The Role of Natural Resource Management in our Transition to a Sustainable Economy and Society

JANEZ POTOČNIK
Co-chair UNEP International Resource Panel (IRP)

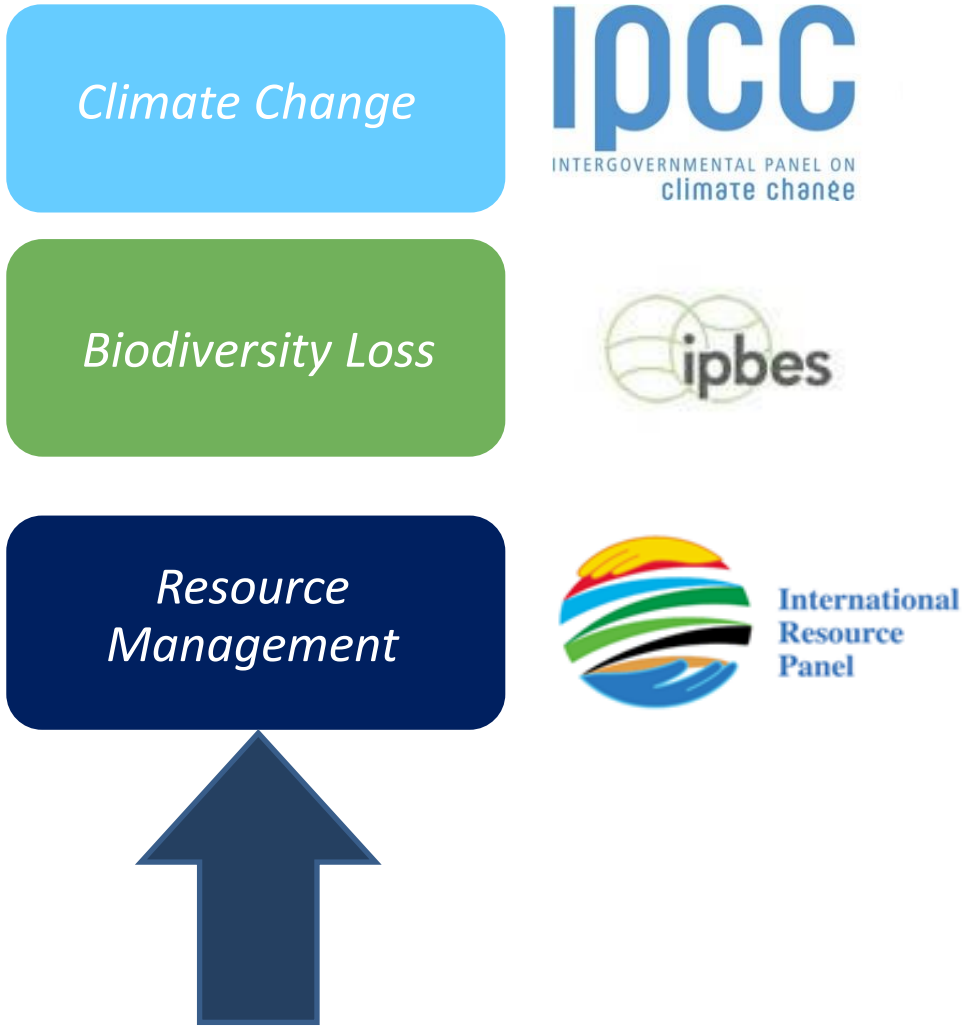
Kassel, 14th September 2022

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

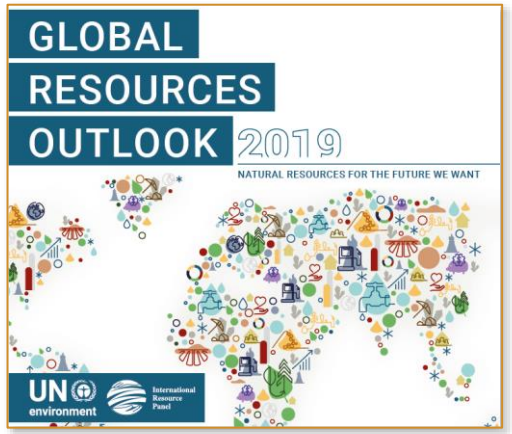
YEE! YOUTH AND ENVIRONMENT EUROPE

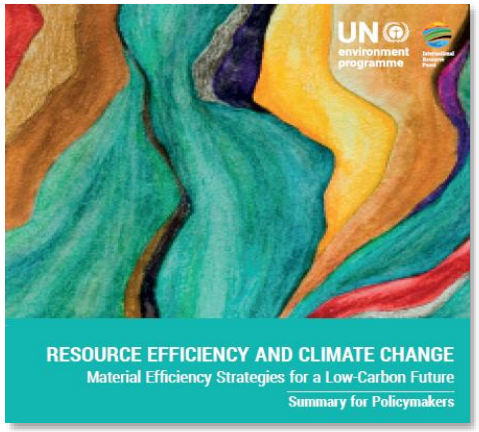
PACE
PLATFORM FOR ACCELERATING THE CIRCULAR ECONOMY

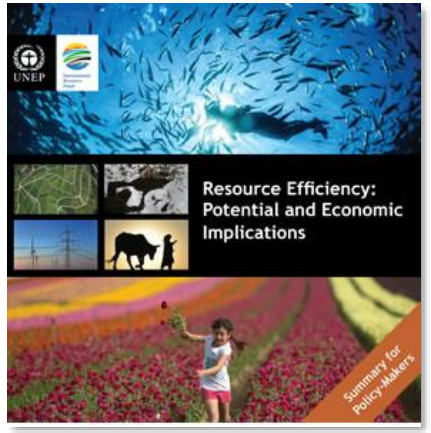
IUCN

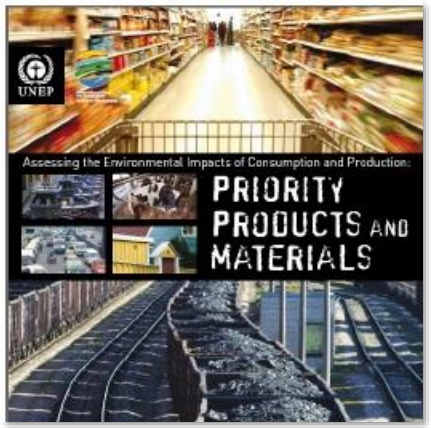
More than 30 published reports between 2011-2022

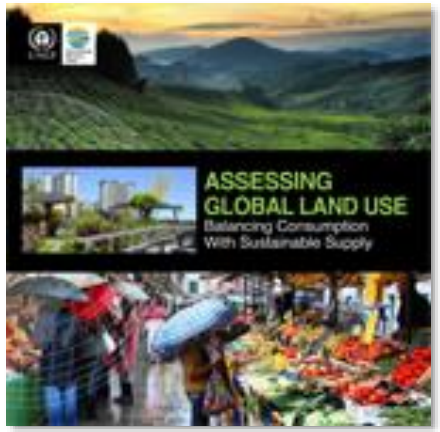
IRP flagship report







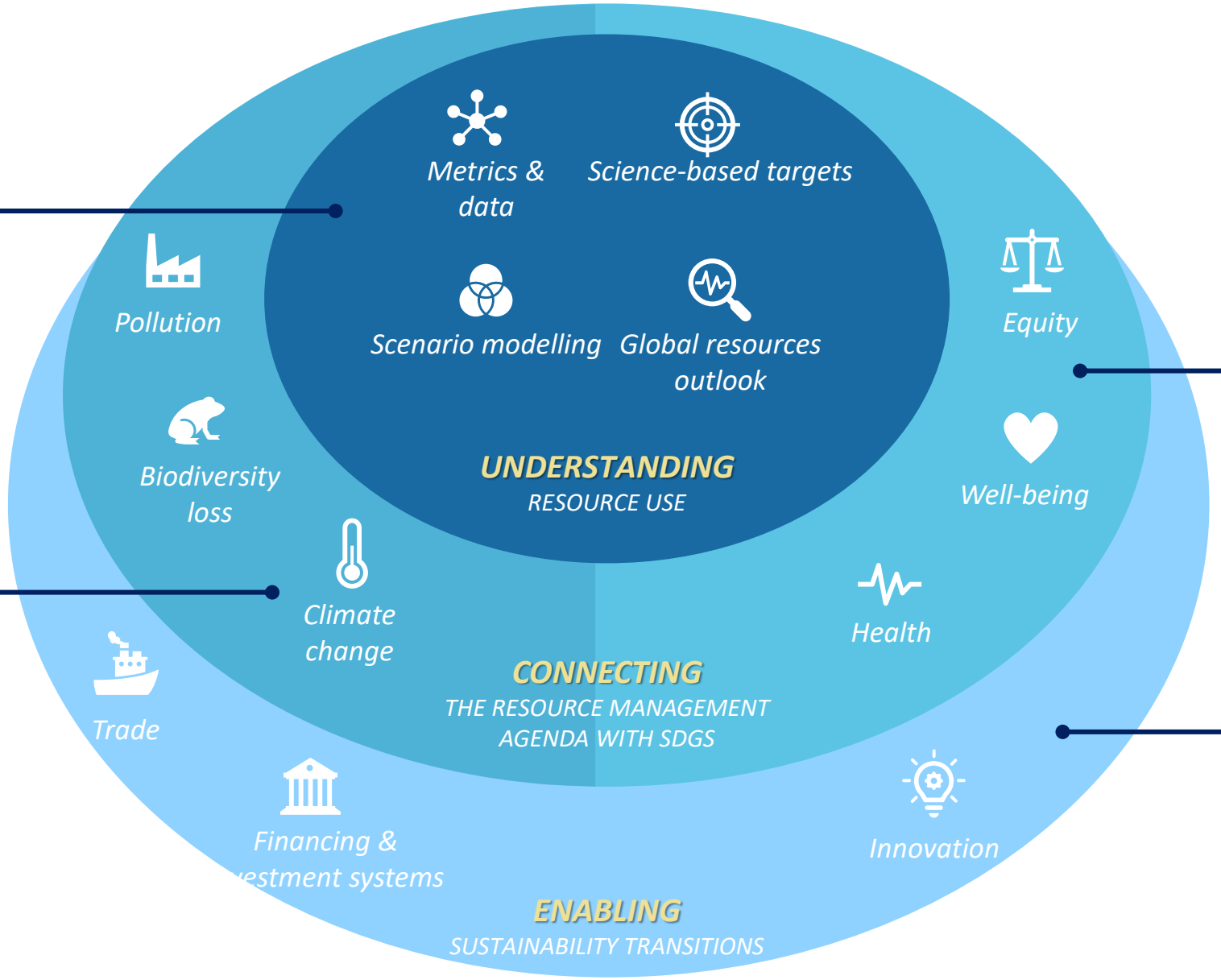




And many more at:

http://www.resourcepanel.org/reports

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

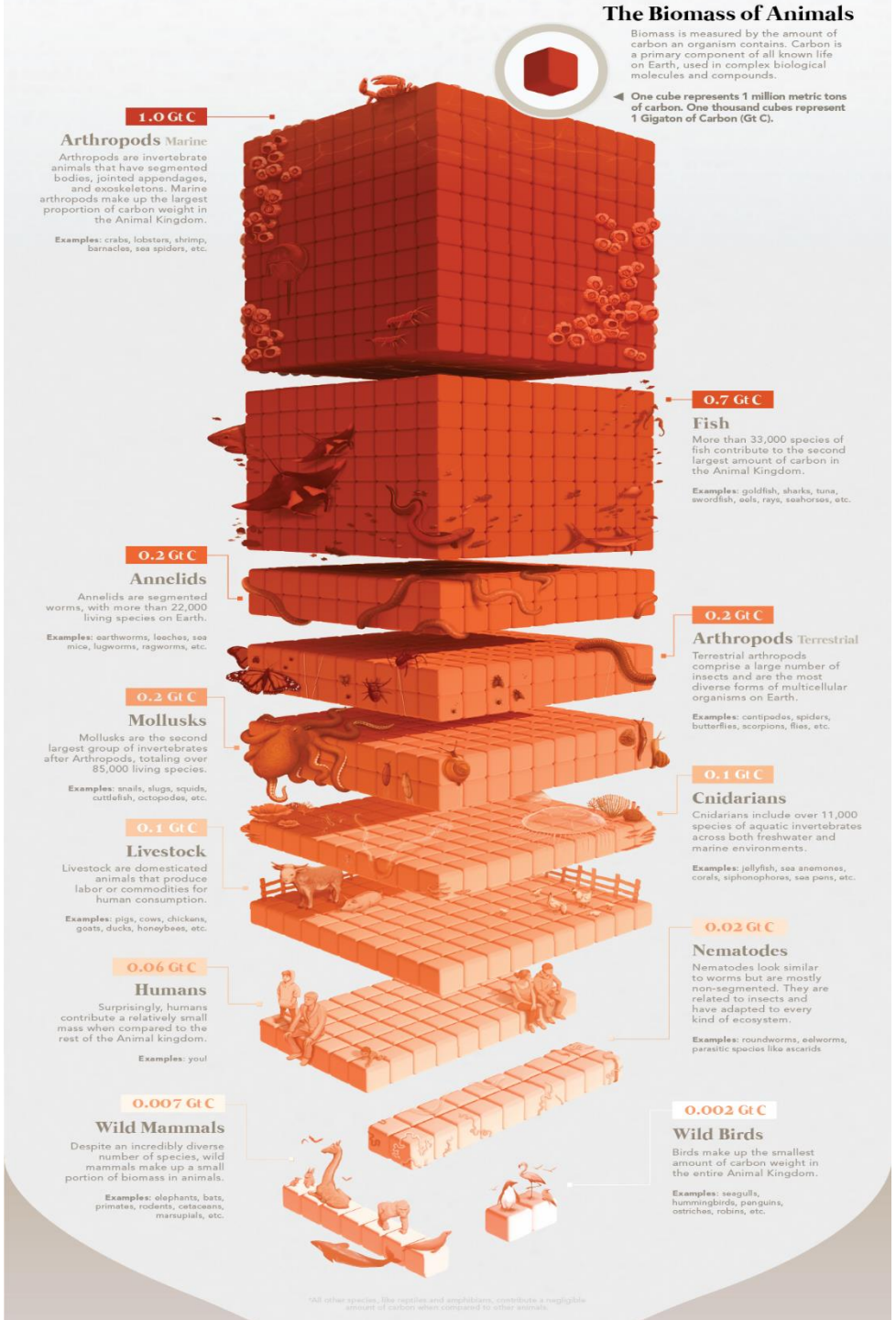
*Sustainable Resource Management for effective action on human **health, well-being, prosperity and equity***

