

Tools making value chains more circular and resource efficient
Voluntary agreements, standardization and non-financial reporting



**International
Resource
Panel**

UN 
environment

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

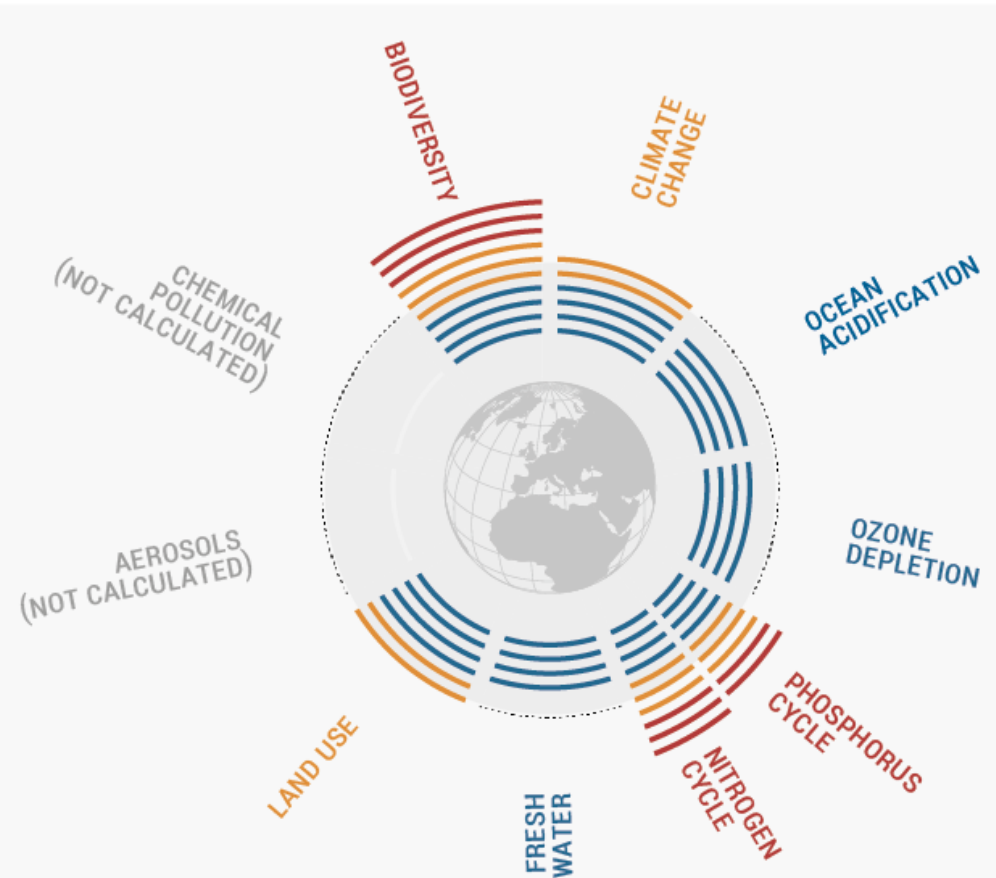
We are more *interconnected and interdependent* than ever.

Our individual and collective *responsibility* has enormously increased.

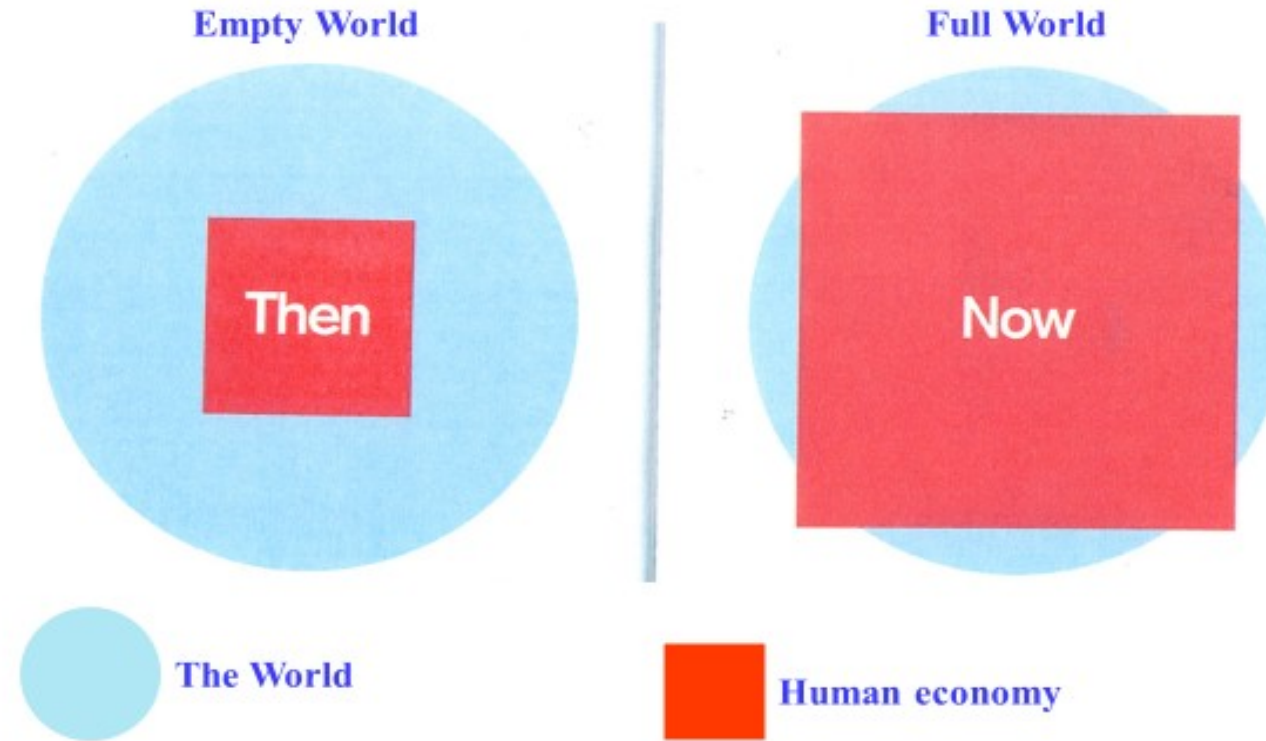
Planetary boundaries

By 2015, we reached or crossed the boundary between safe operating levels and dangerous conditions in five planetary trends.

