Beyond GDP: Measuring the Real Progress

The Natural Resource Use(r) Perspective

JANEZ POTOČNIK
International Resource Panel Co-Chair

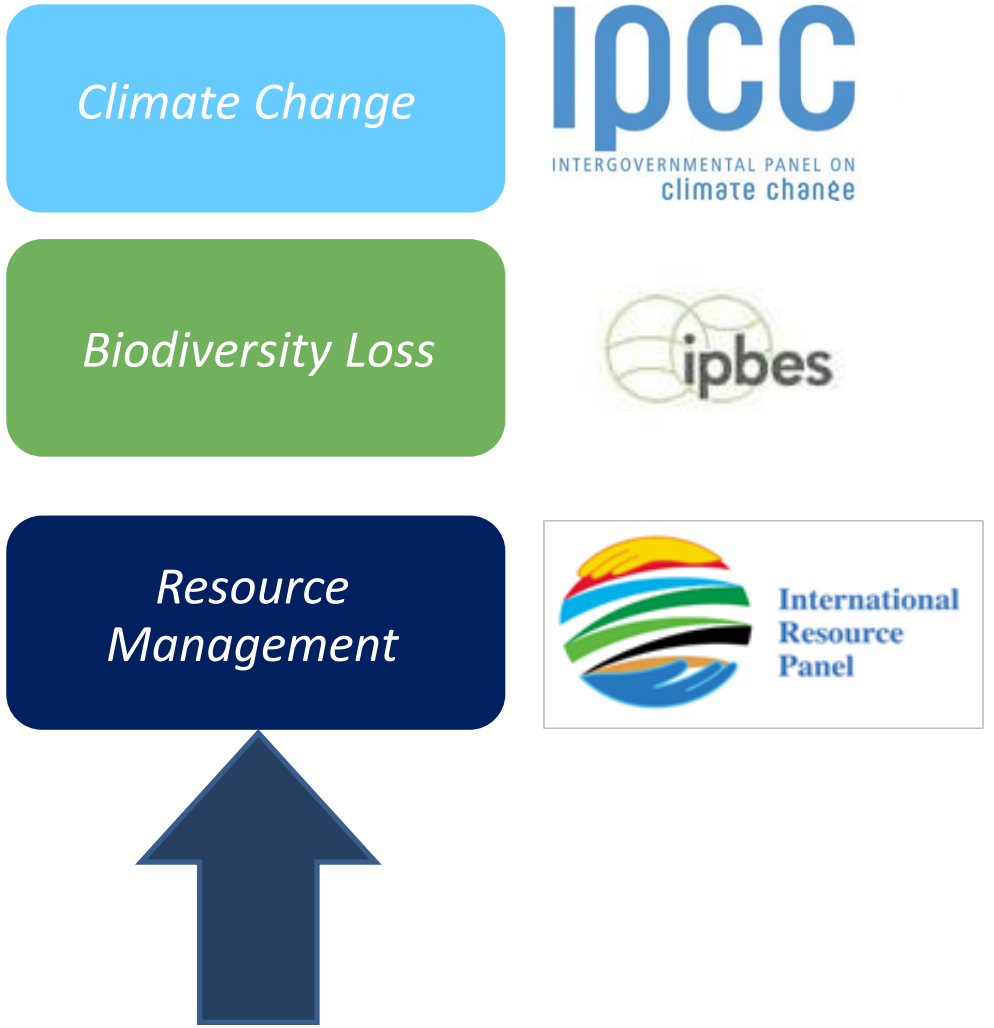
Brussels, 10th November

International Resource Panel

Natural Resource Management Optic

Who are we?

International Resource Panel - IRP *was launched in 2007 with the idea of creating a science-policy interface on the sustainable use of natural resources and in particular their environmental impacts over the full life cycle*



IRP Structure

Panel Co-Chairs:
Janez Potočnik and Izabella Teixeira

Steering Committee Co-Chairs:
Astrid Schomaker and Mark Radka

SCIENTIFIC PANEL

Internationally recognized experts on sustainable resource management;

Scientific assessments and advice, networks

Science-Policy interface

Head of Secretariat: *Merlyn van Voore*

UNE SECRETARIAT

Direction, procedures, support in development and implementation of assessments, outreach

STEERING COMMITTEE

Governments from developing and industrialized countries;

Strategic guidance, political support, regional synergies

Strategic Partners

One planet handle with care

World Business Council for Sustainable Development

UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

International Science Council

SCIENCE POLICY BUSINESS FORUM

WORLD RESOURCES INSTITUTE

WORLD ECONOMIC FORUM

WORLD RESOURCES FORUM

PBL Netherlands Environmental Assessment Agency

SUN

UNITED NATIONS ECLAC

ELLEN MACARTHUR FOUNDATION

EARTH COMMISSION

OECD

International Science Council

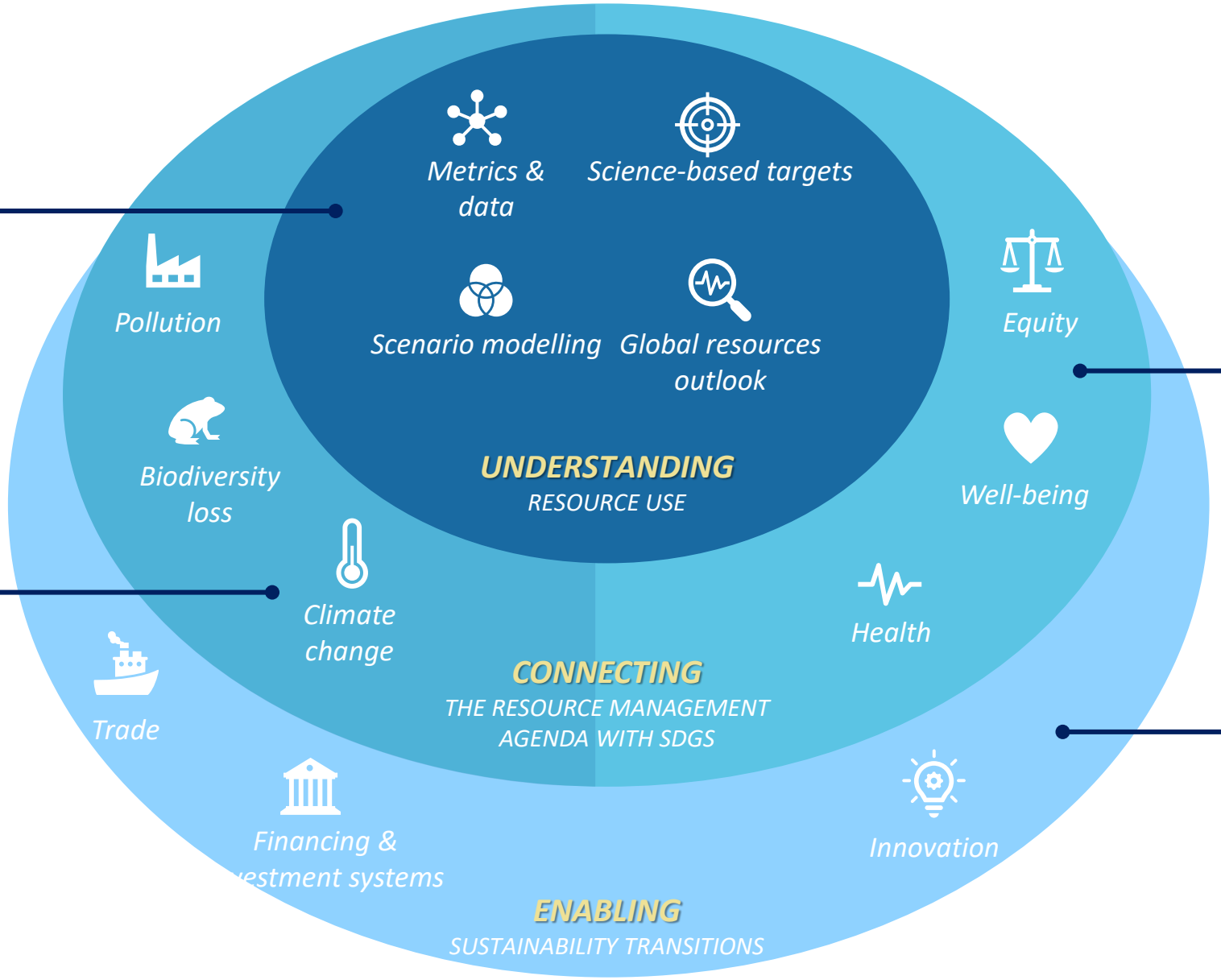
ICC

YEE YOUTH AND ENVIRONMENT EUROPE

PACE
PLATFORM FOR ACCELERATING THE CIRCULAR ECONOMY

IUCN

IRP's High Impact Priority Areas for 2022-2025



HIPA 1

*Current trends and future prospects for **global resource use** and sustainable resource management*

HIPA 2

*Sustainable Resource Management for effective action on **Climate Change, Biodiversity and Pollution***

HIPA 3

*Sustainable Resource Management for effective action on human **health, well-being, prosperity and equity***

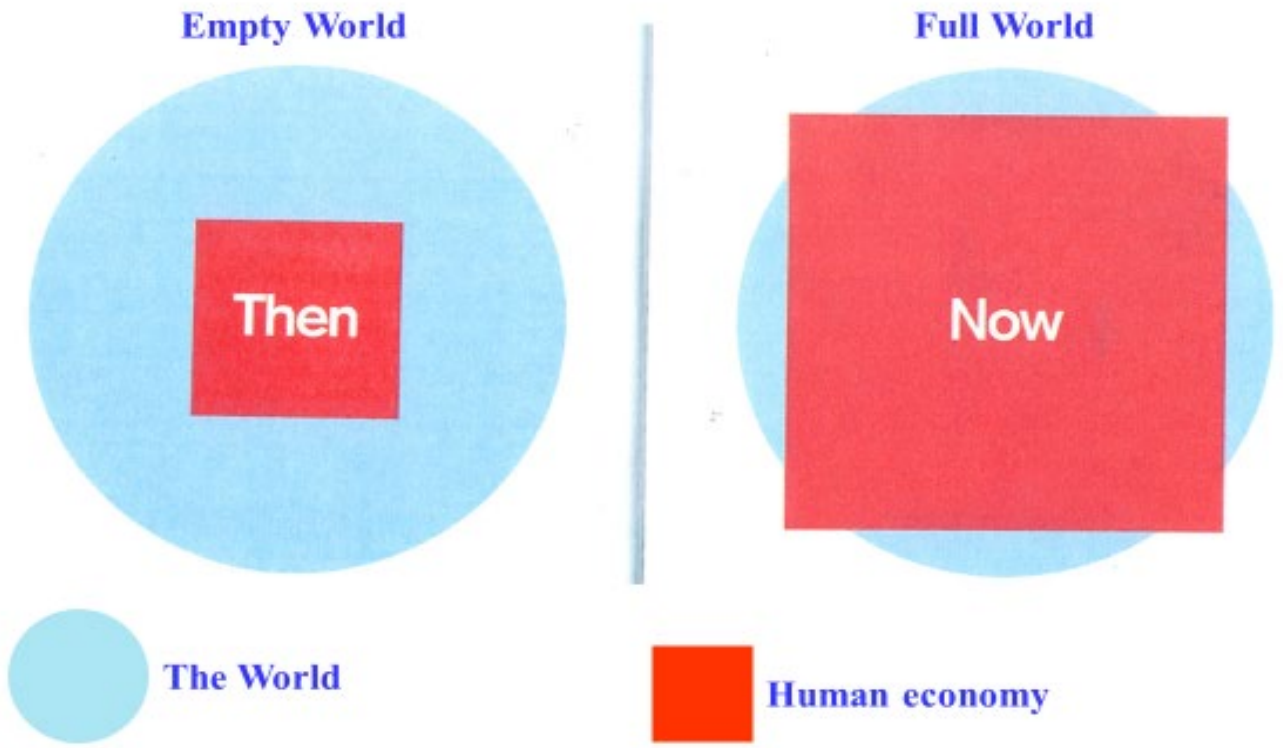
HIPA 4

*Role of **trade, finance and innovation** in enabling sustainability transitions*

