European Commission

Business @ Biodiversity

SCIENCE BASED TARGETS NETWORK

UN environment programme WCMC

ICF

ARCADIS Design & Consultancy for natural and built assets

nextgreen connecting green ambitions

Webinar series on "Science-based targets for biodiversity“

Webinar 3: "Getting started with science-based targets on biodiversity for corporates and financial institutions"

16 April 15.30-17.00 CET

Welcome & opening

Lars Müller, Policy Officer and coordinator of the EU B@B Platform, European Commission

Johan Lammerant, moderator and Lead Workstream Methods, EU Business@Biodiversity Platform

'Biodiversity science based targets for business & finance'

Webinar 1: 24 March – **State of play**
Webinar 2: 2 April – **Allocation**
Webinar 3: 16 April – **Getting started**

Information, recording and final slides (after 16 April):
https://next-ma.eu/landing/eubiodiversity

Agenda webinar 3 – Getting started with SBT

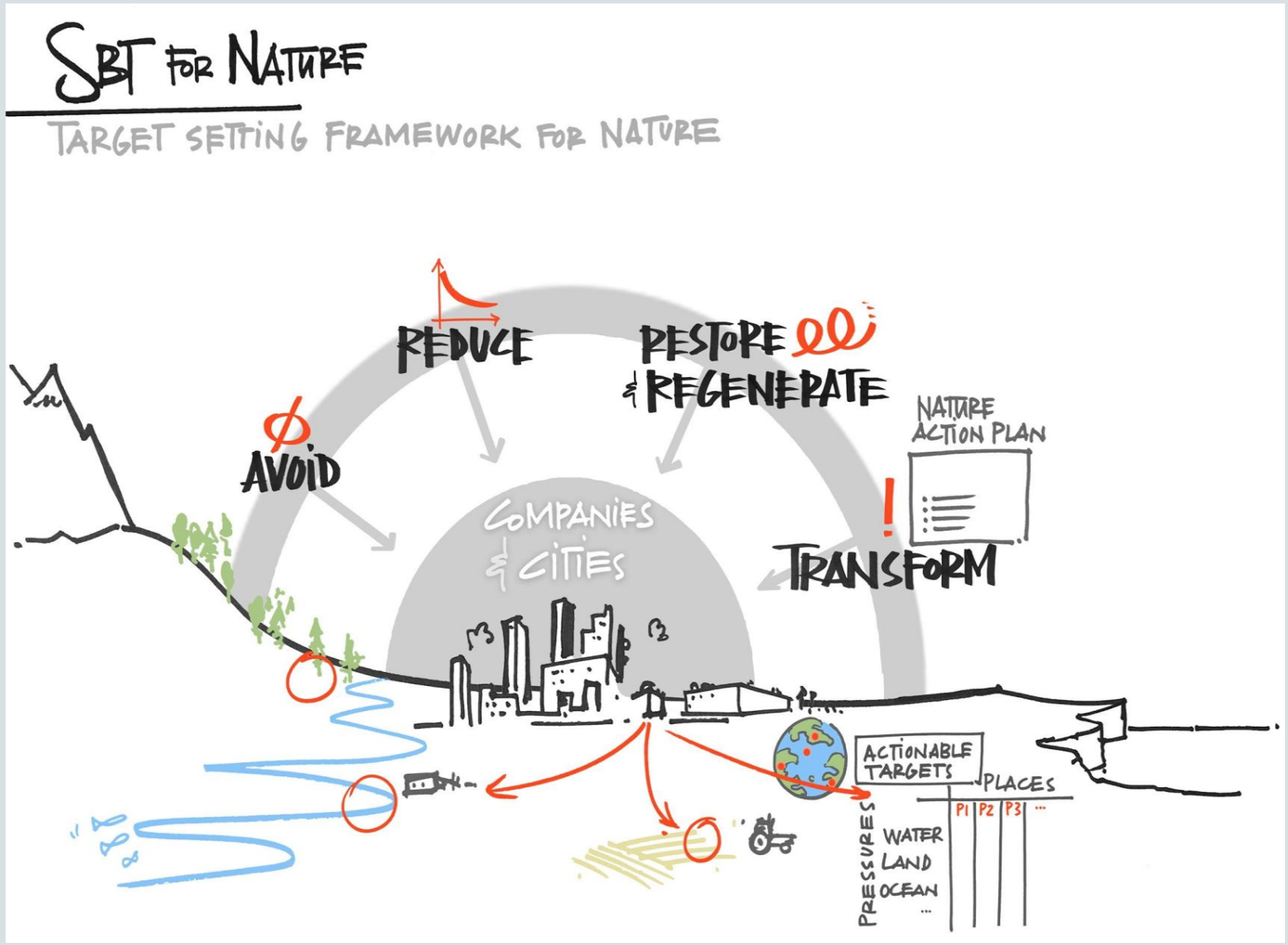
15:30 – 15:35	Welcome and opening
15:35 – 16:00	Part 1 – Getting started with SBT and related challenges
16:00 – 16:25	Part 2 – Practical experiences with company level SBT approaches
16:25 – 16:55	Part 3 – Group discussions on challenges
16:55 – 17:00	Closing

Part 1 – Getting started with SBT and related challenges

A pragmatic company driven approach on SBT's for biodiversity

Johan Lammerant (Arcadis), 'Methods' Workstream Leader
EU Business & Biodiversity Platform

