Lis

CEO



- At the our HQ and production site, main NC stock is water, air (emissions) and biodiversity. In addition we depend on the protection of a dike against flood, as our site is adjacent to a river, we depend on an adjacent nature area for recreational purposes (lunchbreaks)
- Upstream we source our raw materials from extractive and the agro-sector. We see that all stocks are impacted and a series of ecosystem services are important.
- Downstream we have a waste issue, and part of our waste is moved to a landfill. We also have a water effluent.



We introduce:



Remko van der Lis

CEO



Risks:

- 1) Increasingly we experience issues in the extractive sector. This can lead to increased costs but may also affect our company image
- 2) Some of our sites are in increasingly water scarce areas. We may experience issues in the near future. A solution could also include green solutions and may require a multi-stakeholder approach

Opportunities

- 1) Exploring Natural Capital will provide us with more options to take decisions with a long term perspective
- 2) We can use the concept to improve our innovation process
- 3) We can use the concept to improve our story on sustainability. It also contributes to our reporting efforts.



We introduce:

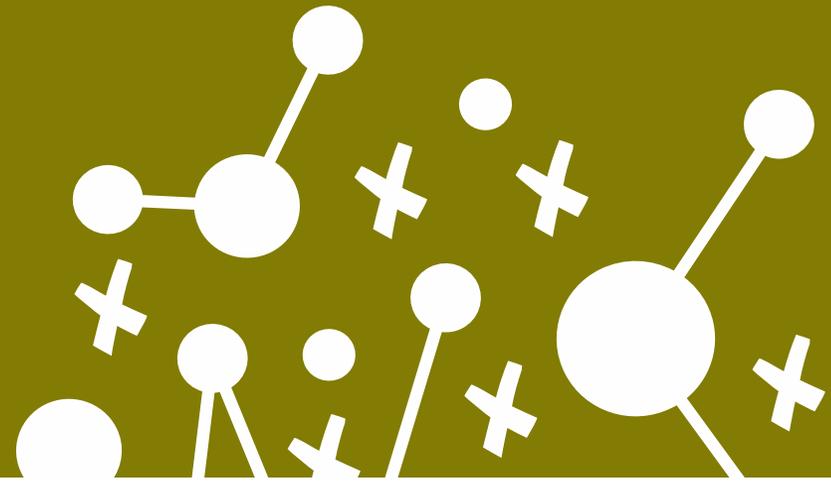


Remko van der Lis

CEO



ADDITIONAL SLIDES JUST IN CASE

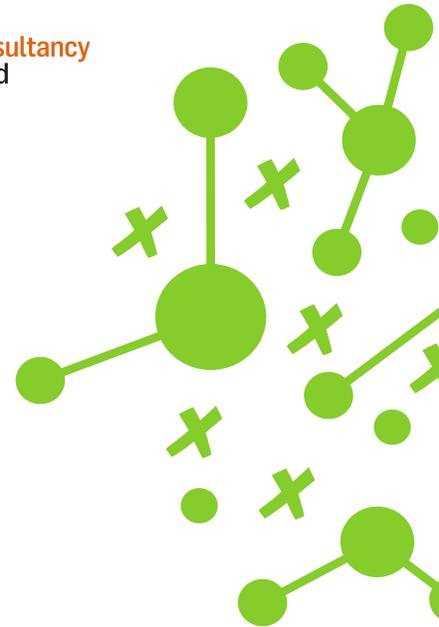


COLOPHON

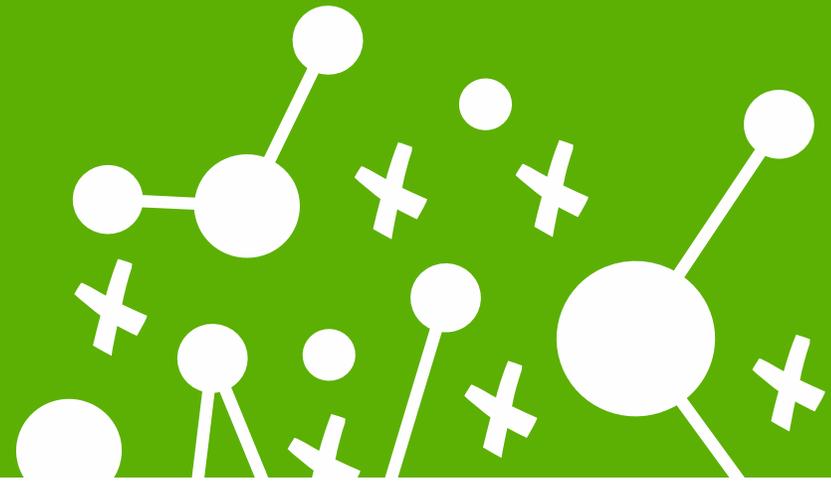
This training was developed by Arcadis and CREM and designed by Pero Gouwerok as an assignment from Platform Biodiversiteit Ecosystemen en Economie, a collaboration of IUCN NL and VNO-NCW, financially supported by the Dutch Ministry of Economic Affairs.

©For more information you can contact IUCN NL, Bette Harms (Bette.Harms@IUCN.nl) or Eveline Trines (Eveline.trines@IUCN.nl).

The material of the training can be used freely, but only accompanied by a full and correct reference.



ADDITIONAL EXAMPLES





We introduce:

- I am Remko van der Lis, CEO of K-Fee.
- We produce premium coffee for both businesses (B2B) and consumer.
- I want to become a ‘future proof’ entrepreneur as my business fully relies on natural capital and we want to assure our business continuity.