..... safety boundary — not reached — reached — crossed

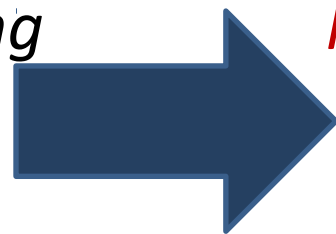


Empty World and Full World



Source: Club of Rome: Simplified after Herman Daly

Labour and Infrastructure limiting factors of human wellbeing

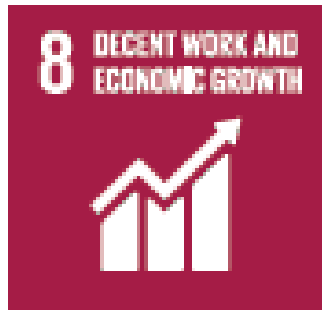


Natural resources and Environmental sinks limiting factors of human wellbeing

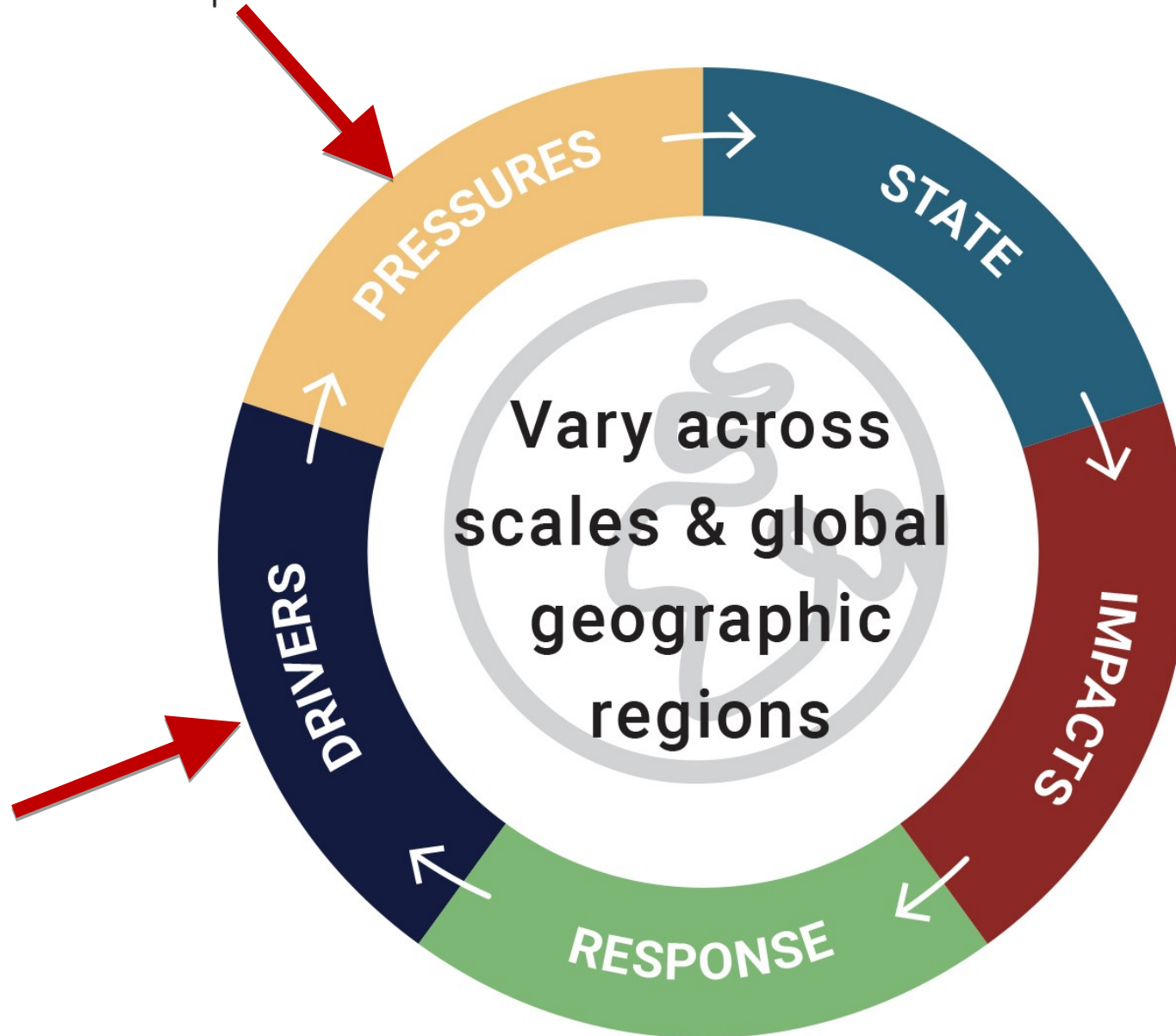


International
Resource
Panel

SDGs DIRECTLY DEPENDENT ON NATURAL RESOURCES



The Drivers-Pressure-State-Impact-Response (DPSIR) Framework

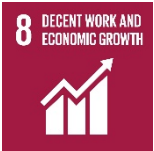




GLOBAL RESOURCES OUTLOOK 2019



✓ **Global status and trends** on natural resources 1970–2017



✓ **Environmental, economic and social impacts** from current and future use of natural resources



✓ **Projections by 2060** on natural resource use and impacts under two scenarios: 'Historical Trends' and 'Towards Sustainability'



✓ **Policy recommendations** for economically attractive and technologically viable action to achieve sustainability goals.