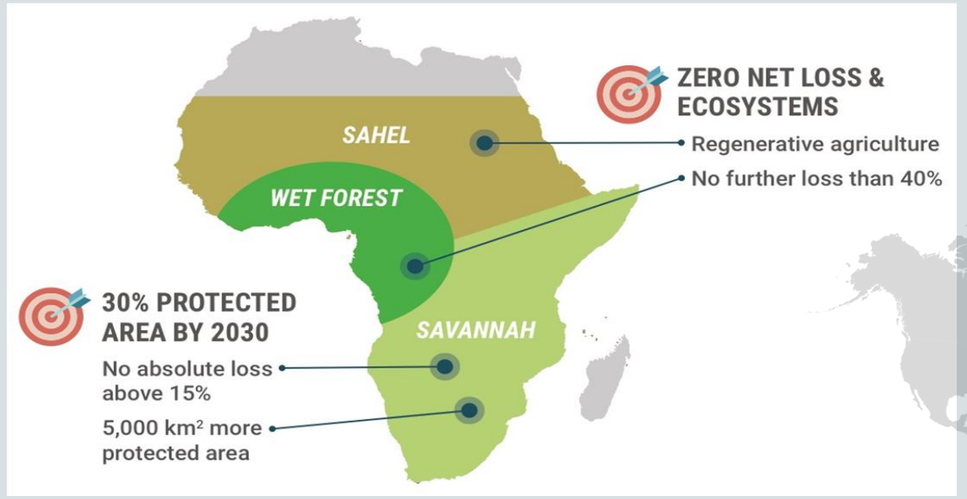
Target setting framework for Nature



- **Avoid** biodiversity hotspot areas
- **Reduce** your pressures on biodiversity
- **Restore** and **Regenerate** degraded ecosystems
- **Transform** your products into ‘no harm to biodiversity’ products

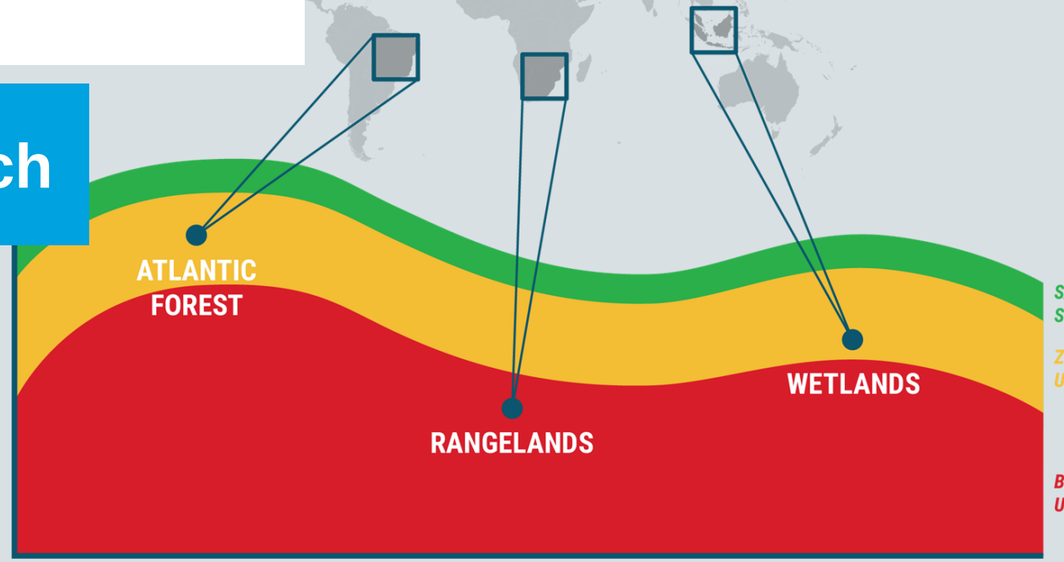
SBTN draft prototype methods for translation

Footprinting approach



Place based approach

Safe Operating Space and Sector approach

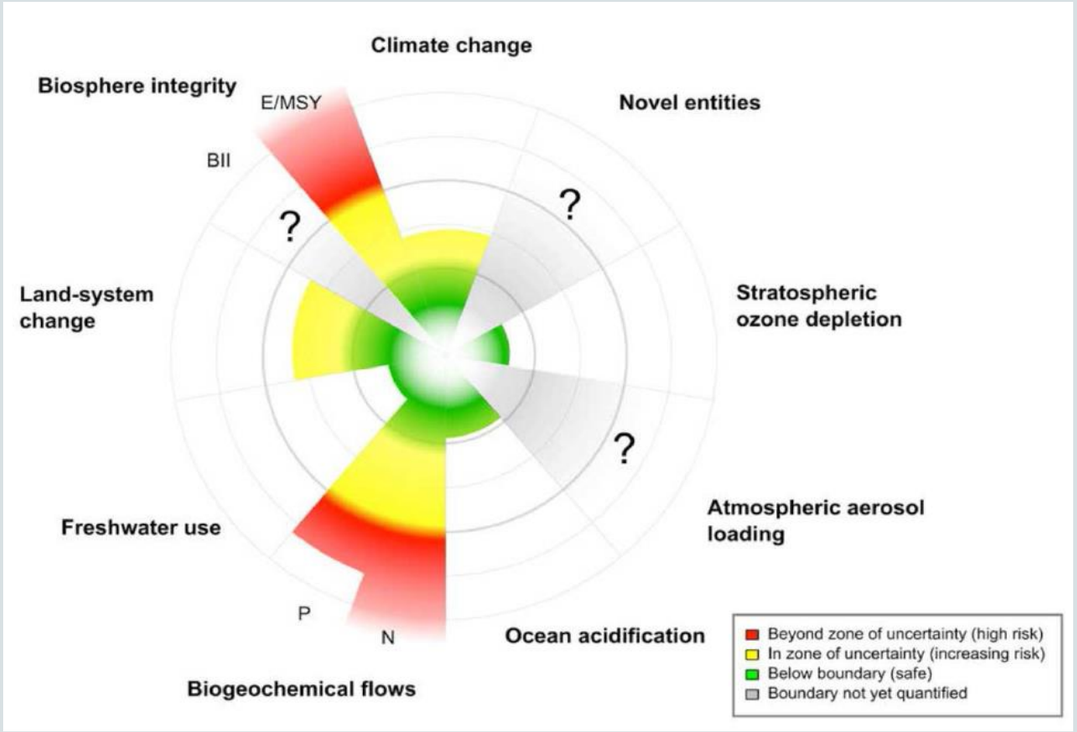


‘Top-down’ approach is not enough

- Some SBT approaches can be perceived as top-down approaches “*This is the global biodiversity target and we have translated it as follows for you, here is your ‘biodiversity budget’!*”
- Only walking that path is very risky (time consuming and due to the many differences between biodiversity and climate many uncertainties and inaccuracies in ‘translational science’)…
- Other SBT approaches are closer to a ‘**bottom-up’ approach,** such as the ‘Place based approach and Safe Operating Space approach