Main Challenges

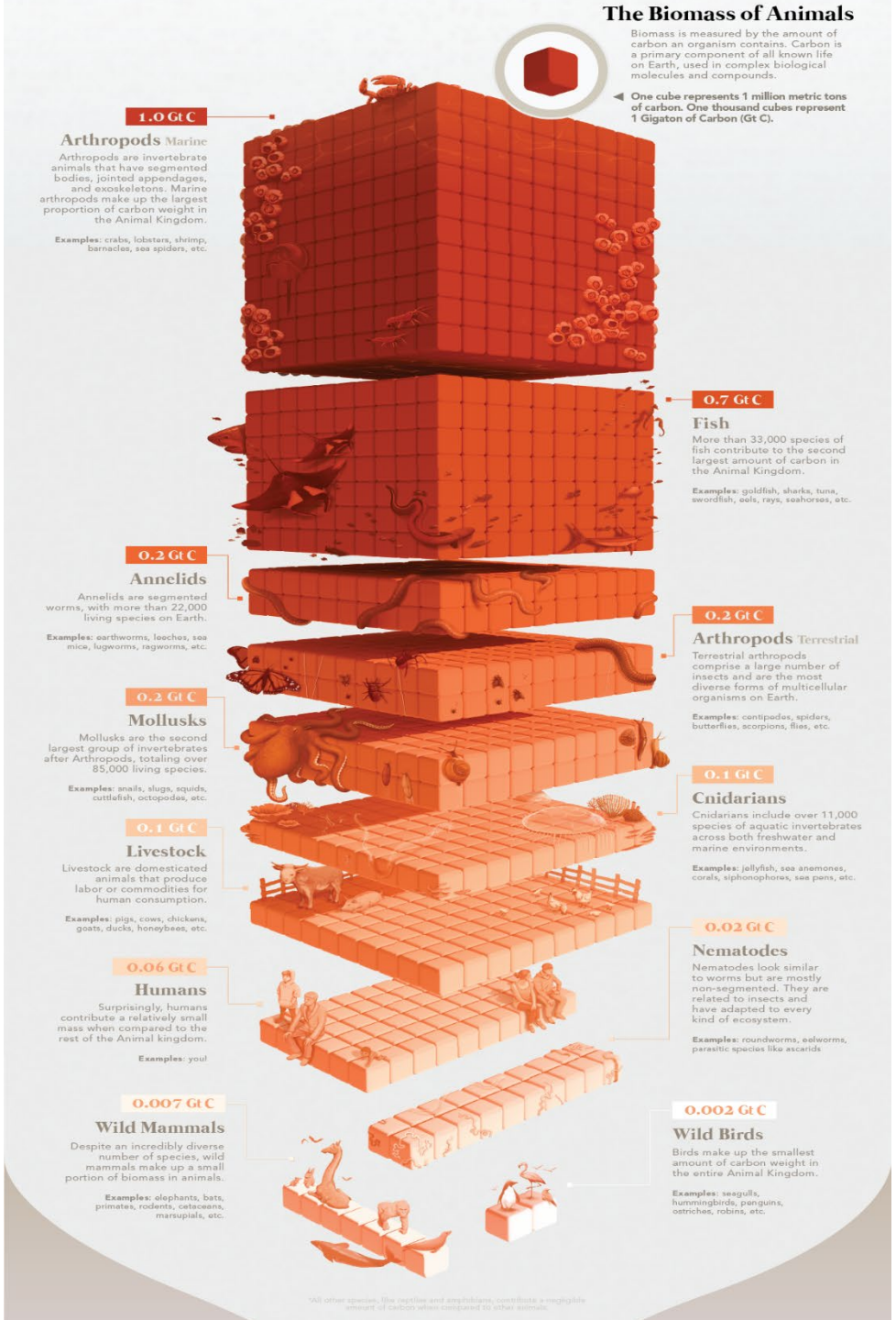
The diagnosis of the problem

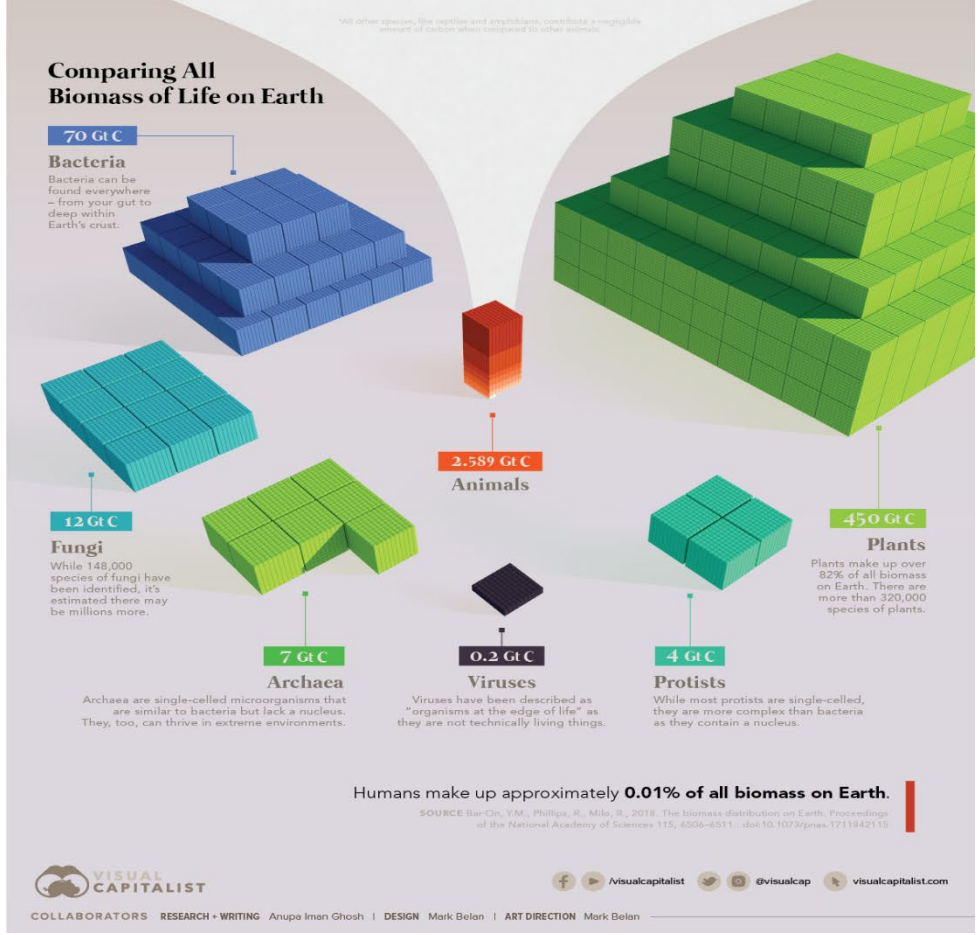
From "Empty" World to "Full" World



Source: Club of Rome: Simplified after Herman Daly

Labour and Infrastructure limiting factors of human wellbeing → *Natural resources and Environmental sinks limiting factors of human wellbeing*