GLOBAL RESOURCES OUTLOOK

2019

NATURAL RESOURCES FOR THE FUTURE WE WANT



SUMMARY FOR POLICYMAKERS

GLOBAL RESOURCES OUTLOOK

2019

NATURAL RESOURCES FOR THE FUTURE WE WANT



IMPLICATIONS FOR BUSINESS LEADERS

GLOBAL RESOURCES OUTLOOK

2019

NATURAL RESOURCES FOR THE FUTURE WE WANT



Report launched 12th March 2019

#GRO2019

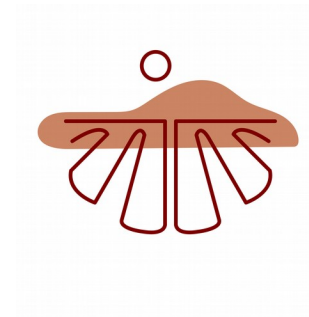
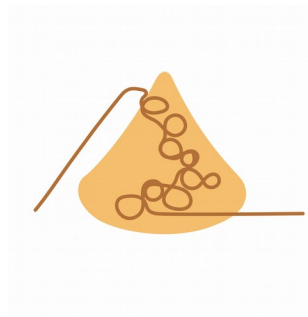
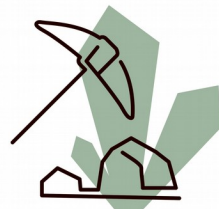
#GROBusiness

@UNEPIRP



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 copper...)
- *Non-metallic minerals* (including sand, gravel and limestone)
- *Land*
- *Water*

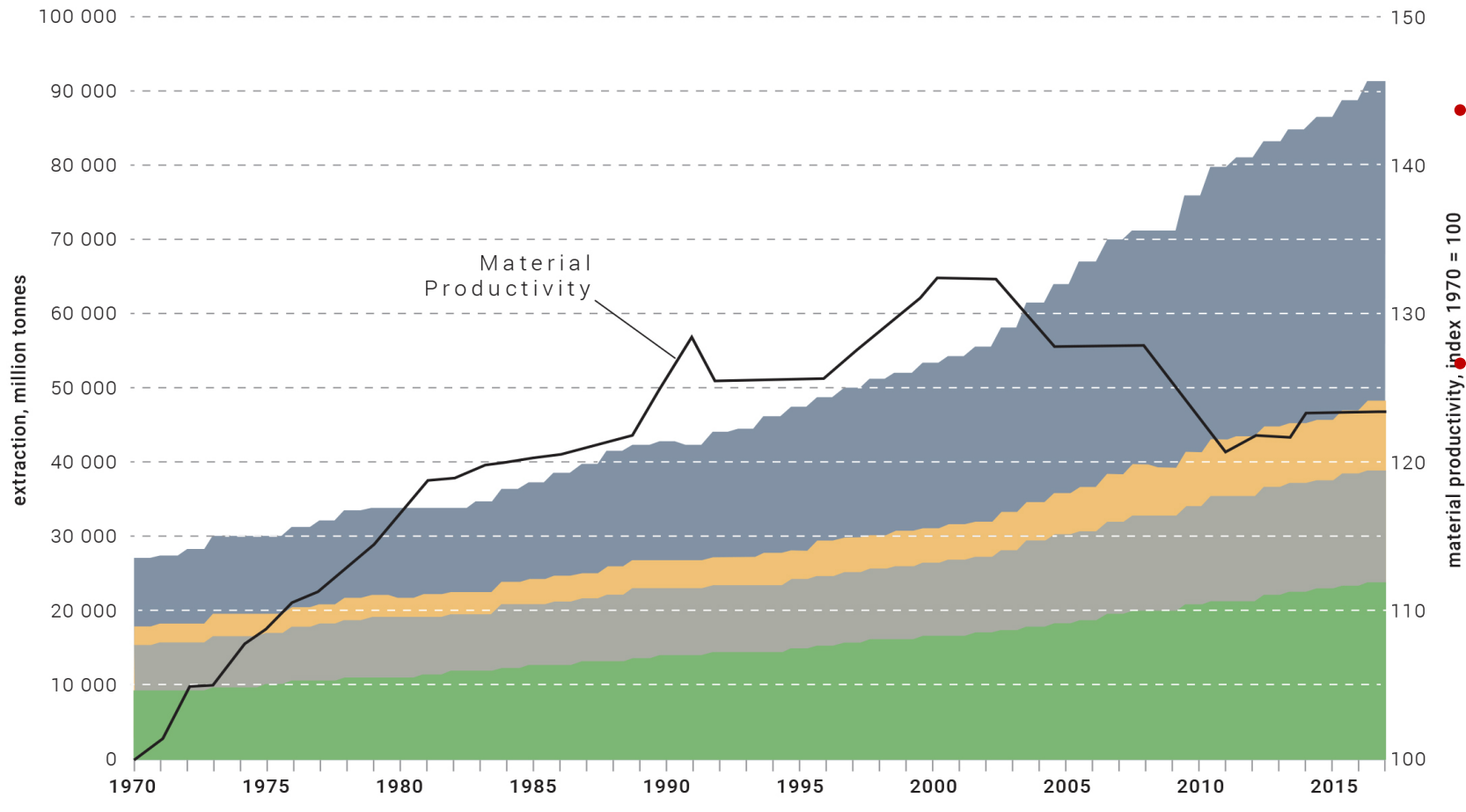




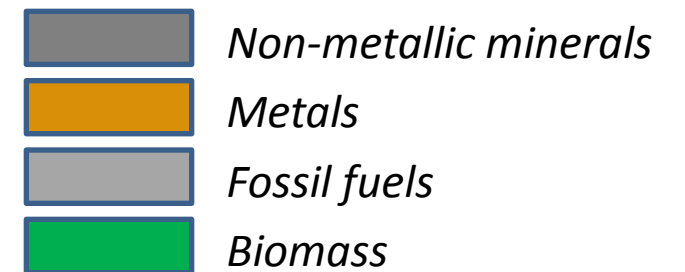
*Global resource flows and implications:
extraction, consumption and trade
1970-2017*