Translating the Planetary Boundaries approach to company level

- For the identified material biodiversity issues, companies assess if they are within the **Safe Operating Space** at a **landscape/seascape scale**!
- In line with the principle ‘Think globally, act locally”.
- Once companies know about the distance to target (= Safe Operating Space), they can start defining their specific SBTs



Concept of Safe Operating Space

- The Safe Operating Space of a local ecosystem is defined by so-called critical boundaries, that should not be exceeded in order to avoid ecosystem degradation risks
- Boundaries describe how much impact the dynamic ecosystem is able to absorb and should be articulated as flows rather than stocks, i.e. amounts of resource extraction or emissions that can easily be linked to economic activities
- Setting these boundaries is often a participatory and collaborative process, informed by science

Importance of context information

- **Context** means information on **‘biodiversity ambition levels’** (e.g. *which minimum level biodiversity value do we want in this specific area?*) and **‘critical boundaries’** of the supporting ecosystem (e.g. *what maximum amount of water can be extracted from the water system?*)

- Global SBT targets which are translated to local level provide this contextual information
- In many cases we already have this contextual information…

Challenges and solutions

1. Assessing distance to target for achieving ‘biodiversity ambition levels’
2. Assessing distance to target in relation to thresholds for abiotic factors
3. Allocating shares to different actors in the landscape/seascape
4. Measuring SBT targets and progress to target
5. Need for clear definitions on SBT actions and SBT targets

CHALLENGES and SOLUTIONS (1)

Assessing distance to target for achieving 'biodiversity ambition levels'

- **concept of 'favorable' or 'unfavorable' conservation status** (FCS, UFCS) has a legal status in the EU (Birds and Habitats Directives) → continuous monitoring by Member States: if the conservation status is 'favorable' it can be assumed that the critical boundaries that define the Safe Operating Space are not exceeded in the area where the species or habitat occurs; http://natura2000.eea.europa.eu/
- IUCN **Red Lists**
- National or local red lists
- **Indices** e.g. 'farmland bird index'
- **Wildlife Sensitivity Mapping**

Combination of science-based data and targets

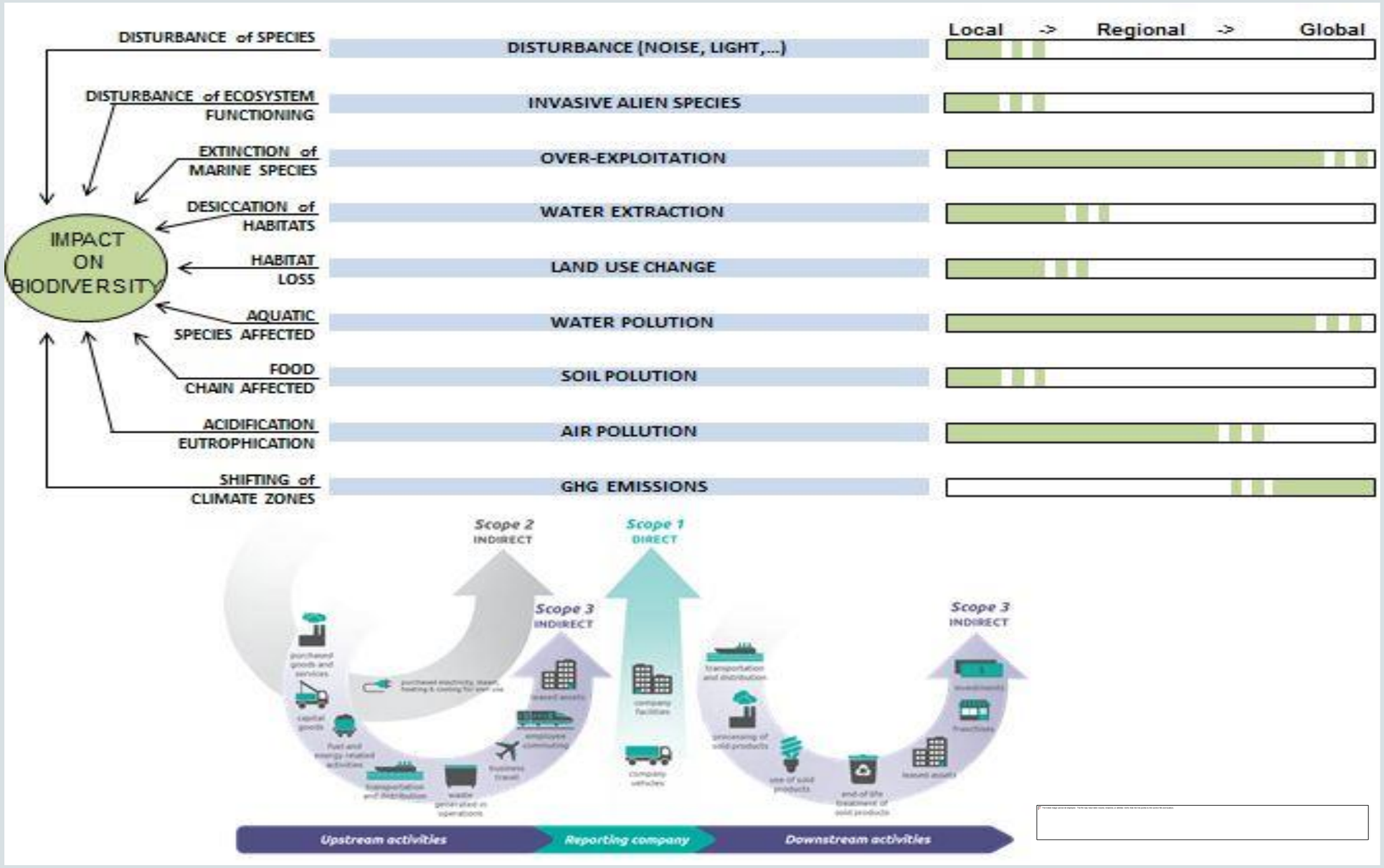

No Net Loss:
No further damage to the species and/or habitat
Favorable status
Unfavorable Status

CHALLENGES and SOLUTIONS (2)