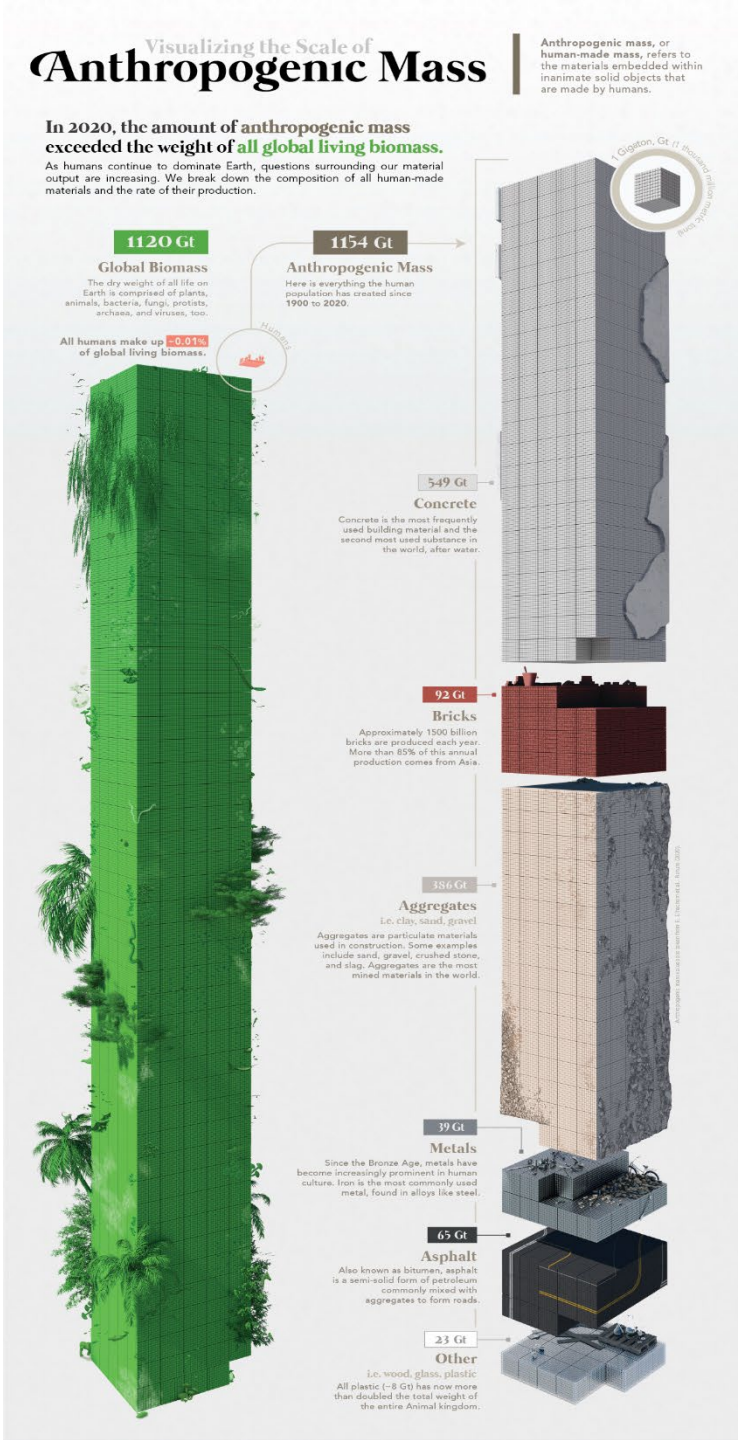


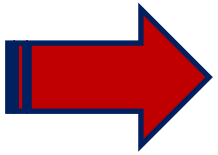


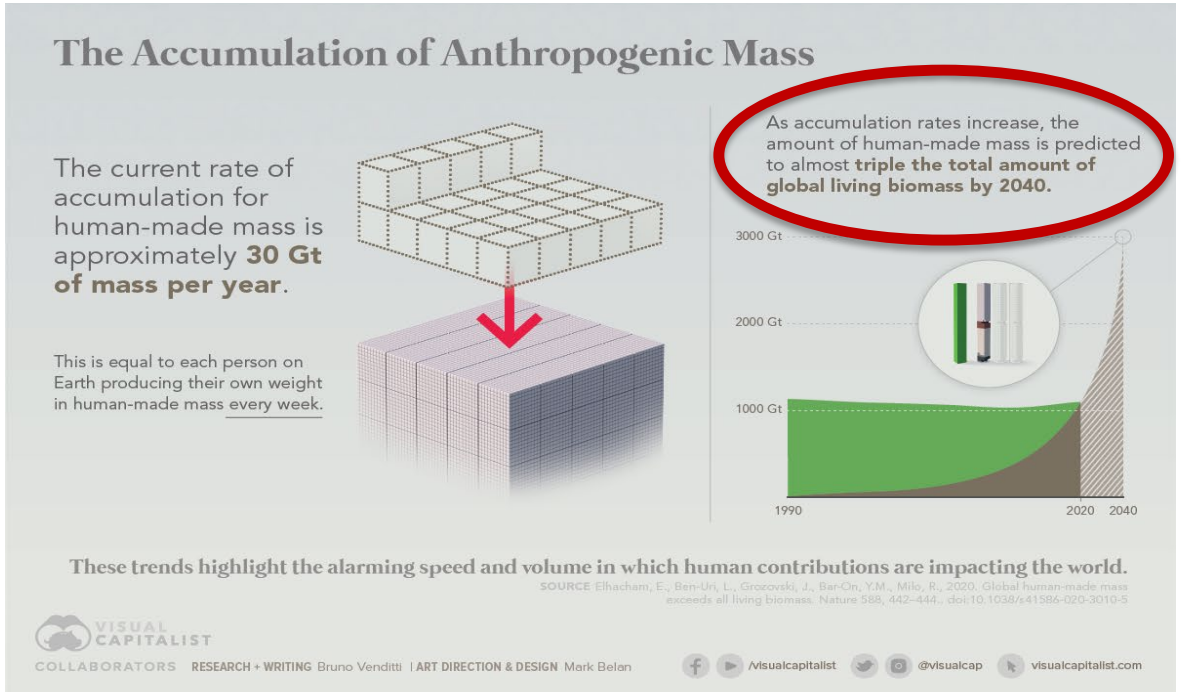
Biomass of Life

Humans in Perspective

Source: Visualcapitalist.com

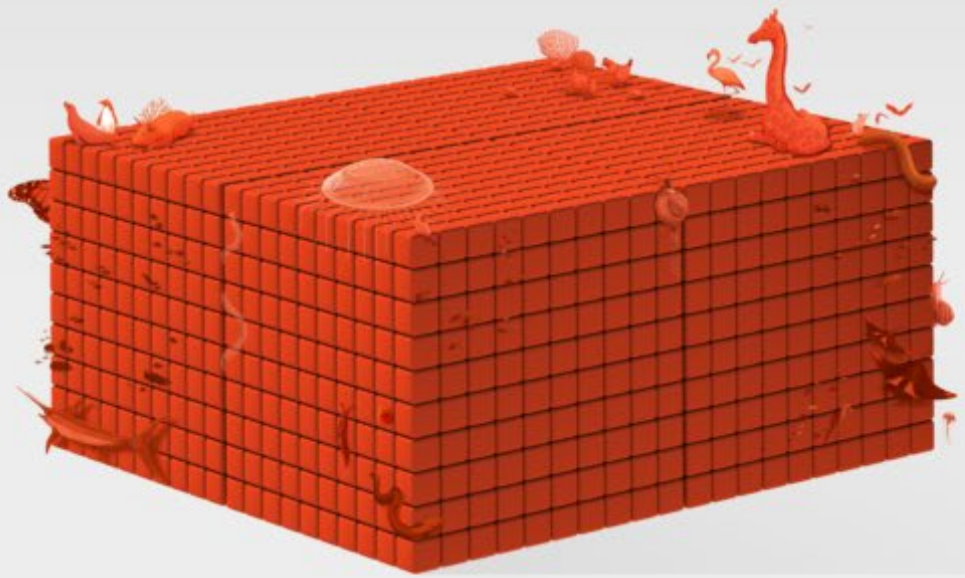




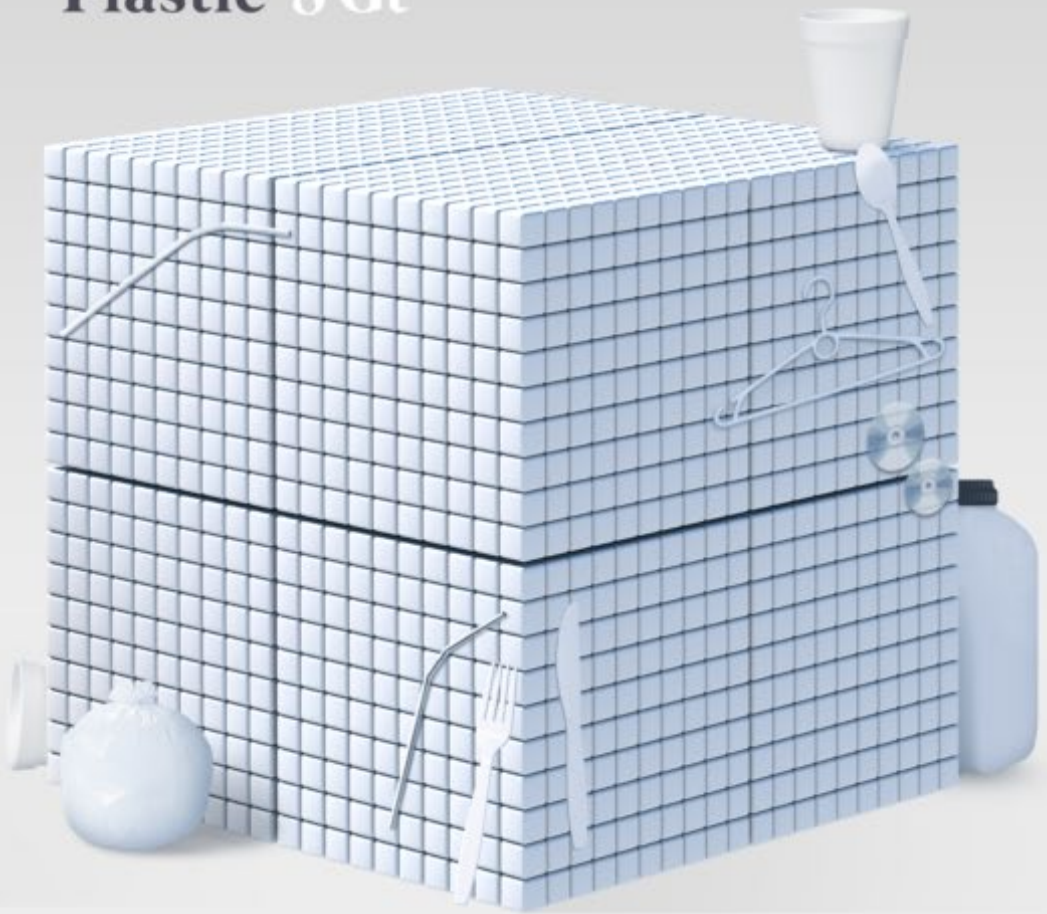


Source: Visualcapitalist.com

Animal Kingdom 4 Gt

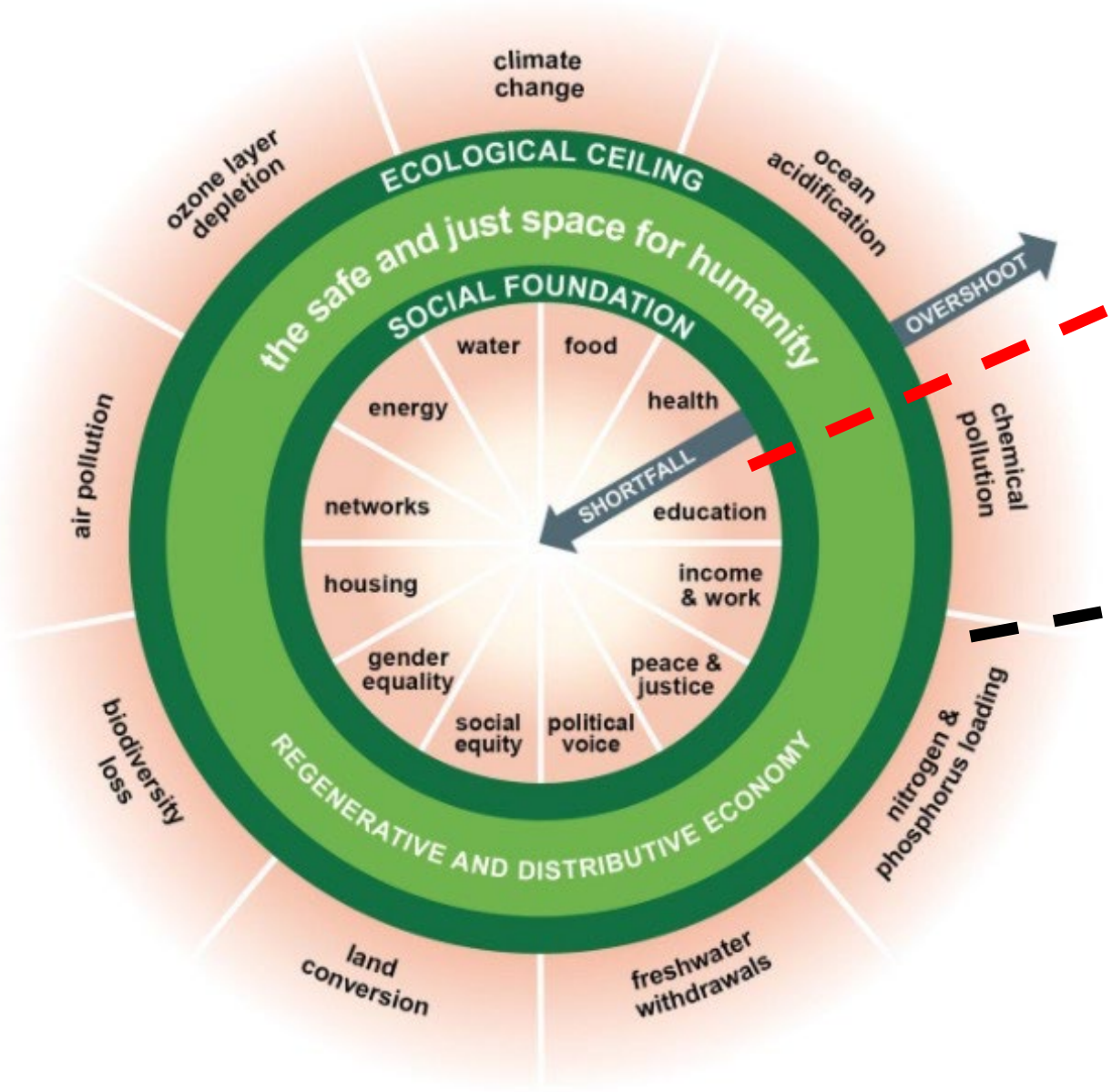


Plastic 8 Gt



Source: Visualcapitalist.com

A compass for human prosperity



Basis human needs

incl. minimum requirements

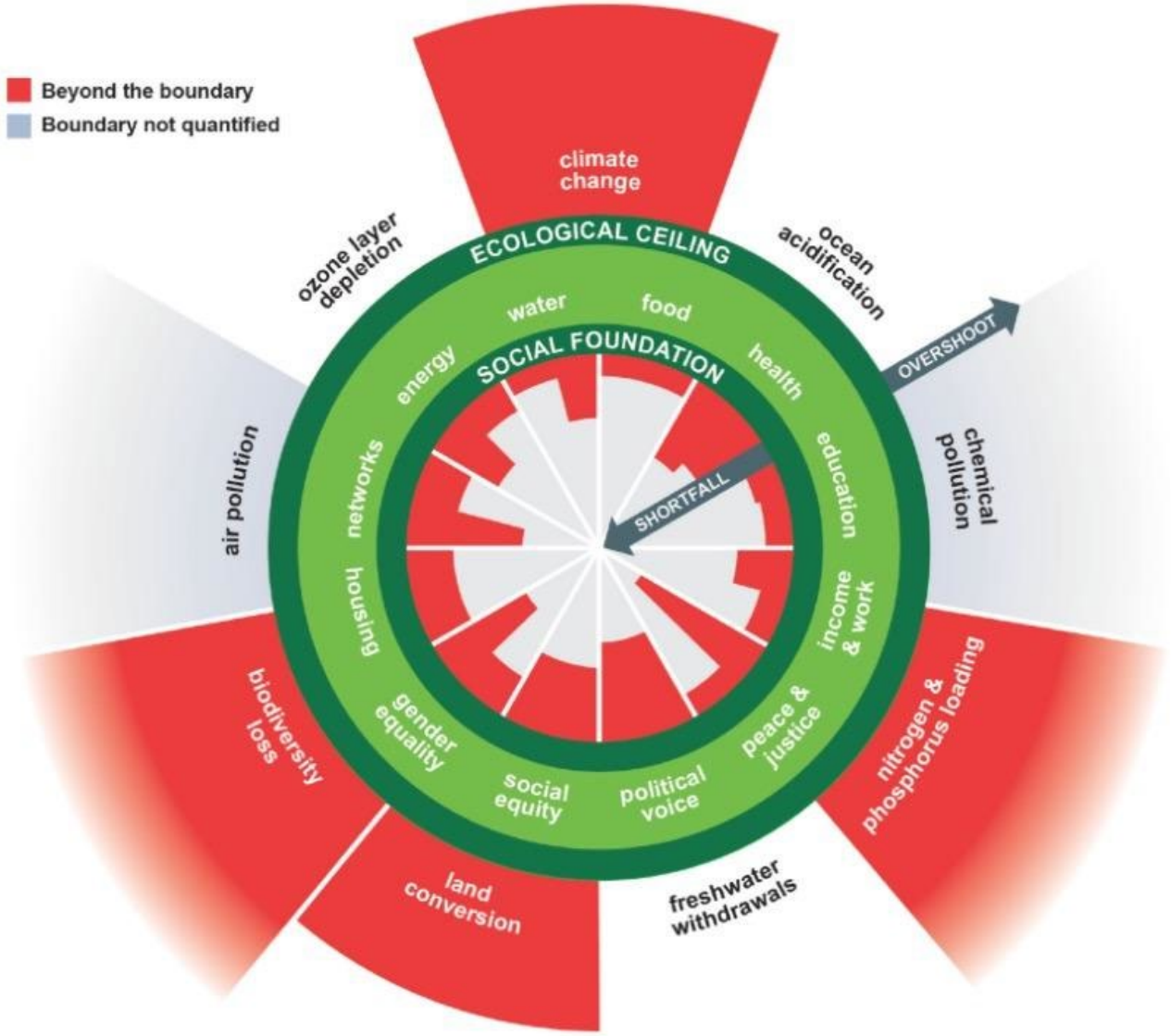
of resource supply

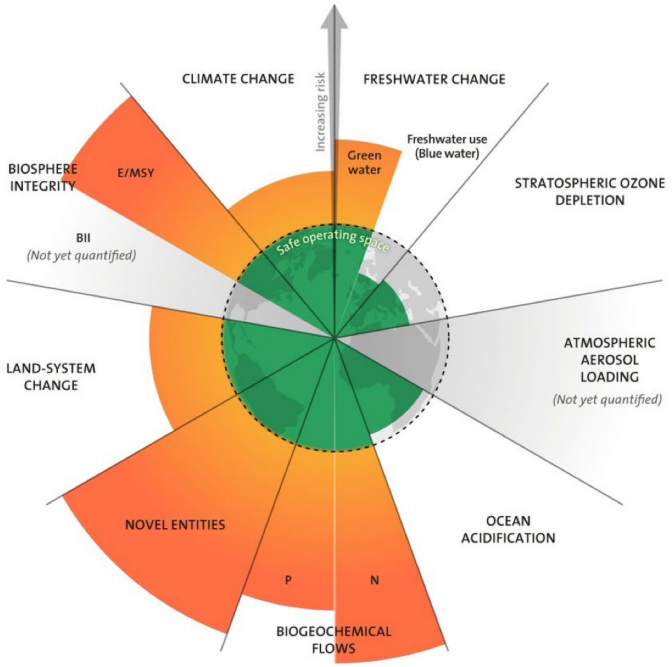
Outer limit by Planetary

Boundaries

Adapted from Raworth 2017

Humanity is living far out of balance





Source: Potsdam Institute for Climate Impact Research, 2022 reassessment