Relentless demand: Global resource use, Material demand per capita and Material productivity

Global material extraction and material productivity, 1970 - 2017



- *Global resource 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*





*The impacts of resource use
and their distribution*

Environmental impacts in the value chain

resource extraction and processing phase

90% of global *biodiversity loss* and *water stress*

50% of global *climate change impacts*

1/3 of *air pollution health impacts*



Biomass



Metals



Non-metallic minerals



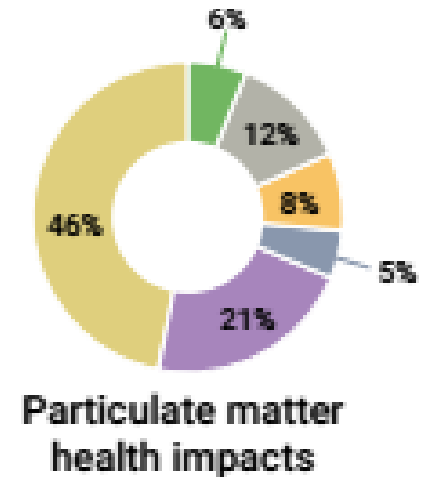
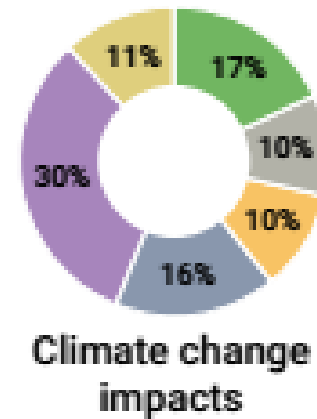
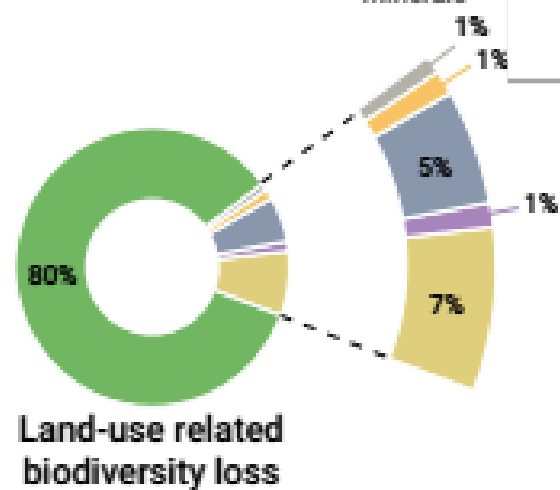
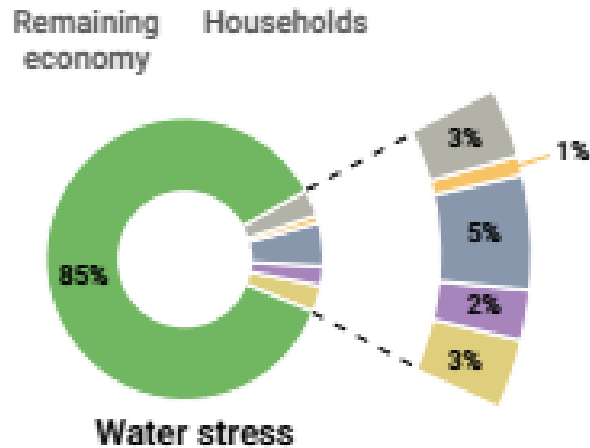
Fossil fuels



