



Webinar series on "Science-based targets for biodiversity"

Webinar 2: "Allocation – How to share the efforts between various actors of society to achieve global goals on biodiversity"

2 April 15.30-17.00 CET



SCIENCE BASED TARGETS NETWORK



Welcome & opening

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

Katie Leach, Senior Programme Officer, UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)

'Biodiversity science based targets for business & finance'

Webinar 1: 24 March – State of play

Webinar 2: 2 April – Allocation

Webinar 3: 16 April – Measurement

Register, information, recording and final slides (after 2 April):
<https://next-ma.eu/landing/eubiodiversity>

Summary of Webinar 1

- Introduction to Science Based Targets Network (SBTN) and SBTs for biodiversity
- Links between Science Based Targets for biodiversity and global goals
- The finance need for SBTs
- Business experiences with defining boundaries and safe operating space

Agenda webinar 2 - Allocation – How to share the efforts between various actors of society to achieve global goals on biodiversity

15:30 – 16:00	Part 1 – Welcome & opening
16:00 – 16:25	Part 2 – Sharing experiences of applying allocation methods
16:25 – 16:55	Part 3: Group discussion on allocation
16:55 – 17:00	Workshop close

Part 1 – Welcome & opening

Introduction to translational science and allocation methods – possible options for use in setting Science Based Targets for Nature

Alex Zvoleff, Conservation International

Science Based Targets Network: Translation Approaches

Introduction to SBTs for Nature

Alex Zvoleff

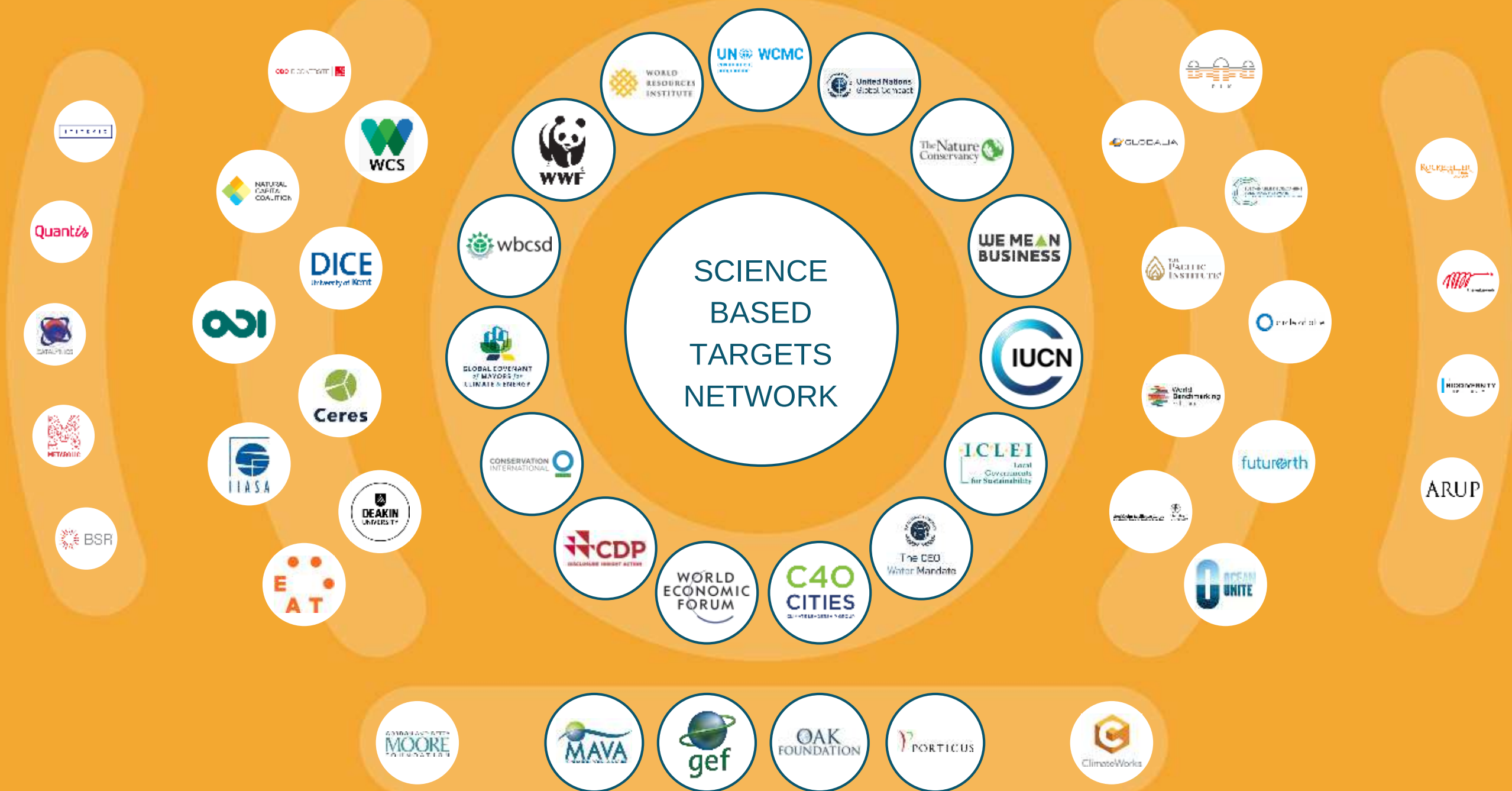
azvoleff@conservation.org

EU B@B Webinar 2

April 2, 2020

The Science Based Targets Network is part of the [Global Commons Alliance](#), a network of organizations, businesses and governments aiming to positively transform the world's economic systems and protect the global commons.

Power of collaboration and consensus



SBTs mean doing enough to maintain
Earth's Life Support Systems -- upon
which all life depends, and upon which
the economy is based.

“

Our research shows that \$44 trillion of economic value generation – over half the world's total GDP – is moderately or highly dependent on nature and its services.

”

- WEF



What is the equivalent of
1.5 °C for nature?

A global goal for nature and people

Restoring nature for human prosperity and equity, avoiding the climate and ecological crises, and providing a healthy planet for future generations



Zero Net Loss of Nature
from 2020



Net Positive by 2030



Full Recovery by 2050

Translating this goal to actors ... (NOT just allocation!)

WHAT
Global Sustainability
Goals



WHICH

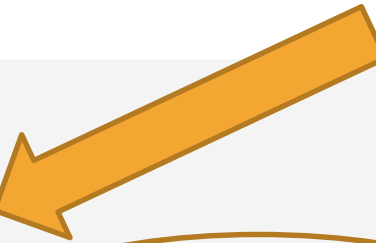


Materiality
Assessment

WHERE



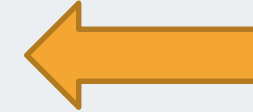
Value Chain
Mapping



Allocation must match the
location-specific material
impacts and
dependencies of actors



Downscaling &
Prioritization



Allocation must
account for local
environmental
conditions &
stakeholder interests

HOW



Avoid



Reduce



Restore



Regenerate



Transform

WHO



Allocation

**TRACKED
OVER TIME**



Monitoring
Reporting
Verification

DRAFT prototype methods for translation

We are working on three prototype approaches for translating this global goal for nature into actionable targets for cities and companies:

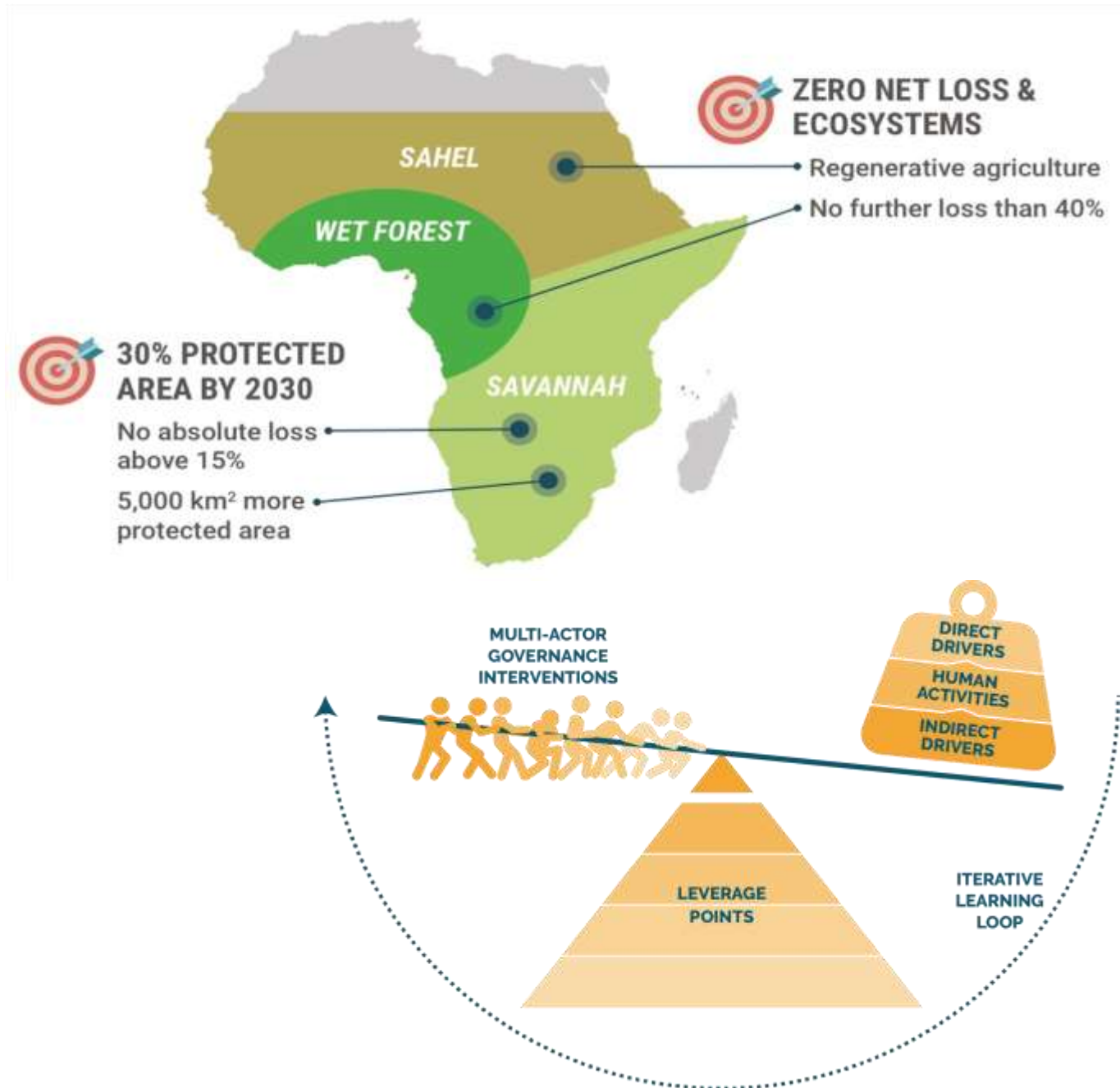
1. Footprinting approach
2. Place-based approach
3. Safe operating space & sector approach