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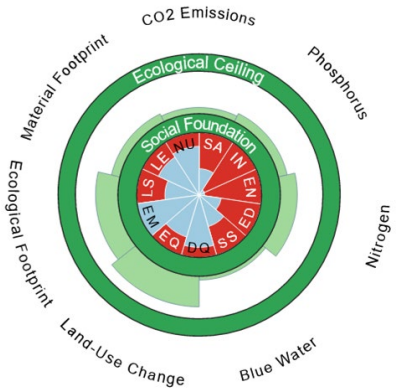
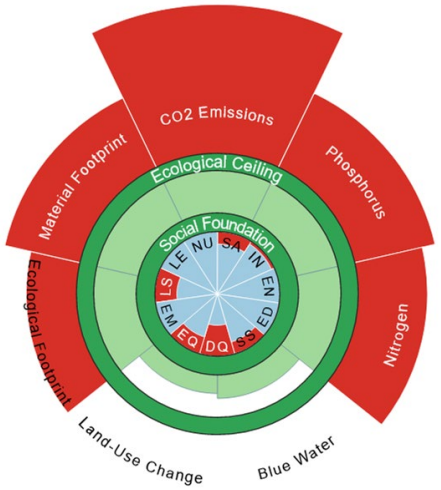
Divergent national contexts

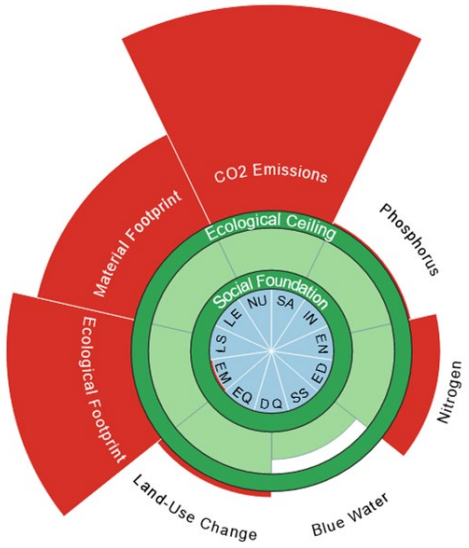
goodlife.leeds.ac.uk



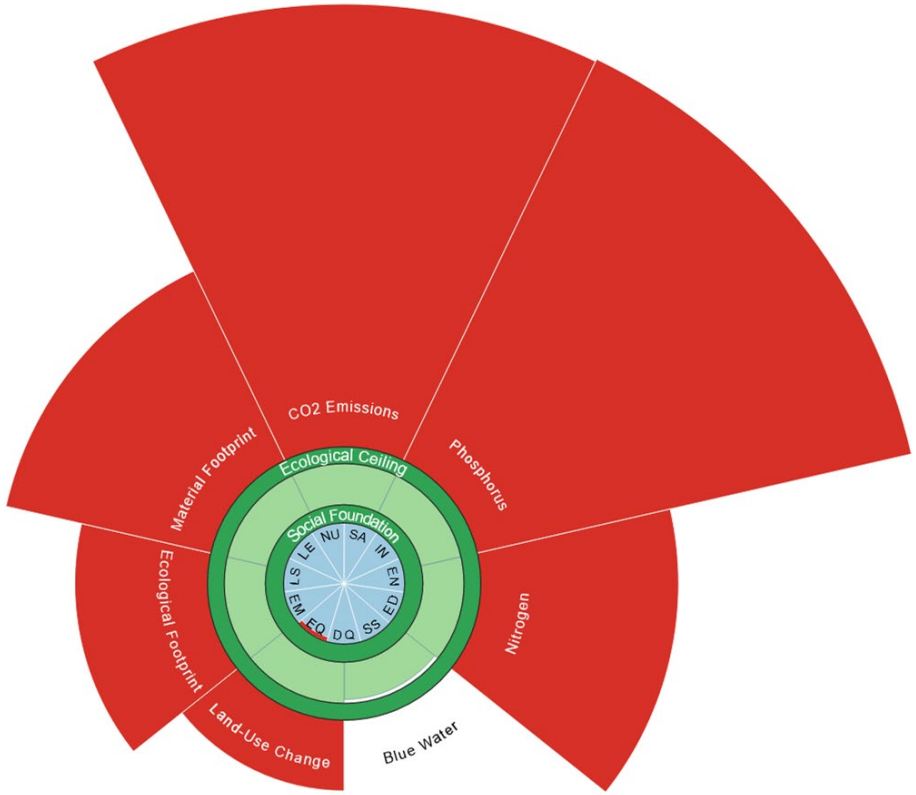
Malawi
$1,000 pc



China
$17,200 pc



Belgium
$54,000 pc



Australia
$54,900 pc

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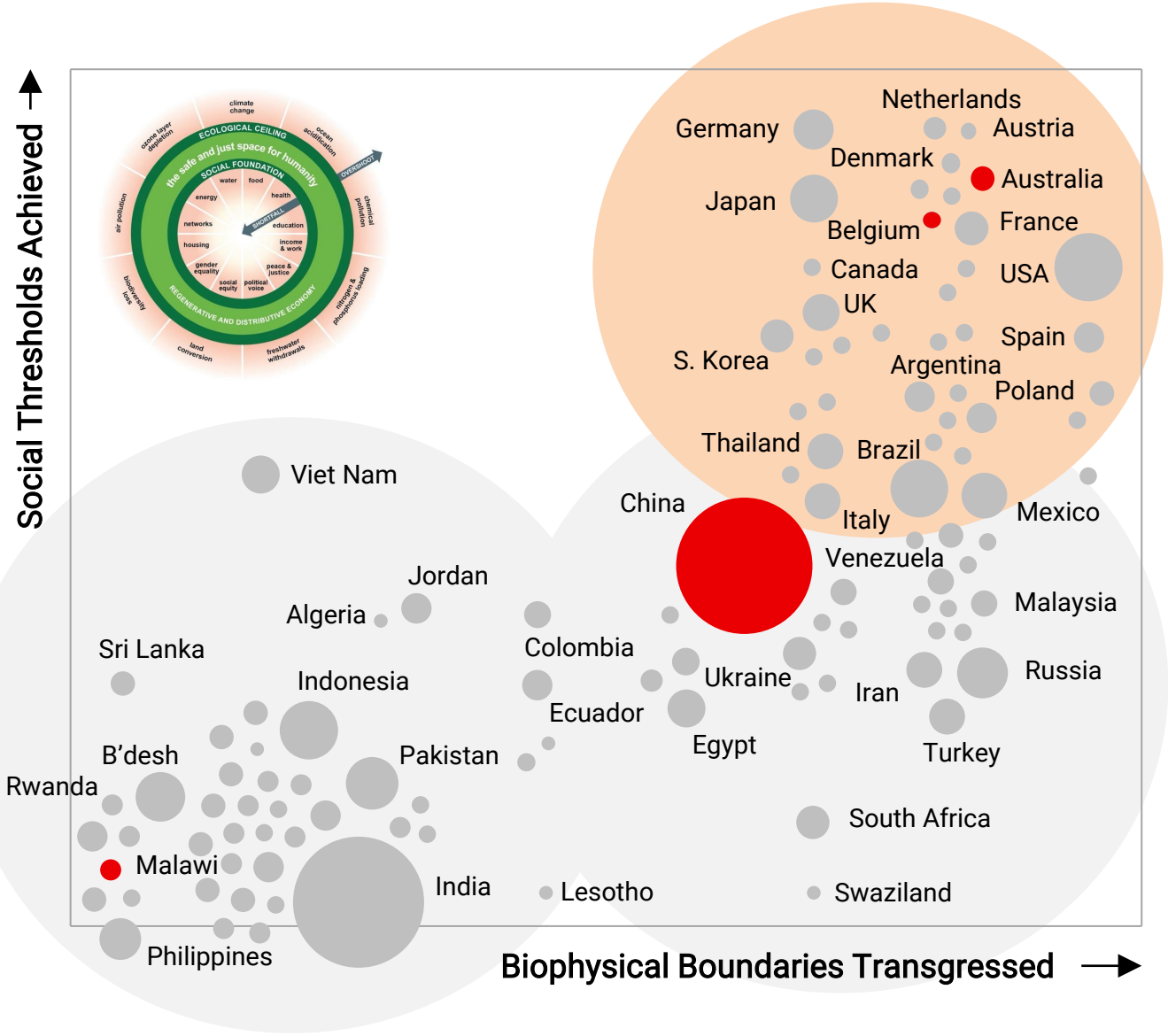
Humanity's sweetspot



colonialism

military power

trade & finance rules

resource extraction

climate-change impacts

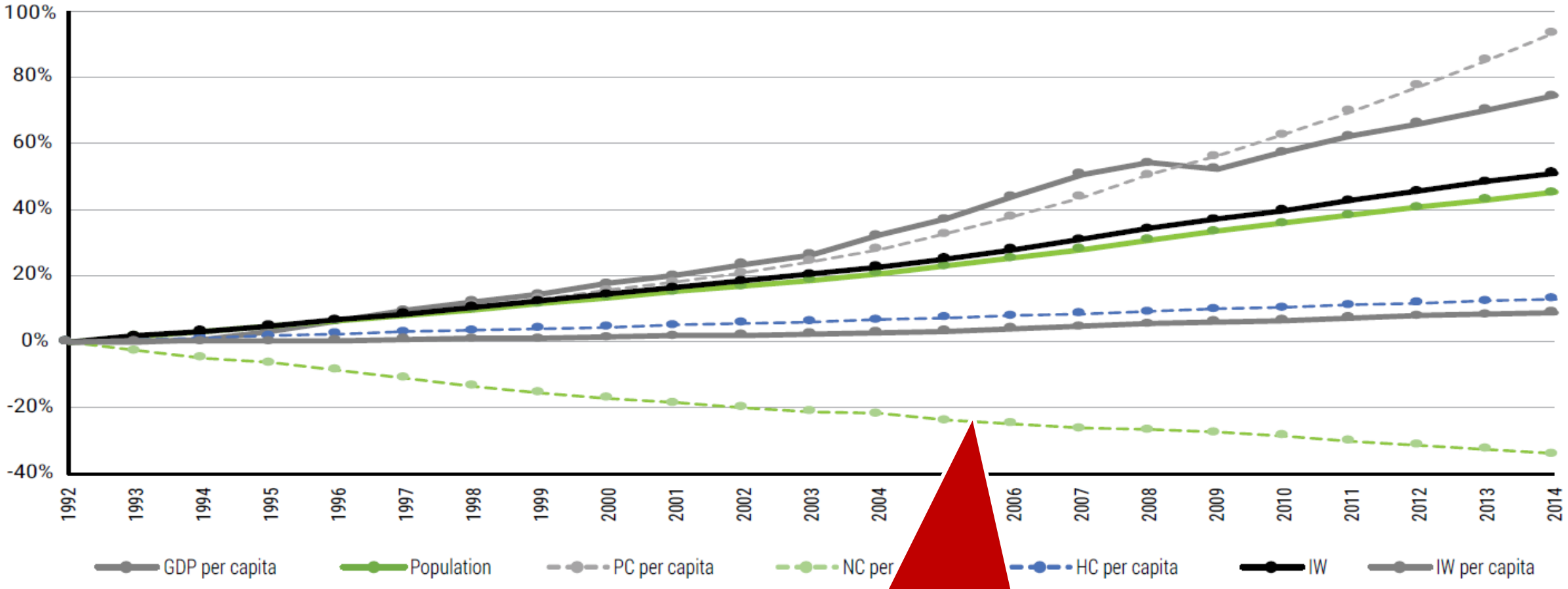
For the first time in a human history, we face the emergence of a single, tightly coupled human social-ecological system of planetary scope.