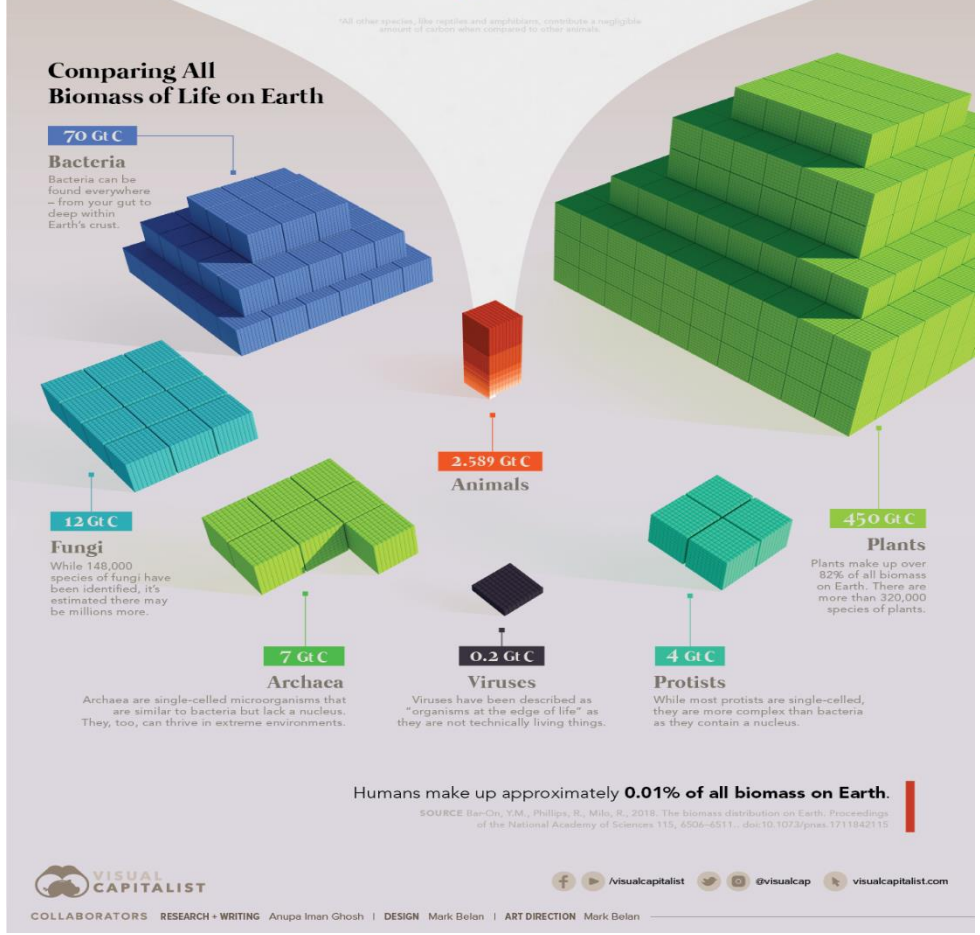
HIPA 4

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

Main Challenges

The diagnosis of the problem

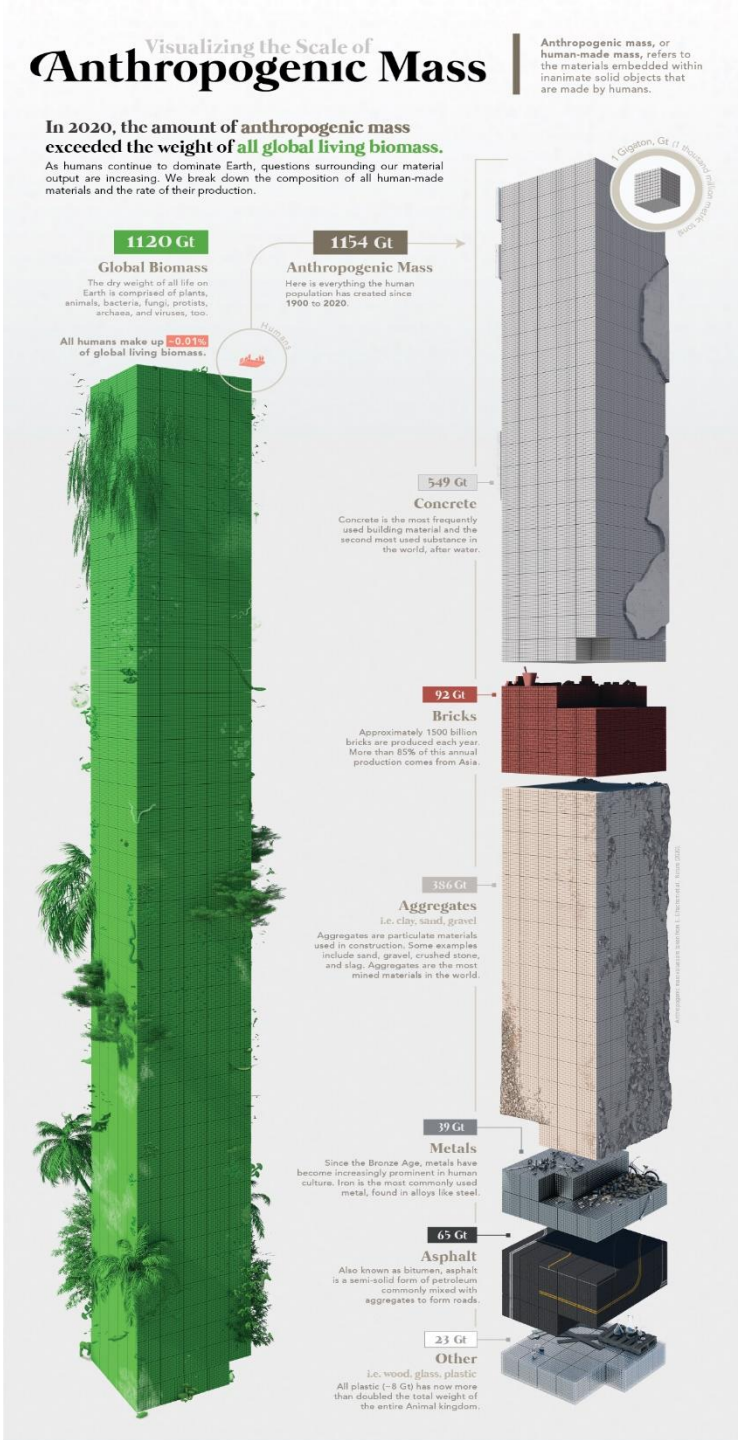


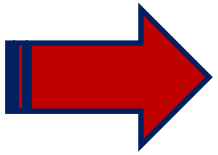


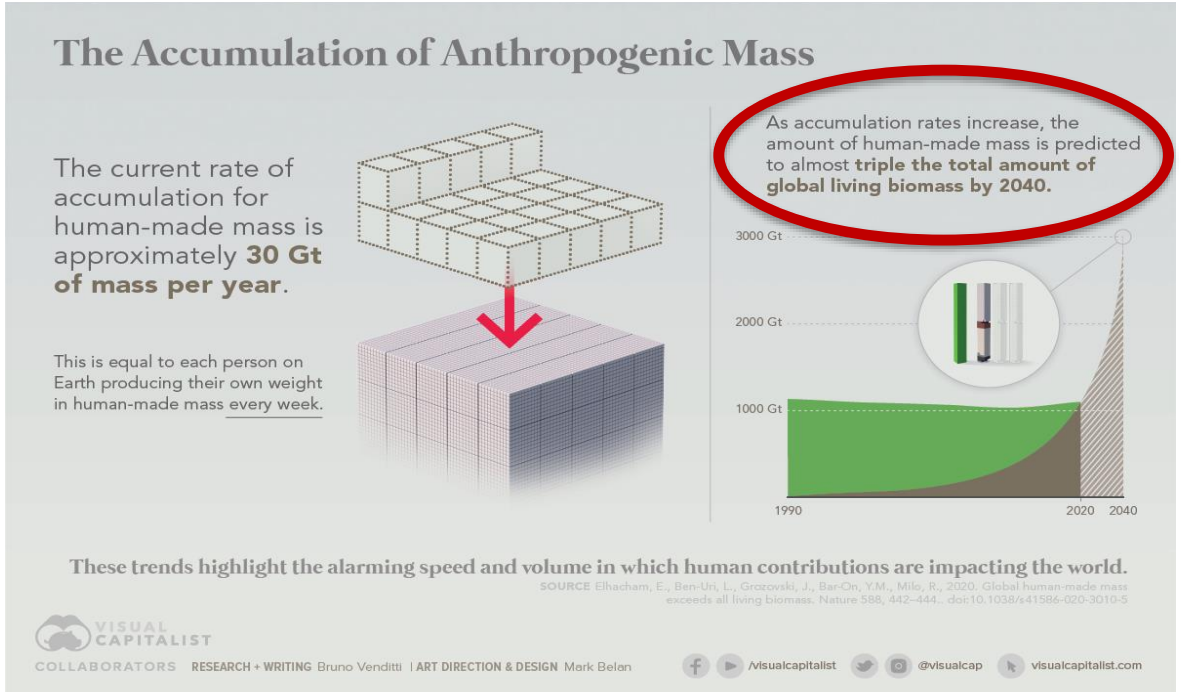
Biomass of Life

Humans in Perspective

Source: Visualcapitalist.com

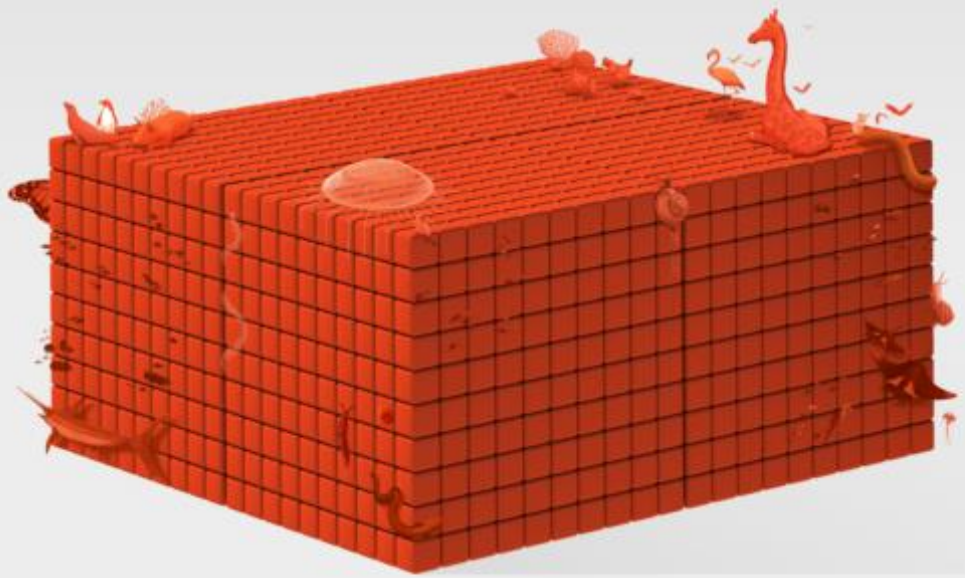




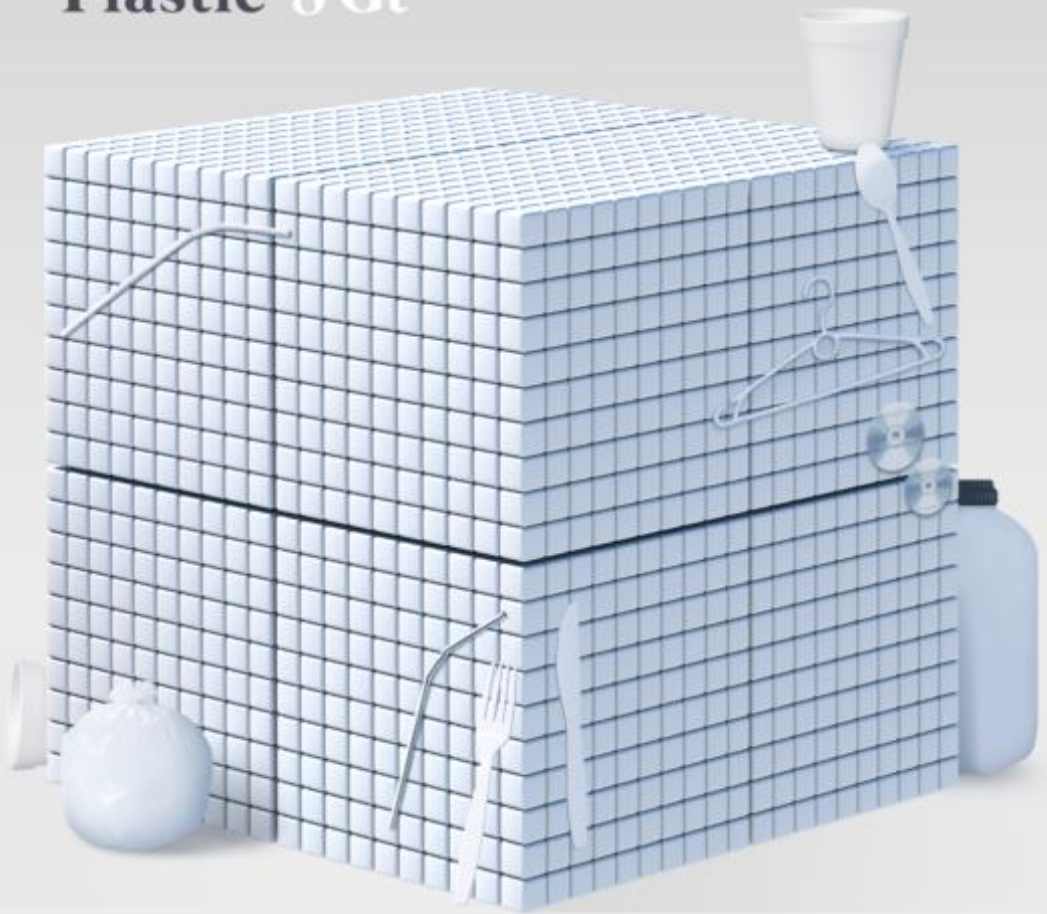


Source: Visualcapitalist.com

Animal Kingdom 4 Gt

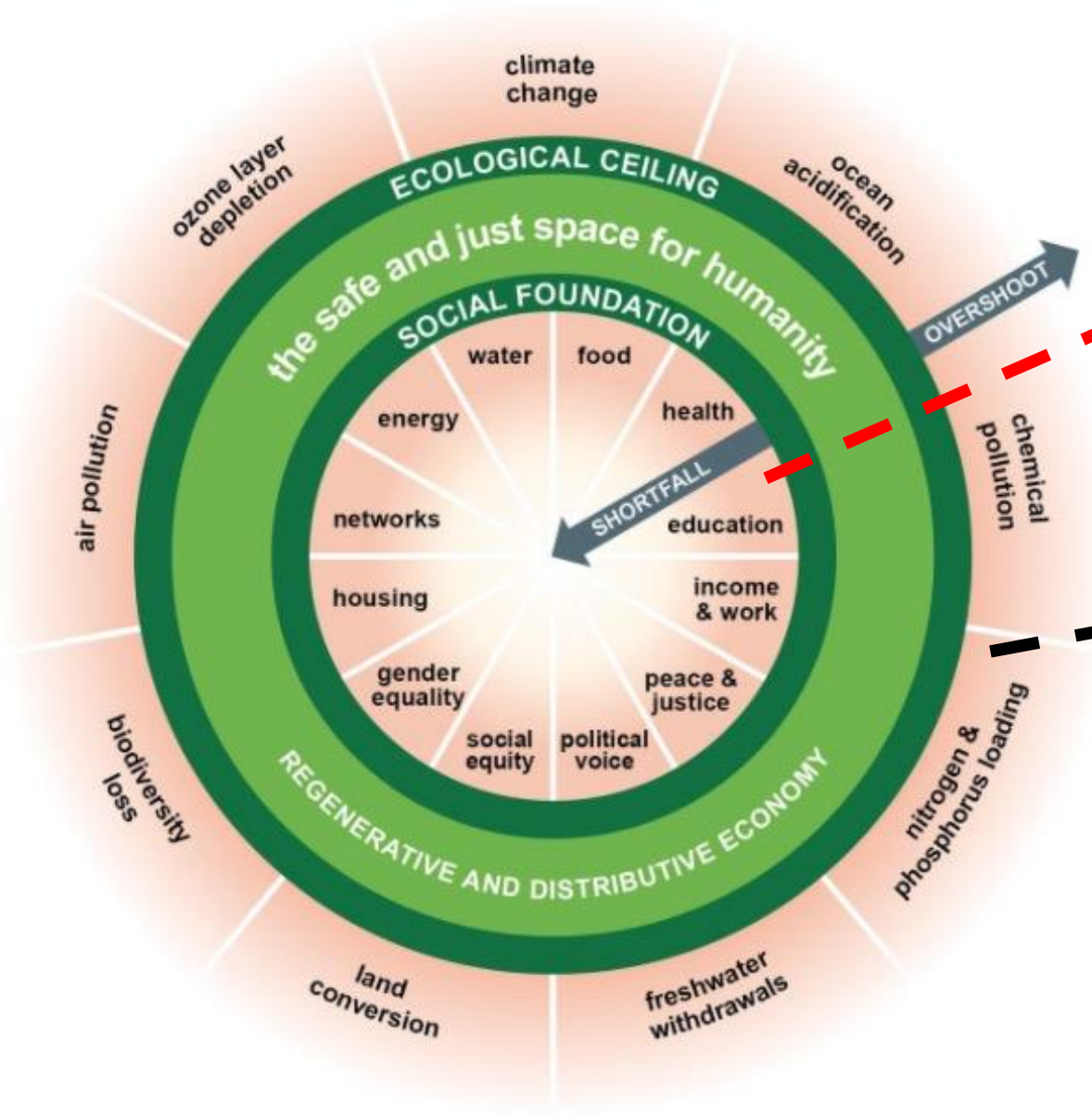


Plastic 8 Gt



Source: Visualcapitalist.com

A compass for human prosperity



Basis human needs

incl. minimum requirements

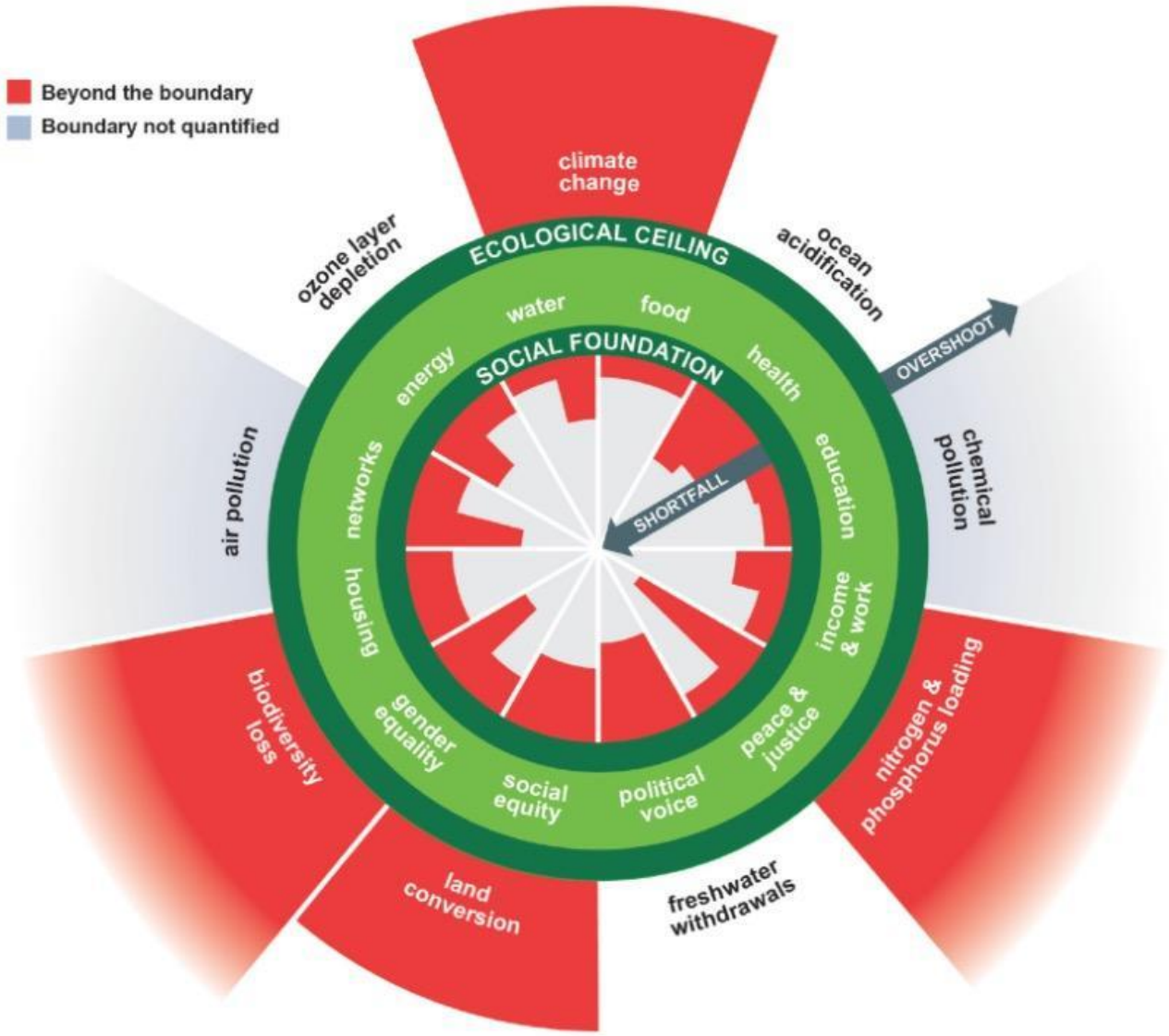
of resource supply

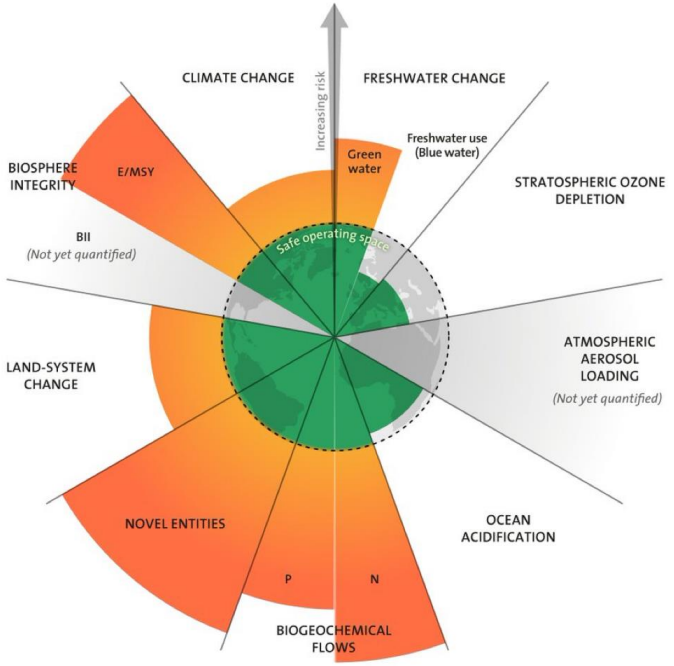
Outer limit by Planetary

Boundaries

Adapted from Raworth 2017

Humanity is living far out of balance



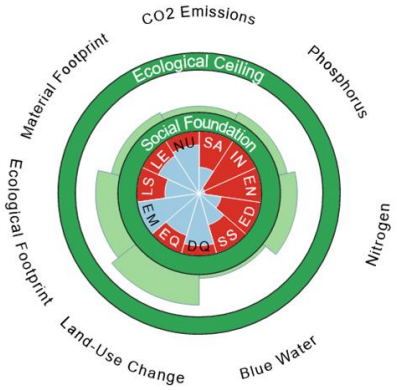


Source: Potsdam Institute for Climate Impact Research, 2022 reassessment

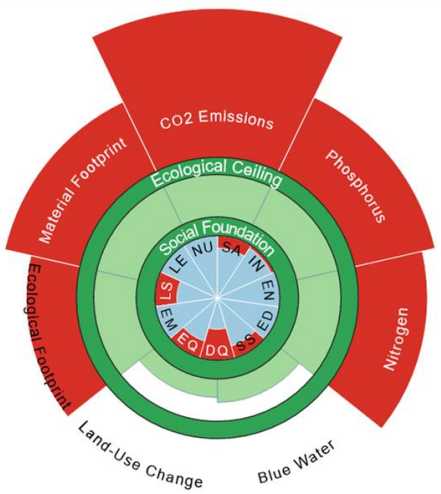
DOUGHNUT ECONOMICS ACTION LAB