Assessing distance to target in relation to boundaries for abiotic factors

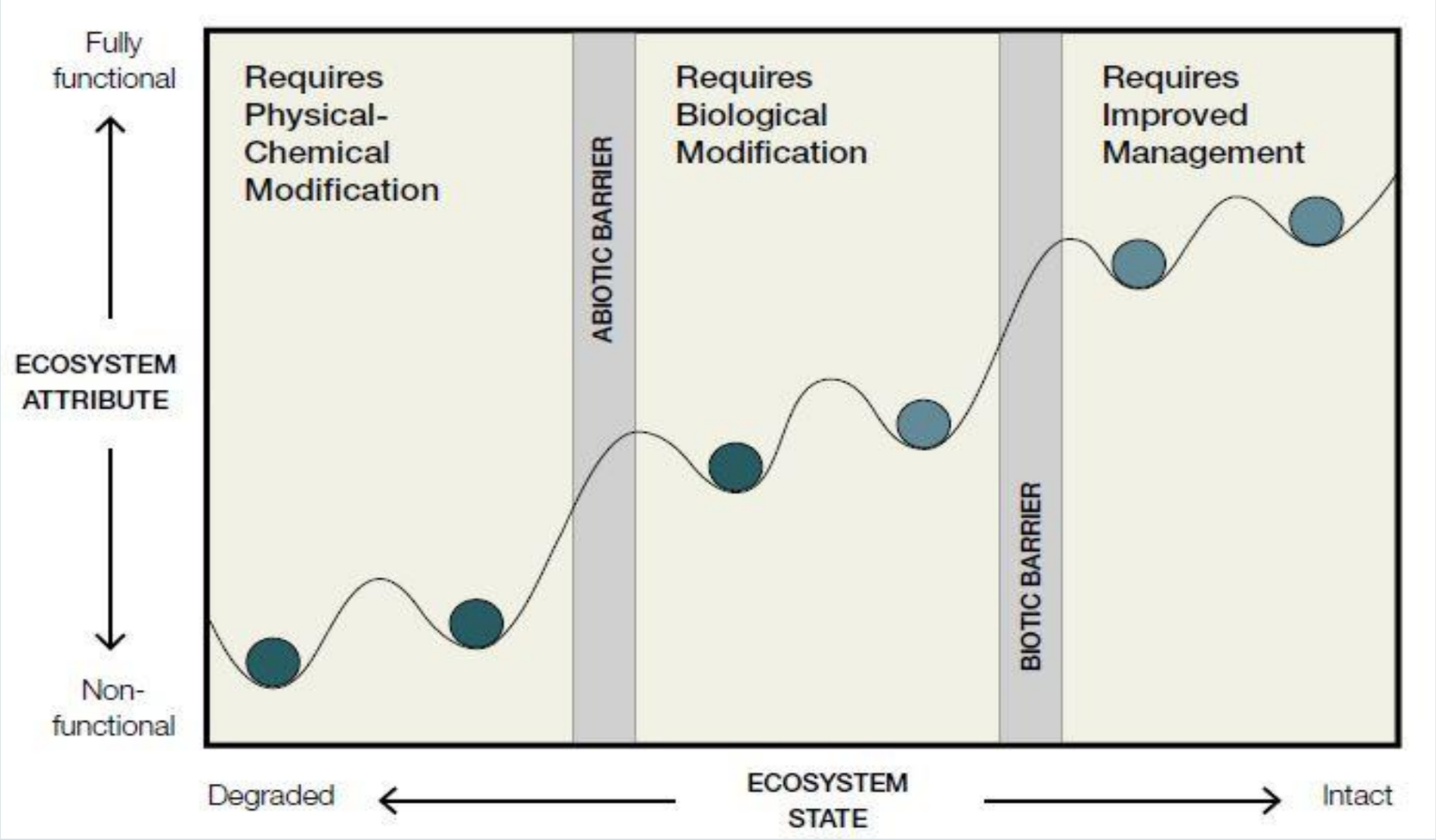
- frameworks provided by national or regional authorities, providing information on maximum acceptable use or loads, and often applied as a basis for defining the permit conditions
  - e.g. water extraction: hydrological model at landscape level or river basin level
  - e.g. nitrogen deposition: air pollution and deposition model at national or regional level (e.g. The Netherlands, Flanders → nitrogen ceilings)

Important opportunity for natural capital data providers such as EEA, UNSEEA, Eurostat, National Statistical Offices, MAES initiative, …



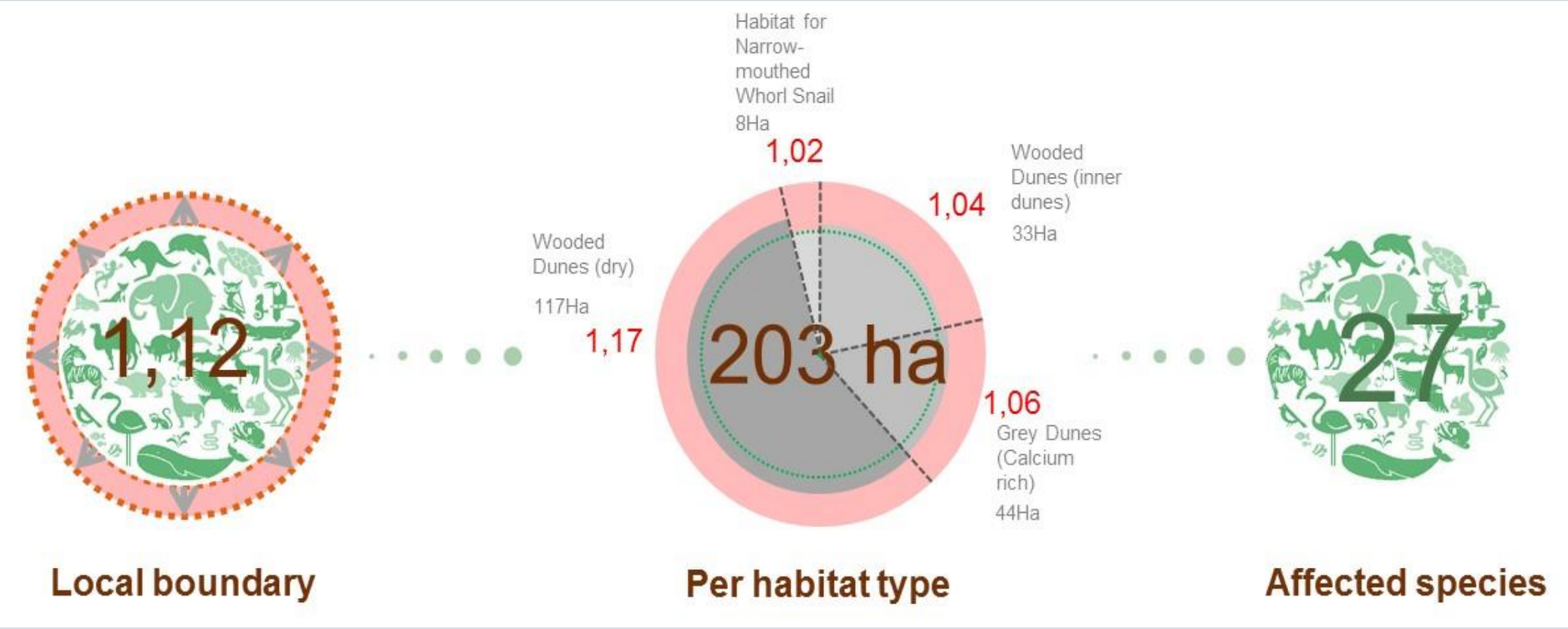
Need to Know!
Biodiversity is affected by many ‘impact drivers’ (pressures)