We are more interconnected and interdependent than ever.

Our individual and collective responsibility has enormously increased.

Inclusive Wealth (IW) Index (and its components) evolution - 1992 to 2014

Source: Inclusive Wealth Report 2018



IW – Inclusive Wealth

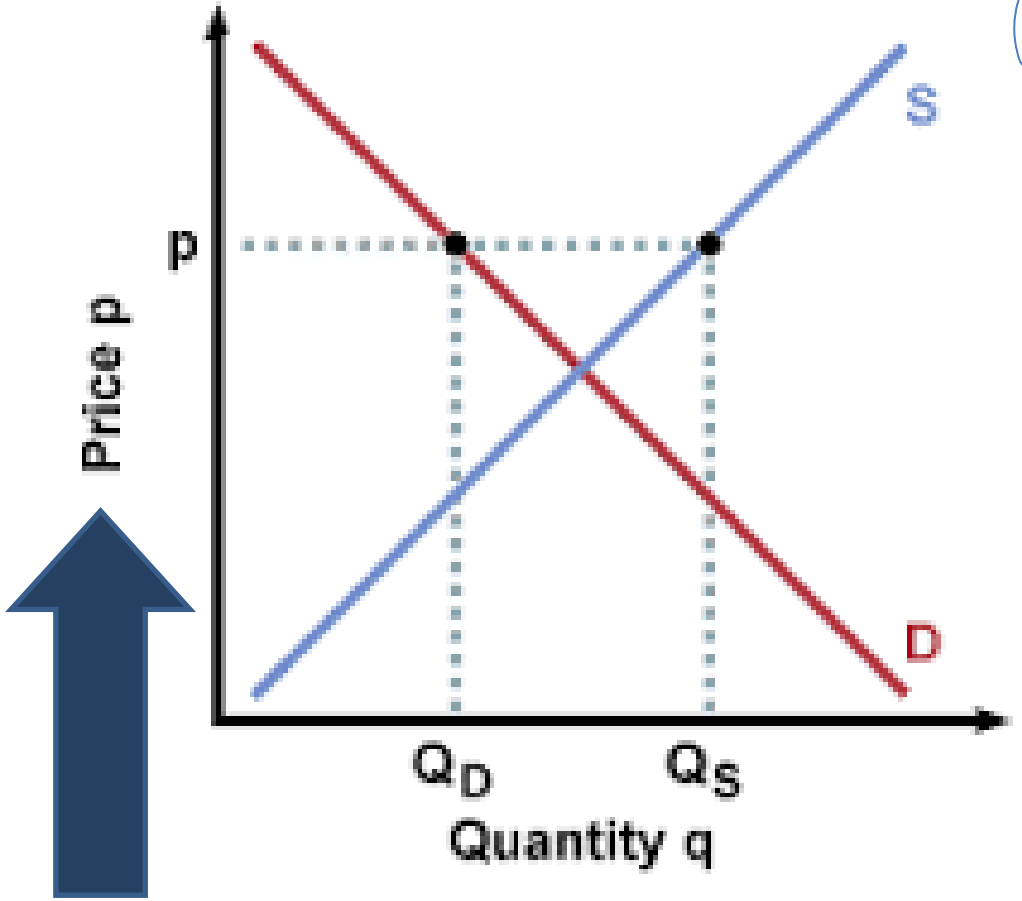
PC – Production capital

HC – Human capital

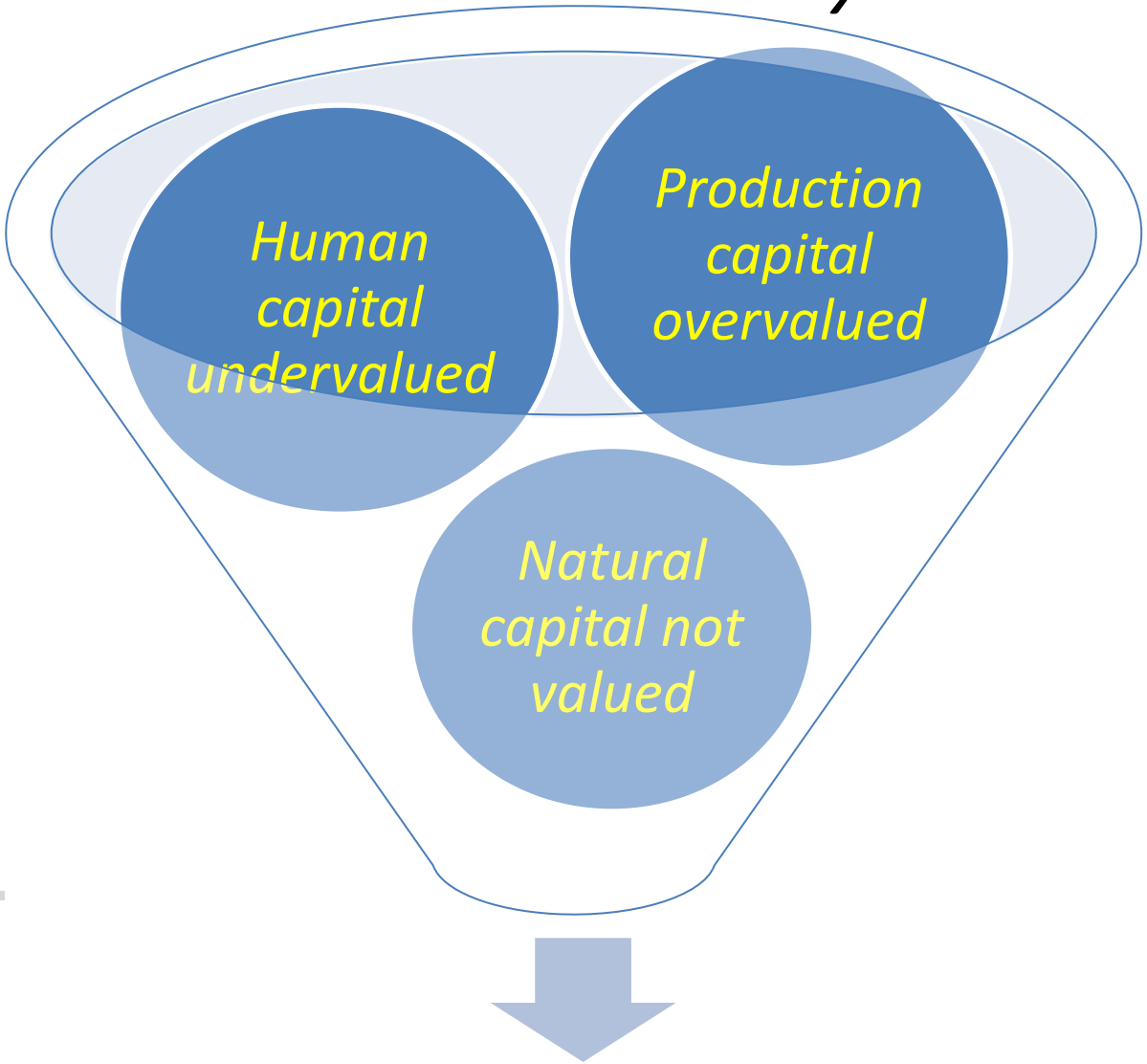
NC – Natural capital

Growth of GDP in the past decades has been achieved at the cost of depleting natural capital and indebting future generations

Producers/Consumers Rational Behaviour



Market Economy



Economic, social and environmental (in)balance

Resource Perspective

Common Roots of the Triple Planetary Crises

Access to and use of natural resources have been in the human history

closely related to the level of the achieved wellbeing, but also to stability, security, conflicts, wars

Land, Water, Oil and Gas, Minerals, Precious Metals …

Natural Resources

Provide the foundation for the goods, services and infrastructure that make up our current socio-economic systems

Biomass (wood, crops, including food, fuel, feedstock and plant-based materials)

Fossil fuels (coal, gas and oil)

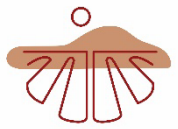
Metals (such as iron, aluminum and cooper…)

Non-metallic minerals (including sand, gravel and limestone)

Materials

Everything extracted from the Earth

Water and Land



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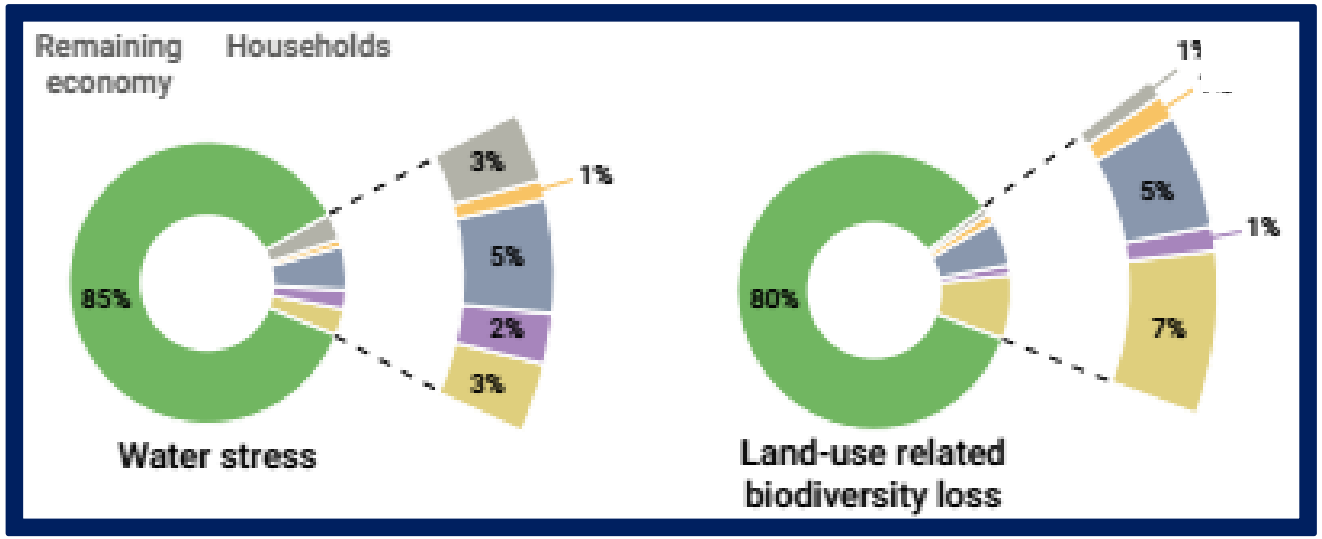
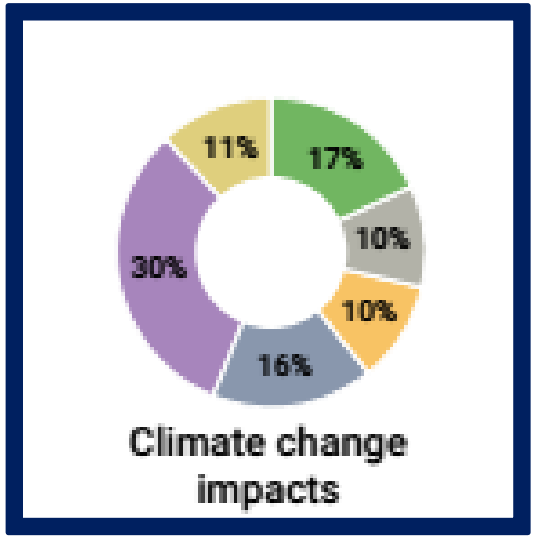
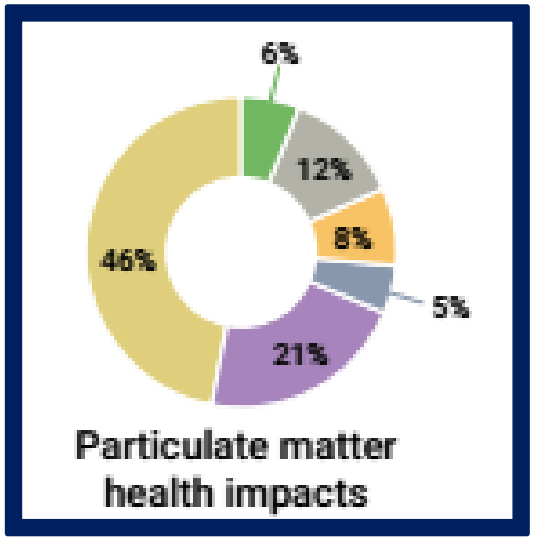
Extraction and Processing of Materials Drives all Aspects of the Triple Planetary Crisis