Divergent national contexts

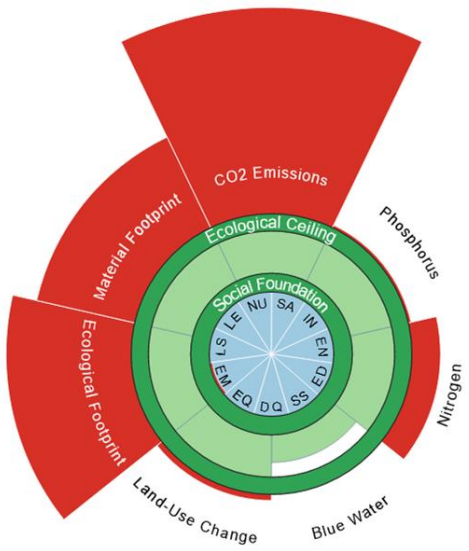
goodlife.leeds.ac.uk



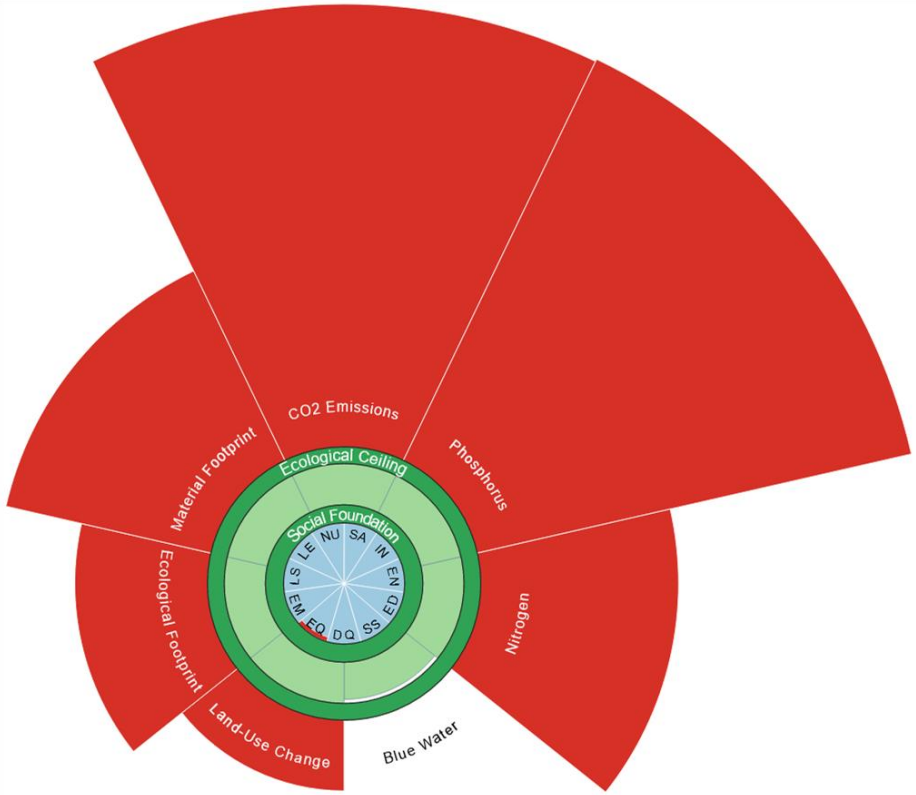
Malawi
$1,000 pc



China
$17,200 pc



Belgium
$54,000 pc



Australia
$54,900 pc

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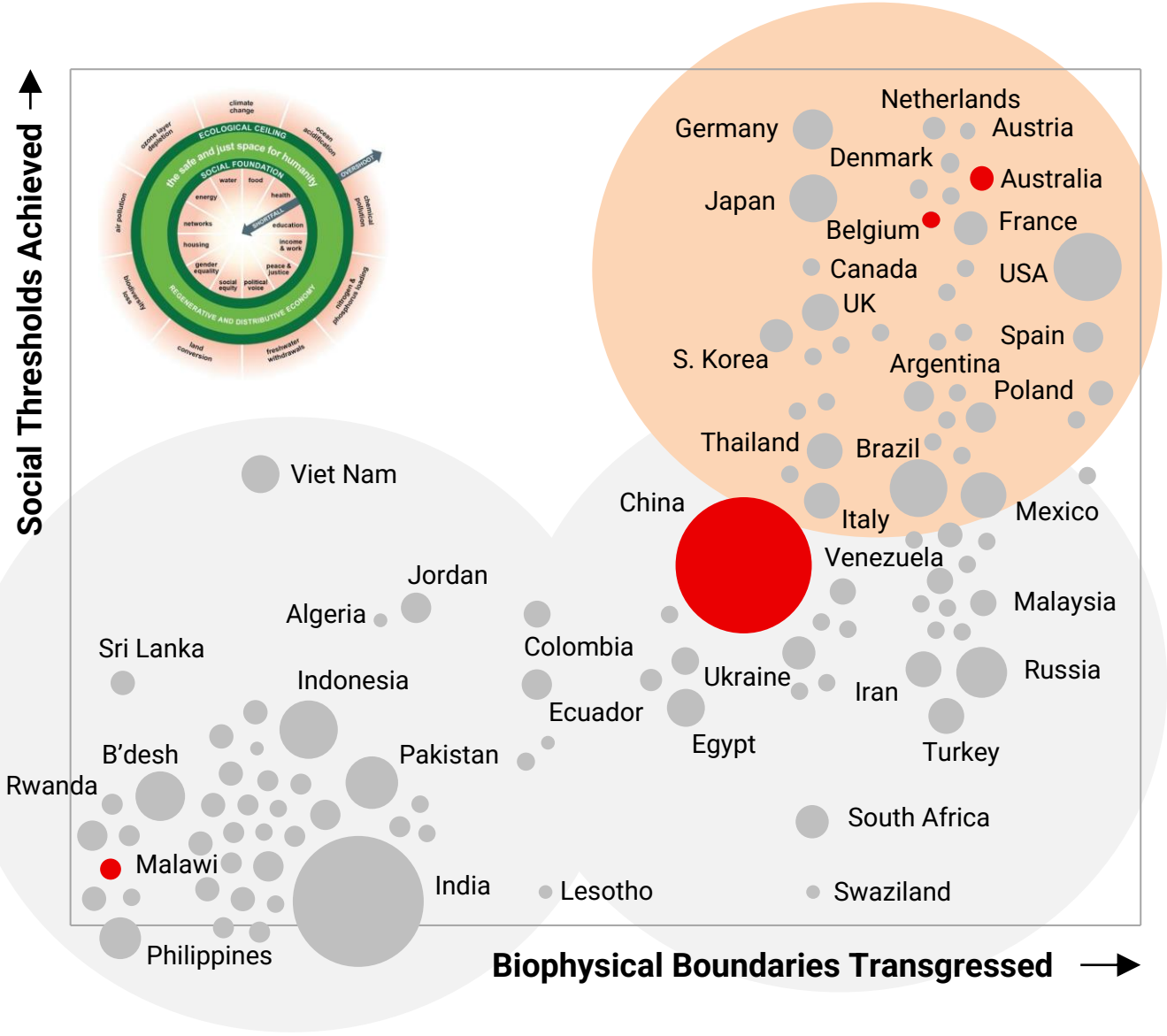
UNIVERSITY OF LEEDS

Humanity's sweetspot



colonialism

military power

trade & finance rules

resource extraction

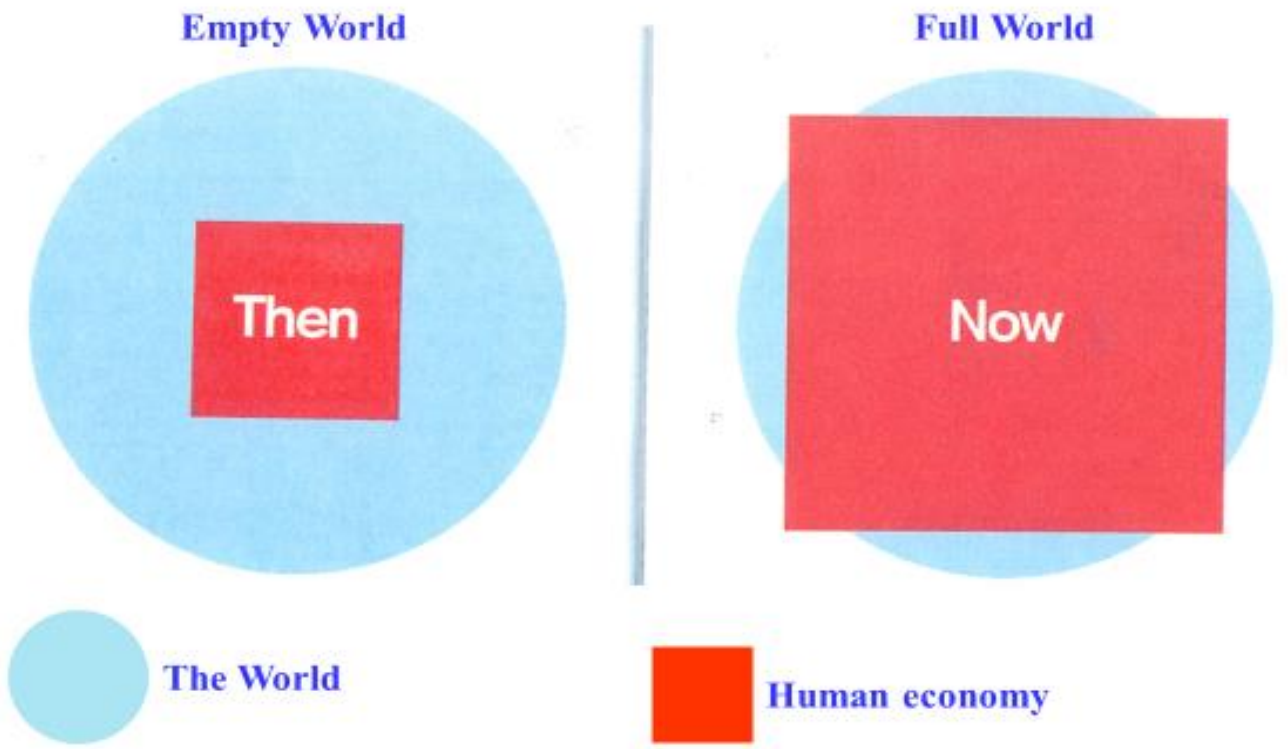
climate-change impacts

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.

From "Empty" World to "Full" World



Source: Club of Rome: Simplified after Herman Daly

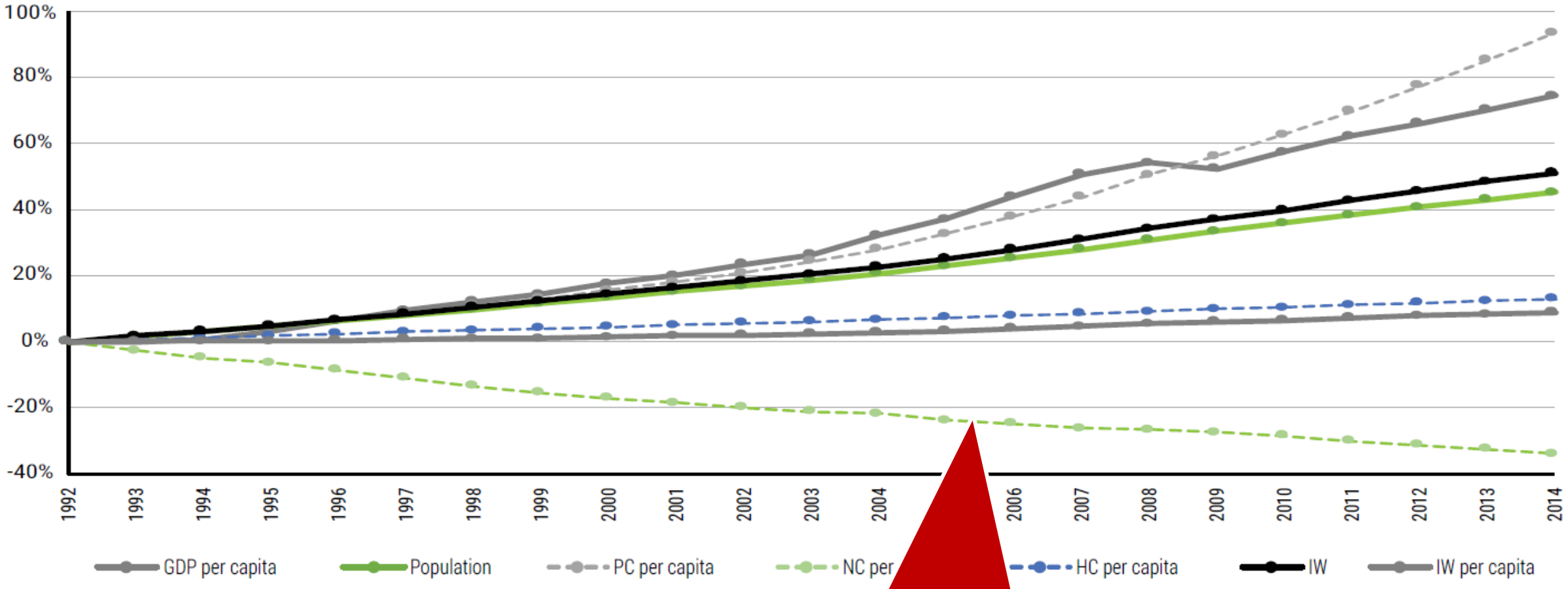
Labour and Infrastructure limiting factors of human wellbeing → *Natural resources and Environmental sinks limiting factors of human wellbeing*

The Dasgupta Review

Main reasons for the current situation - it highlights institutional failure and the failure of contemporary economics to acknowledge that we are embedded in, and not external to nature, and to act accordingly.