1. Footprinting approach



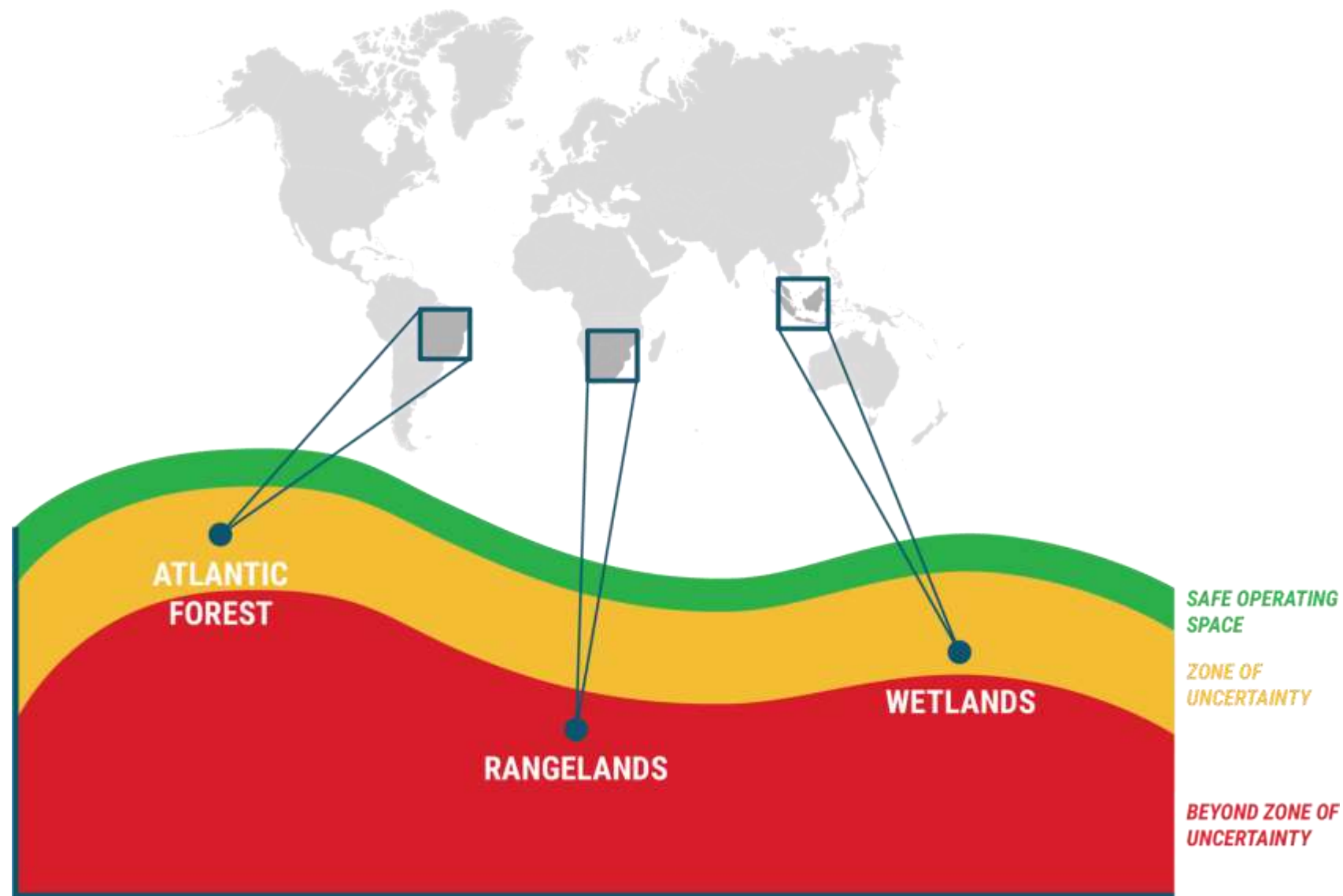
Companies or cities calculate their footprint across places, and use this to first avoid loss; second to reduce their impact to the extent possible in places of their choice; and then contribute (via protection/regeneration) in an amount relative to their overall footprint.

2. A place-based approach



Companies or cities identify their overall impact (in terms of scale, and location) and then focus their efforts in a number of key places (landscapes, seascapes, or basins) where allocation is performed by a stakeholder-driven process.

3. A safe operating space & sector based approach



Blending elements of the other two approaches in which actors' responsibilities are based on the baseline historical impact of each sector and downscaled targets for each place.

Summary: Translation Prototypes (DRAFT)

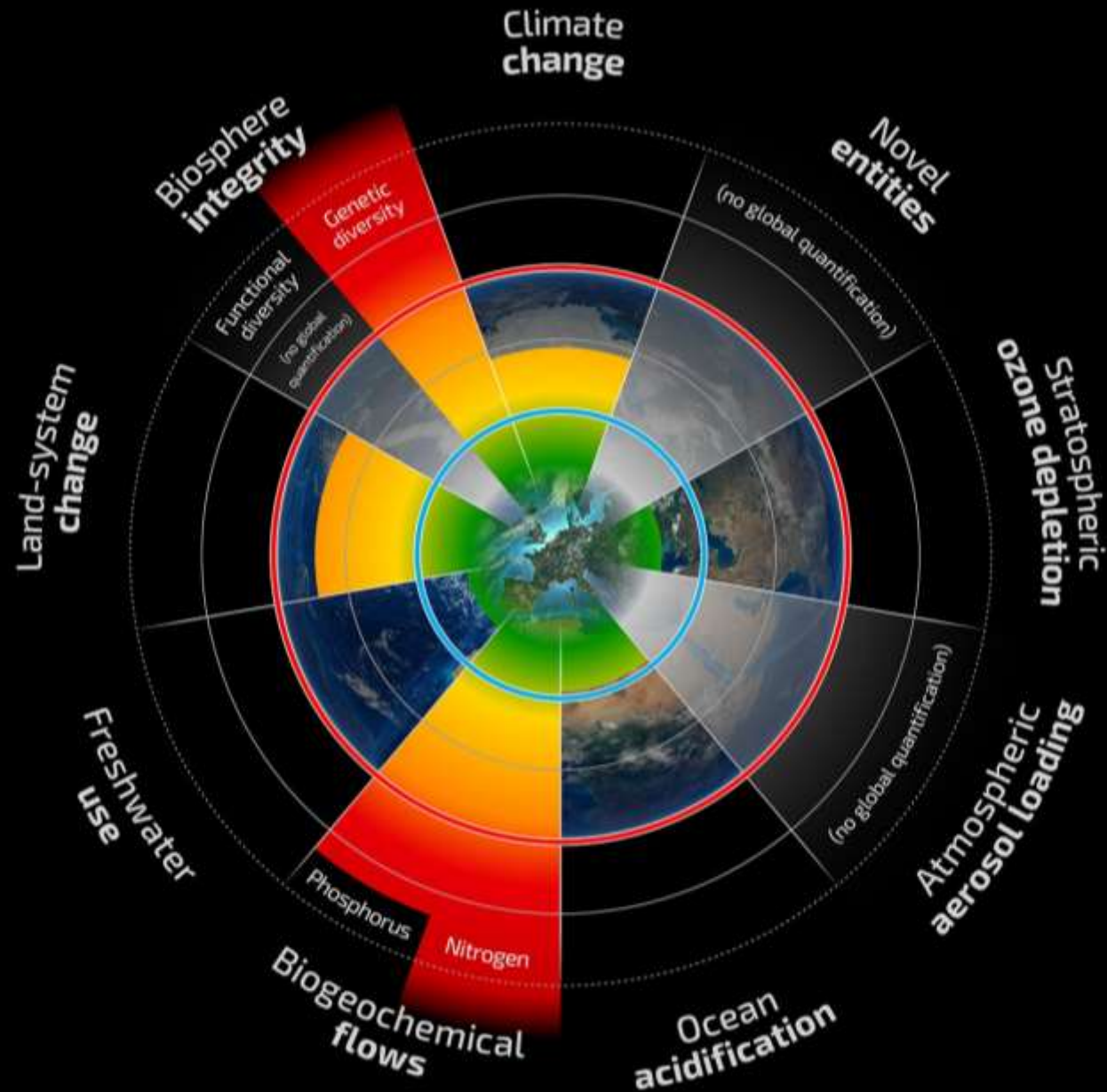
- Translation of global goals consists of three components:
 - **Downscaling** global state goals to regional/scape state targets
 - **Prioritization**/materiality rules that guide action to highest priority areas
 - **Allocation** approaches that share mitigation/restoration burden in a landscape/region
- This is equal parts science and ethics!
- Applying global allocation rules to local pressures/issues should be done with care given both science and ethics
- Prototype methods being discussed are incomplete but offer glimpses into potential solutions for translating global goals

Equity principles in allocation: a case study using planetary boundaries thinking

Mark van Oorschot, Senior Researcher International Biodiversity Policies, PBL Netherlands Environmental Assessment Agency



PBL Netherlands Environmental
Assessment Agency



Translating planetary boundaries to national budgets

Consequences of different
perspectives and choices on
distributive fairness

Mark van Oorschot – on behalf of

Paul Lucas, Harry Wilting, Andries Hof &
Detlef van Vuuren



Planbureau voor de Leefomgeving

PBL Netherlands Environmental Assessment Agency

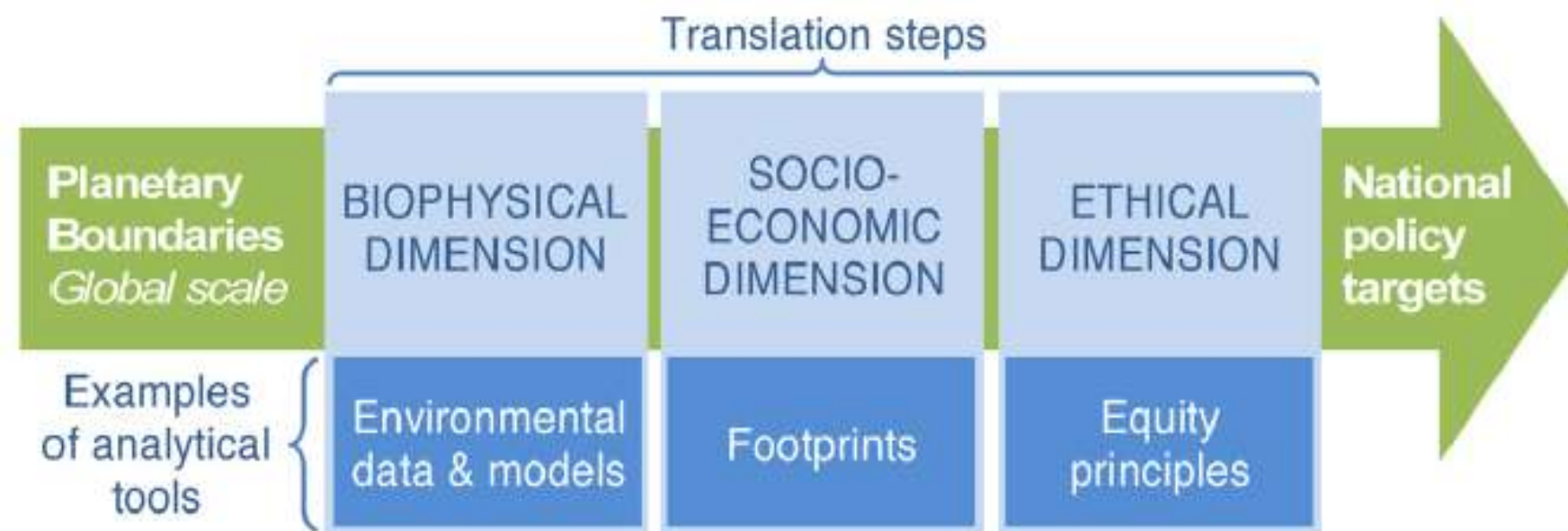
Government organisation
Strategic policy analysis
Bridge science-to-policy
Improve political decision-making