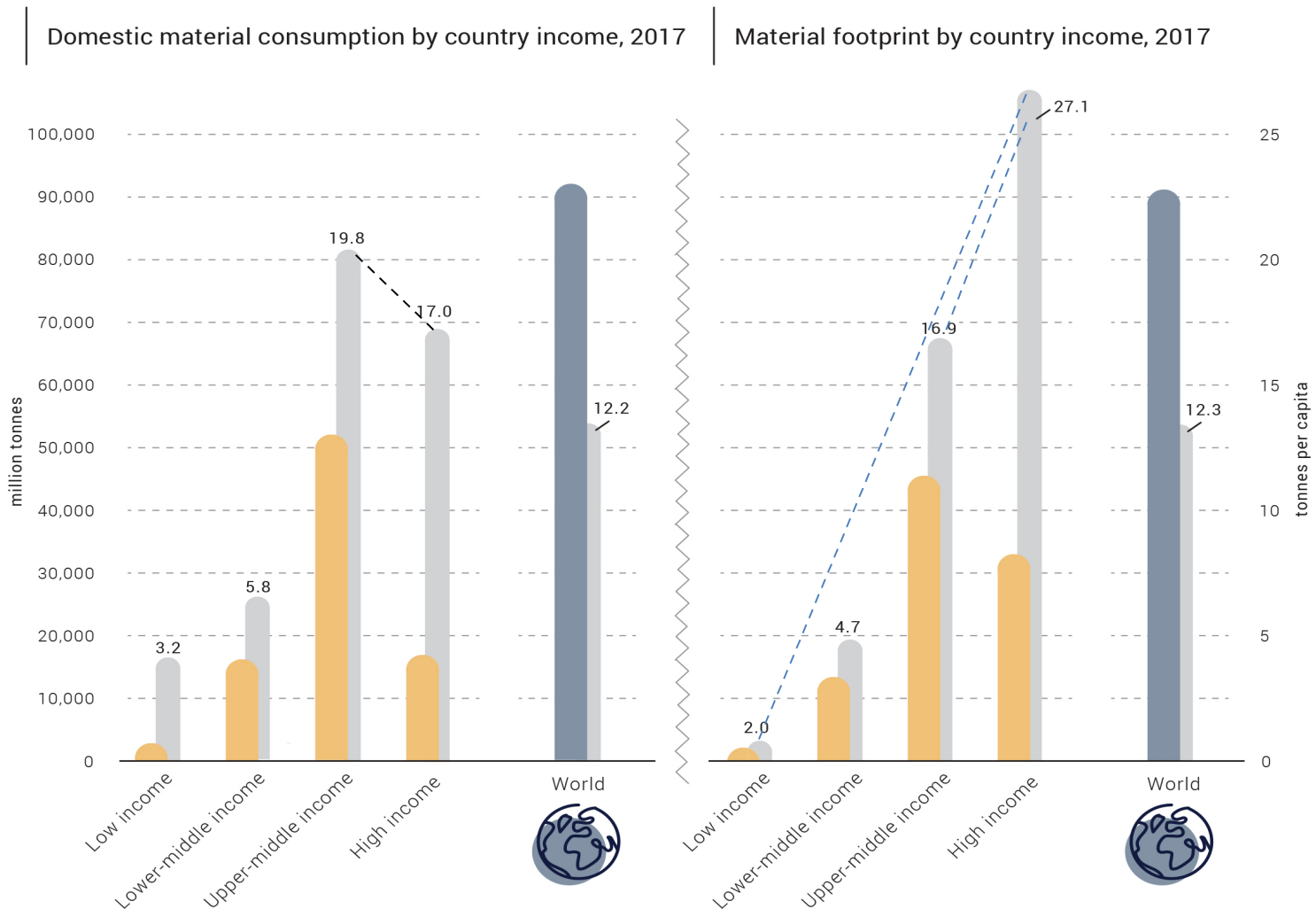
Remaining economy



Households



Unequal consumption: per capita material footprint from high-income countries is **60% higher** than the upper-middle-income group, **13x** the level of the low-income groups.



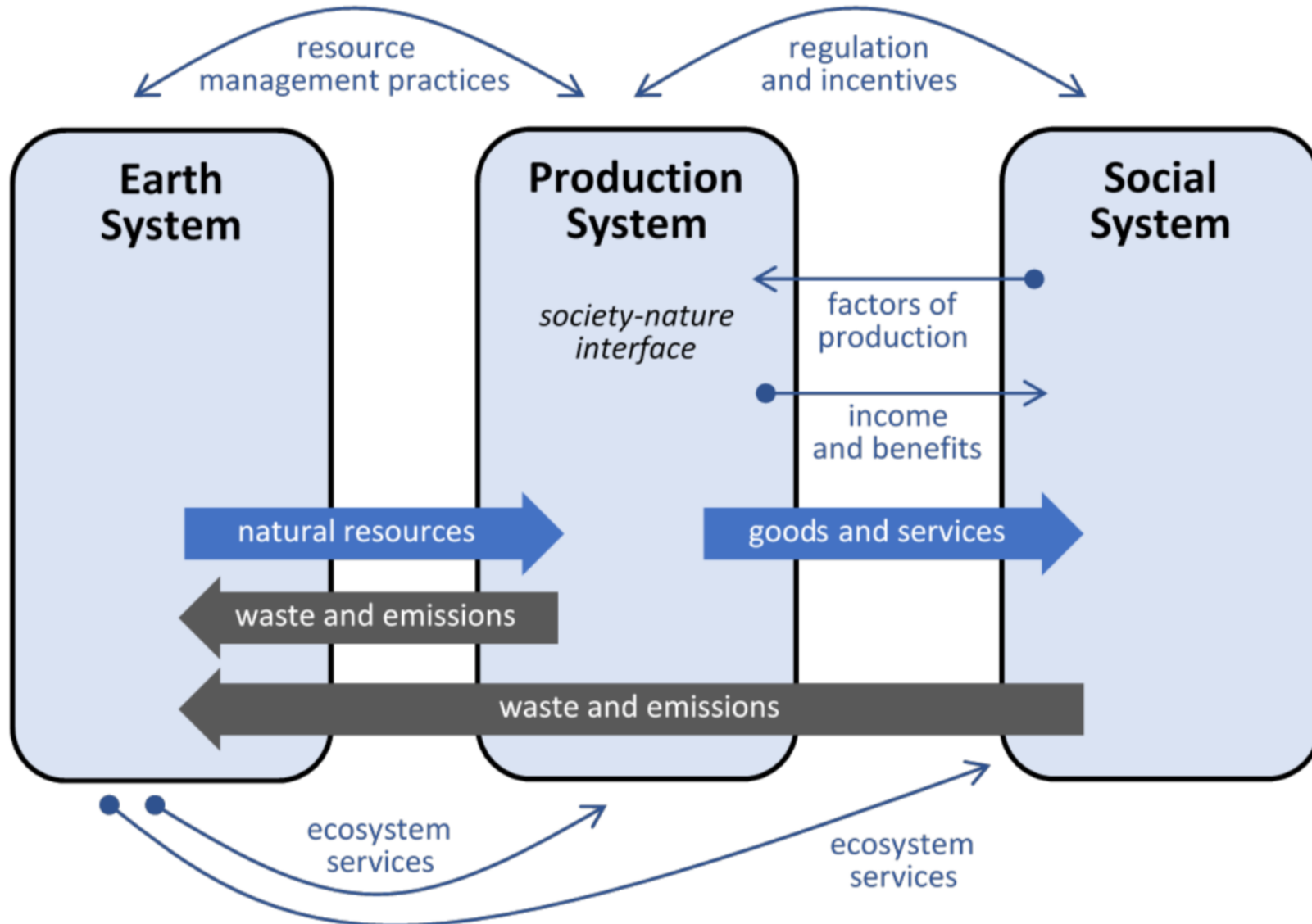
- Measured in **Domestic Material Consumption (DMC)**, upper-middle income countries are the largest per-capita material consumers
- Measured in **Material Footprints (MF)**, high-income countries are by far the largest consumers per capita and are increasing their resource import dependence by 1.6 % per year
- **Two Key Drivers:** New infrastructure buildup in developing countries, outsourcing of material & resource intensive production from high-income countries