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

Source: Inclusive Wealth Report 2018



IW – Inclusive Wealth

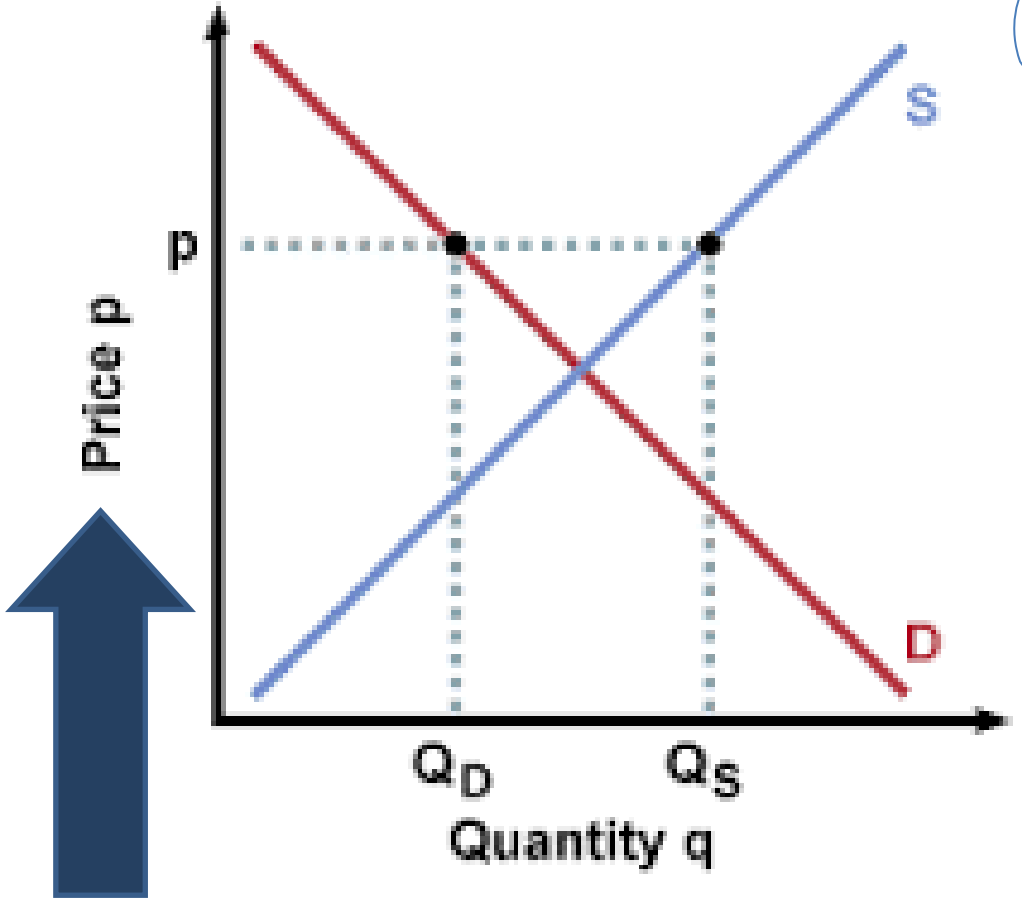
PC – Production capital

HC – Human capital

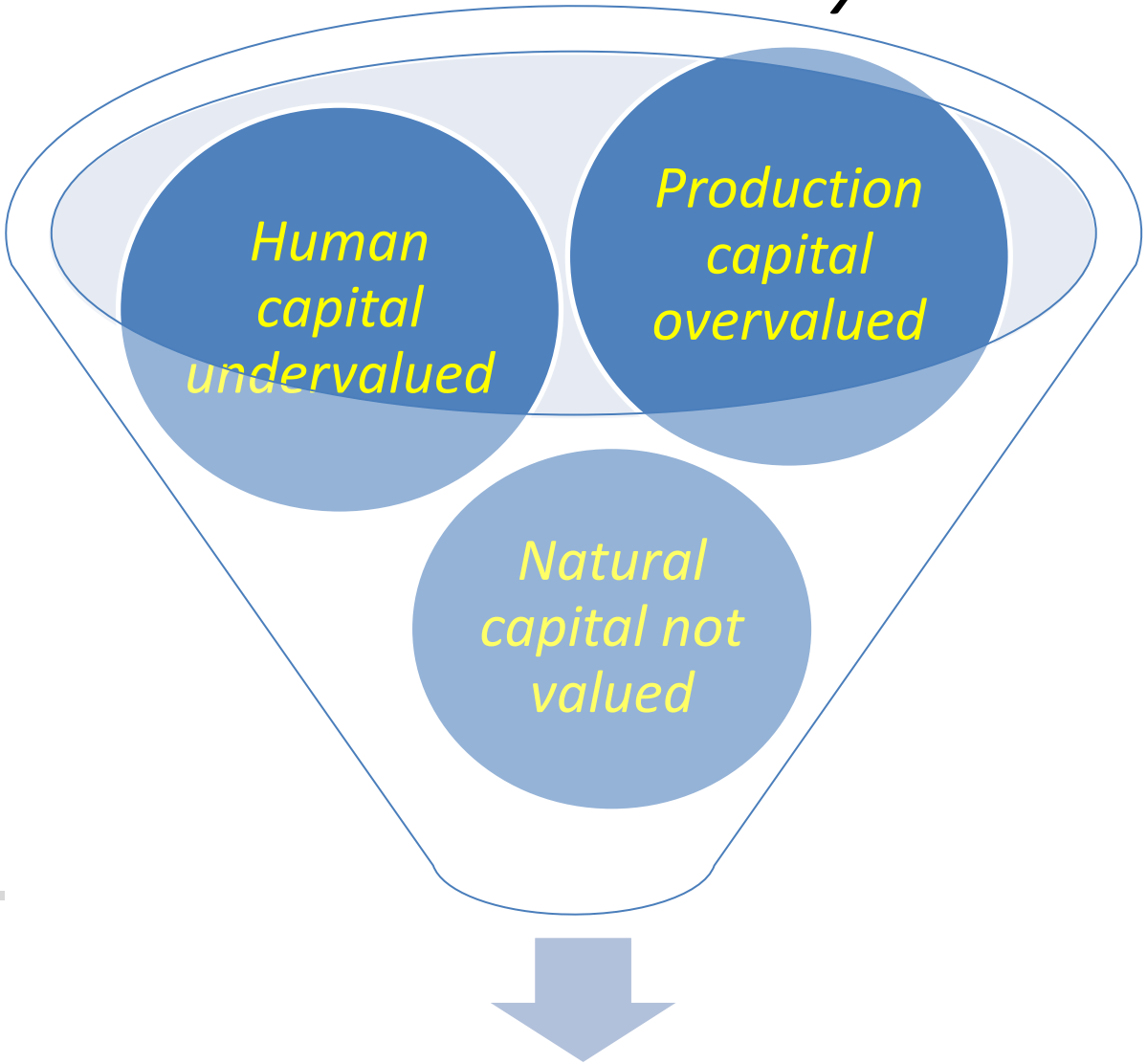
NC – Natural capital

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

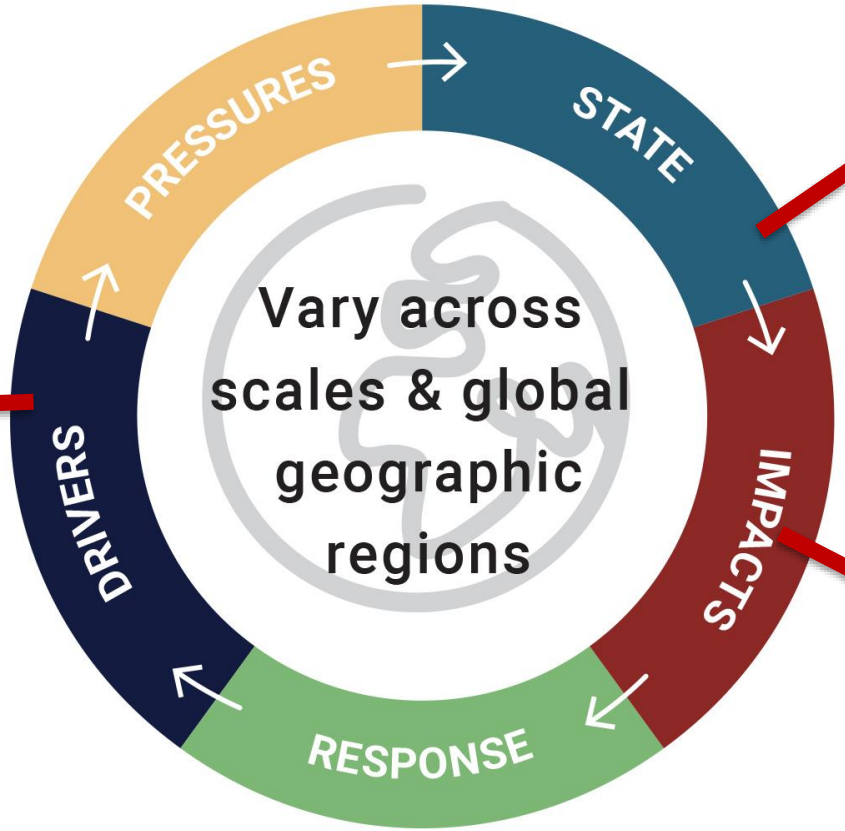
Resource Perspective

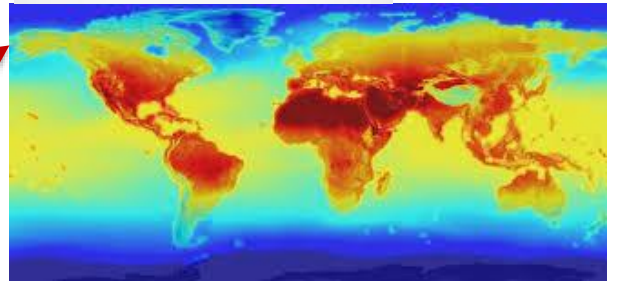
The Common Roots of the Triple Planetary Crises

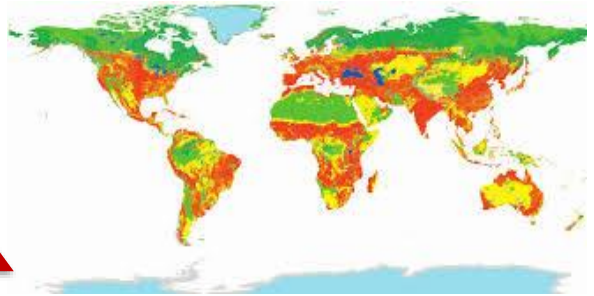
Natural resources are the bridge between economy and competitiveness on one hand and climate change, biodiversity loss, pollution and health implications on the other

International Resource Panel

ipcc
INTERGOVERNMENTAL PANEL ON climate change







Convention on Biological Diversity

ipbes
Science and Policy for People and Nature

- *Natural resources have been in the human history always closely related to stability, conflicts, wars (land, water, oil, precious minerals …)*
- *According to the UN IRP, in the mid-term, except in specific cases, resource shortage will not be the core limiting factor of our (economic) development …*
- *But the environmental (climate change, biodiversity loss, pollution …) and health consequences caused by excessive and irresponsible use of resources will be!*

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)

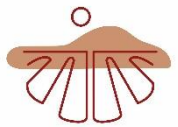
Metals (such as iron, aluminum and cooper…)

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

Materials

Extracted from earth

Water and Land



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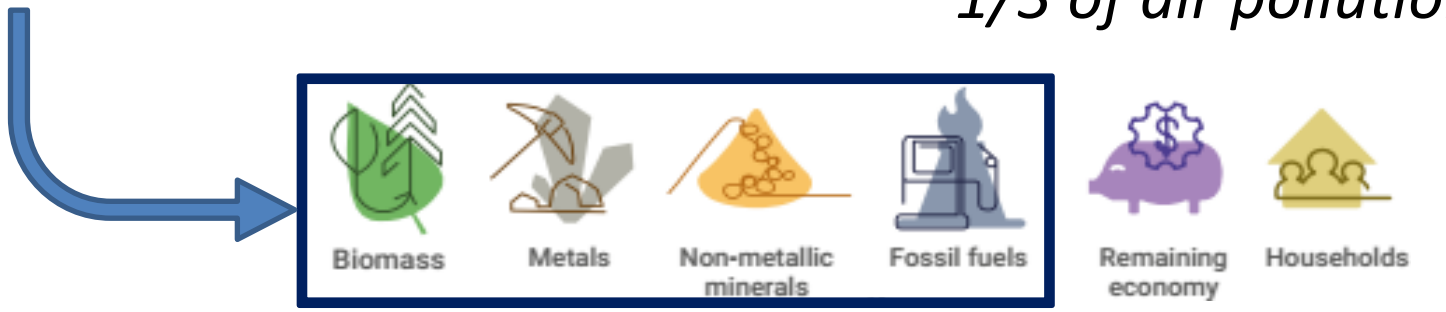
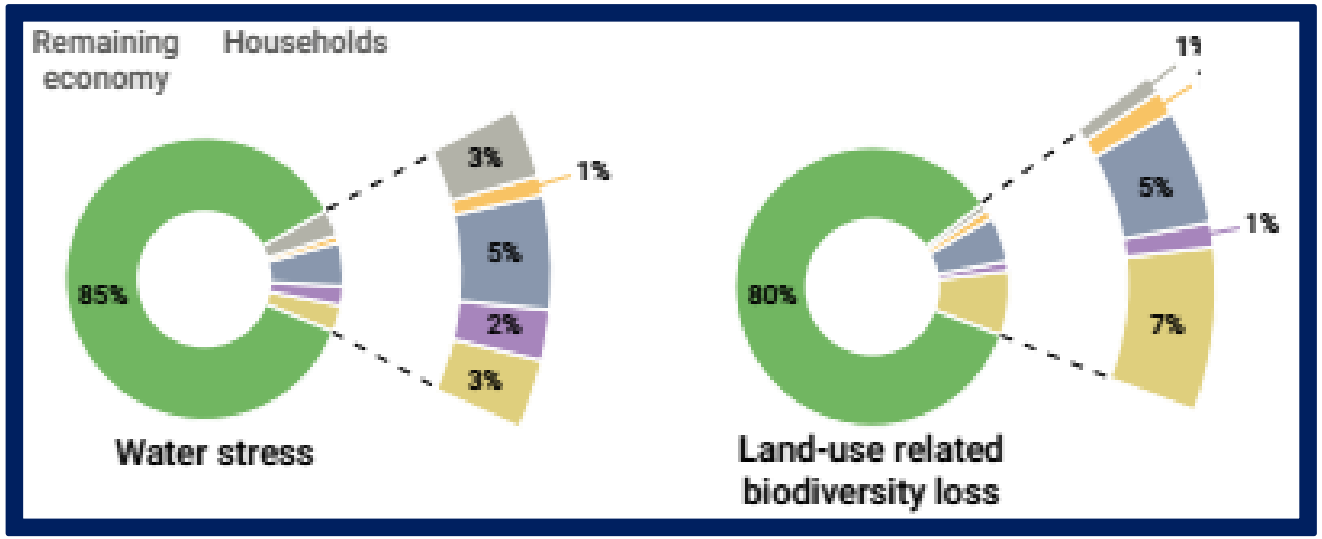
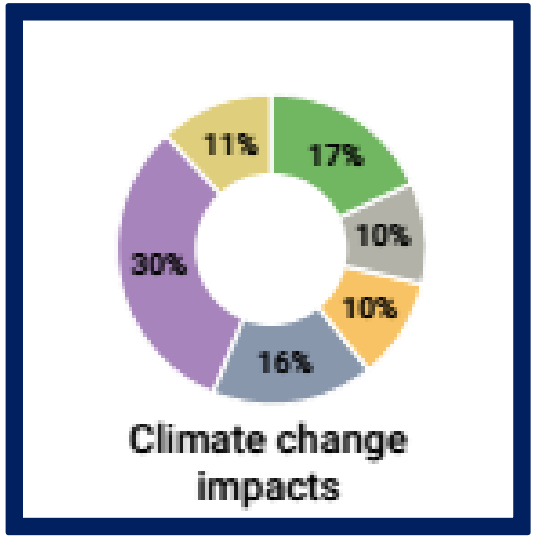
Extraction and Processing of Natural Resources Drives all Aspects of the Triple Planetary Crisis

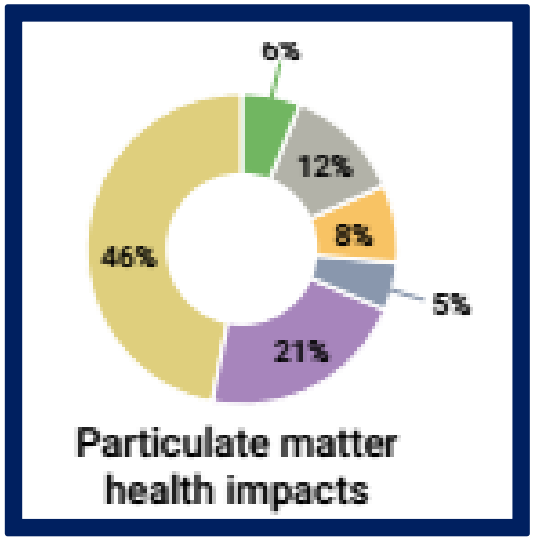
Environmental impacts of materials in the value chain in extraction and processing phase

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

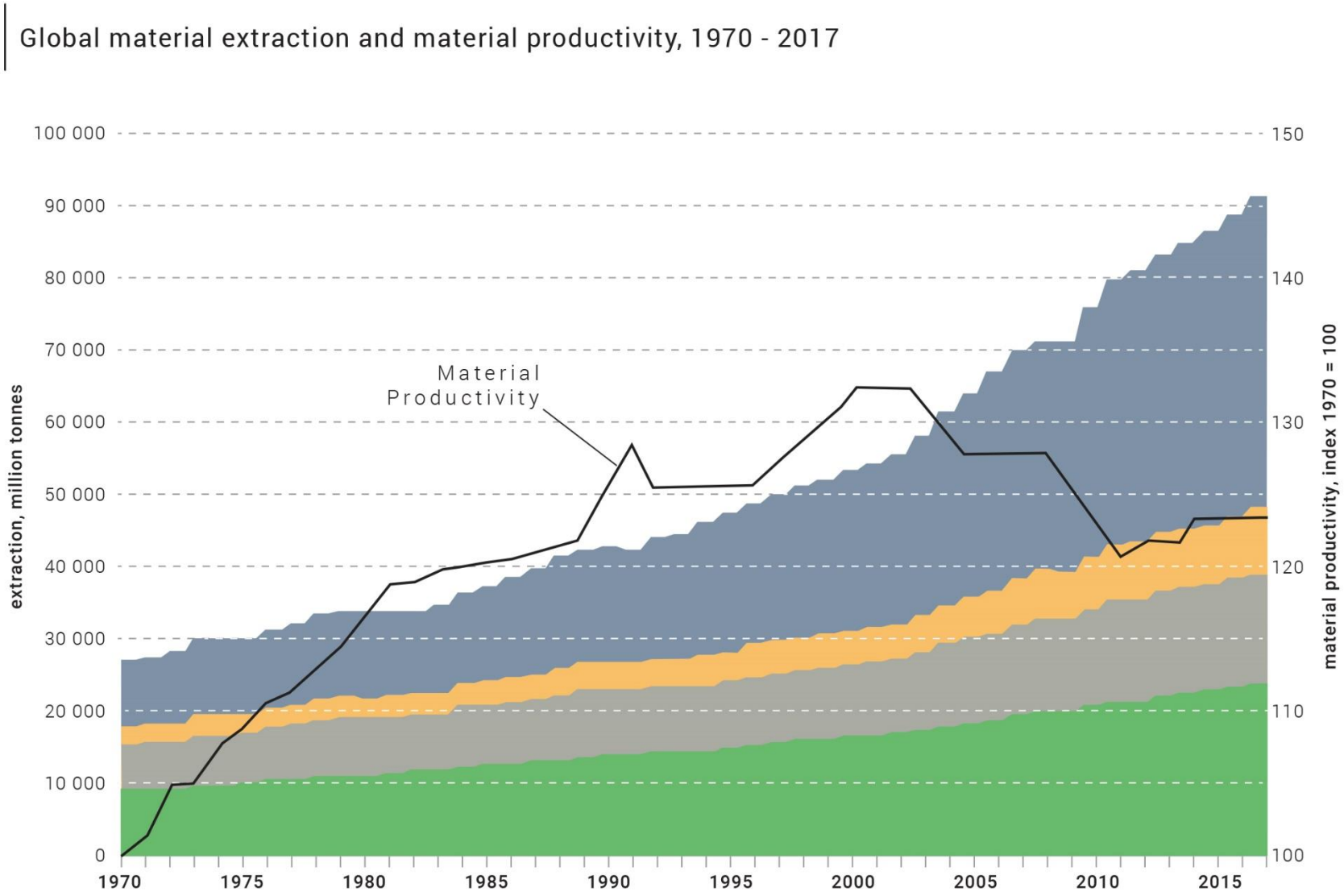








Global material use
Material demand per capita and Material productivity

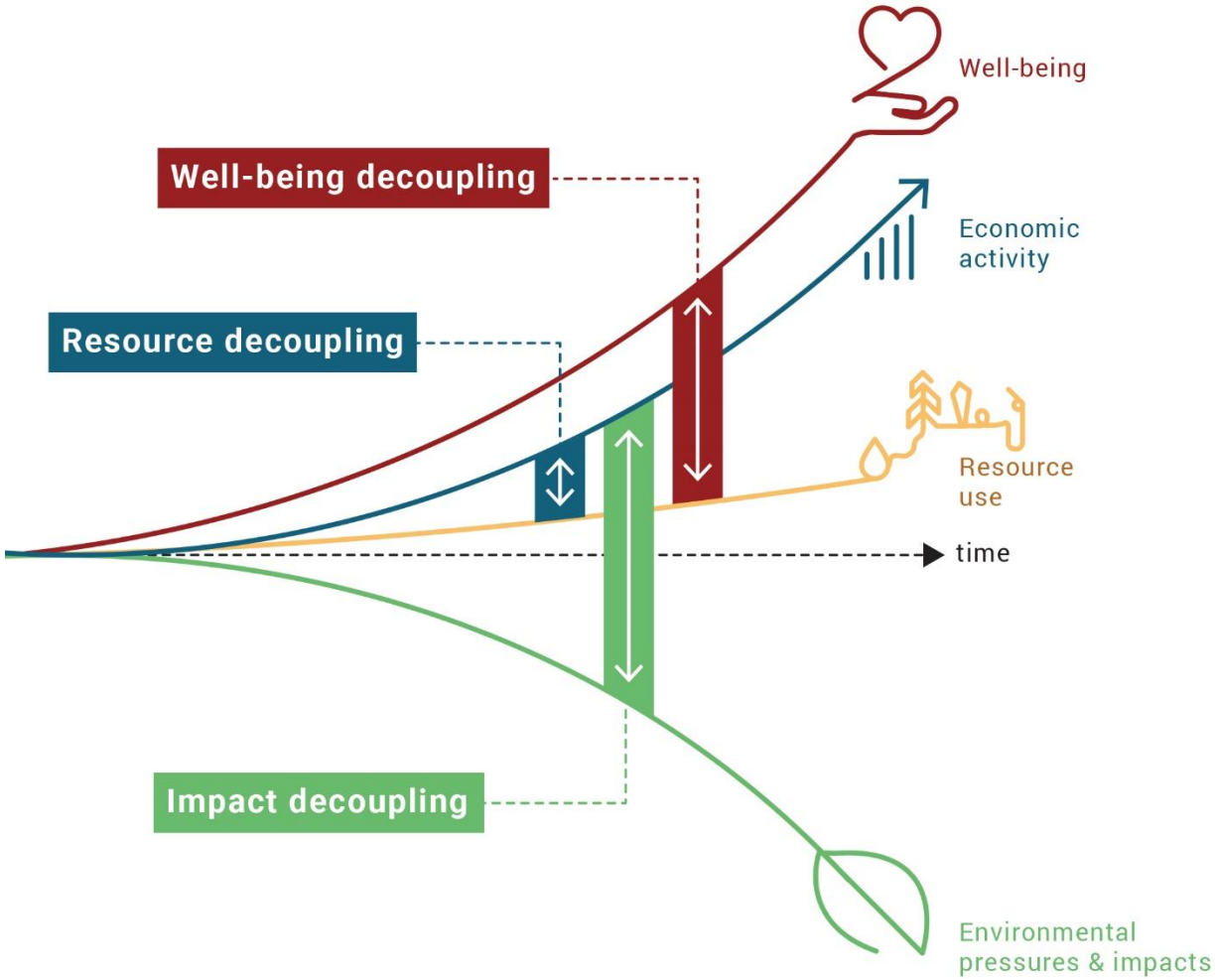


- *Global material use has more than tripled since 1970*
- *Global material demand per capita grew from 7.4 tons in 1970 to 12.2 tons per capita in 2017*
- *Material productivity started to decline around 2000 and has stagnated in the recent years*