Remko van der Lis
CEO





We introduce:



Remko van der Lis

CEO



- Soil and water are most important for our coffee production
- Pollination is essential for a high yield
- Our operations are located in area with increasing flood risk as a consequence of the effects of climate change
- We expect that some of our operations will be influenced by more stringent regulations for emissions and waste production.





We introduce:



Remko van der Lis

CEO



1. We will investigate in to more detail how we can reduce our impact on pollination , e.g. whether we will place beehives at the production sites or improve local biodiversity to support pollination by insects.
2. We will explore opportunities to reduce our emissions at the processing sites in order to reduce our contribution to Climate Change and to improve health of workers and the local population





We introduce:



Remko van der Lis

CEO



I have included my direct colleagues in this journey. As a CEO I can set things in motion, but I depend on: sales, marketing, CSR manager, operation manager, but actually all colleagues as this requires a change of mindset.





We introduce:



Remko van der Lis

CEO



I need information about the presence of pollinating insects at production sites, its possible decline, and solutions. I need also to understand the financial risks of not acting.

I need information about the type of air pollution, its source and volume and methods to reduce emissions.





We introduce:



Remko van der Lis

CEO



Eventually we chose to:

- 1) Improve the air quality on and around our operational facilities. We will investigate the best alternative to achieve a 20% improvement by 2020. We are considering:
 - Increase vegetation and the amount of plants on operational locations to capture micro particles
 - Technical adjustments to operations to reduce emissions
 - Acquire measurement tools to monitor the improvements.
- 1) To reduce the water use by 20% before 2020. We strive to achieve this by:
 - Collaborating with local scientists to investigate opportunities to reduce our use.
 - To investigate opportunities to improve the quality and quantity of our effluent water to reduce the impact on our environment.





We introduce:



Remko van der Lis

CEO



We will address natural capital in our company because:

A. Resource security

If we do not take natural capital into account we expect problems in the (near) future.

B. Image

If we do this properly, this will support our image as sustainable coffee producer

C. Stakeholders

Our investors and environment demand these type of actions. This will provide us with a *'license to produce'*

D. Comply with demands and preferences of clients

Clients demand the coffee they drink to be produced sustainably. This also relate to our *'license to produce'*

E. Comply to legislation and regulations

More stringent regulation and legislations influence our business.



To create focus, we executed a materiality assessment in which we indicated the importance of each issue:

	Water	Bestuiving	Lucht kwaliteit
Operationeel	Middel Mogelijke waterschaarste kan kosten opdrijven	Hoog Door veranderend landgebruik en klimaat verandering kunnen bijenpopulaties achteruit gaan	Hoog Door hogere kwaliteits eisen zou de machinerie aangepast moeten worden. Dit kan samengaan met de urbanisatie rondom onze productiefaciliteiten
Wet en regelgeving	Hoog Regelgeving kan waterbeschikbaarheid en kosten beïnvloeden	Nu niet relevant	Hoog Regelgevers verkennen aanpak om strengere regelgeving op te stellen
Financieel	We hebben besloten nog niet voor financiële ondersteuning te vragen omdat we denken dat investeerders terughoudend zijn om hierin te investeren ivm mogelijk imagoschade		
Reputatie en marketing	Middel Door ons watergebruik kan schoon drink water voor anderen wellicht minder beschikbaar zijn.	Nu niet relevant	Hoog Door grote zichtbaarheid van de productiefaciliteit in de omgeving worden wij als vervuiler gezien
Maatschappelijk	Middel Mogelijke conflicten met andere gebruikers	Hoog Andere boeren/producenten zijn ook afhankelijk van bestuiving	Hoog Bevolking in directe omgeving kan gevolgen ervaren van onze uitstoot



We introduce:



Remko van der Lis

CEO



- **Van Otten fruit transport and trade company**
- **Challenge:** Clients demand to reduce losses during transport of fruit. Van Otten needs to limit the loss during its transport while not increasing (or even decreasing) its impact on natural capital.
- **Action:** Invest in soil improvement programs of primary producers, aiming to restore the calcium balance in the soil. This makes the products more firm, leading to a reduction in loss in transport, without having e.g. to increase the use of packaging.



We introduce:



Henko van Otten

Directeur



- **Heineken, other companies and farmers**
- **Challenge:** The population of pollinators (such as bees) in the province of Noord Holland is under pressure. This affects the agriculture in the region, resulting in economic damage.
- **Action:** In the Green Circles program (Groene Cirkels Bijenlandschap) the local population, companies (including SMEs), farmers, governments and knowledge experts are collaborating to develop a regional ‘bee landscape’ near the municipality of Zoeterwoude (the main production location of Heineken).



We Introduce:



Soof van Petteren

Operations officer





We Introduce:



Harm Wilbrink

Chief Scientist



- **Nutreco**
- **Challenge:** Production of 1 kg of salmon requires about 3,5 kg of fish meal. With reducing fish populations, and fast growing aqua cultural sector, Salmon production becomes more challenging in the future.
- **Action:** Nutreco has invested in research to develop plant based feed for salmon production. The company will be able to provide their innovative product to the market.

- **Nike**
- **Challenge:** To develop a new distribution center following the no net loss principle by not impacting local biodiversity. The development needed to comply with local legislation as well.
- **Action:** Develop a ‘green infrastructure’ for the site’s water management, creating biodiversity at the site and complying to the no net loss principle and local legislation.



We Introduce:



Peter de Voorde

Site developer





We Introduce:

- **BOOL Architects**
- **Challenge:** Create added value in the design of buildings.
- **Action:** Using the concept of natural capital to add to the objective of living / working space by including purposes such as water buffering, heat regulation or air filtration and using (natural) materials for the construction that have little / no impact on natural capital. This approach creates value for the user and the society.



Yildrin Olzec