■ million tonnes per income group
■ million tonnes world
■ tonnes per capita



*Scenarios for our future until 2060
and decoupling as the viable avenue
for continued and inclusive growth*

Modeling approach



“Historical Trends”

“Towards Sustainability” scenario assumptions

Resource Efficiency

Reduction in materials use in manufacturing and construction through innovation, increased demand and recycling

Assumed policies: regulations, technical standards, public procurement, shifts in taxation

Climate Mitigation and Removal

Bio-sequestration and carbon dioxide removal technologies

Assumed policies: Support of innovations through public investments, carbon levy for the financing of carbon sinks



Landscape and Life-on-land protection

Bio-diversity in bio-sequestration solutions, reducing crop-based biofuels and limiting agricultural land

Assumed policies: biodiversity conditions on GHG sequestration sinks, and policies to conserve native vegetation and key biodiversity areas

Shifts in Societal Behaviour: Healthy Diets and Reduced Food Waste

Halving the current meat consumption (less in regions of low-meat diets) and halving food waste by 2050

Assumed policies: Including public education

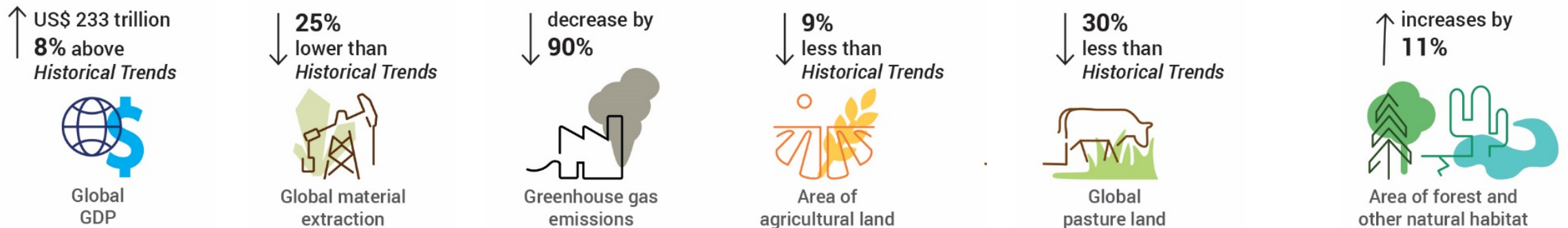
Historical Trends

Projected 2060 compared to 2015 levels in absence of urgent and concerted action



Towards Sustainability

Projected 2060 levels “Towards Sustainability” in comparison to “Historical Trends”



Achieve the SDGs through concerted SCP measures: Boost the economy by 8%, converge incomes, and reduce environmental impacts