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

An Implementable Paradigm for Sustainability Transitions

Essential development needs *and provisioning systems*

DUAL DECOUPLING

FOR INCLUSIVE AND SUSTAINABLE GROWTH LINKING DEVELOPMENT AND SUSTAINABILITY:

I. *increasing wellbeing per unit of resource us;*

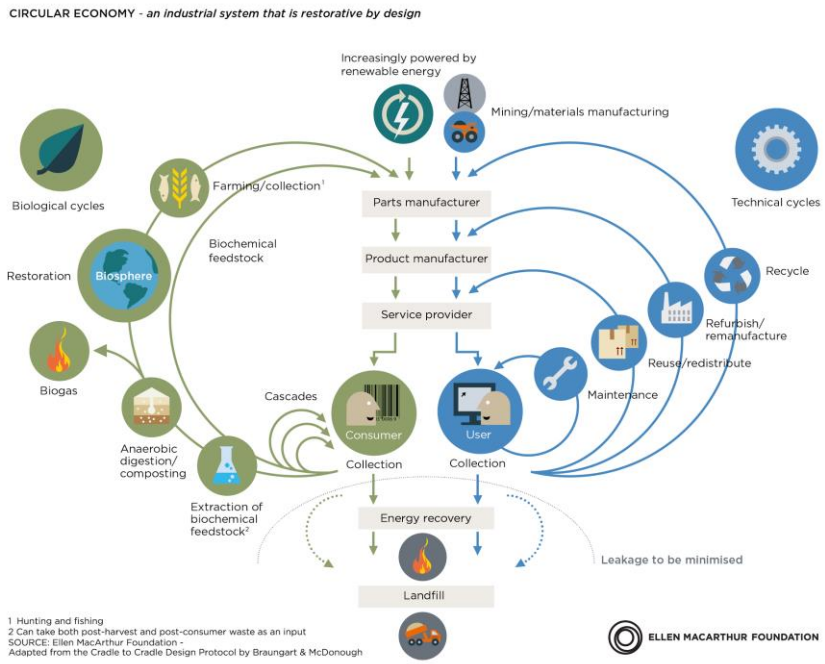
II. *decreasing environmental pressures per unit of resource use*

Natural and social capital

required to underpin sustainable development

UN environment

International Resource Panel



Circular economy should be seen as an instrument for deliver decoupling of economic growth from resource use and environmental impacts and as a part of the bigger picture of economic, societal and cultural transformation needed to deliver the SDGs.

The first dimension is often overlooked…

Source: Emerging thinking by IRP Co-Chairs, based on GRO19 and emerging GRO23 work

From Product Maximisation to Providing Human Needs

It is not not about owning it is about using

We do not need cars	*…*	*We need mobility*
We do not need light bulbs	*…*	*We need light*
We do not need chairs	*…*	*We need to sit*
We do not need refrigerators	*…*	*We need chilled and healthy food*
We do not need CDs	*…*	*We want to listen to the music*
We do not need pesticides	*…*	*We want healthy plants*

Dematerialisation, Rethinking Ownership, Efficiency should be Complemented with Sufficiency

From selling light bulbs to selling light

Dematerialisation and Decoupling

videohive.net

letstalkscience.ca

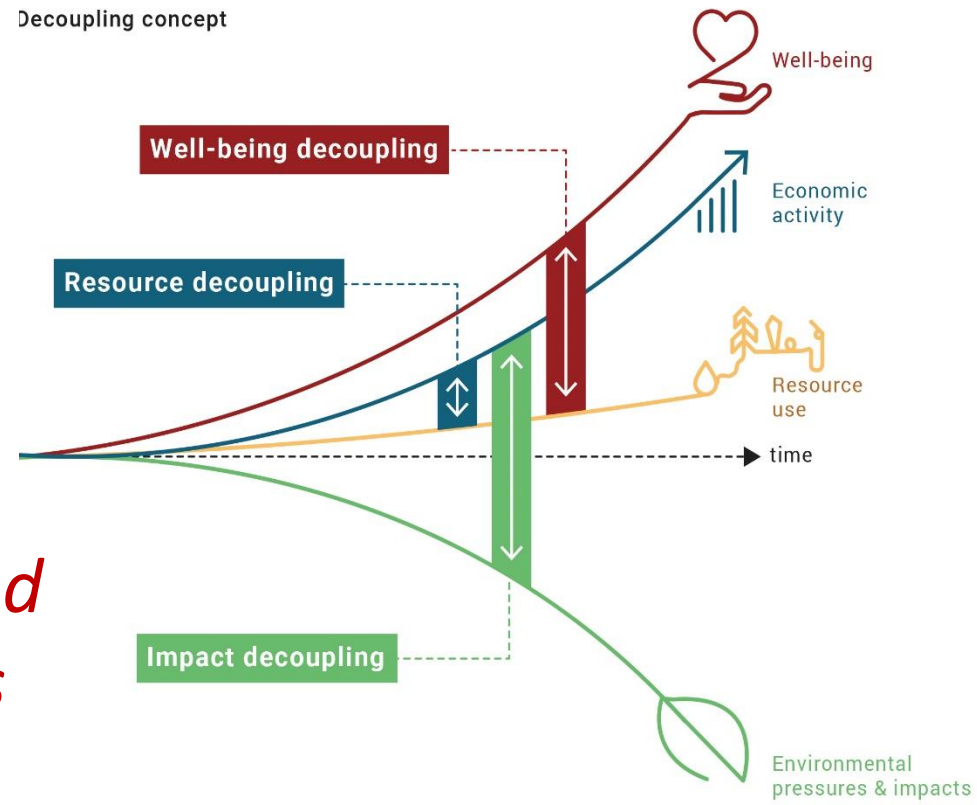
Light bulbs sold to the consumer are the basis for producers' profit

Light bulbs used to provide the light to the consumer are producers' cost

Ownership *and product (under)utilisation - Consumer*

It is not not about owing it is about using

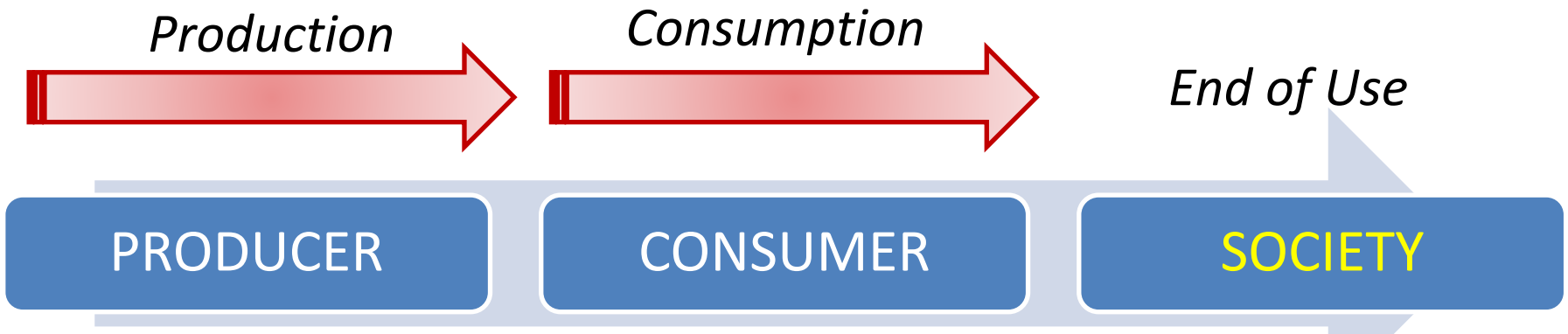
- *Problem: Preferences from consumers to own products like houses, cars, refrigerators, cloth … are driving consumption in a massive lock-in in underutilization*
- *Solution: Explore the opportunity that the young generation has less ownership biased constraints and provide alternative options*



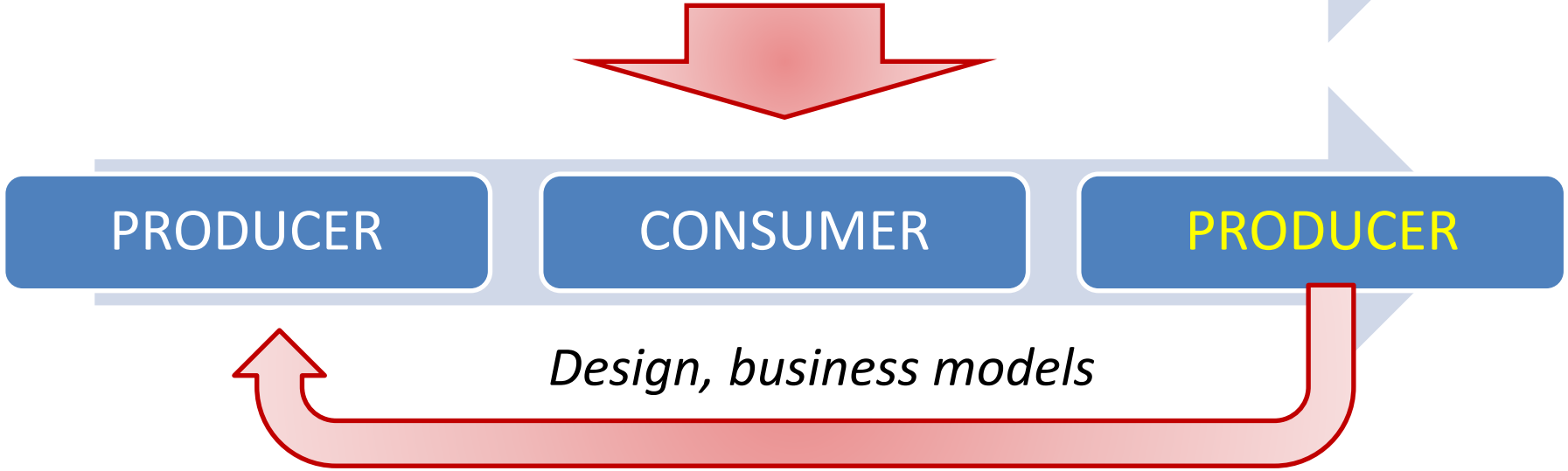
Ownership *and resource (under)utilisation - Producer*

It is about how to incentivise producer to use less resources

Problem:



Solution:



Better Connecting Producer with his Product through for example:
EPR, Product Value Retention, Retaining Ownership of the Product

Towards Sustainable and Equitable World

From EGD to 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***

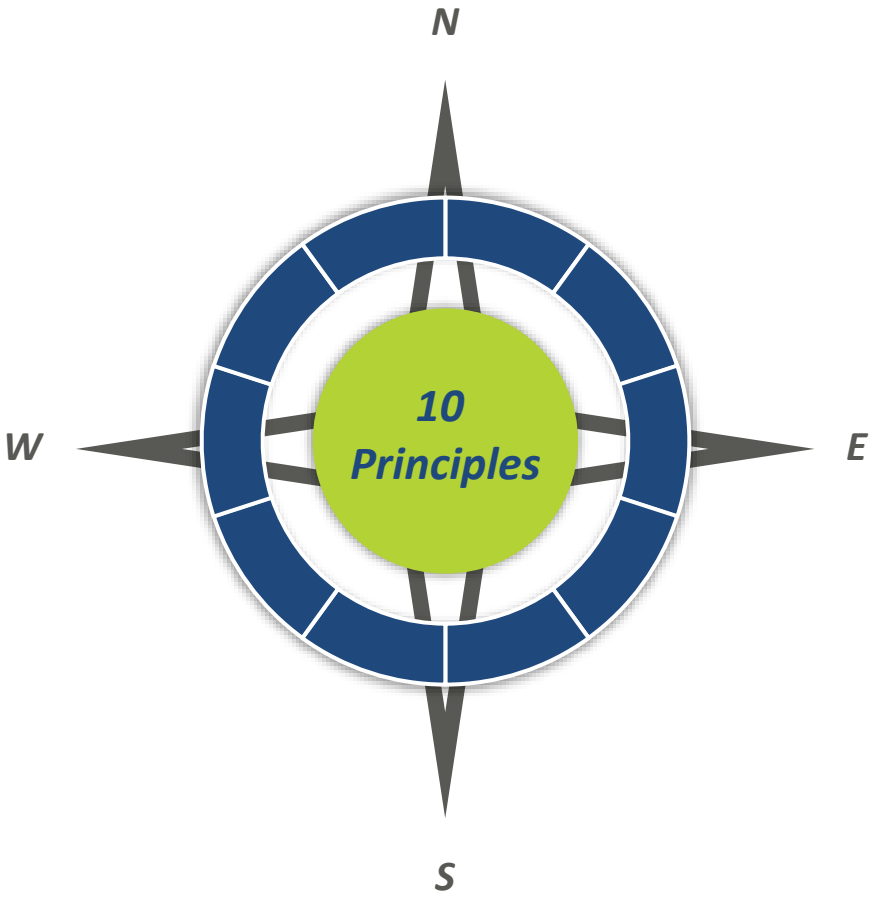
- ***Maps and envisions*** *the system in service of people and planet*
- ***Derives system level orientations*** *towards desired state*
- *Charts pathway towards prosperity and wellbeing* ***within planetary boundaries***

SYSTEMIQ

THE CLUB OF ROME

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

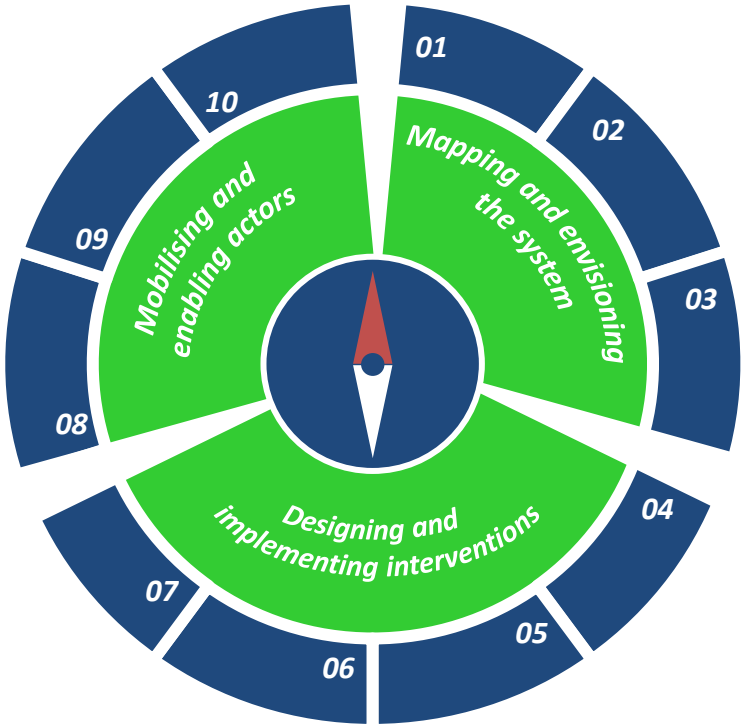
50+ Champion orientations

SYSTEMIQ

THE CLUB OF ROME

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



From

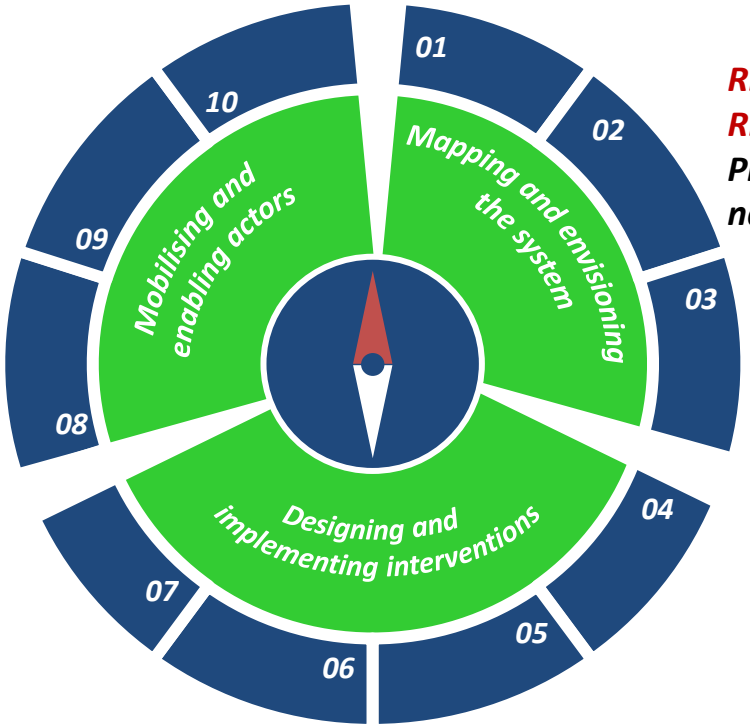
Prosperity defined by aggregate economic growth