PBL study on translation and allocation

- › Systematic analysis using 3 dimensions
 - BIOPHYSICAL: Global targets based on planetary boundaries → 'resource' budgets
 - SOCIO-ECONOMIC: Consumption-based perspective → environmental footprints
 - ETHICAL: Principles for allocation → political choices on burden sharing
- › Focus on drivers: climate, land-use, nutrients and biodiversity



“Bending the trend” of biodiversity loss

Scenarios show further
biodiversity loss

Proposed indicators for a
multi-dimensional concept

- Species extinction risk (Red List)
- Population abundance (LPI)
- Ecosystem integrity (BII)

(Mace et al 2018)

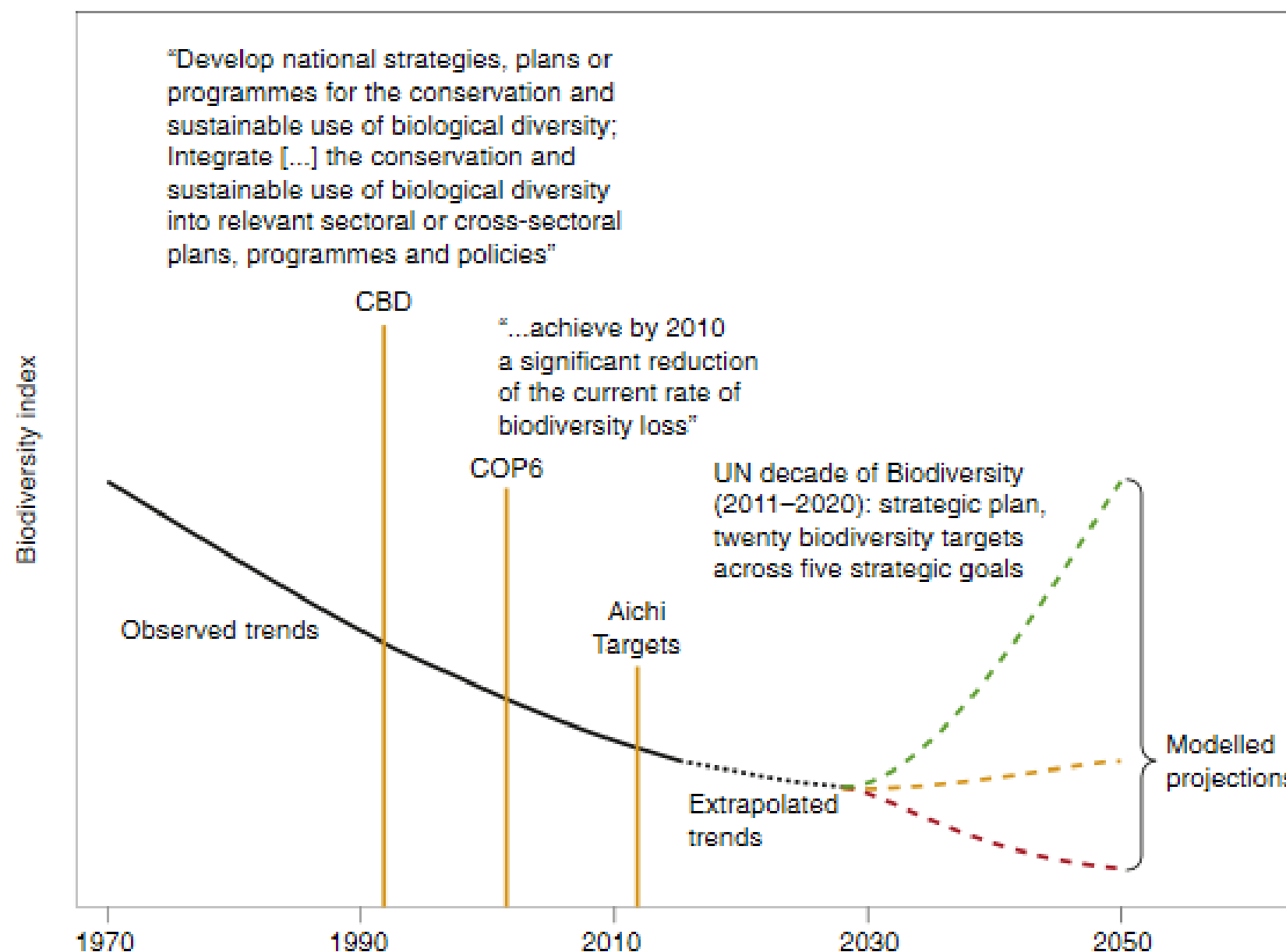
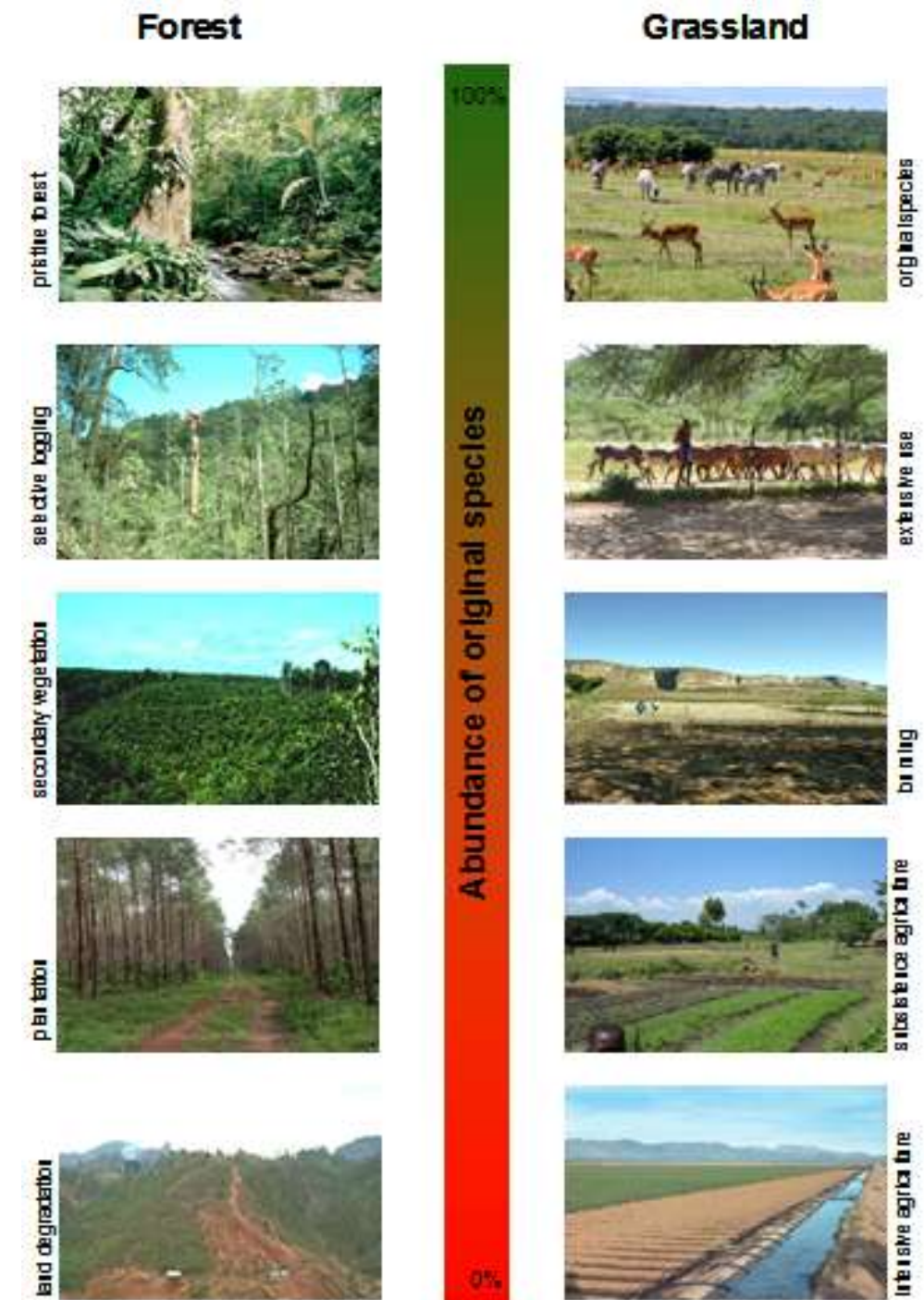


Fig. 1 | Biodiversity declines have continued despite repeated policy commitments aimed at slowing or halting the rate of loss. The Strategic Plan for the Convention on Biological Diversity (2010-2020)