The GRO provides new scenarios

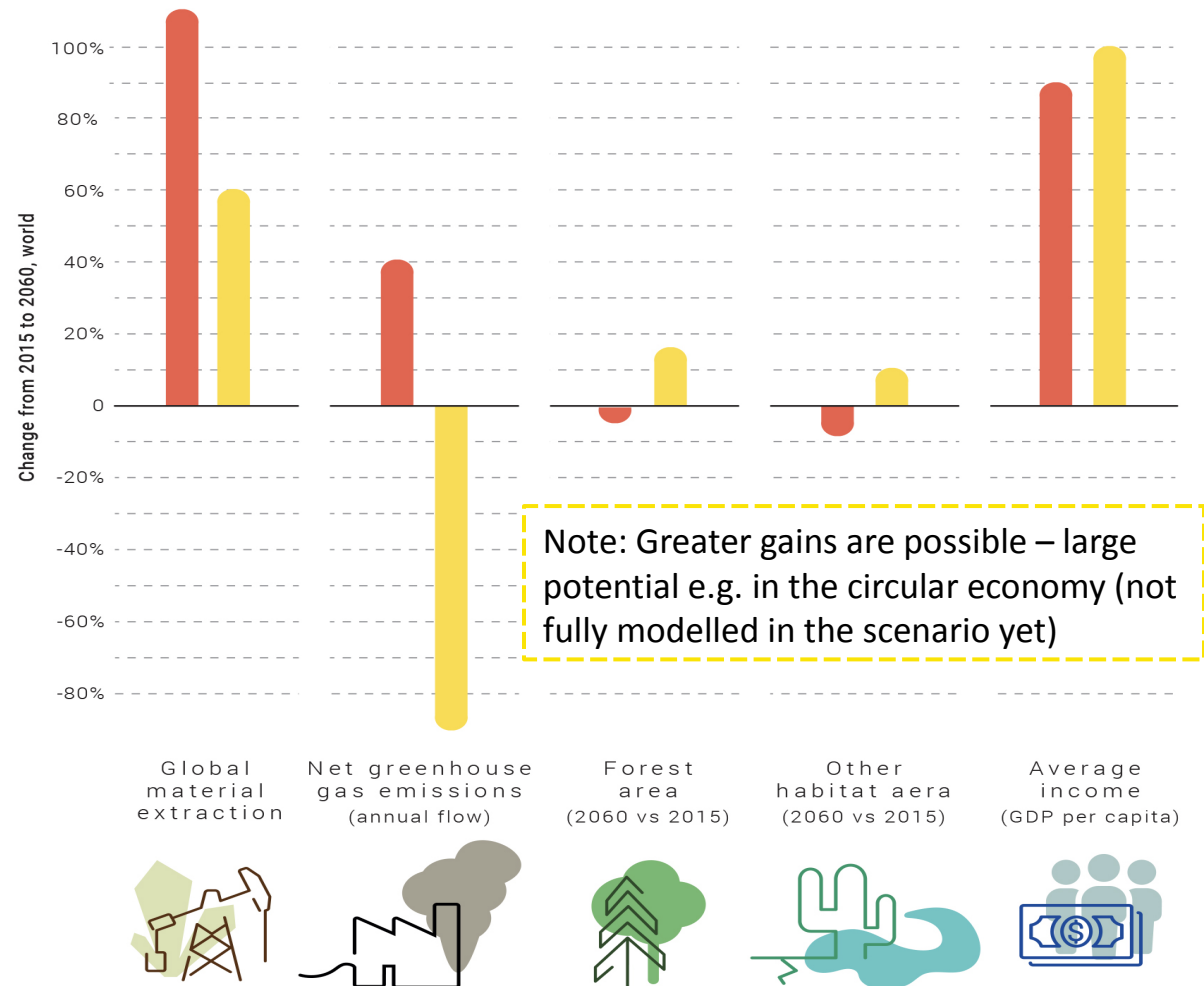
Historical Trends

- Continuing past economic trends would more than double global material use to 190 billion tonnes by 2060
- This would quickly exceed the planetary boundaries and prevent achieving the SDGs

Towards Sustainability

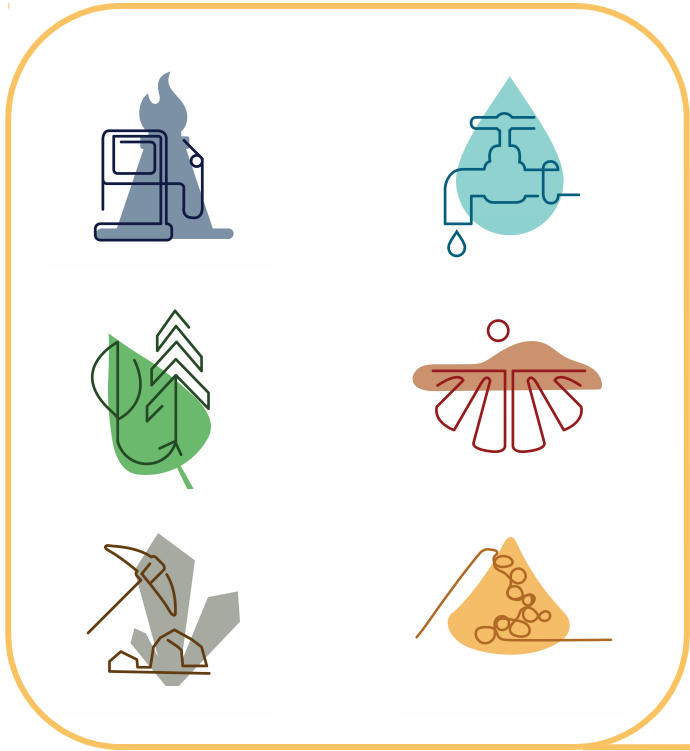
- **Resource efficiency and innovation are key tools** to achieve economic development while reducing climate change, biodiversity and health dangers

Summary of selected benefits of concerted resource efficiency and sustainable consumption and production (SCP) measures modelled in the 'Towards Sustainability' scenario vs environmental pressures if 'Historical Trends' scenario continues