To

Prosperity defined by fair and social economic development and wellbeing for all

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use

From

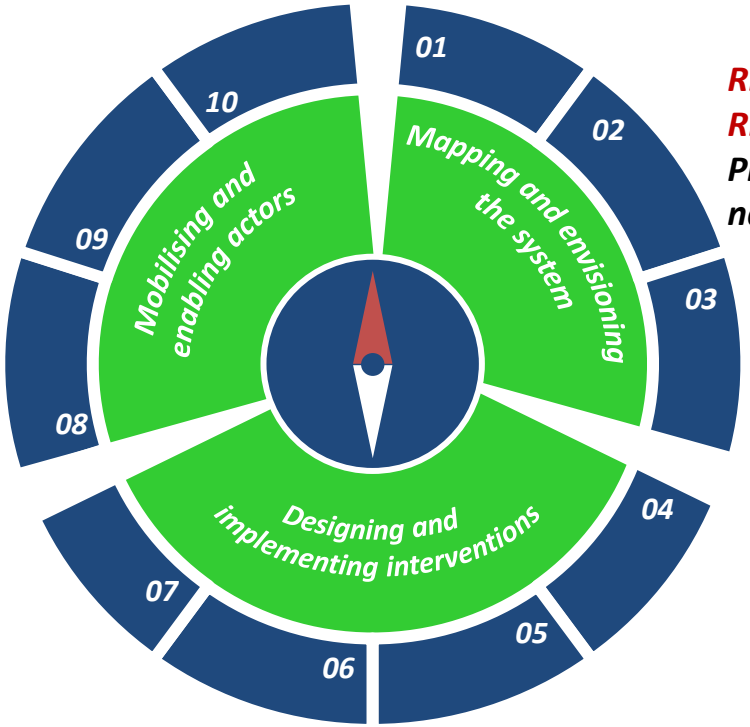
Prosperity based on natural resource consumption

To

Prosperity decoupled from resource consumption through efficiency, sufficiency and a shift to responsible use of natural resources

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use

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

From

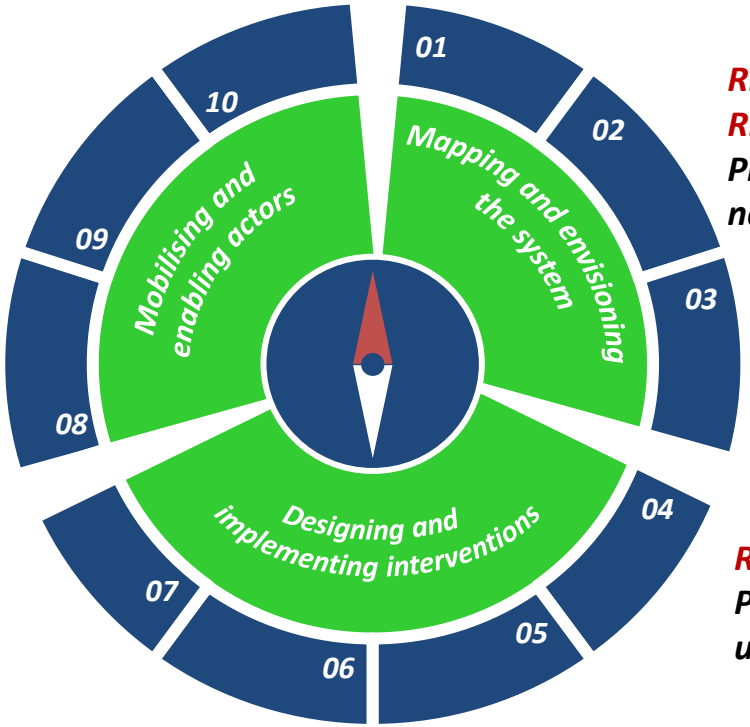
Growing economic activities and sectors

To

Focusing on societal needs that need to be fulfilled without transgressing planetary boundaries

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use

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

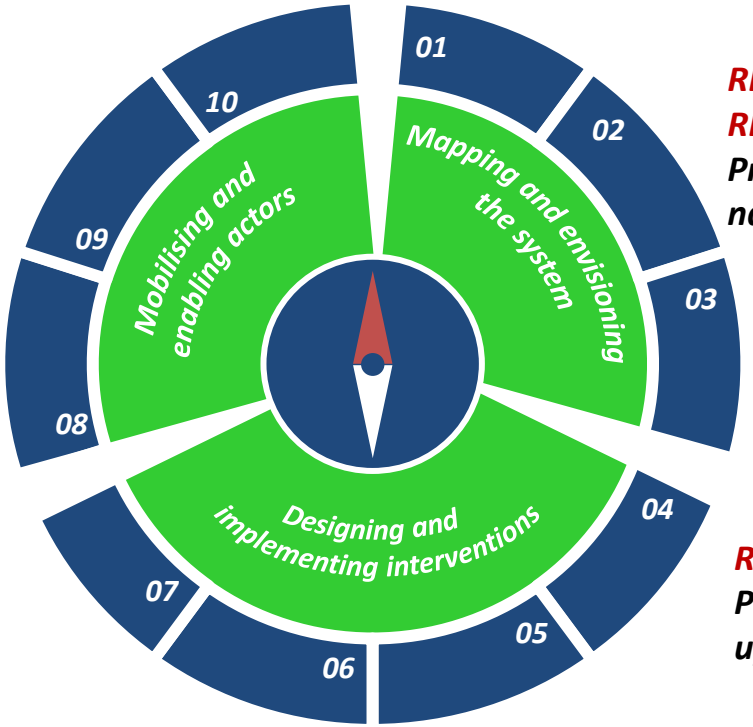
REDEFINING METRICS:
Performance measurement updated

From
Decisions driven by optimising for GDP growth

To
Decisions driven by holistic wellbeing metrics including natural capital and social indicators

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use

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

REDEFINING METRICS:
Performance measurement updated

REDEFINING COMPETITIVENESS:
Resource optimization through digitization at the heart of European competitiveness

From

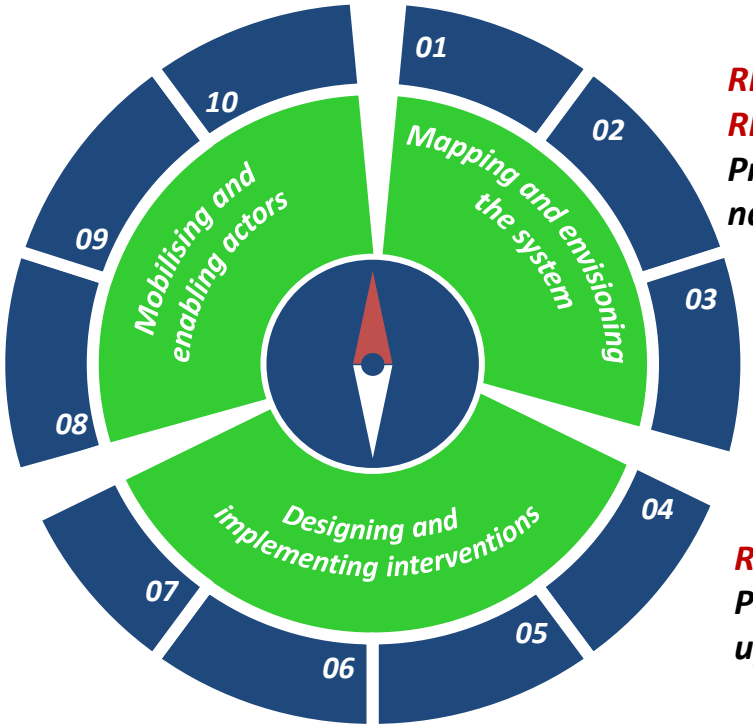
Massive dependency of Europe on imports of natural resources

To

A resilient Europe based on low carbon products, services, and digital optimisation

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity



REDEFINING NATURAL RESOURCE USE:
Prosperity decoupled from natural resource use

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

REDEFINING METRICS:
Performance measurement updated

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

REDEFINING COMPETITIVENESS:
Resource optimization through digitization at the heart of European competitiveness

From

Incentives supporting the status quo

To

Incentives aligned with Green Deal ambitions leading to economic, social and environmental balance and sustainability

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity

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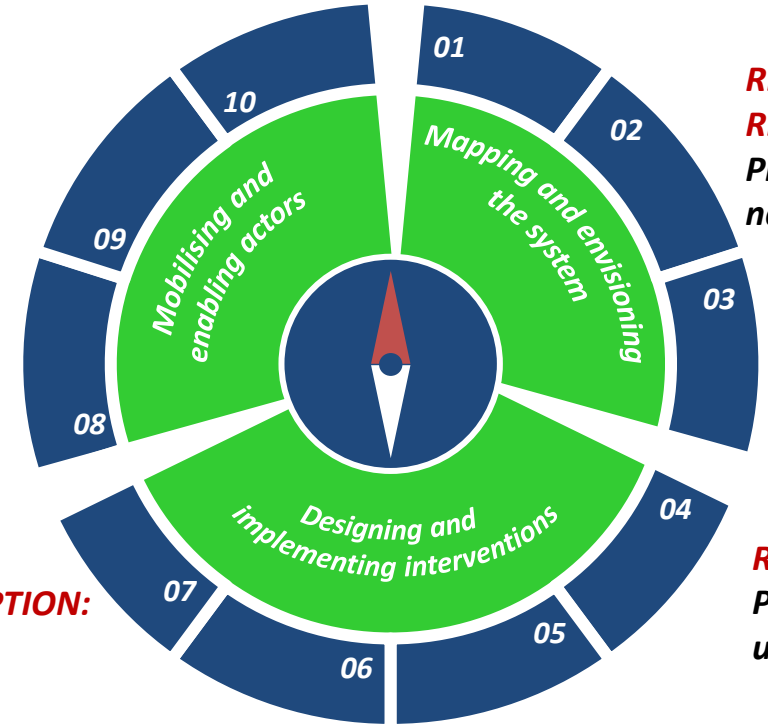
REDEFINING INCENTIVES:
Show the real value of social and natural capital

REDEFINING CONSUMPTION:
From owning to using



From

Owning products as part of individual identity

To

Experiencing and using products and services as part of individual, shared, and collective identity

Redefining the Socio-Economic System

REDEFINING PROSPERITY:
Embracing social fairness for real prosperity

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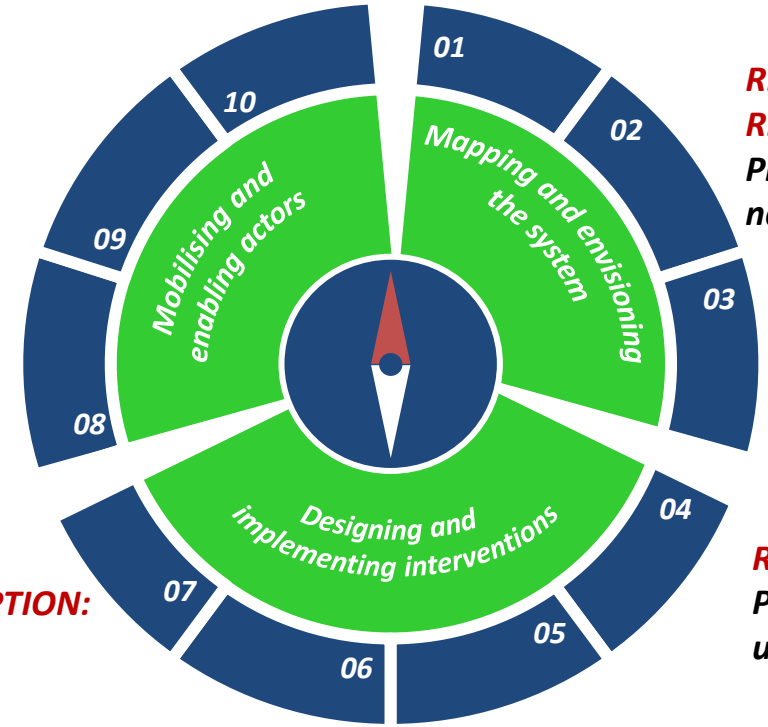
REDEFINING INCENTIVES:
Show the real value of social and natural capital

REDEFINING CONSUMPTION:
From owning to using

REDEFINING FINANCE:
The facilitator of the transition



From

Subsidising and investing in "old" industries

To

Supporting and facilitating transitional needs and sustainable economy of the future

Redefining the Socio-Economic System

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

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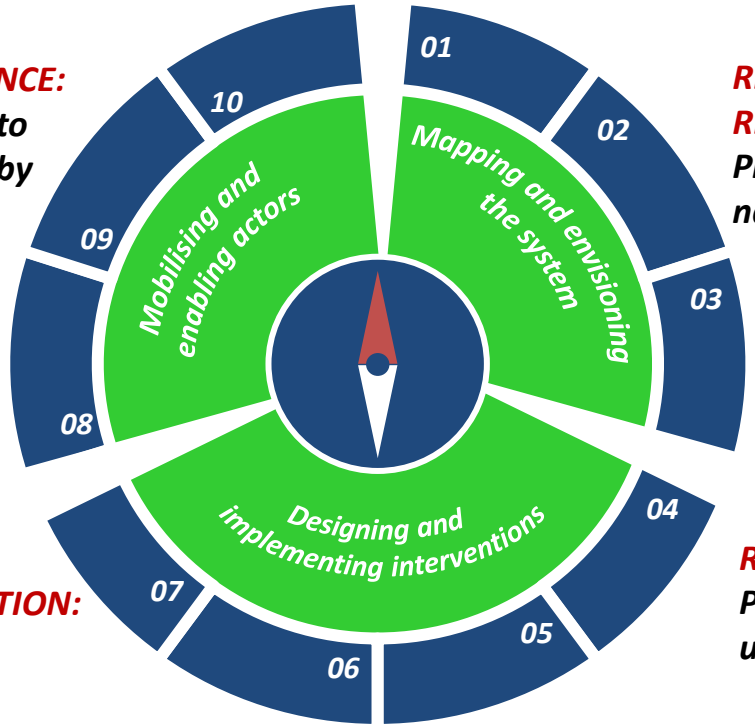

From

Top down, static, slow normative policy processes

To

Transparent, flexible, inclusive, participatory models of governance influenced by science

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

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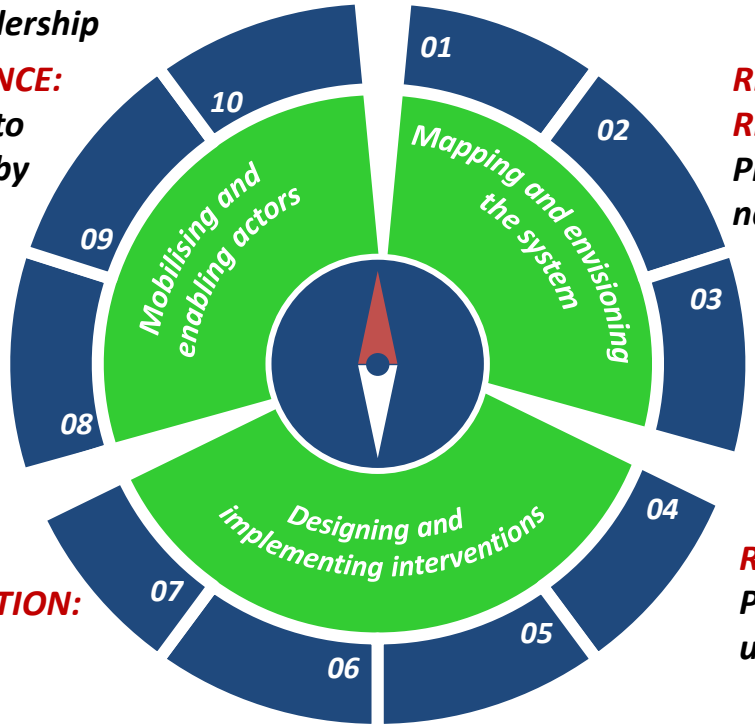


From

Traditional leadership roles and expectations

To

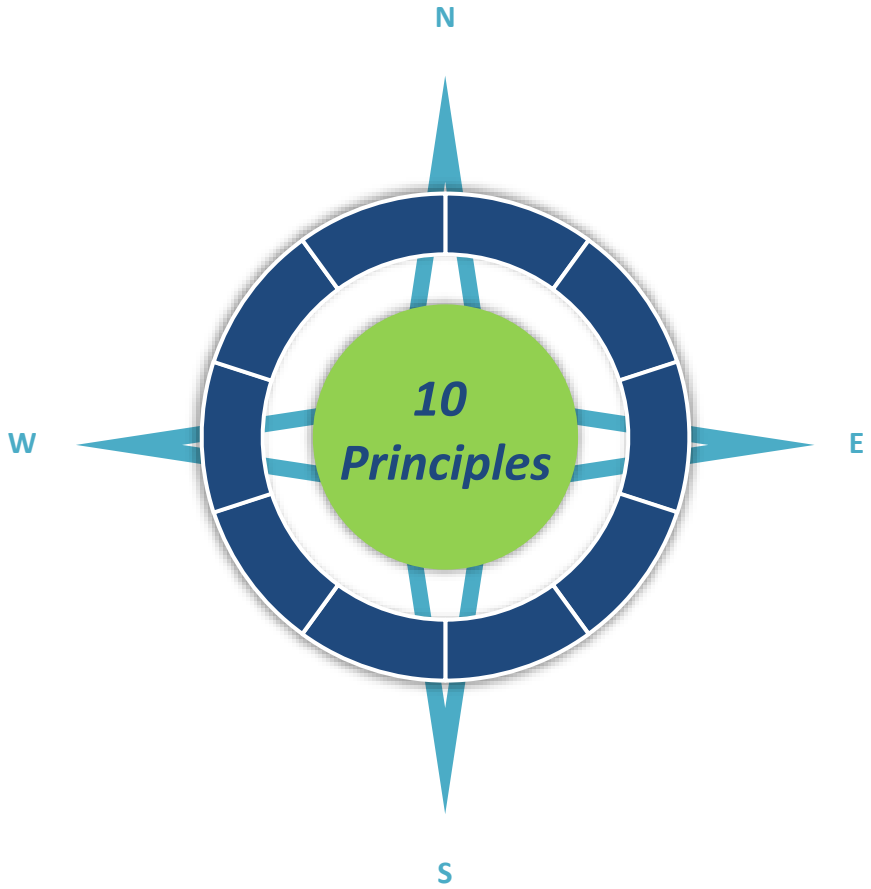
System leadership based on an intergenerational agreement

3 System Level Policy Orientations for each Compass Principle

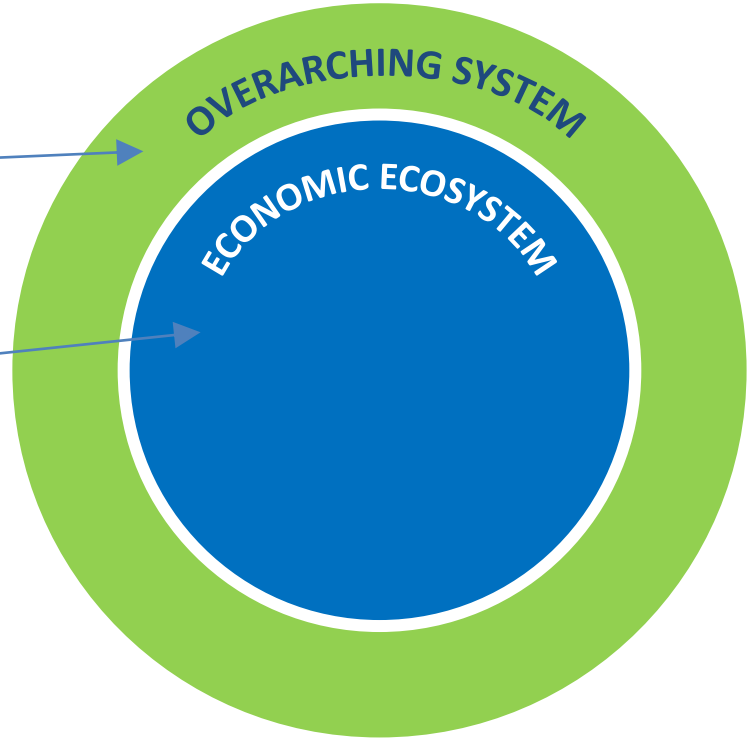
COMPASS PRINCIPLES	SYSTEM LEVEL INTERVENTION
01 REDEFINING PROSPERITY: Embracing social fairness for real prosperity	1. Balance policy attention from income and wealth creation to income and wealth distribution, and ensure that economic transition contributes to equality and social fairness by guaranteeing universal basic services and minimum levels of income 2. Create conditions for social acceptance of the necessary transition through enhancing reskilling and educational programmes; introducing funding mechanism to support transition and supporting lower- and middle-income groups to help them absorb full-costs introduced through all economic ecosystems 3. Replace part of the income-based taxes with resource-based taxes to address resource as well as social policy targets