Biodiversity SBTs can only achieved if local abiotic conditions are fine! (see Hobbs and Harris, 2001)



Context required not only for biodiversity values but also for **abiotic conditions** which support these biodiversity values e.g. water (quality, quantity), soil, noise, light, ….

Example: Exceedance of nitrogen deposition critical boundary in protected dunes (Eneco - One Planet Thinking – research in 2016)



CHALLENGES and SOLUTIONS (3)
Allocating shares to different actors in the landscape/seascape

- **Multistakeholder cooperation**, underpinned by science
  - Examples from the water context: water catchment approaches, supported by tools (e.g. WWF Water Risk Filter, WRI Aqueduct, Alliance for Water Stewardship Standard)

- Government controlled **'available environmental space'**, translated into spatial planning of activities and permit conditions; some examples:
  - cumulative impacts of wind farms in marine regions (e.g barrier effect)
  - cumulative impacts of industrial activities in estuary (e.g. noise, land use, corridors)

CHALLENGES and SOLUTIONS (4)
Measuring SBT targets and progress to target

- Company-level SBTs often expressed in tailored metrics, i.e. metrics specific for the local context (*e.g. number of bird/bat collision victims in a wind farm per year*), requiring specific measurement approaches
- Measurement approaches can focus on drivers of loss and/or on state (extent, condition, significance)
- Some measurement approaches fit better for specific ARRRT targets e.g. STAR for ‘restoration’ and LCA based approaches for ‘transformation’

CHALLENGES and SOLUTIONS (5a)
Need for clear definitions on SBT actions and SBT targets

- specific **permit conditions** imposed by local nature administration (e.g. wind farms, golf courses, …);
- involvement of NGOs? Or only qualified as ‘science-based’ when academia are involved?
- underpinned by scientifically robust studies and investigations? (e.g. groundwater model)
- compliance to guidance documents or standards?
- compliance to ecolabels or certification schemes? (e.g. such as RSPO (palm oil), FSC (timber), Rainforest Alliance, etc.)

Need for validation? (SBTi includes a validation process…).

CHALLENGES and SOLUTIONS (5b)
Need for clear definitions on SBT actions and SBT targets

A start could be…..: " Corporate targets on biodiversity qualify as 'science based' if the following conditions are met:

- ❑ biodiversity targets are at least aligned with the global targets (NNL from now on, NPI 2030, full recovery 2050)
- ❑ biodiversity targets are defined for all material biodiversity issues in the value chain
- ❑ biodiversity targets are location specific
- ❑ biodiversity targets are underpinned by contextual and scientifically robust information (*can be further described*) and have been prepared in collaboration with biodiversity experts (*could be from government, NGO, academic institutions, consultancies…*)"

A potential step-by-step approach

1. Identify your material biodiversity issues (value chain mapping); materiality relates to risks and opportunities
2. Identify local biodiversity ambition levels and boundaries (the local ‘Safe Operating Space’ for biodiversity for different locations throughout the value chain)
3. Identify the main drivers of biodiversity loss (cause-impact relationships)
4. Define type of SBT strategies you can follow (ARRRT)
5. Set SBT targets on main drivers of biodiversity loss
6. Do this in collaborative effort with other stakeholders in landscape/seascape
7. Monitor progress on drivers of loss and targets and adapt if necessary

Conclusions

- Companies should not wait until global SBTs for biodiversity are set and translated to local level; they can start today!
- Setting company level SBTs at a landscape level requires correct contextual information; this could be informed by translating global SBT targets to local contexts
- Company level SBTs should include both targets related to biodiversity state as targets related to drivers of loss
- Challenges can be overcome, but guidance is most useful and collaboration is needed

Q&A

Part 2 - Practical experiences with company level SBT approaches

Presentation 1: Challenges related to science-based approaches with the application of the Biodiversity Monitor in the dairy sector

Jan Willem Straatsma (Sustainability manager) and Guus Van Laarhoven (Program manager biodiversity), Royal Friesland Campina

FrieslandCampina
nourishing by nature

Leading through cooperative sustainability

Getting Started with Science Based Targets on biodiversity for corporates and financials