BIOPHYSICAL: MSA indicator metric

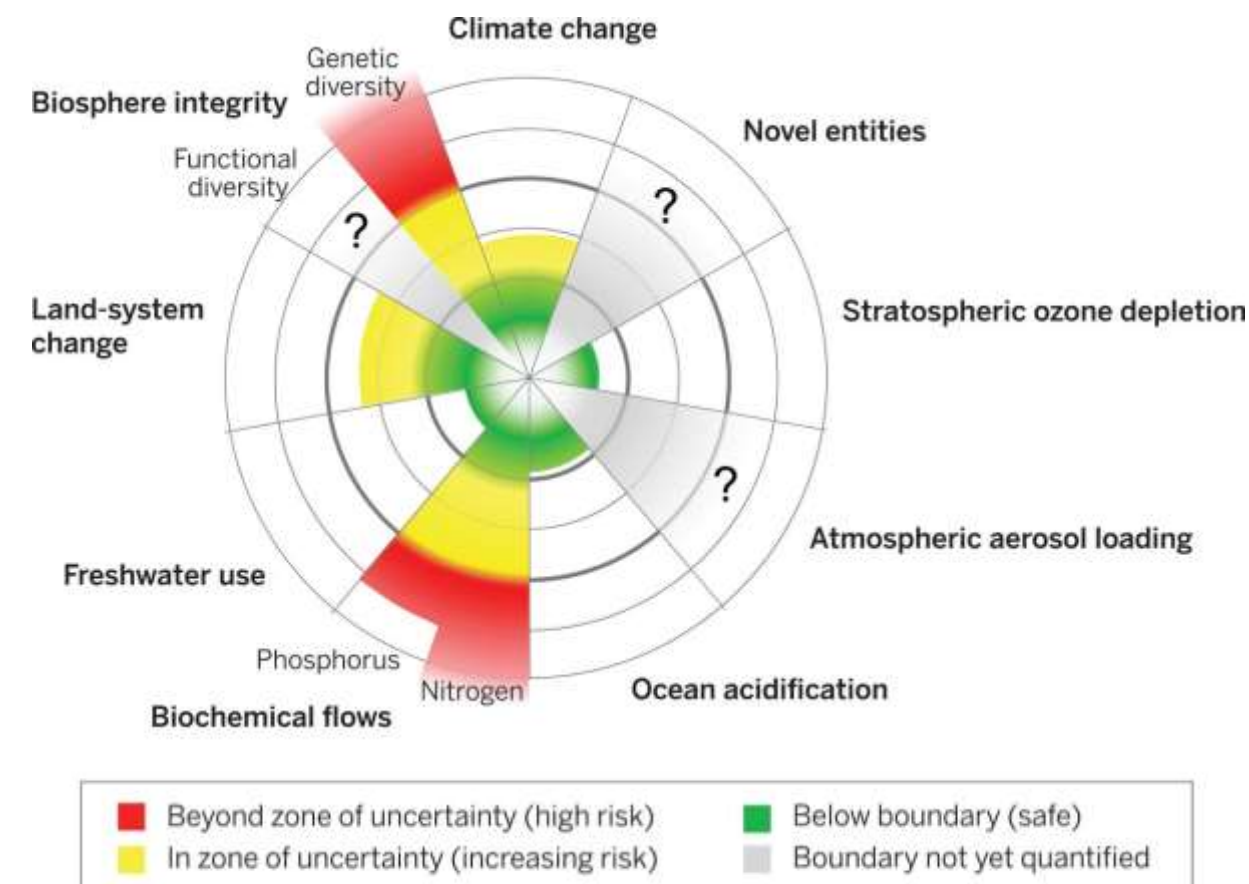
- Mean Species Abundance (MSA)
of originally occurring species
 - Relates to ecosystem integrity (BII)
- Comparing species' populations of
undisturbed natural ecosystems
with human-disturbed ecosystems
 - Natural reference as benchmark
- Dimensions and unit:
 - Relative index (0 – 1)
 - Quality weighted areas (MSA* km2)
 - Can be coupled to footprints



BIOPHYSICAL: Biodiversity PB-translation exercise

- Steffen et al 2015
 - ... tentatively proposed a 90% BII level
 - ... this translates into 72% MSA
 - ... giving a global MSA use-budget
- Many scientific uncertainties
 - Existence of global thresholds
 - Boundary levels (global tipping points)

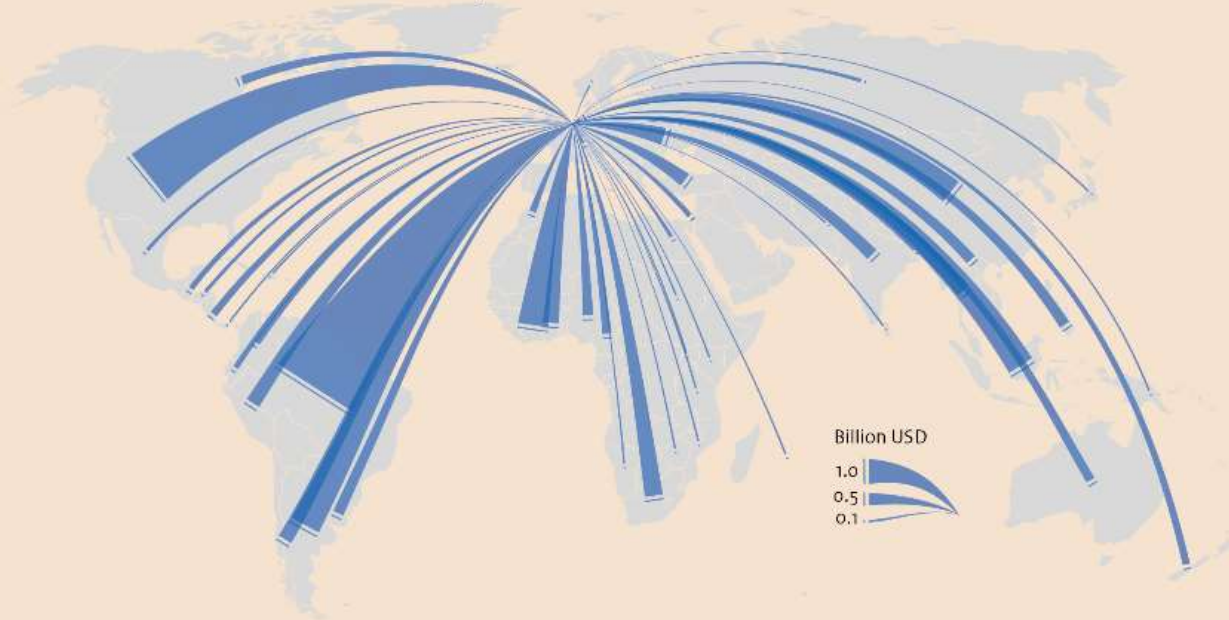
Lucas et al. (Submitted)



Steffen et al. (2015). Science

SOCIO-ECONOMIC Trade, footprints and biodiversity impacts

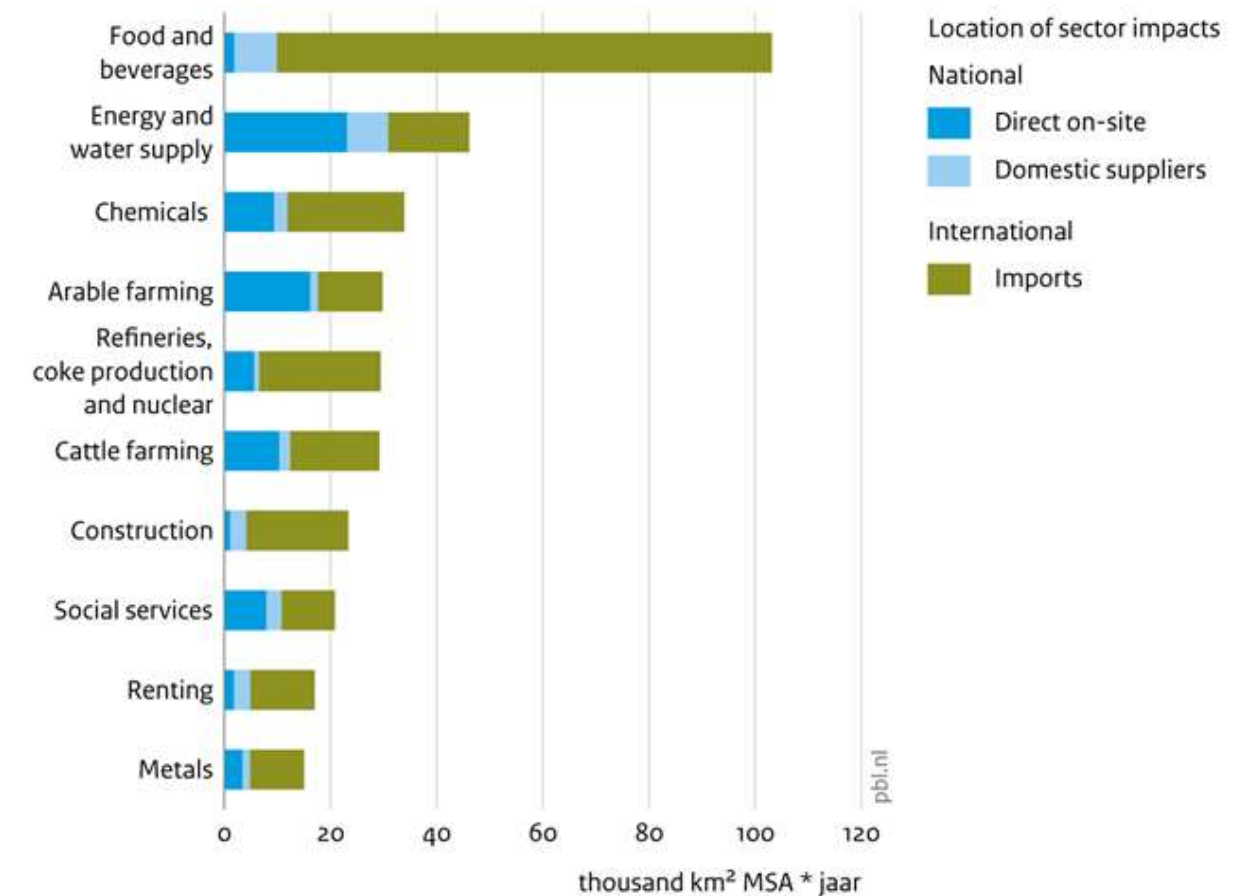
Import of resources for the **food industry** into the Netherlands, from non-EU countries, 2015



Benefits and impacts of the supply chains of the Dutch **food industry**



Biodiversity footprint of Dutch sectors, 2007





SOCIO-ECONOMIC Footprint of consumption or production

- › Local environmental impacts have global causes - footprint
- › Shared responsibility for producer and consumer countries
- › Company footprints and supply-chain responsibility

Consumption-based

vs.

Production-based

Environmental impact is
Consumer's responsibility

Captures impact occurring
beyond national territory

Environmental impact is
Producer's responsibility

Accounts for impact **for national consumption and export**



BIOPHYSICAL: selected PB processes, control variables and global budgets in this study

Planetary boundary	Control variable	Budget	Unit	Global budget	Global pressure (2010)
Climate change	CO ₂ emissions	Cumulative	GtCO ₂	570 (7.0) ¹	30.6
Biogeochemical flows	Intentional N fixation	Annual	Tg N	62	121
	P fertiliser use	Annual	Tg P	6.2	16
Land-use change	Cropland use	Annual	mln ha	1946	1424
Biodiversity loss	MSA loss	Annual	mln MSA-loss·ha	3633	5327 ²

¹ The number between brackets is the annualized budget;