Environmental impacts of materials in the value chain in extraction and processing phase

90% of global land related biodiversity loss and water stress
50% of global climate change impacts
1/3 of air pollution health impacts







Global material use
Material demand per capita and Material productivity

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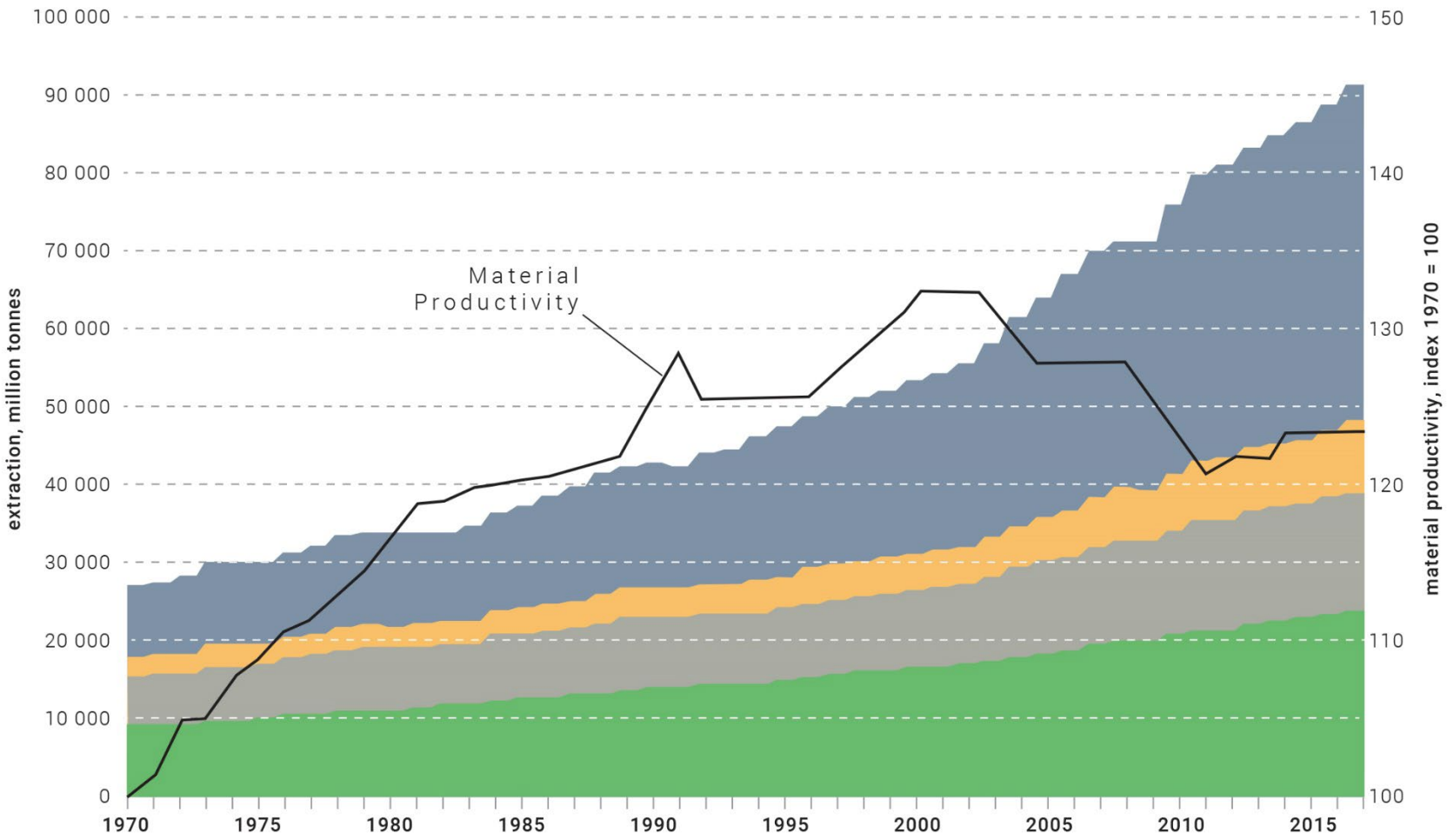
Global material extraction and material productivity, 1970 - 2017

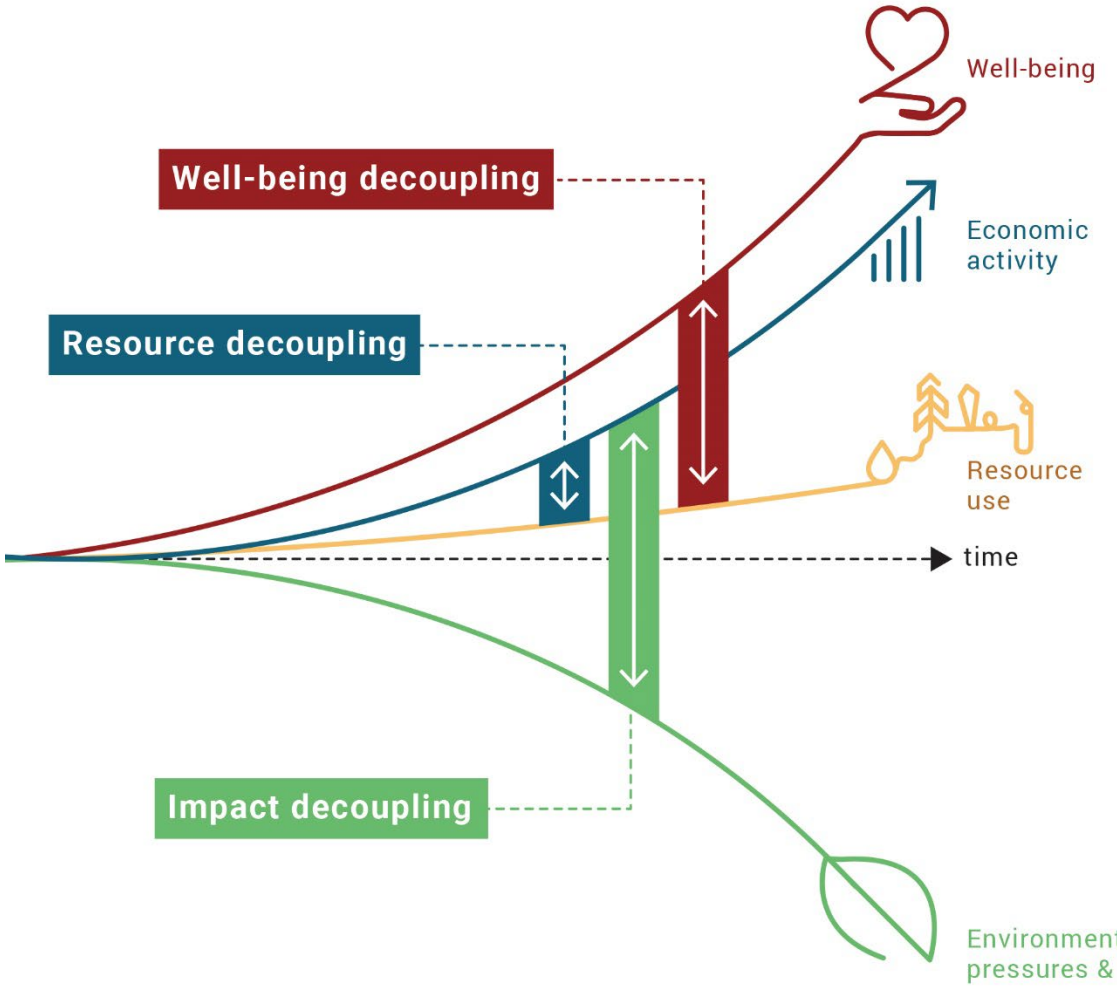


- *Global material use has more than tripled since 1970*
- *Global material demand per capita grew from 7.4 tons in 1970 to 12.2 tons per capita in 2017*
- *Material productivity started to decline around 2000 and has stagnated in the recent years*

Non-metallic minerals
Metals
Fossil fuels
Biomass

If current trends would continue, global material consumption is predicted to double by 2060

Decoupling



UN environment

International Resource Panel

Towards Sustainable and Equitable World

System Change Compass

The System Change Compass contributes to the implementation of the ambitions of the European green Deal

- ***Sets zero net emissions*** *of GHG by* ***2050*** *and* ***decoupling of growth and resource use***
- *Acknowledges need for fair and* ***just transition***
- *Aims at* ***strongly interlinked and mutually reinforcing*** *policy recommendations*

- ***Does not sufficiently address drivers and pressures*** *that cause environmental damage*
- ***Does not offer systemic perspective*** *to guide decision-making*
- *Implementation is put at extra risk due to* ***COVID-19 recovery and war in Ukraine***

- ***Maps and envisions*** *the system in service of people and planet*
- ***Derives system level orientations*** *towards desired state*
- *Charts pathway towards prosperity and wellbeing* ***within planetary boundaries***

SYSTEMIQ

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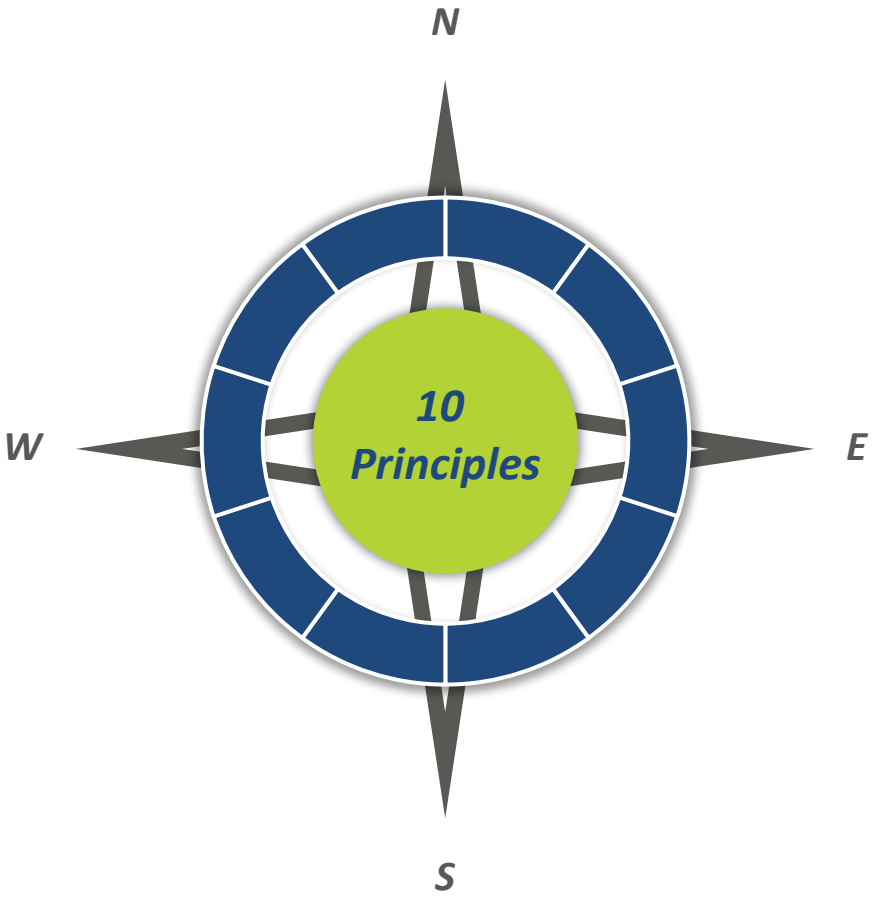
From the IRP science to the System Change Compass

System Change Compass (10 Principles)