Jan Willem Straatsma| April 2020

#sustainability #frieslandcampina

Feed the growing world population with valuable nutrients

In such a way that it has the lowest environmental impact

Seek balance, not conflict

Cooperative sustainability

Multidimensional
Measure - Act – Monitor

Farming can’t do without biodiversity…

…biodiversity can’t do without farming

Farming has a **global** impact on biodiversity

Farms **depend on** natural capital

Farmland provides **local** ecosystems

Farming is **essential to** improve biodiversity

Biodiversity is multi-dimensional, not single issue

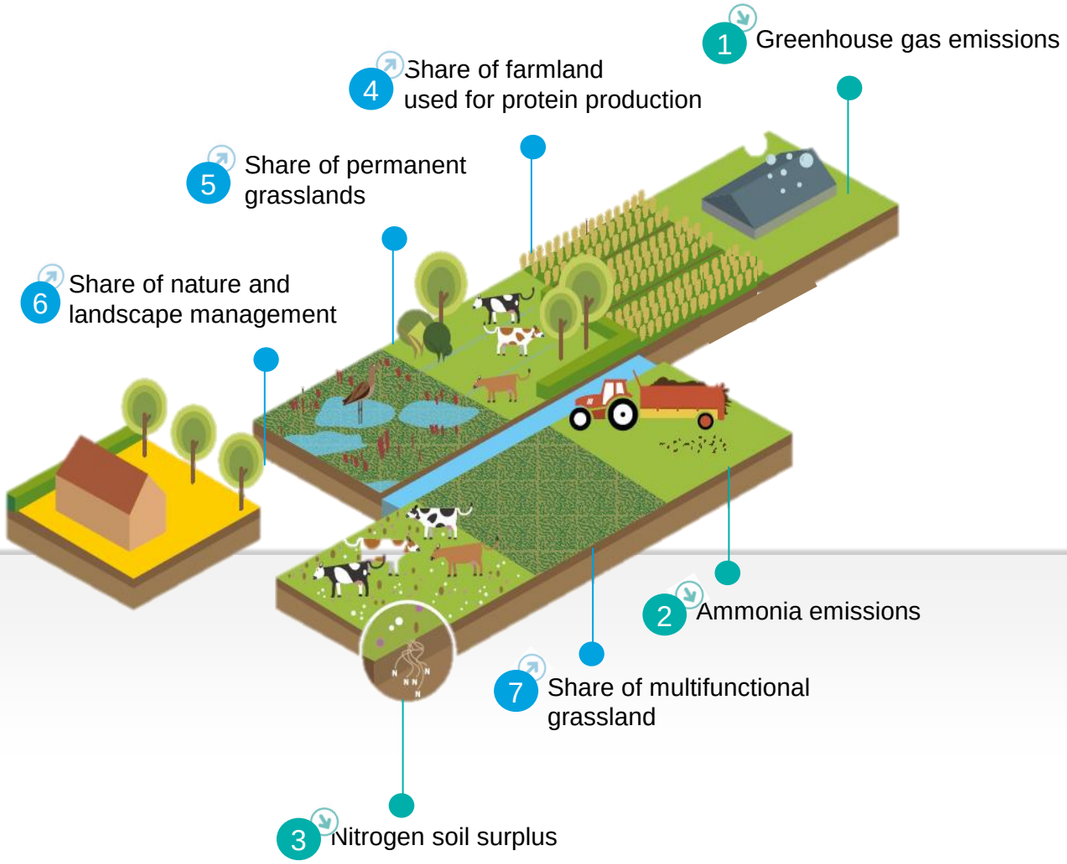
100%

farms with positive impact

Our ambition:
positive biodiversity impact on all farms

A unique approach to monitor biodiversity on farms: measure, act and monitor

7 KPI's monitored



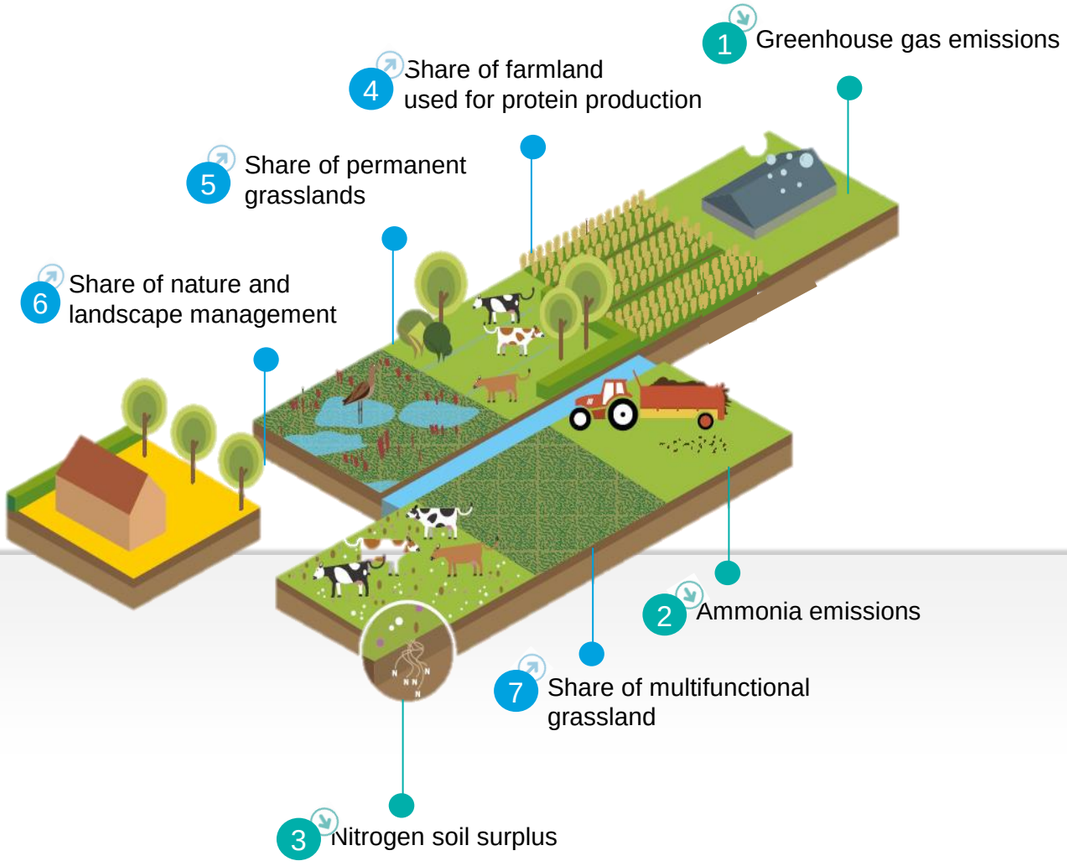
The biodiversity monitoring tool

- Measure biodiversity: result based approach on all our Dutch farms (10,797)
- Prevent trade-offs: integral approach to have a balanced biodiversity impact at farm, regional and global level
- Developed by recognized stakeholders: prototype has been developed by FrieslandCampina, Rabobank and WWF
- Aligned with international guidelines: FrieslandCampina translated the FAO-leap guideline into a concrete approach