² The MSA footprint indicator is measured as mln MSA-loss·ha·yr



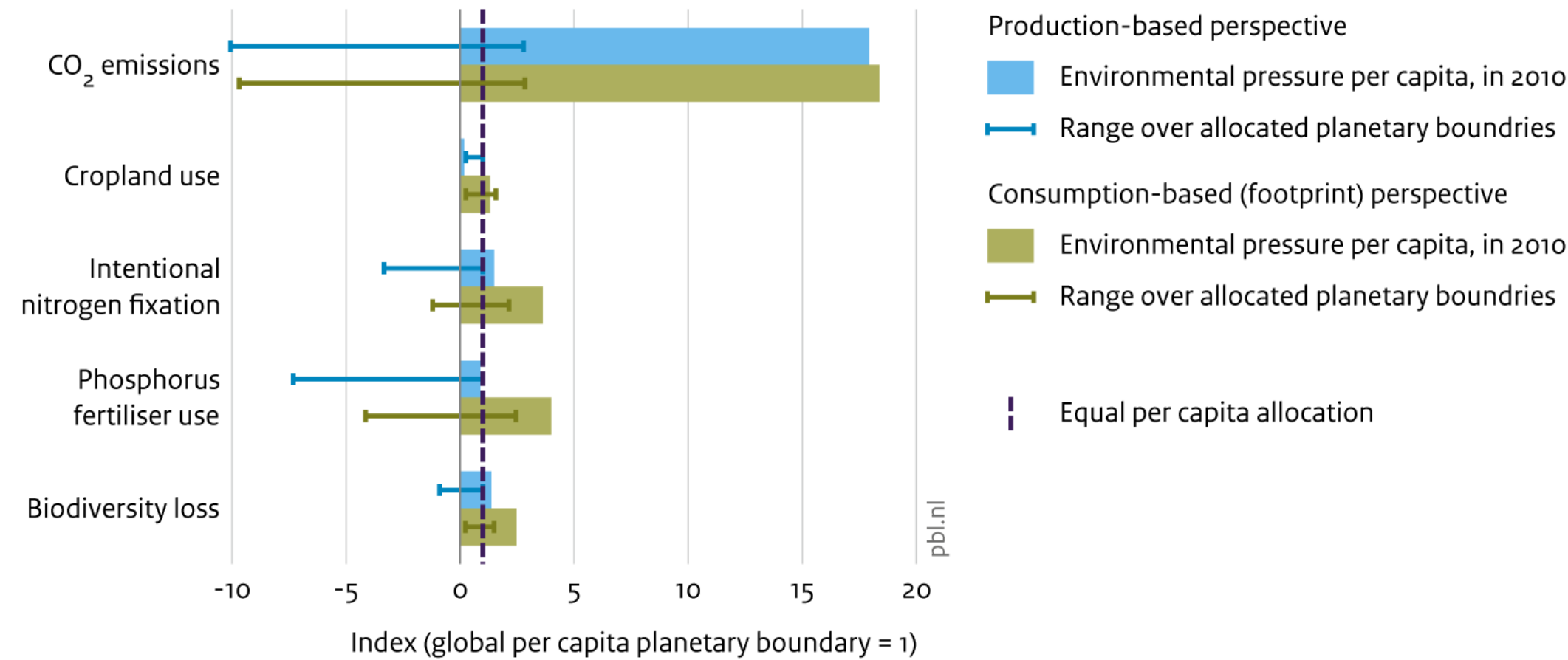
ETHICAL / POLITICAL

'Fair' distribution and allocation of global budgets

- › Responsibility – historic problem contribution
 - Grandfathering (*sovereignty*):
allocation based on country share in global environmental pressure
- › Resource sharing – allocation of global budget
 - Equal per-capita allocation (*equality*):
allocation based on country share in global population
- › Burden sharing – allocation of global reduction targets
 - Ability to pay (*capability*):
reduction based on GDP/cap relative to global average GDP/cap

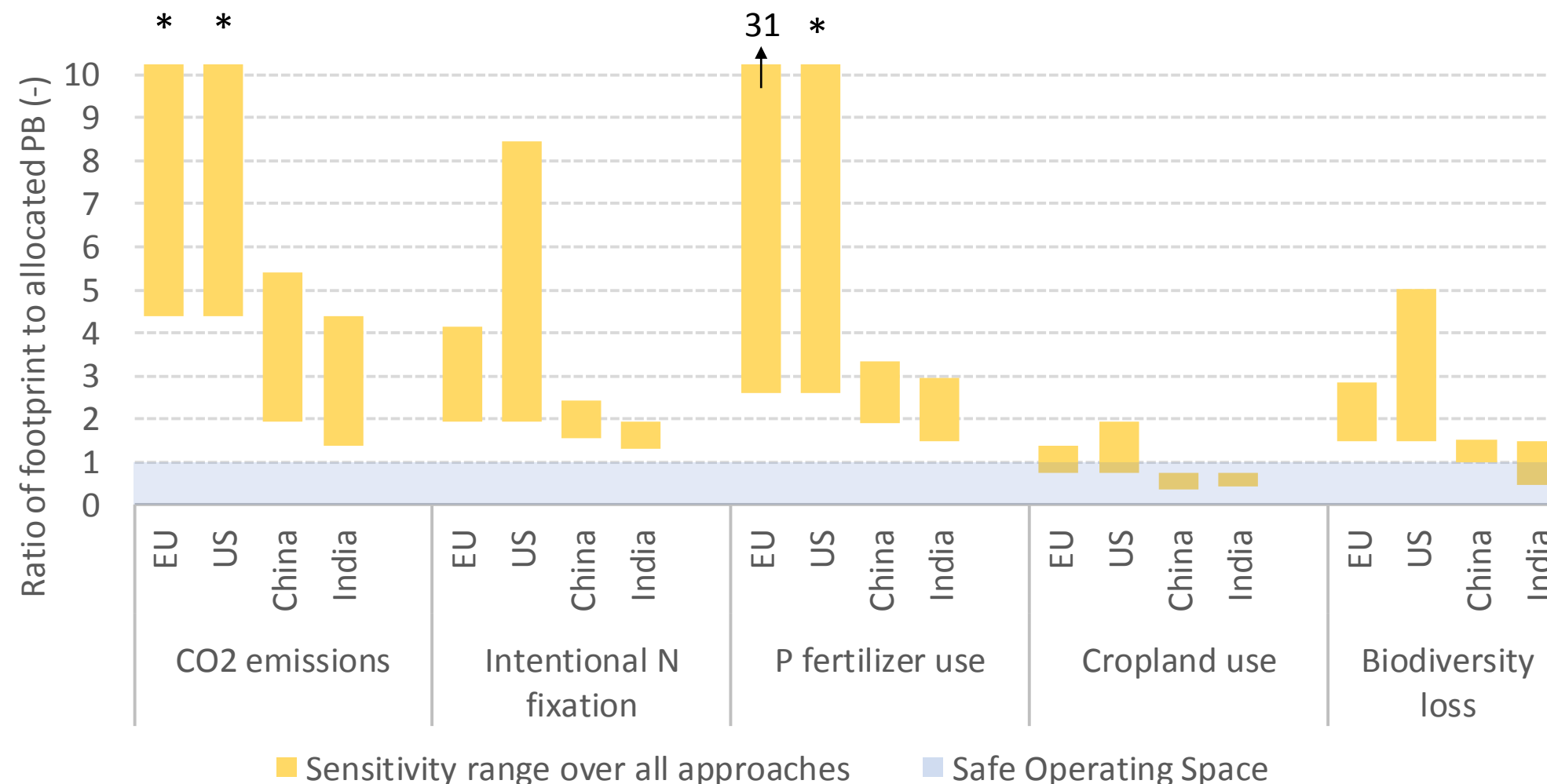
Results Dutch case-study

Environmental drivers of biodiversity loss higher than allocated planetary budgets



Source: PBL

Current footprints of several large countries higher than allocated planetary boundaries





Preliminary conclusions

- Providing scientific insights in 'fair' contributions to global challenges
 - Scenarios show required system change
 - There is no single set of national 'fair' shares
 - Large spread in results due to different allocation principles
 - Western countries are not living within the global 'Safe Operating Space'
- Further operationalization of the budgets at national levels
 - Dialogue between policymakers, business and finance
 - Setting climate change targets as an example
 - GLOBAL top-down versus LOCAL bottom-up approach
 - Track progress: "Biodiversity Gap" Report and National Determined Contributions



References

- › Paul L. Lucas, Harry C. Wilting, Andries F. Hof and Detlef P. van Vuuren (submitted to GEC), *Allocating planetary boundaries to large economies: implications of different perspectives on distributive fairness*.
- › Lucas, P and Wilting, H (2018), *Towards a Safe Operating Space for the Netherlands - Using planetary boundaries to support national implementation of environment-related SDGs*, PBL Policy Brief, PBL, The Hague.
- › Paul Lucas and Harry Wilting (2018), *Using planetary boundaries to support national implementation of environment-related Sustainable Development Goals*, PBL Background Report, PBL, The Hague.
- › Häyhä T et al. (2016). From Planetary Boundaries to national fair shares of the global safe operating space - *How can the scales be bridged?* Global Environmental Change 40: 60-72
- › Wilting HC and van Oorschot MMP (2017) *Quantifying biodiversity footprints of Dutch economic sectors: A global supply-chain analysis*. Journal of Cleaner Production 156: pp. 194-202.
- › Wilting H.C., Schipper A.M., Bakkenes M., Meijer J.R. and Huijbregts M.A.J. (2017) *Quantifying Biodiversity Losses Due to Human Consumption: A Global-Scale Footprint Analysis*. Environmental Science & Technology 51 (6): 3298-3306.
- › Alkemade R., Van Oorschot M., Miles L., Nellemann C., Bakkenes M., et al. (2009) *GLOBIOS: A Framework to Investigate Options for Reducing Global Terrestrial Biodiversity Loss* Ecosystems 12 (3): 374-390.



Thank you!

Any questions?

Q&A

On Part 1 – Welcome & opening

Part 2 – Sharing experiences of applying allocation methods

Gaps and obstacles in allocating efforts for biodiversity to business – Lessons from the B4B+ Club

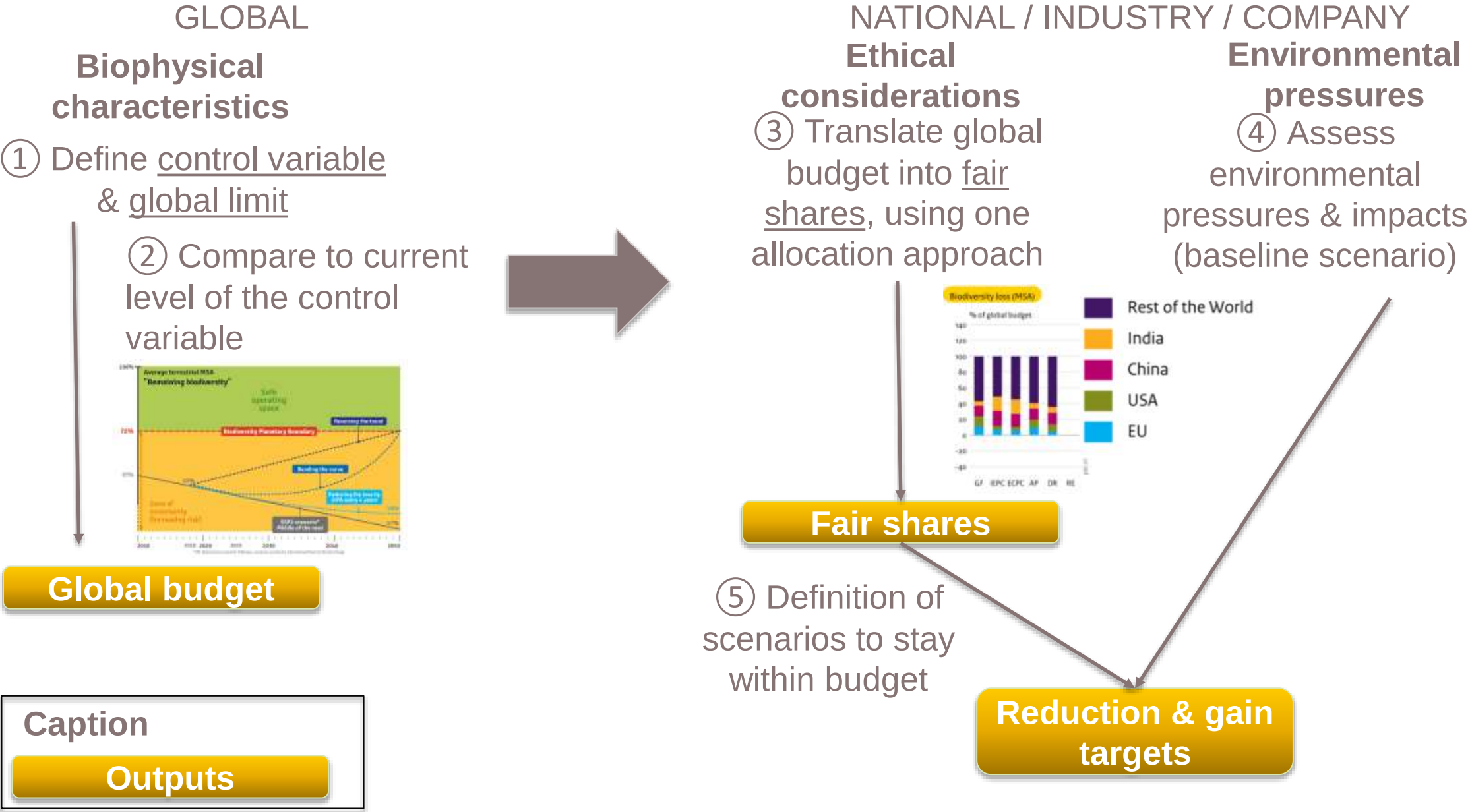
Joshua Berger, Global Biodiversity Score (GBS) Project Manager, CDC Biodiversité