Application to the system to derive systemic orientations

30 System-level orientations

3-5 ecosystem-level orientations

50+ Champion orientations

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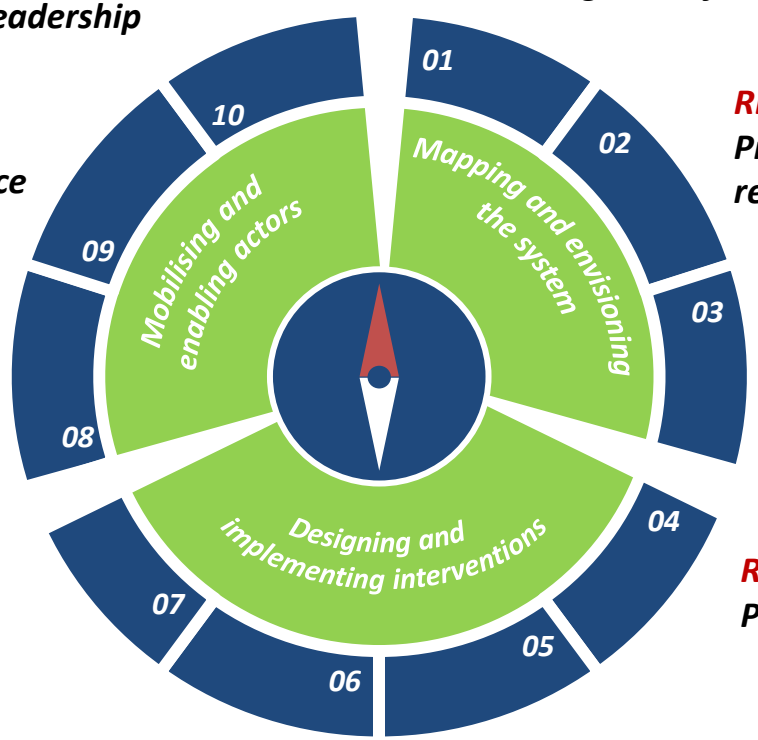
Redefining the Socio-Economic System

REDEFINING LEADERSHIP:
Intergenerational agreement through new forms of leadership

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity

REDEFINING GOVERNANCE:
A systematic approach to governance influenced by science

REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use



REDEFINING FINANCE:
The facilitator of the transition

REDEFINING PROGRESS:
Meeting societal needs as a purpose of a model based on economic ecosystems

REDEFINING METRICS:
Performance measurement updated

REDEFINING CONSUMPTION:
From owning to using

REDEFINING INCENTIVES:
Show the real value of social and natural capital

REDEFINING COMPETITIVENESS:
Digitization and smart prosperity at the heart of European competitiveness

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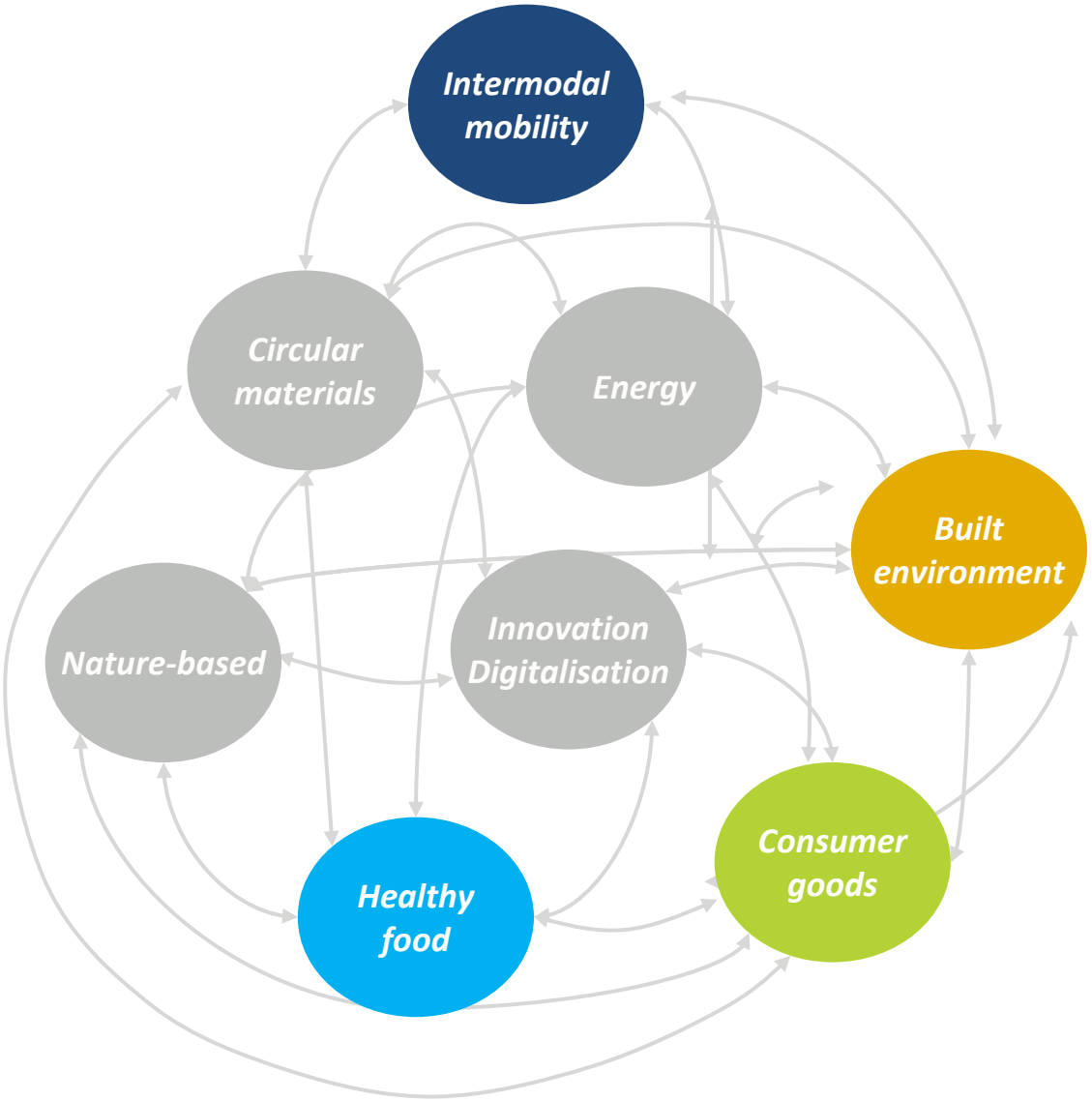
Provisioning Systems



Related to resource intensive human needs

- *Nutrition*
- *Mobility*
- *Housing*
- *Daily functional needs*

- *Resource relevant systems enabling and supporting the provisioning systems delivering societal needs*

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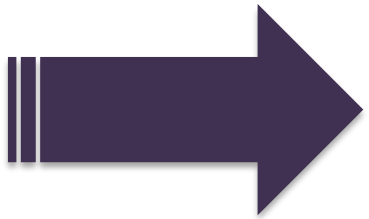
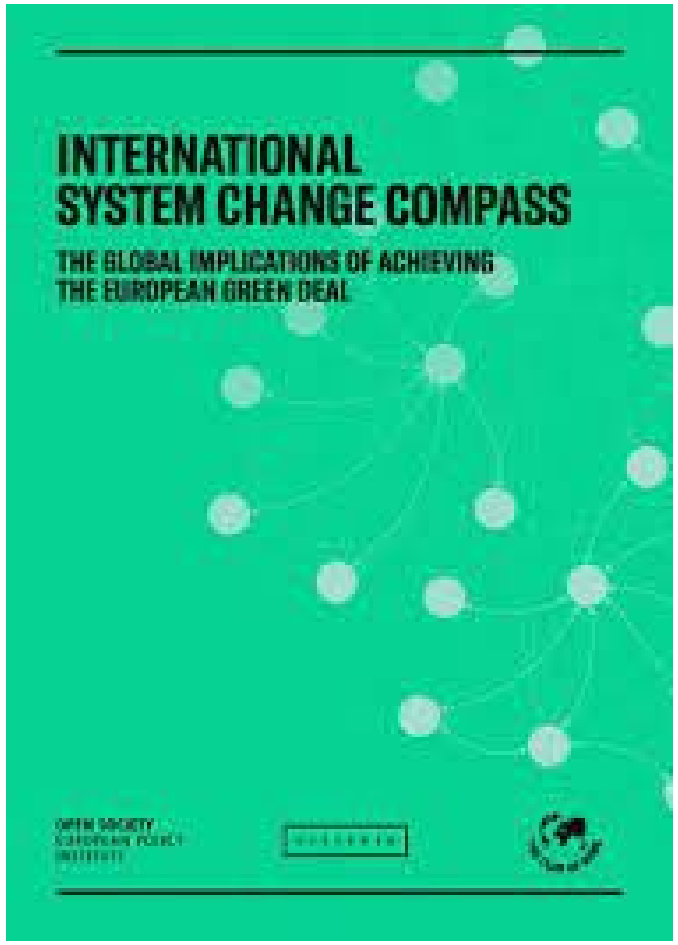
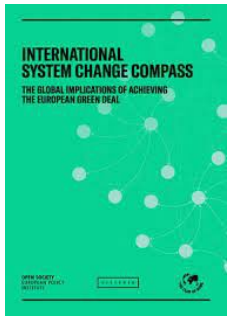
From Internal to External Focus





We need a systemic approach aligned with SDGs and countries most responsible for the current situation should take the lead



- *The map of resource use still shows the shadows of an imperialist world, where wealthy nations pursue their ambitions at the expense of others. Making our economies and societies more resilient and fair is our best defence against any future crises.*
- *In the longer term any security and stability related issues are not about opening a new economic front. They are, first of all, about reassessing our values, rethinking our economies and reducing overconsumption and resource use.*
- *Standards and behaviour patterns linked to the current economic model were set by high-income countries. They are ethically bound to show the world, that they are willing and able to change a reality we created, and to lead the essential transition – at home and globally. While the responsibility for the past is clear, responsibility for future is joined and common.*

*For **The Future We Want** we must enter the untapped territories of the needed deep system transformation*

If we want to avoid extinction of elephants in nature, we must extinct elephants in the rooms

Source: Hop distance - The elephant in the room ...blogs.bmj.com

Main Blind-Spots

Limiting System Change and Effective Management of the Transition

Lack of Holistic Vision and Approach

Public leaders lack capacity or knowledge of how to translate system change visions into their concrete policies/investment structures which ends in conflicting policy logics that hinder real transformation

Lack of Drivers and Pressures Perspective

Policy attention does not focus on the roots of the problem and address the drivers and pressures. It lack focus on natural resource use and management, as well as priority given to market signals leading consumers and producers' behaviour.

Lack of Demand Side Focus

Policy attention is mainly given to the supply side of the economy, to the cleaning of the existing economic system - lacking the attention to the demand side which is leaving out an important solutions potential and questions of responsibility and equity.

Measurement for system change

New approaches in the IRP Global Resources Outlook 2024

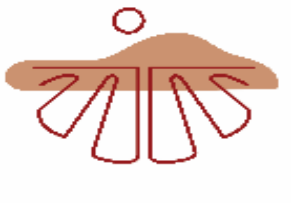
Global Resources Outlook 2024: Resource Use for Societal Wellbeing