WWF Rabobank

Our main actions at farm level to meet our biodiversity ambition

7 KPI's monitored



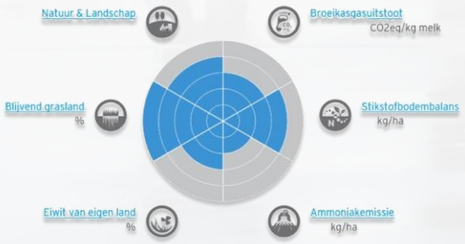
Decrease negative impact

1. Greenhouse gas emissions
2. Ammonia emissions
3. Nitrogen soil surplus

Increase positive impact

4. Share of farmland used for protein production
5. Share of permanent grasslands
6. Share of nature and landscape management
7. Share of multifunctional grassland

Measure	Act	Act	Monitor
10,797 farmers using the biodiversity monitoring tool	100% of our farms using responsible soy (RTRS) for the cow feeding	Set up a remuneration scheme to rewards results	Share of permanent grassland increase since the start of remuneration



WWF views on our performances

+3.5%
since 2015

Our top 4 successes on biodiversity

The journey to net positive impact has just started

There are still al lot pieces in the jig-saw to be found to be fully science-based

- The main question is “how to calculate net positive impact”?
- We need a baseline (minimal threshold) for every indicator (to avoid trade offs)
- Set (regional) targets for the total net impact

1. Greenhouse emissions
2. Ammonia emissions
3. Nitrogen soil surplus
4. Share of farmland used for protein production
5. Share of permanent grasslands
6. Share of nature and landscape management
7. Share of multifunctional grassland

The journey to net positive impact has just started

- Total score biodiversity (integral)
- Base level per indicator
- Define net positive impact as a total score

Towards regenerative agriculture systems at scale

Introductory presentation, April 2020

TiFN
FOOD & NUTRITION

Need new approaches to get to a regenerative and circular system at scale

	Today's dominant logic	Required for systemic change
Ambition	Volume growth, maximum efficiency; Less Negative impacts	Value growth, optimum efficiency; Net Positive impact
Scope	Supply chains, company by company, commodity by commodity	Integrated Systems: fields, farms, local landscapes, value chains
Breadth of solutions	Dogmatic: prescribe 'one size fits all' agricultural practices	Drive to target outcomes with diversity of agricultural practices

Regenerative Farming Program - Introduction

Goal: Develop transition scenarios towards a regenerative agriculture system at scale, with positive impact on climate, nutrient cycles, soils, freshwater and biodiversity

Five program deliverables:

1. Integrated outline of a regenerative agriculture system at scale, for use case area the Netherlands
2. Assessment of expected impact of running initiatives and existing best practices towards these targets for 2050
3. Co-creating next practices of regenerative farming
4. ‘Proof of principle’ of regenerative agriculture for use case the Netherlands (at scale and with sound business models): several quantified scenario’s in compliance with the outline for 2050
5. Science based and quantified transition scenarios from the existing agriculture system towards these 2050 scenario’s

Consortium partners to date:

Universiteit Utrecht

FrieslandCampina nourishing by nature

Cosun

Rabobank

Topsector Agri& Food

Het Groene Brein

Universiteit van Amsterdam

wij-land

bo brancheorganisatie akkerbouw

Program Team to date

2 PhD candidates:

- Niko Wojtynia (Copernicus Institute)
- Loekie Schreefel (Wageningen University)
- More PhD+postdoc positions tbd when more partners join

Supervisors and promotors:

- Peter Groot Koerkamp (WUR Farming systems design)
- Rogier Schulte (WUR Farming systems ecology)
- Imke de Boer (WUR Animal production systems)
- Hannah van Zanten (WUR Animal production systems)
- Marjolein Derks (WUR Farming systems design)
- Annemiek Schrijver (WUR)
- Jerry van Dijk (UU Copernicus institute for sustainable development)
- Marko Hekkert (UU Innovation studies + head of Copernicus institute)
- John Grin (UvA Policy science)
- International involvement tbd when more partners join, and more countries are added

TIFN Team:

- Aafke van den Boom (Theme coordinator)
- Wouter-Jan Schouten (Theme director sustainable food systems)

Support to community of practice:

- Bert Smit and Alfons Beldman (Wageningen Economic Research)
- Antoine Heideveld and Marjolijn de Boer (Groene Brein)
- Danielle De Nie (Commonland/Wij.Land)
- Private sector partners (FrieslandCampina, BO Akkerbouw, Cosun, Rabo, other partners tbd)
- Expert panel with senior researchers from Wageningen Research, Louis Bolk Institute, and Delphi)

Community of practice of 15-20 farmers in the Netherlands that are pioneering regenerative practices

Access to WUR international network of lighthouse farms

Required outcomes defined on 15 topics covering all soil functions and ecosystem services

Ecosystem services \ Soil functions		Primary productivity	Water purification & regulation	Carbon sequestration & regulation	Provision of functional & intrinsic biodiversity	Provision & cycling of nutrients	
Provisioning services		2. Primary productivity					
Regulating services	Local climate and air quality			3. Carbon and climate regulation			6 Local air quality
	Carbon sequestration & storage						
	Moderation of extreme events		4. Water purification & regulation				
	Waste-water treatment						
	Erosion prevention and maintenance of soil fertility	1. Maintenance of soil quality and fertility				5. Provision & cycling of nutrients	
	Pollination				9. Pollination		
	Biological control				10. Biological control		
Habitat & supp. Serv.	Habitats for species				7. Habitats for species		
	Genetic diversity				8. Maintenance of genetic diversity		
Cultural services							11-15: Cultural services

Headlines 'Brief of Requirements' (Groot Koerkamp et al., work in progress)