Gaps and obstacles in
allocating efforts for
biodiversity to business
– Lessons from the
B4B+ Club

Science-based targets for
biodiversity: allocation webinar
2 April 2020



The CBD objectives for biodiversity can be translated into company targets through a biodiversity budget





- Workshop on allocation run with ~35 corporates and financial institutions in October 2019

Value chain workstream



Finance workstream



Partners





Allocation system	Examples
Sovereignty	Grandfathering: Allocation of budget according to past share of global environment pressure
Equality	Immediate per capita convergence: Allocation of budget according to the share in global population
Capability	Ability to pay: Allocation of budget according to GDP per capita
Efficiency	Resource efficiency: Allocation of reductions to where the largest efficiency gains can be expected

Inspired from Lucas and Wilting (2018)

SBTi

Ozone layer case



Allocation system	Examples
Convergence - sector	Convergence of the carbon intensity of the company towards that of its industry
Absolute emission contraction	Reduction of emissions towards an absolute industry target of CO2 eq.
Contraction - emission intensity	Decrease towards a sectoral carbon intensity target
Differentiation (delay)	Different reduction target dates by country

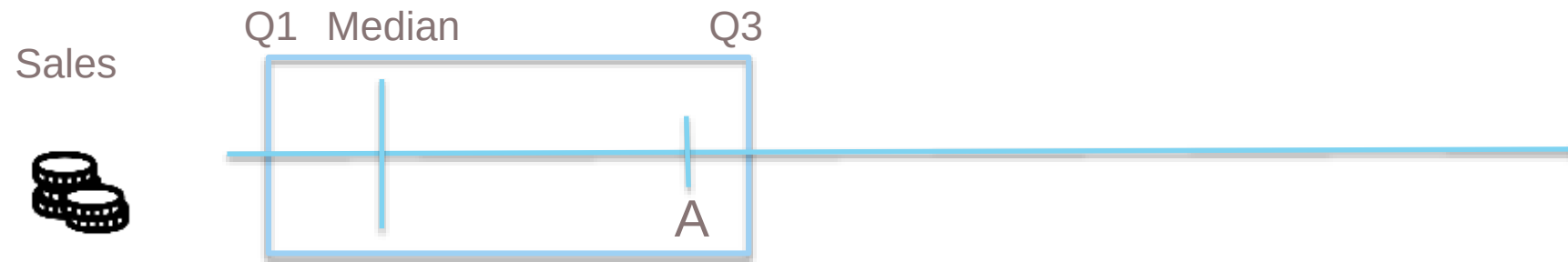
Inspired from Lucas and Wilting (2018)

SBTi

Ozone layer case



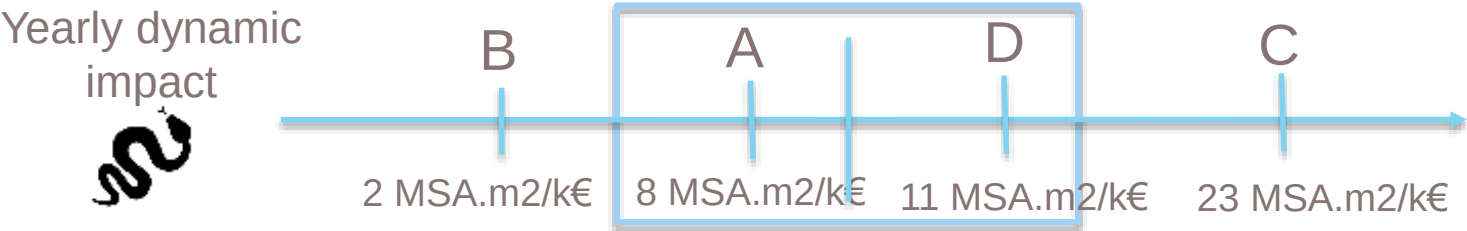
Allocation system	Application with biodiversity: reduction of impact depending on...
Sovereignty	... of the company's dynamic annual impact
Equality	... corporate taxes paid by the company? ... the number of employees in the company? ... of the remaining MSA, i.e. of the static impact of the company (100% - MSA remaining)?
Capability	...of sales? ... profit?
Efficiency	... the cost of possible biodiversity gains (or reductions in loss)
Convergence - sector	Convergence of the carbon intensity of the company towards that of its industry
Emission contraction (absolute or intensity)	Decrease towards a sectoral carbon (intensity or absolute) target



- ❑ Q1 (first quartile): 25% of companies have sales below this value
 - ❑ Median: 50% of companies have lower sales and 50% sales higher than this value
 - ❑ Q3 (third quartile): 25% of companies have sales higher than this value
- ➔ Company A has relatively high sales compared to the others (but not in the 25% of the highest turnover)

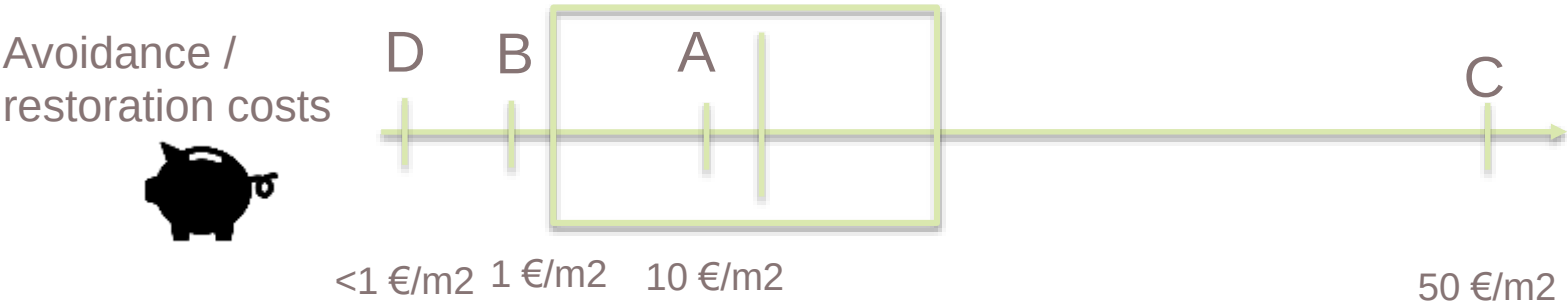
Contribution to the objective of slowing down the biodiversity impact	Limited	Average	Important	Very important
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Allocation system	Company A Food processing	Company B Personal services	Company C Energy - electricity production	Company D Finance
Sovereignty	Grandfathering			

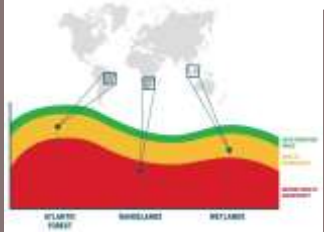


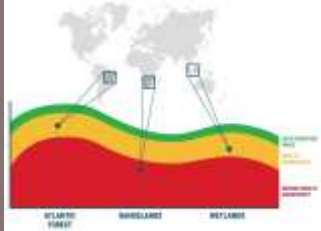
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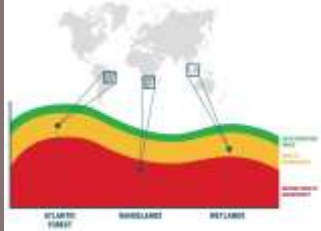
Allocation system	Company A Food processing	Company B Personal services	Company C Energy - electricity production	Company D Finance
Efficiency	Avoidance / restoration costs: 10€/MSA.m2	Avoidance / restoration costs: 1€/MSA.m2	Avoidance / restoration costs: 50€/MSA.m2	Avoidance / restoration costs: <1€/MSA.m2



- ❑ Possibility of transposing an international biodiversity objective into corporate objectives
- ❑ Need to first adopt a scenario and therefore a biodiversity trajectory and budget
- ❑ Different mechanisms for distributing effort
- ❑ The same relative effort (e.g. -30%) results in different absolute efforts

"Allocation" approach	Company net impact	Place-based budgets	Safe operating space per ecoregion
			
Budget format	1 single budget at the corporate level	Multiple budgets: 1 per area	Multiple budgets: 1 per ecoregion
How to set the budgets?	?	Stakeholders	Stay within safe-operating space of the ecoregion

"Allocation" approach	Company net impact	Place-based budgets	Safe operating space per ecoregion
			
Obstacles			
<i>Data for allocation</i>	-	?	Uncertainty on global safe operating space (~90% BII or ~72% MSA) Unknown for ecoregions

"Allocation" approach	Company net impact	Place-based budgets	Safe operating space per ecoregion
			
Obstacles			
Methodology	What criteria for allocation? What indicators can be used for equity principles such as "per capita equity"? What year by How to identify key places? What criteria to guide allocation? -		



No net loss by 2030 in the area and integrity of freshwater, marine and terrestrial ecosystems, and increases of at least 20% by 2050, ensuring ecosystem resilience

→ NNL of MSA.m² by 2030 and net gains of +20% MSA.m² at global level between 2030 and 2050, i.e. +1%/year (i.e. x4 current rate but as gains)