Translating the system change compass to systemic orientations

System Change Compass (10 Principles)



Application to the system to derive systemic orientations



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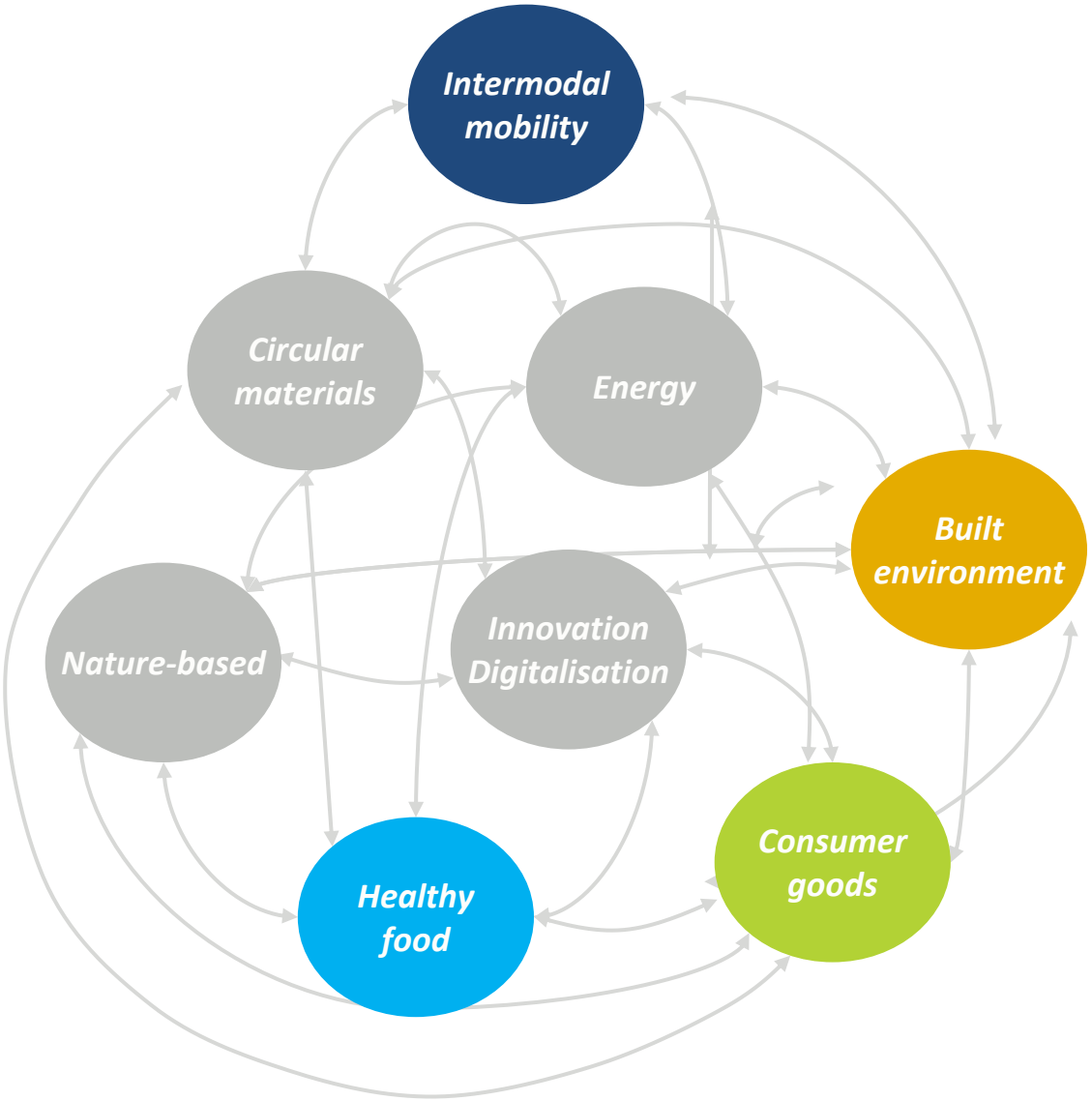
Provisioning Systems



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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50+ nascent industrial investment opportunities that should be supported to built ecosystems based on compass orientations

Healthy food

- Organic food and beverages
- Regenerative agriculture
- Sustainable aquaculture and fishing
- Reduce and valorise food waste
- Urban agriculture
- Product reformulation for nutritious food
- Alternative proteins

Built Environment

- Smart urban planning
- Rethink built environment ownership
- Repurpose underutilized buildings
- Retrofit existing buildings
- Fluid and sufficiency-oriented space management
- Circular and net-zero housing

Intermodal Mobility

- Fast charging infrastructure
- High-speed railway infrastructure
- Modern and adapted transit infrastructure
- Car- and ride-sharing models
- End-of-life management for cars
- Electric and autonomous vehicles
- Infrastructure to improve traffic flow and AV adoption
- Green aviation
- Green shipping
- Walking/cycling infrastructure

Consumer goods

- Product-as-a-Service models
- Maintenance and value retention in products
- Peer-to-peer product sharing platforms

Nature-based

- Restoration of degraded land and coasts
- Smart forest management
- Urban greening
- Systems for paid ecosystem services
- Seaweed
- Marine and land-based environmental protection areas
- Ecotourism

Energy

- Renewable power generation
- Energy storage
- Hydrogen economy
- Smart metering and (point-of-use) energy management
- Grid integration and technologies
- Production of low-carbon gaseous and liquid fuels (transition technology only)
- Carbon capture infrastructure (transition technology only)

Circular Materials

- Localised and distributed value chain systems
- Asset recovery systems and reverse logistics
- Markets for secondary materials
- High-value material recycling
- Materials-as-a-Service models
- New materials and high-performing substitutes
- Additive manufacturing

Information and processing

- Distributed manufacturing
- High-speed digital infrastructure
- Digital material information and tracking systems
- Data generation, processing, and protection
- Artificial Intelligence for societal challenges

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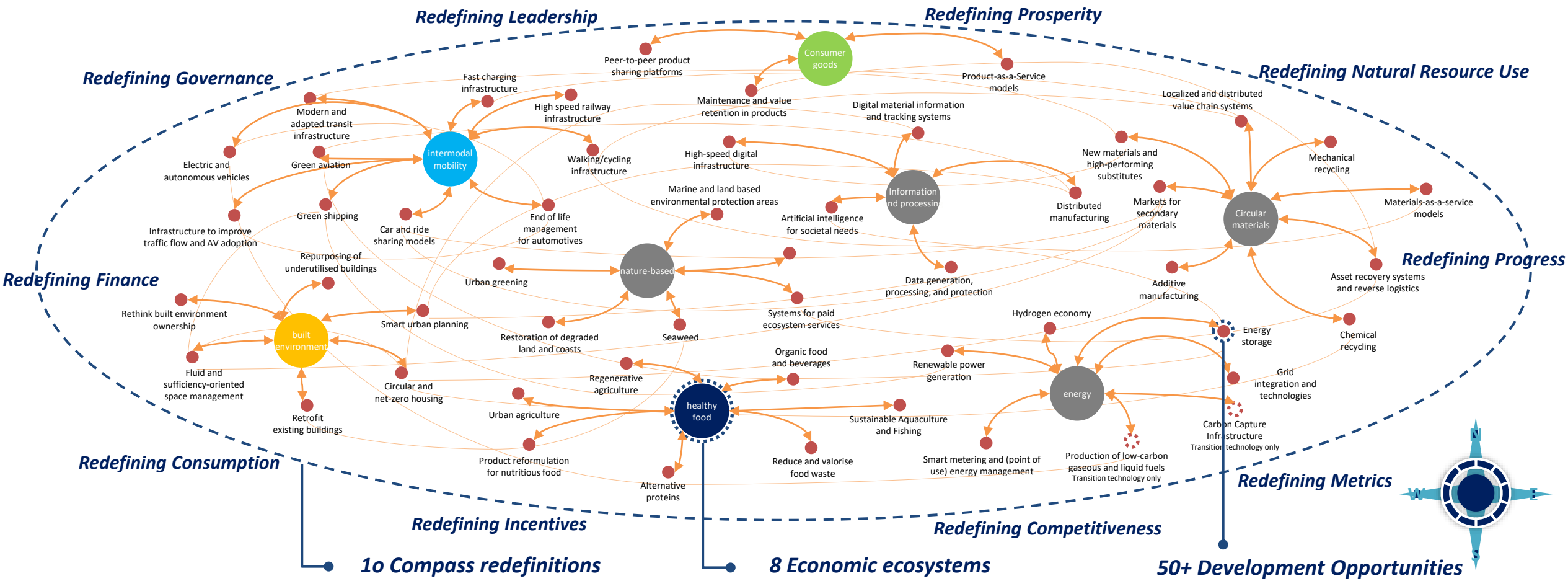
System Change Compass



1o Compass redefinitions | **8 Economic ecosystems** | **50+ Development Opportunities**

New organization of economic activities	*One overarching system that consolidates the European economy in its entirety.*	*Economic ecosystems can meet a specific societal need (e.g. intermodal mobility system) or support the fulfilment of multiple societal needs (e.g. new energy system).*	*"Champions" are economic subsystems which could become the new spearheads of the green, resilient and fair post-COVID economy Europe wants to build*
Application of the compass on each level	***10*3 = 30 system-level policy orientations***	***3-5 specific economic ecosystem policy orientations***	***50+ economic subecosystems orientations***

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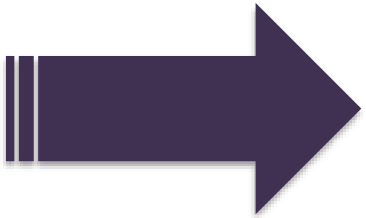
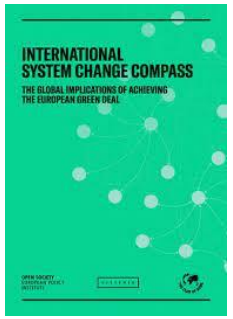
From Internal to External Focus



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.*

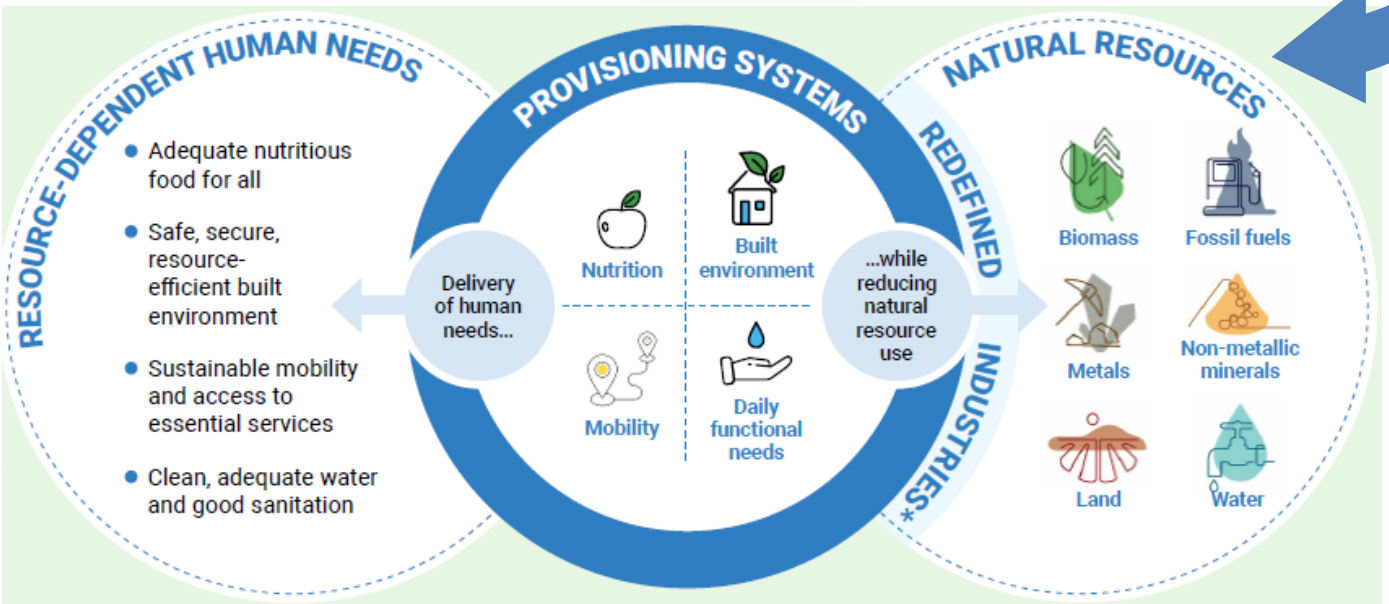
In short: What would change mean in policy terms?

- *Redefining consumption from owning to using;*
- *Redefining production from mass sales to providing efficient functionalities;*
- *Redefining core economic incentives such as taxation, subsidies, public procurement … and stop tolerating tax heavens,;*
- *Integrating wellbeing as an objective across all policies;*
- *Providing consistency among internal and external (supply and demand side) policies;*
- *Applying measures leading to fairer and more equal society and world;*
- *Measuring sustainability with a lifecycle perspective, harmonised across policy areas;*
- *Activating all existing financial potential to enable transition;*
- *Looking at innovation in categories of meeting human needs and providing functionalities, rather than in categories of production sectors;*
- *etc.*

Next Flagship Report: Global Resources Outlook 2024

GRO24 will…

- ✓ ***Centralize System Change logic**, building directly on GRO19 and System Change Compass*
- ✓ ***Assess past, present, and future resource** use through the lens of **human needs***
- ✓ *Compare the **gap between current plans** and the **transition we need***
- ✓ *Give **time-bound policy recommendations**, aligning **short and long-term interests***



Main Blind-Spots

Which are Limiting Effective Management of the Transition

Lack of Holistic System 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 Resource Perspective

Resource management is not given enough importance within policy making which is linked to the lack in actionable system thinking insights for concrete decisions

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.

Climate Change Example

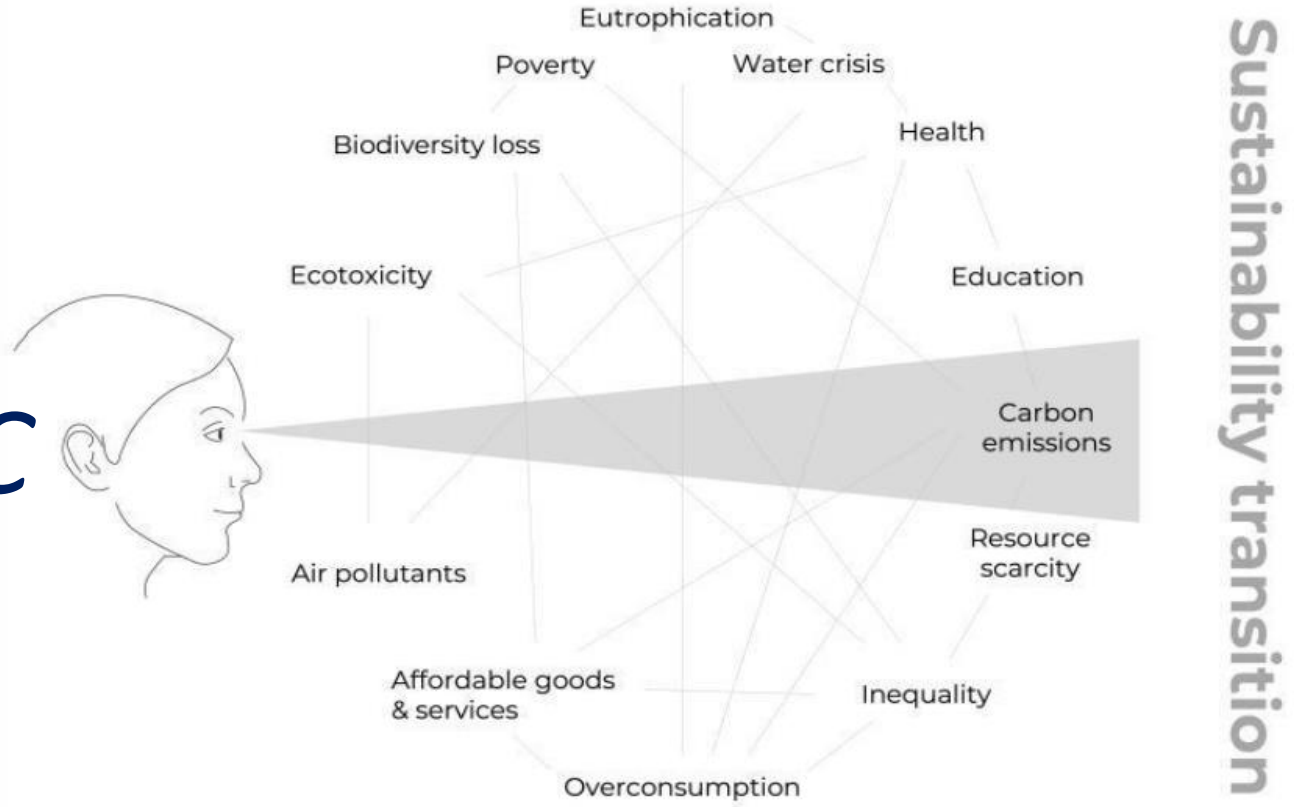
1

Lack of Holistic System 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

We need to extend the optic and potential policy options beyond the currently prevailing energy supply

UNFCCC



This leads to trade-offs and future lock-ins rather then to synergies and potential multiple-benefits ➢ and resilient economy and society

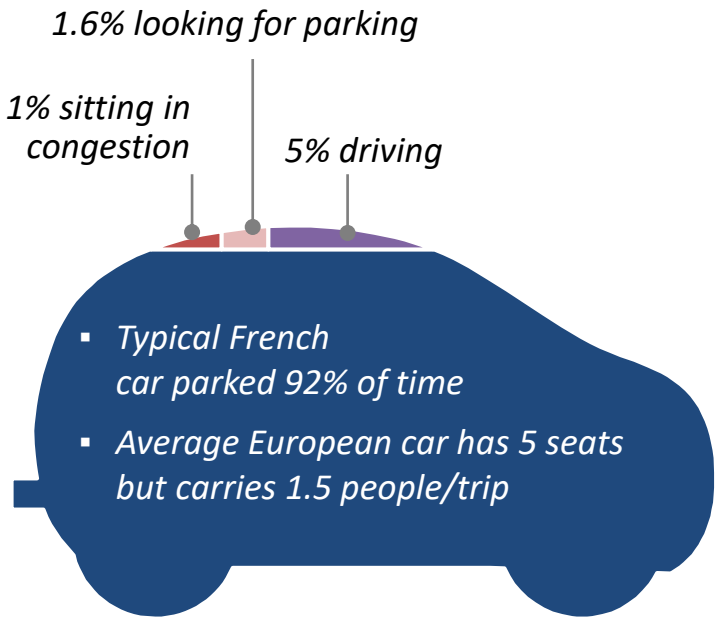
A 'Glasgow Breakthrough' was announced on road transport aiming for zero emission vehicles to be the new normal, accessible, affordable, and sustainable in all regions by 2030.