Ecosystem services/soil functions	Required outcomes at field and/or farm level	Required outcomes at local or higher level
1. Maintenance of soil quality + fertility, 3. carbon & climate regulation	• Resilient soil physical quality: Dex score high • Soil organic matter > 4%-8% (soil and farm type dependent) • Abundance and richness of soil micro-biome: Dex score high	• EU Agri + nature combined are a 'net carbon sink' by 2050 • In between step, deliver on commitments in climate agreement, i.e. reduce net GHG-emissions from Dutch Agri + land use with > 6 MT by 2030
2. Primary productivity of food & nutrition, raw materials and medicinal resources		• Average production/ha high enough to produce sufficient food and biomass on < 11-15 M KM^2 cropland, globally • Circular system; input/output ratio of human digestible protein < 1
4. Water purification & regulation	• Water usage ≤ natural available • Water storage capacity > … (soil type dependent)	• Water quality good/very good according to (science based) water framework directive • Water surpluses are collected as buffer • No negative impacts on water in natural areas
5. Provision & cycling of nutrients 6. Local air quality	• N and P accumulation in soils < … (minimized risk of leaching and emissions to the environment) • All N and P inputs in system come from renewable sources (air, manure or recovered from sewage/environment)	
	• No accumulation of Persistent organic pollutants (POPs) in soils, water or air	• Particulate matter < science based WHO/EU limits • N deposition in natural habitats < science based EU limits • NO and NO_2 emissions within science based EU directives
7. Habitats for species, 8. maintenance of genetic diversity, 9. biological control & 10. pollination	• >10% of each square km landscape (public space + farmland combined) is semi natural habitat	
	• year-round diversity of habitat and resource provision for farmland species for all stages of the life cycle. (providing habitat for farmland species and enabling natural pest control) • Abundance and diversity of populations for natural pest control > …	• 100% of grasslands are permanent, herb rich • Migration of species between all nature areas enabled • Diversity of gene pool for locally well-adapted crops and farm animals >… • Abundance and diversity of farm-land species and pollinators > …
11. Farmer income, 12. animal welfare, 13. attractive work, 14. attractive landscapes, 15. connection rural/urban	• Farmer incomes ≥ living income • Farm animals have a life worth living • Farms provide attractive and meaningful work	• Agro-ecosystems in combination with nature provide attractive landscapes • Good connection between rural and urban communities

FrieslandCampina has a clear ambition and invites you to explore together how we can develop, enrich and realize this ambition

FrieslandCampina started already with ‘Measure - Act - Monitor’ on biodiversity


FrieslandCampina
nourishing by nature
Cooperative Sustainability
TOGETHER!
• Jan Willem Straatsma| E-MAIL / TEL?

Presentation 2: Science based targets and financial institutions

Wijnand Broer (CREM)

Science based targets & financial institutions

- Partnership Biodiversity Accounting Financials (PBAF)

- Start with a small group of Dutch financials with the intention to scale-up
- Focus on biodiversity footprinting – investing in avoidance of negative impact & positive impact ⇨ common ground?
- Where would the Science Based Targets fit in?

What do Science Based Targets tell us about….

- The biodiversity objective of financial institutions
- The interpretation of footprint results
- The selection of investment opportunities
- The investment criteria
- The safe operating space and financial risks
- ……..?

A potential link to……..

The objective of the financial institution

- No-net-loss/net-gain may not be in line with what is needed (locally, regionally) from a biodiversity point of view & from an economically safe operating space

The interpretation of footprint results

- Does the impact result in a situation above or below the SBT?
- What about other stakeholders? What is my operating space?

A potential link to……..

The selection of investment opportunities

- Where to put my investments if I can choose?
- Where can I make the biggest or necessary difference?
- From what perspective? Biodiversity, ecosystem services, economic value, local stakeholder value?
- How do the SBTs relate to these perspectives?

A potential link to……..

The investment criteria

- What to require from investees from an SBT point of view?
- How to take into account other stakeholders in the SBT-area?

The safe operating space and financial risks

- What level of biodiversity is needed (locally, regionally) to safeguard my investment? Can I influence this?
- What cooperation is needed? Landscape approach? Feasible?

The Science based targets tell me what is needed from a biodiversity point of view

A Natural Capital assessment tells me how I depend on & what the value is of biodiversity and ecosystem services

A biodiversity footprint tells me what impact and action perspectives I have through my investments

Thank you

Wijnand Broer
w.broer@crem.nl

Part 3 - Group discussions on challenges

Break out group 1: How to define the ‘Safe Operating Space’ from a biodiversity perspective? (lead: Johan Lammerant, ARCADIS)

Break out group 2: How can global SBTs on Nature and their translation to local level help to provide the required context for company level SBT setting? (lead: Katie Leach, UNEP-WCMC)

Break out group 3: What kind of science-based data or targets do investors need to take biodiversity into account in their investments? (lead: Wijnand Broer, CREM)

Breakout group 1: How to define the ‘Safe Operating Space’ from a biodiversity perspective? Statements for discussion:

- Information on local biodiversity state and ambition levels is important for defining your own SBTs on biodiversity; where to get this information and what to do if it’s not available?
- Getting a good understanding of how my operations affect local biodiversity is essential in order to define science based reduction targets; how to decide how much I should reduce my pressures? Is this easier for some pressures compared to others?
- The use of surface water (e.g. irrigation) can severely affect aquatic and terrestrial biodiversity values downstream; however it’s up to the government to allocate shares

Breakout group 2: How can global SBTs on Nature and their translation to local level help to provide the required context for company level SBT setting? Statements for discussion:

- By providing information on the location of biodiversity sensitive areas (e.g. IBAT)
- By providing information on the local state of biodiversity and the envisaged ambition levels
- By providing information on the critical boundaries that should not be exceeded in order to stay within the Safe Operating Space e.g. minimum levels of surface water / ground water; maximum levels of noise in specific areas; maximum levels of pollution loads

Always ask yourself: is this sufficient? What other information would I need?

Breakout group 3: What kind of science-based data or targets do investors need to take biodiversity into account in their investments? Statements for discussion:

- Science-based biodiversity data and targets need to be interpreted by experts and then offered through an investor friendly portal.
- SBT for biodiversity should include drivers of loss as well, linked to a companies' environmental input and output.
- Data on a safe operating space for biodiversity should be used by governments to set requirements in permits, not by investors.
- To become relevant, science-based targets on biodiversity need to be translated into practical sectoral and spatial investment needs and opportunities.
- Investors need data on the value of biodiversity to make the right decisions. National natural capital accounts could be a starting point for this, e.g. to develop an 'ecosystem services risk map'.
- As long as top-down science-based targets are lacking, a no-net-loss or net positive objective is a good solution.

Conclusions

Thank you!