Biomass

Fossil fuels

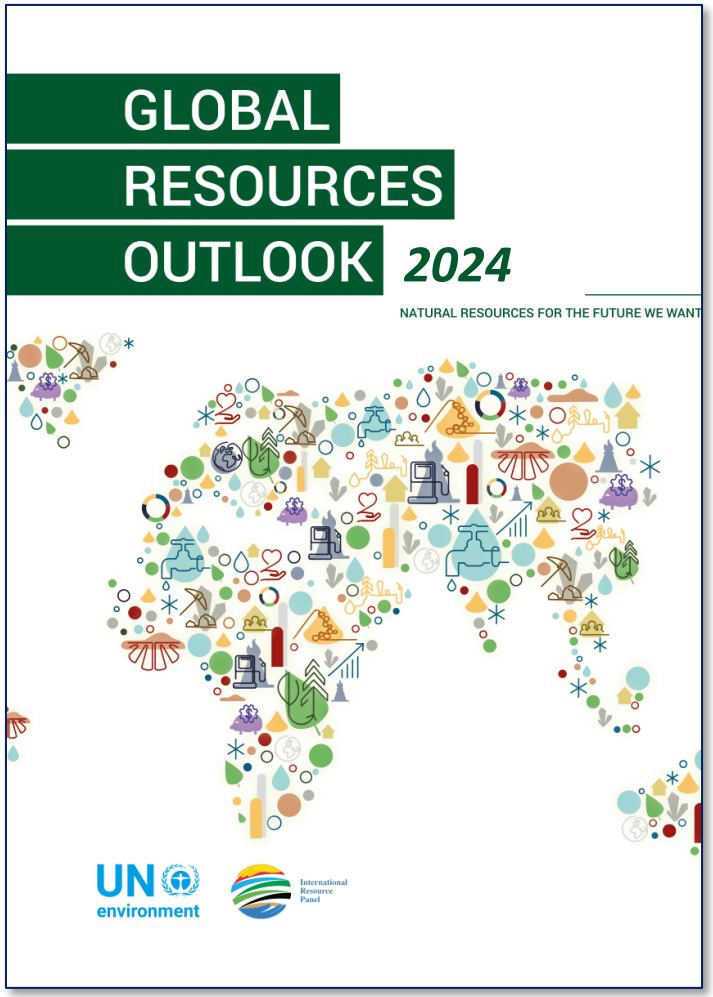
Metals

Non-metallic minerals



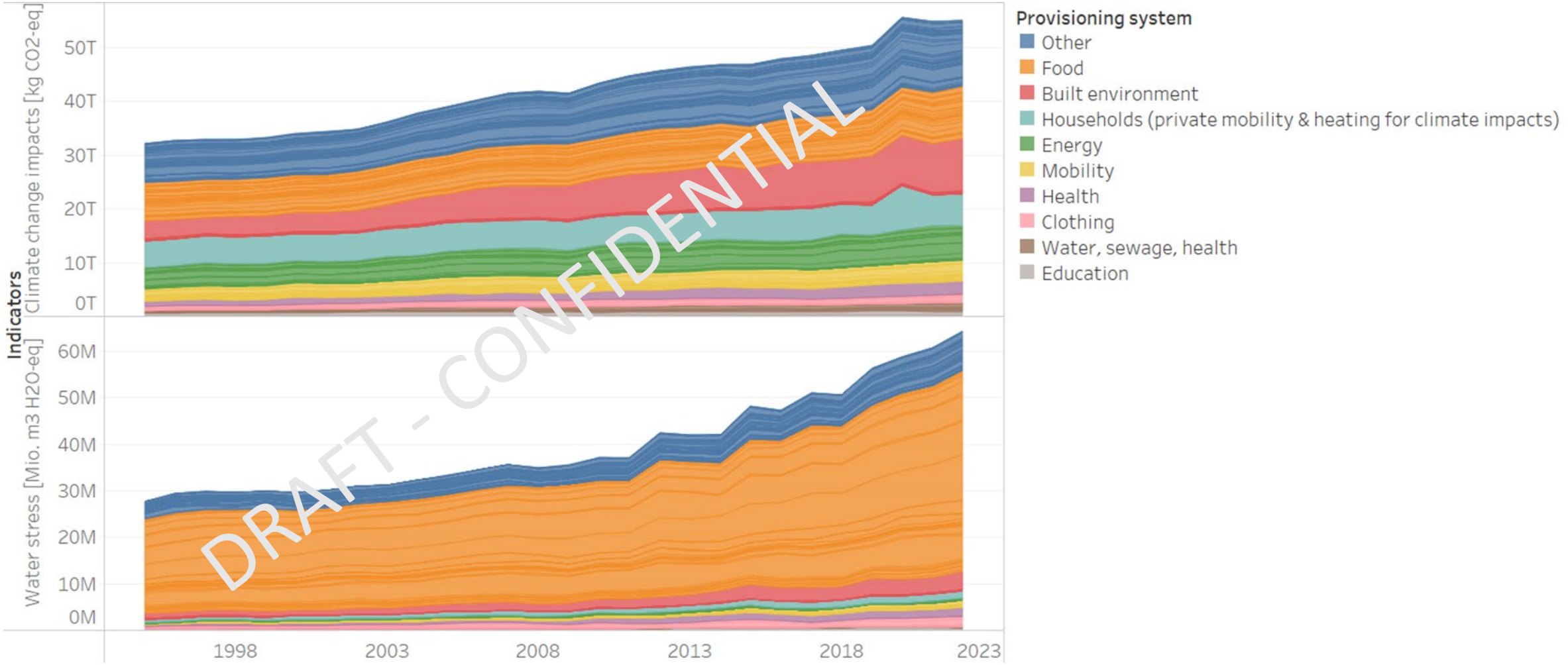
Land

Water



- *Provisioning systems logic*
- *Wellbeing indicators*
- *System-change focused scenarios*

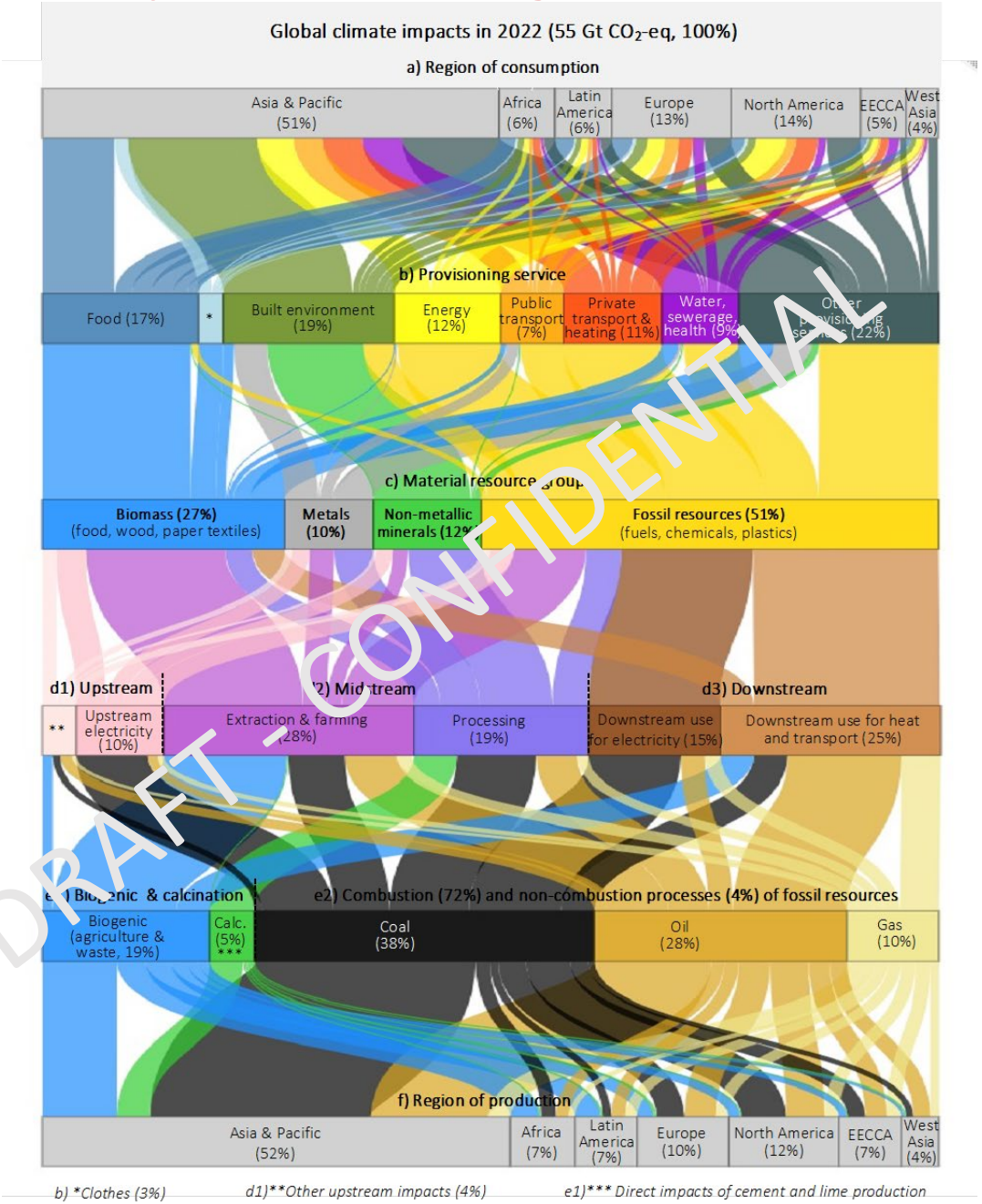
Teaser: Provisioning system impacts over time – preliminary data



Note: Unpublished – Not to be quoted - Under development by ETH Zurich

… and provisioning system impact across global value chains

Note:
Unpublished
Not to be Quoted
Under development by ETH Zurich



And the role of statistics …

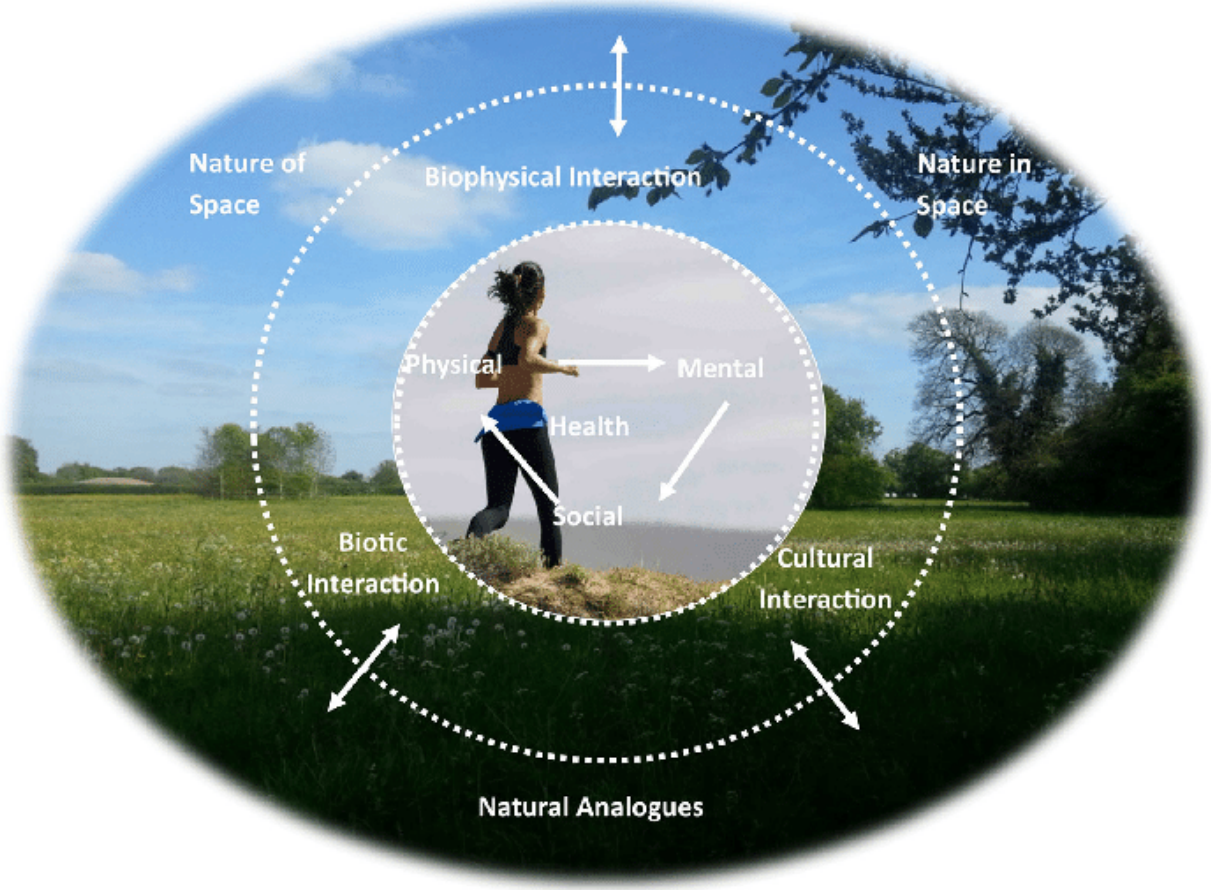
- *Sending policy signals one way, and market signals the other, is creating confusion (not to mention intense lobbying by companies that fear the loss of profitable markets). It's time to stop signalling to producers that destroying natural capital is free of charge. Time to stop contradictory messages to consumers, who still routinely pay more for food with a low environmental impact, instead of the reverse.*
- *Our short-term rational behaviour is leading us to a long-term irrational "Charming mass suicide" (Arto Paasilinna novel title).*
- *Role and responsibility of Statistics could not be overstated. You should guide our behaviour and policy making by data and analyses leading to the sustainable future.*
- *The problem primarily lies in our economic model, and you should not measure our success on a way to a "charming mass suicide" but in the first place in our way to help us fixing it.*

From Humans in Function of Economic Success and Development

to an Economy in Function of Delivering Functionalities and Meeting Human Needs

From an Economy Considering Humans as External and Superior to Nature

to an Economy Acknowledging that we are Embedded with Nature



THANK YOU

for helping us delivering the future we want!