UN CLIMATE CHANGE CONFERENCE UK 2021

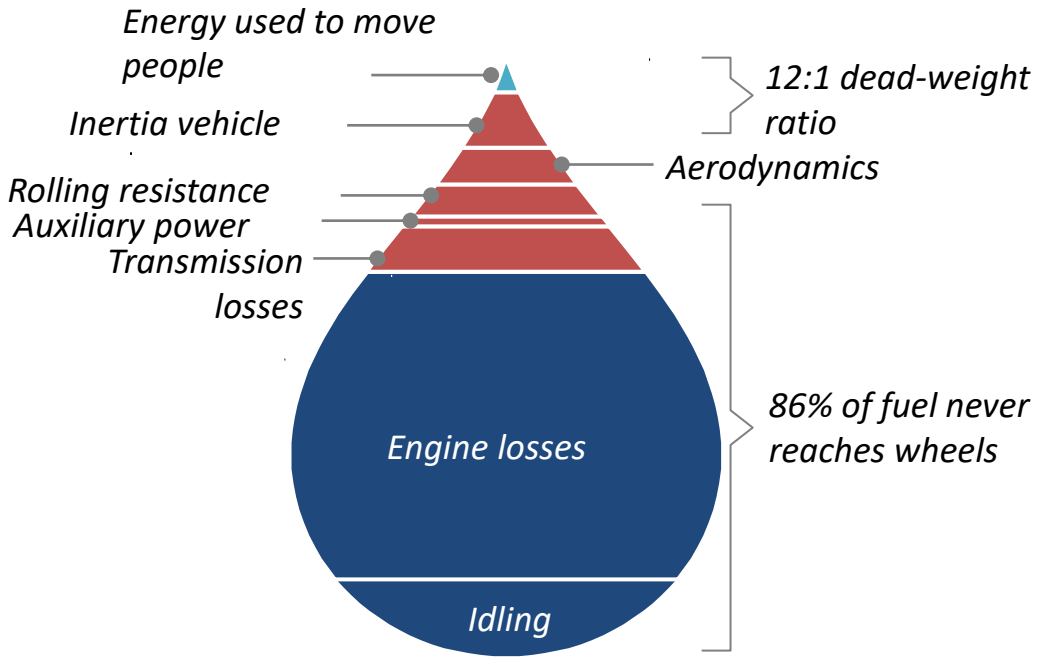
IN PARTNERSHIP WITH ITALY

Our mobility system and structural inefficiencies

Car utilisation

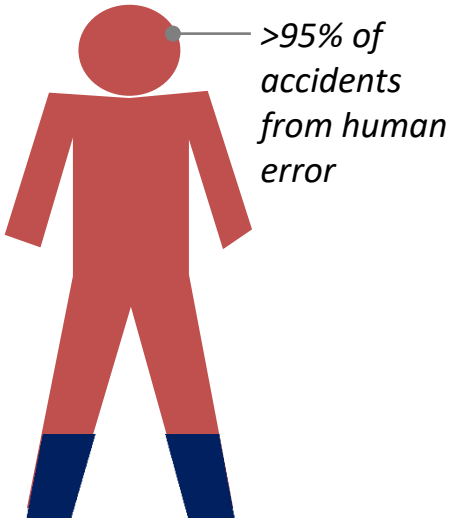


Tank-to-wheel energy flow - gasoline



Deaths & injuries/year on road

30,000 deaths in accidents and 4x as many disabling injuries



LAND UTILISATION:

- Road reaches peak throughput only 5% of time and only 10% covered with cars then
- 50% of most city land dedicated to streets and roads, parking, service stations, driveways, signals, and traffic signs

System change in road transport means less and more efficient traffic, for more value

Five Levers for Sustainable Car-Based Transport

Reduce demand for car-based transport

- ***Reduce*** *overall* ***mobility need*** *(e.g., through remote work)*
- ***Modal shift*** *from cars to foot, bike, & public transport*
- ***Higher utilization of vehicles*** *through sharing*

Ensuring remaining vehicles are as sustainable as possible

- ***Electrification*** *based on renewable energy*
- ***Circularity****, maximizing value of used materials*

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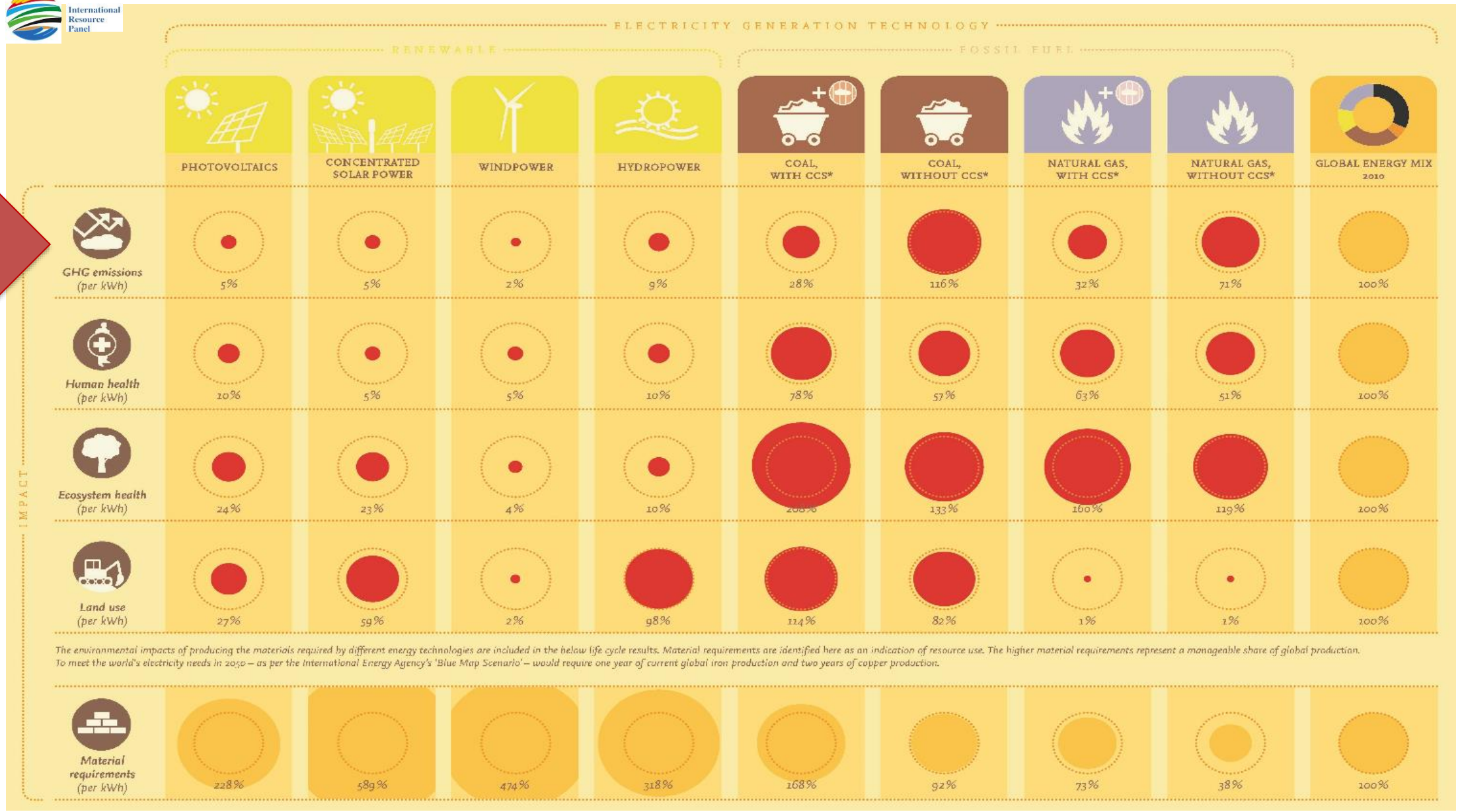
2

Lack of Resource Perspective

Resource management is not given enough importance within policy making which is linked to the lack in actionable system thinking insights for concrete decisions

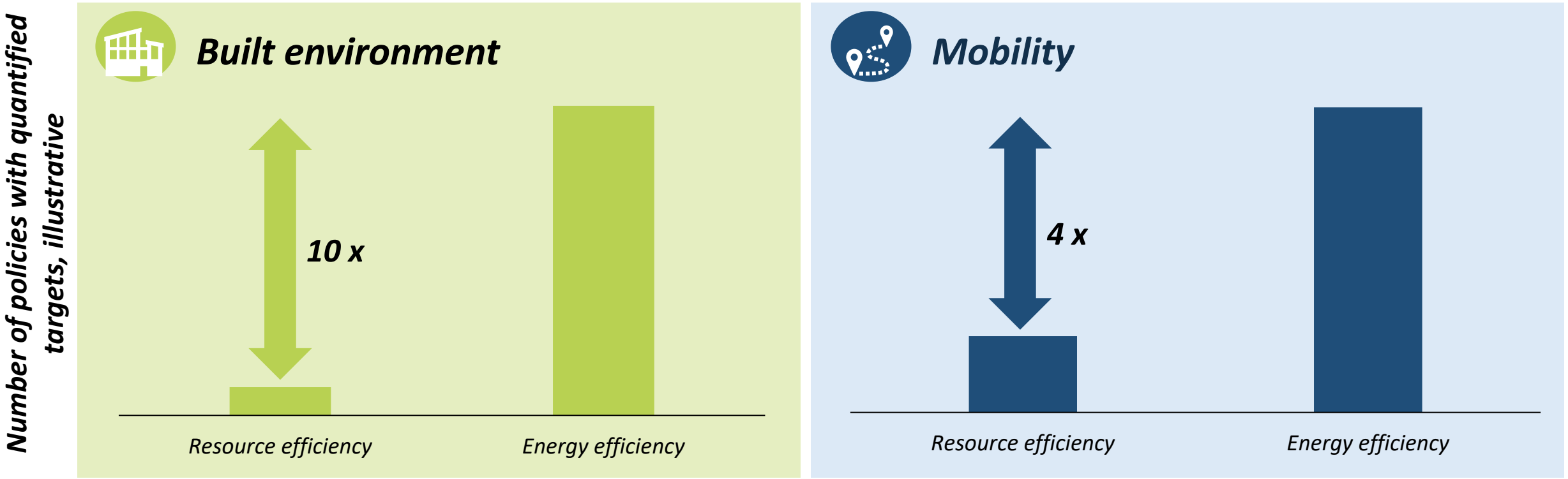
Impact of Electricity Generation Technologies



Most climate policies still neglect systemic resource efficiency solutions, and thus miss major opportunities for climate and society

Examples - non exhaustive

***G20 Nationally Determined Contributions** and **Long-term Climate Plans** focus on energy efficiency and miss out on more systemic resource efficiency opportunities.*



Source: SYSTEMIQ analysis of G20 NDCs

SUPPLY SIDE SOLUTIONS

CARBON MANAGEMENT

LAND | WATER | ENERGY | MATERIALS

DECOUPLING - CIRCULAR ECONOMY

DEMAND SIDE SOLUTIONS

ECO-SYSTEM SERVICES, ENVIRONMENTAL SINKS

NATURE BASED SOLUTIONS

3

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.

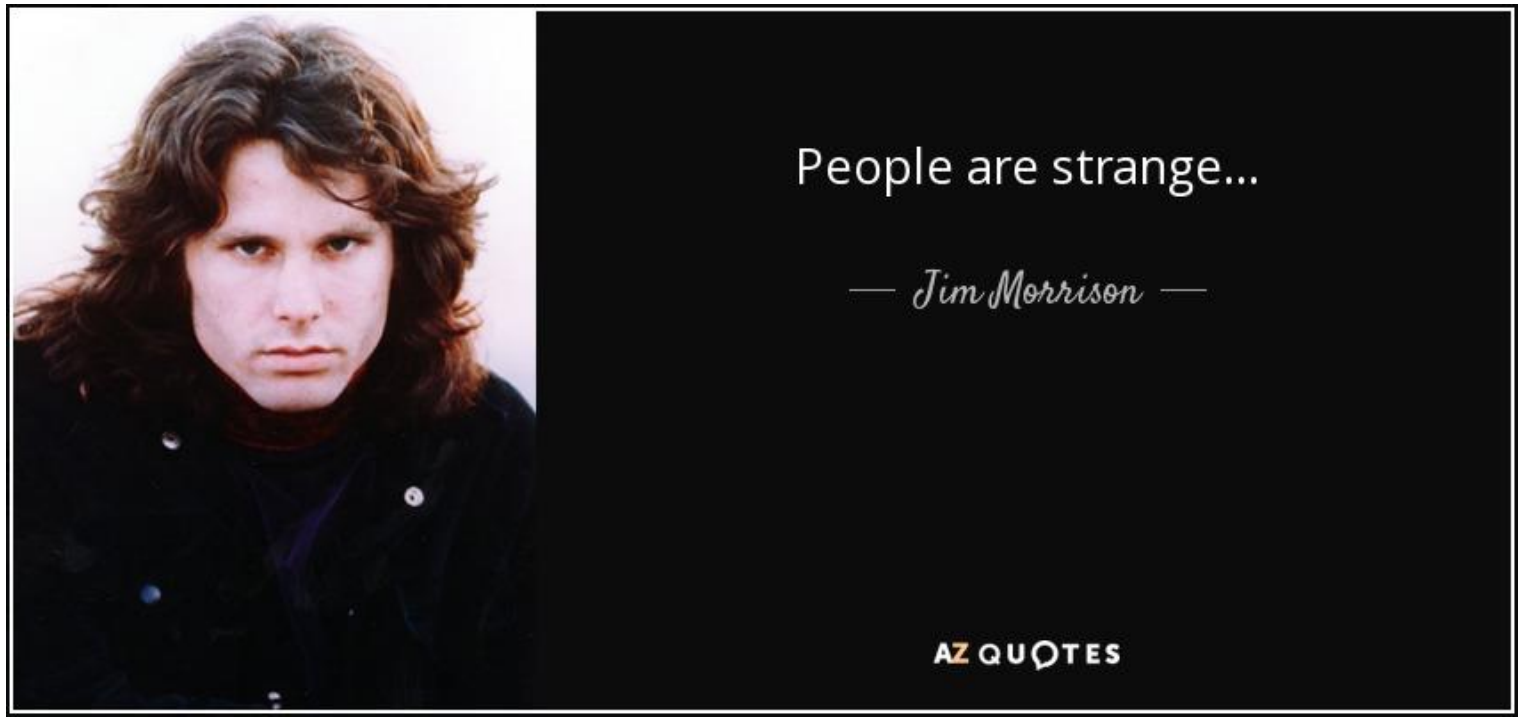
Focusing only on cleaning a supply side will not be enough, nor will lead to a fairer and more equal world

- *Our international efforts, also to fight the climate crisis, remain focused on, and driven by, the supply side. This will not be enough to deliver the targets set. IRP is frequently repeating that message, but also recent IPPC report is clear about that.*
- *We must stop ignoring the inherent wastefulness of our production and consumption. For example, it would be in vain to decarbonize the production of steel, if it is used to produce under-used cars and houses, which contribute to traffic and property market bubbles, but not to real social prosperity.*
- *More fundamentally, demand-side measures/consumption side get us closer to the essential questions of responsibility and equity.*
- *NDCs and other national climate commitments should consider including also footprint based indicators and targets*

To Conclude

Science is Clear and Change is Unavoidable

… and so are some quotes☺



We want changes …

but we do not want to change

The problem primarily lies in our economic model

- *Economic theory is based on the rational behaviour of consumers and producers: the more we produce at the lowest possible price, the higher the capital returns and GDP growth.*
- *Current market signals on our markets, are leading to systemic social and environmental imbalances - Food shopping centre example. Our short-term rational behaviour is leading to a long-term irrational "Charming mass suicide" (Arto Paasilinna novel title).*
- *Ambitious policies face an uphill battle to implement incentives and regulations to change our production and consumption patterns. 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.*

Soren Kierkegaard

There are two ways to be fooled …

One is to believe what isn't true.

The other is to refuse to believe what is true.

Importance of your role: creating the critical mass of science, which can hardly be disregarded by politicians and policy makers

Johann Wolfgang Goethe

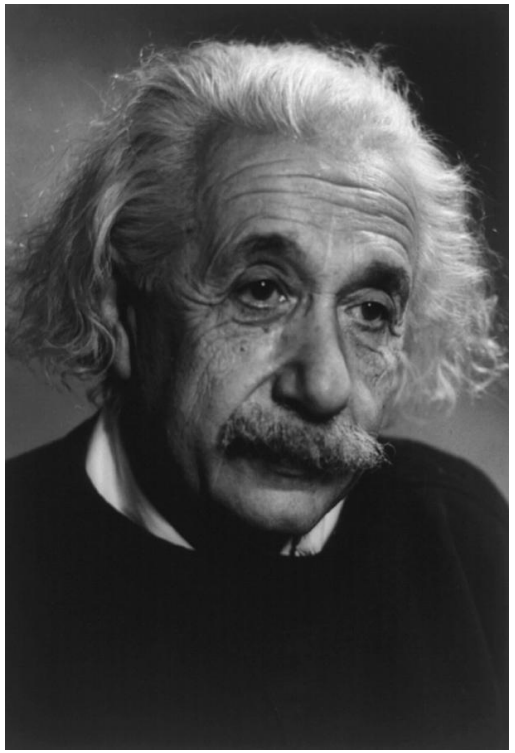
imdb.com

Knowing is not enough; we must apply.

Willing is not enough; we must do.

Will it be easy?

ALBERT EINSTEIN



When asked why it is that mankind has stretched so far as to discover the structure of the atom, but we have not been able to devise the political means to keep the atom from destroying us he replied:

"That is simple, my friend. It is because politics is more difficult than physics"

There has never been a better moment …

… to move from the history of "resource-driven imperialism" to an era of responsible use of natural resources, mitigating resource fragility and strengthening preparedness and resilience.

The lesson learned from terrible war in Ukraine and extreme summer and weather events should be convincing enough.

*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

Circularity is not a new concept …

It is the oldest concept on the planet Earth.

Nature is a "bio-economy" based on the principles of the circularity. Nothing is lost and everything has its purpose.

So, for the beginning we would need to answer only one question:

Do we agree that we humans are part of the nature too?

To answer this question, we probably do not need the help of the most famous Belgium detective, but his advice is always useful

HERCULE POIROT

When asked why he is speaking about himself always in a third person he replied something like that:

If one is such a genius like me, it is very important to establish a healthy distance to himself.

THANK YOU

for helping us delivering the future we want!