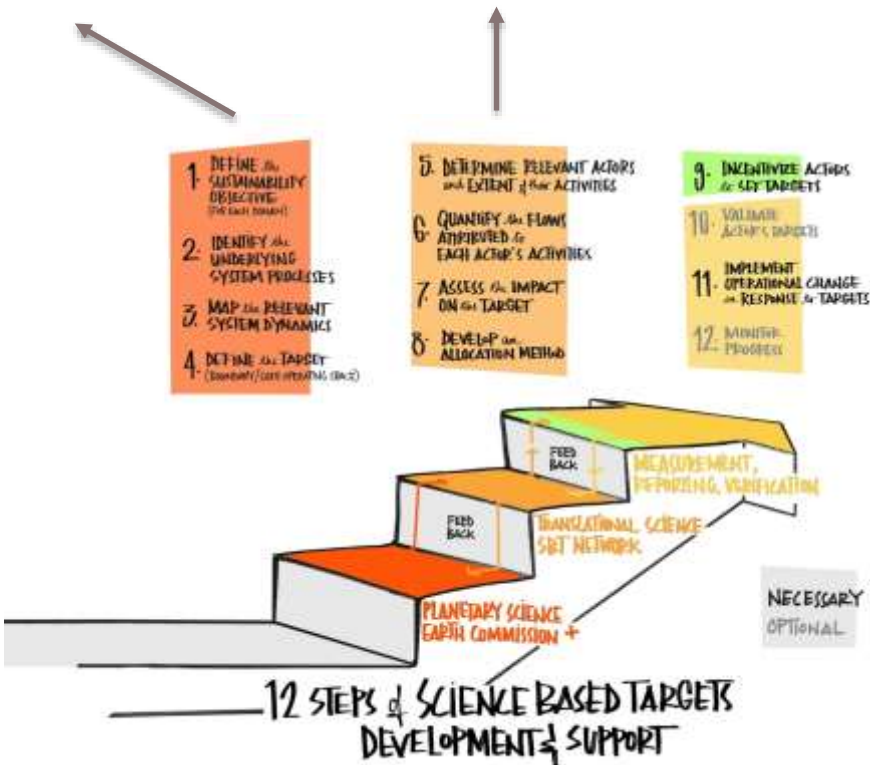


+

Grandfathering & "same effort" every year

+

GBS tool to measure impacts





NNL of MSA.m² by 2030
Net gains 4 times higher than the 2020 net loss between 2030 and 2050

	2020	2021	2022	...	2030	2031	2032	...	2050
Dynamic impact (MSA.km ²)	-100	-90	-80	...	0	+400	+400	...	+400

Contact:

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Thank you for your attention !



SAS au capital de 17 475 000 euros
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Siret 501 639 587 00010 - APE
6420Z - N° TVA Intracom.
FR5150163958

CDC BIODIVERSITÉ



Corporate perspective: The beginning of a biodiversity journey

Daniele Bufano, Schneider Electric



FUTURE

The beginning of a biodiversity journey

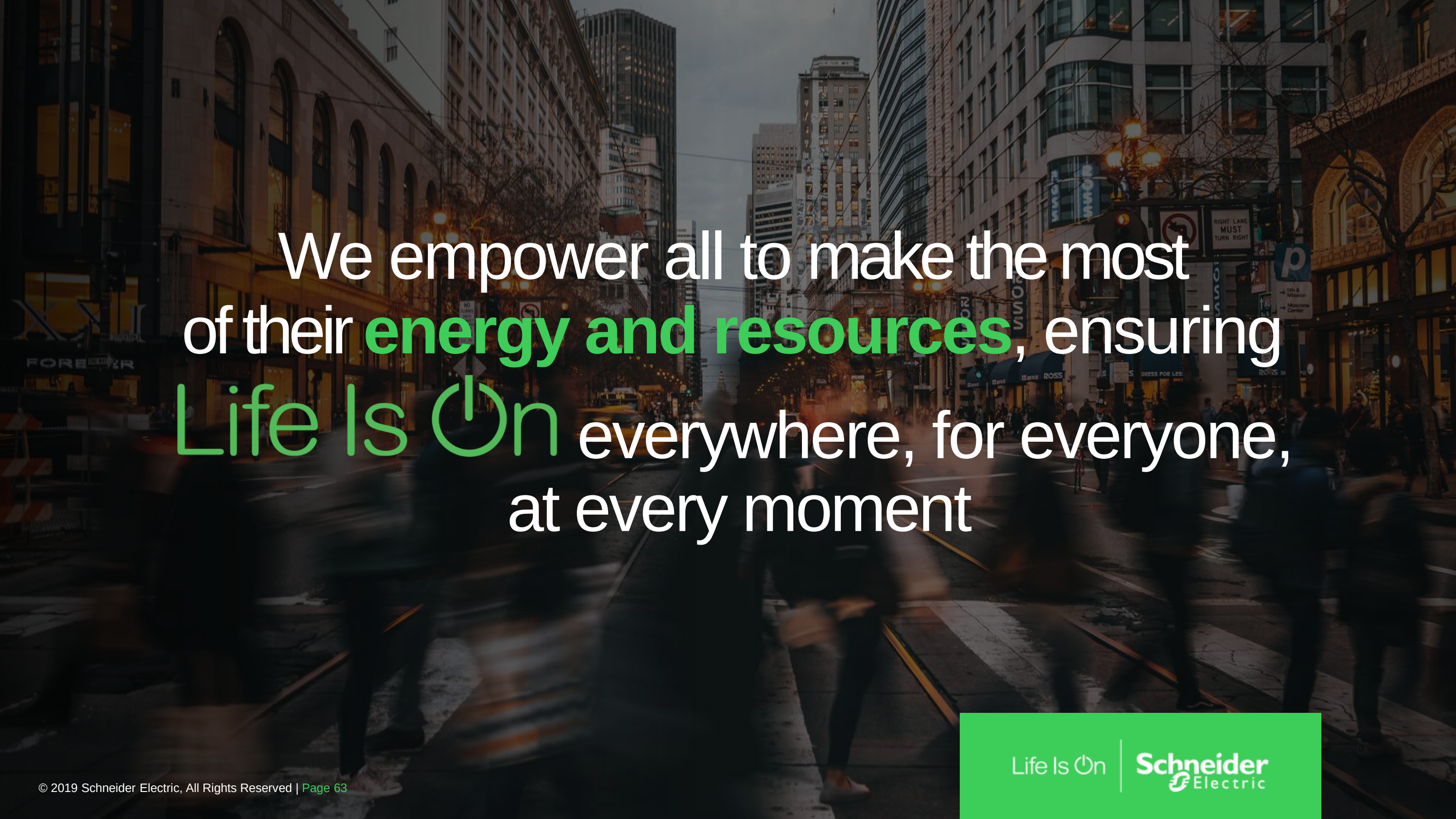
Allocation – How to share the efforts between various actors of society to achieve global goals on biodiversity

Daniele BUFANO – Global Strategy & sustainability
CO₂ & Environment marketing deployment leader

April 2020



Powering and Digitizing the economy



We empower all to make the most
of their **energy and resources**, ensuring
Life Is On everywhere, for everyone,
at every moment

Schneider Electric provides energy and automation digital solutions for efficiency and sustainability

Key figures for 2019

5% of revenues devoted to R&D

€27.2 billion

2019 revenues

41%

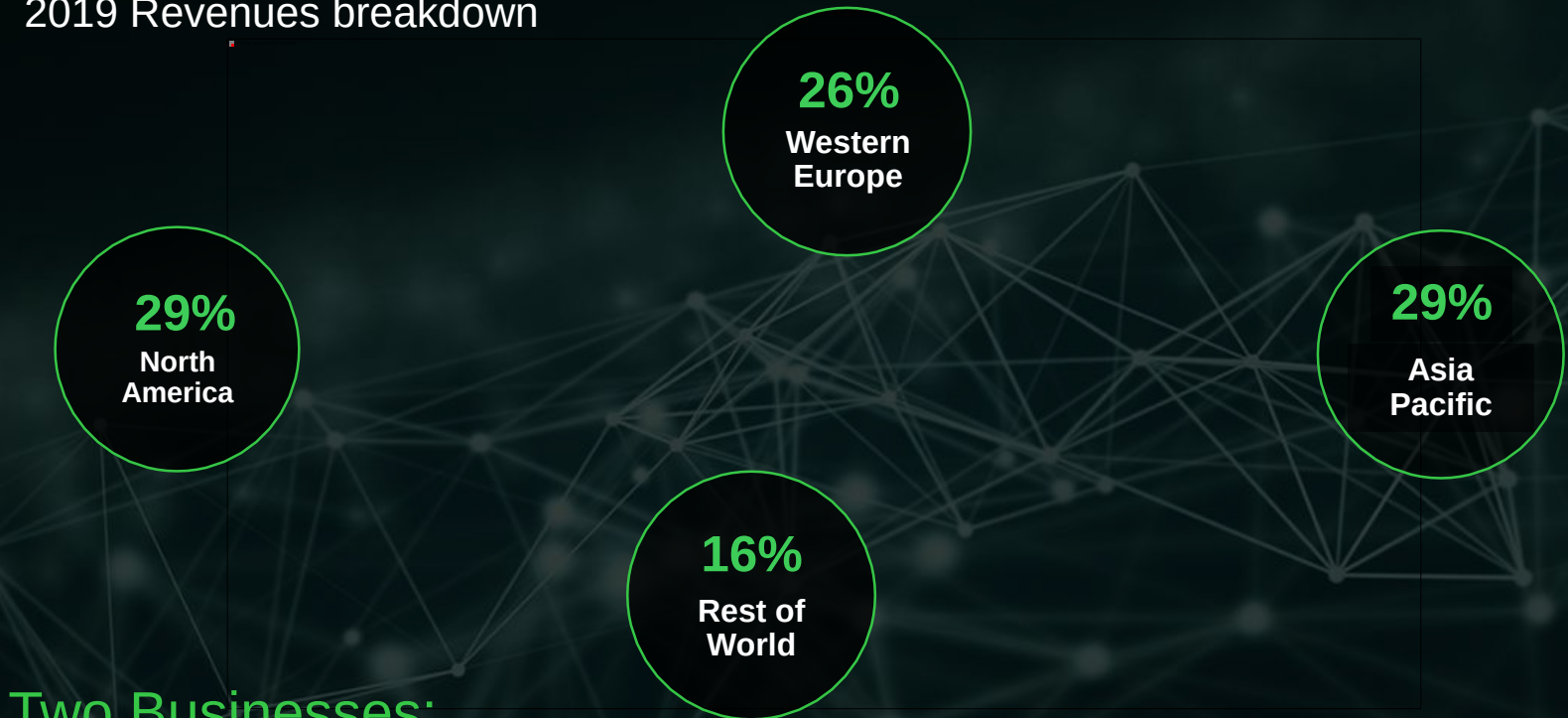
of revenues in new economies

135,000+

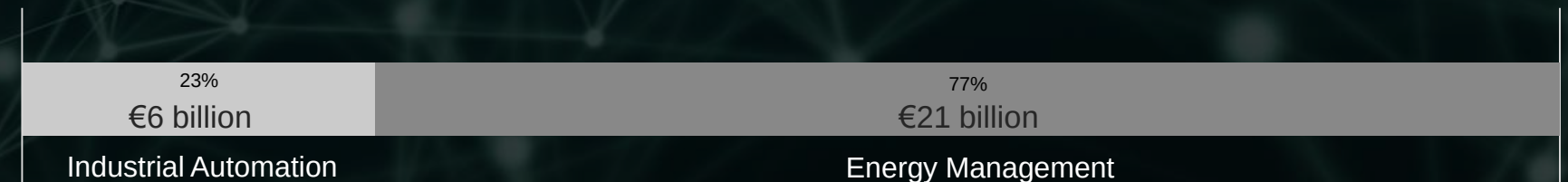
Employees in over 100 countries

A well-balanced global presence

2019 Revenues breakdown



Two Businesses:



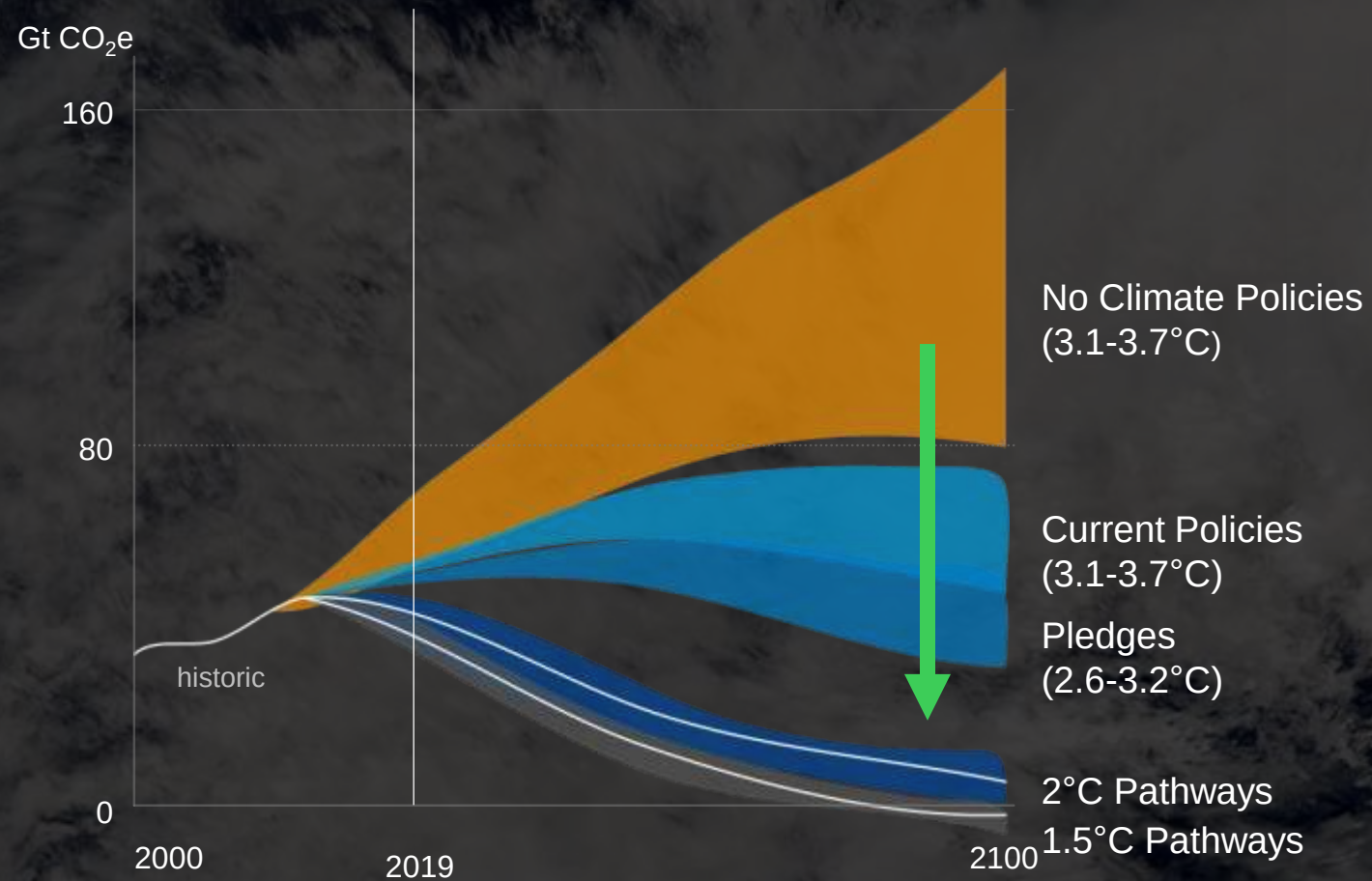
Life Is On

Schneider
Electric

One Planet

A sense of emergency

Climate change & Earth Overshoot Day



>80% **Energy Issue**
Total CO₂ emissions

40x **Unbearable Trend**
More energy consumed by 2100 vs 1900

60% **Inefficient**
Current fossil-based end to end energy system losses

Sources: International Energy Agency, Schneider Electric

Energy Efficiency

Savings

Electrification

Decarbonization

Efficiency

for a Sustainable Future

Process Efficiency

Sustainability

Asset Performance

Productivity

Efficiency

Biodiversity science cannot be ignored any longer

..but the level of complexity could be a deterrent. Qualitative approach is no longer enough

Biodiversity: 3 levels

Ecosystems



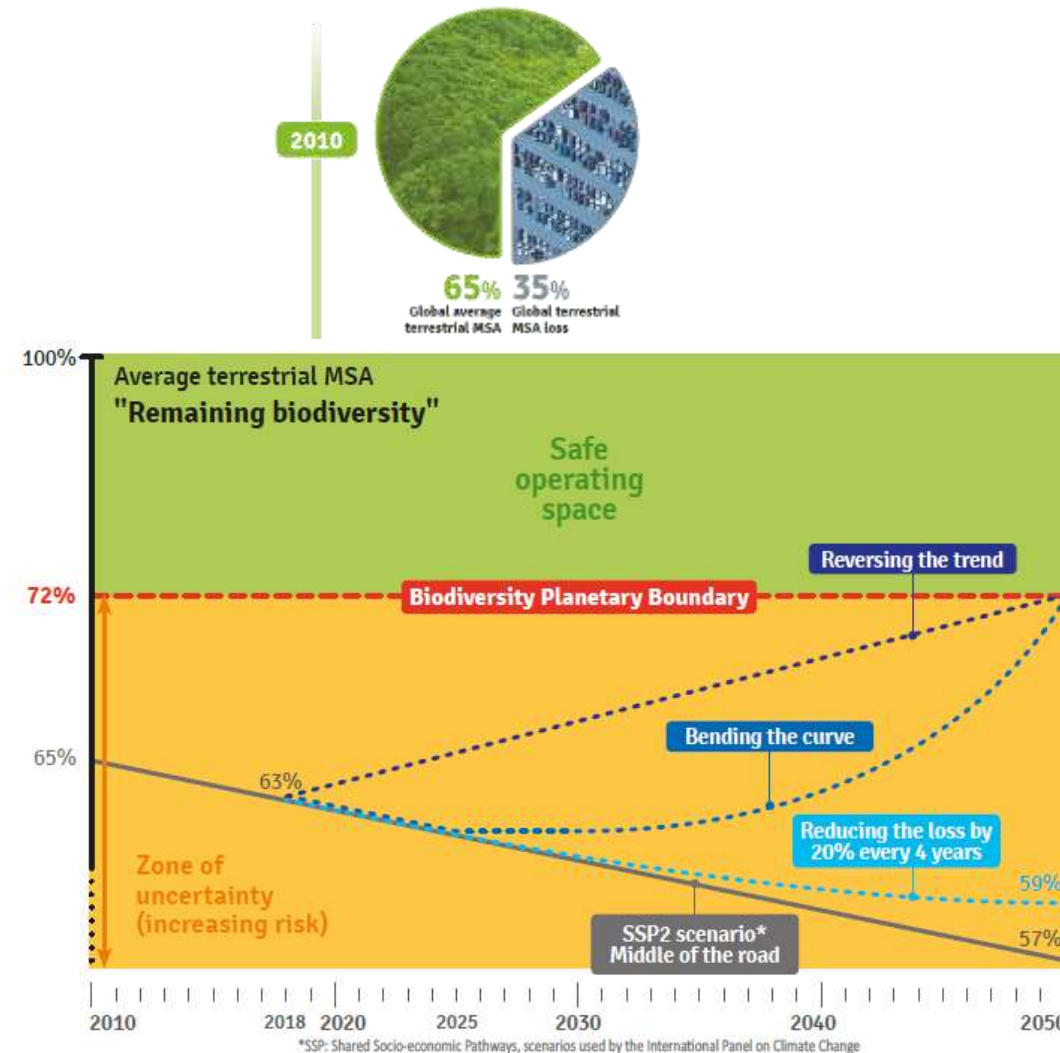
Species



Individuals (genetic)



The state of biodiversity



What industries need

- **Concrete & simplified approach:** Measure / Assess / Allocate
- Define a **quantitative strategy**, with actionable targets to avoid, reduce, restore
- **Track** the progress, **manage** results and **transform** business & operations

GBS, an opportunity to measure and act at global level

From qualitative and punctual to quantitative and holistic (although not exhaustive)



- The **Global biodiversity score**: measuring our global biodiversity footprint – an essential first step, with some shortcomings
- As of now, it is impossible to **spatialize** the impacts of our full value chain (50,000+ suppliers). However, better data is available on operational scope
- **Trade-off** between fast development allowing snowball effect and scientific approach allowing more precision

The ambition is to align with “no net loss trajectory”

If MSA.m² could be biodiversity’s CO₂e, what is its 1.5°C trajectory equivalent?



Convention on
Biological Diversity



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

CBD Post 2020 agenda

DRAFT - Overarching goals for 2050

a. No net loss by 2030 in the area and integrity of freshwater, marine and terrestrial ecosystems, and increases of at least 20% by 2050, ensuring ecosystem resilience

b. The percentage of species threatened with extinction is reduced by X% and the abundance of species has increased on average by X% by 2030 and by X% by 2050

c. Genetic diversity is 1) maintained or enhanced on average by 2030, and for 90% of species by 2050

d. Nature provides benefits to people contributing to:

- Improvements in nutrition...
- Improvements in sustainable access to safe and drinkable water...
- Improvements in resilience to natural disasters...
- At least 30% of efforts to achieve the targets of the Paris Agreement in 2030 and 2050

e. The benefits, shared fairly and equitably, from the use of genetic resources and associated traditional knowledge have increased by X by 2030 and reached X by 2050

Schneider Electric has already validated carbon targets to align with “1,5°C trajectory”.

We shouldn't be any less ambitious when it comes to biodiversity.

What do we (corporates) need?

- The possibility to **align with a simple, unifying and international goal**, like no net loss
- **Start acting now**, even though science based targets are not fully ready / mature
- Take strategic decisions at global level, but **act locally**

Life Is On

|

Schneider
 Electric

Q&A

On Part 2 – Sharing experiences of applying allocation methods

Part 3 – Group discussion on allocation

Each breakout group to discuss one allocation method (if possible), focusing on the following questions:

1. What are the obstacles in applying this allocation method?
2. How concretely could allocation methods be applied? Do you have concrete examples of implementing an allocation methodology and what methodological issues remain to be agreed upon?
3. Does this allocation method fit with a corporate or financial institution's way of working?

Closing remarks

*Anne-Marie Bor, Lead Finance Community, EU
Business@Biodiversity Platform*

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

'Biodiversity science based targets for business & finance'

Webinar 1: 24 March – State of play

Webinar 2: 2 April – Allocation

Webinar 3: 16 April – Measurement

Registration, information, recordings and final slides:

<https://next-ma.eu/landing/eubiodiversity>

Thank you!