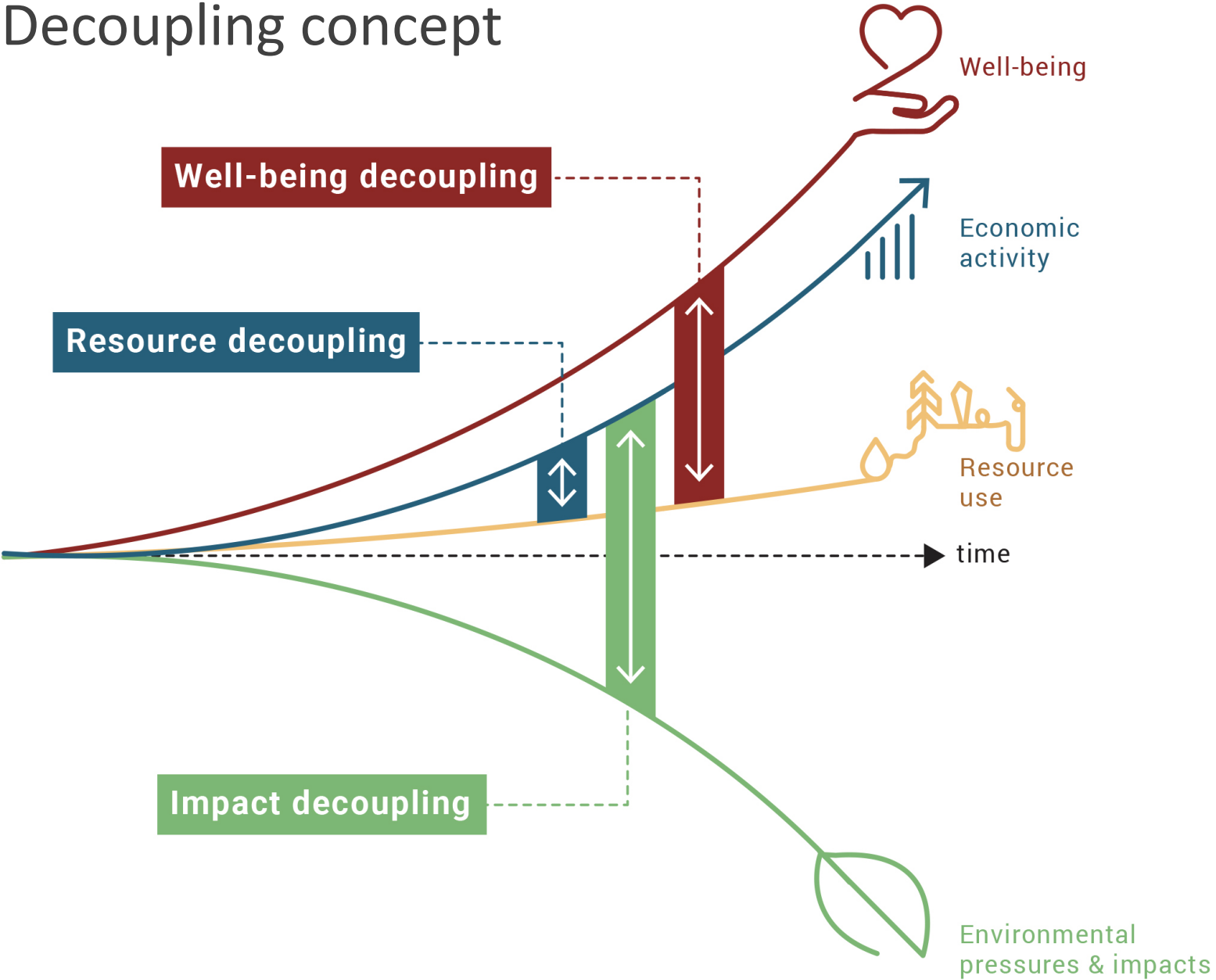




Policy implications



Decoupling concept



Proposed Policy Elements



*Improving resource efficiency
as an essential ingredient in a
fight against climate change*

PILLARS FOR EFFICIENT CLIMATE CHANGE POLICY

*SUPPLY SIDE
SOLUTIONS*

*DEMAND SIDE
SOLUTIONS*

*NATURE BASED
SOLUTIONS*

*Energy,
Carbon management*

*Circular Economy,
Land, Water,
Materials
Management*

*Eco-system services
Environmental sinks*

CLIMATE

CARBON MANAGEMENT

LAND

WATER

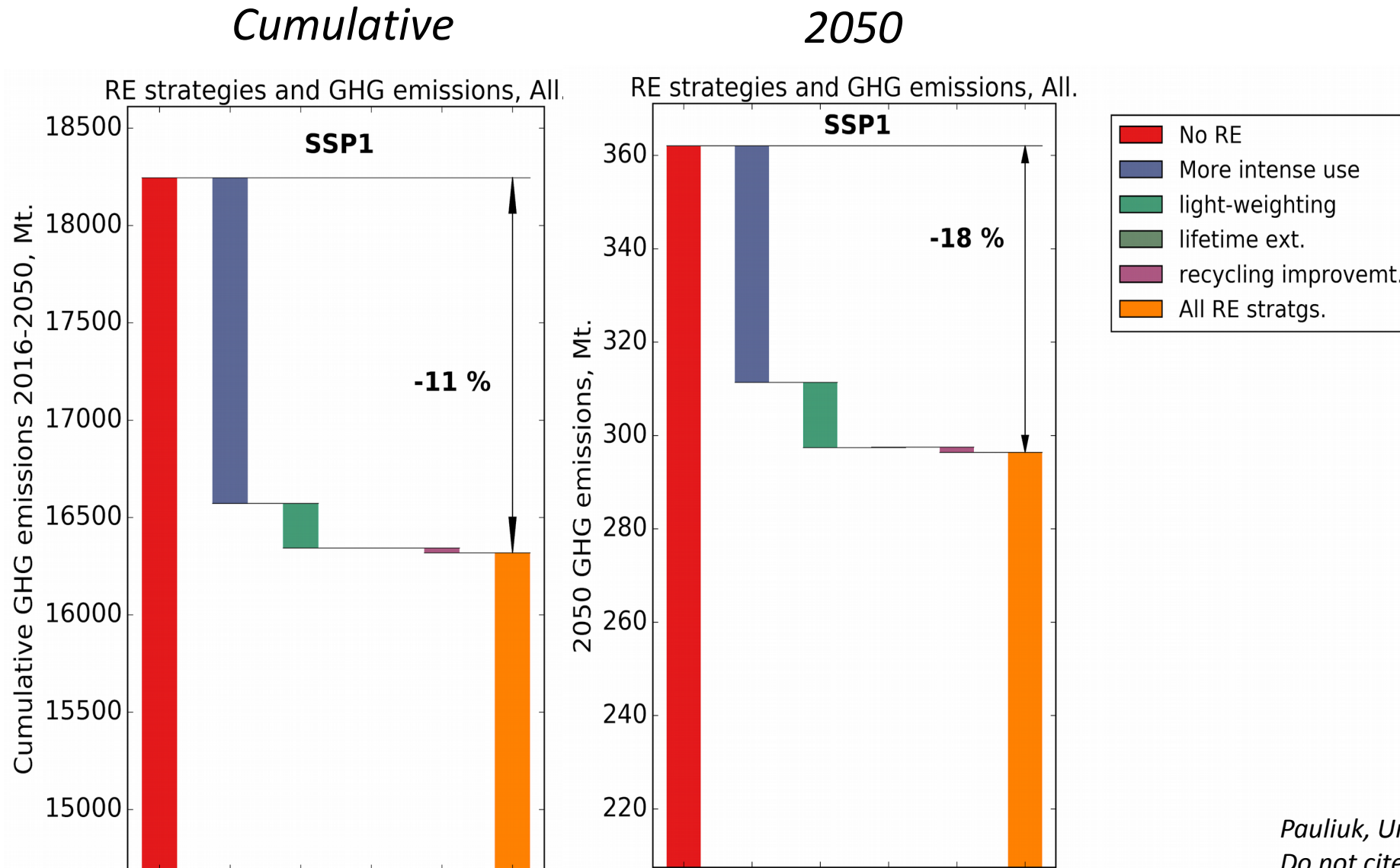
ENERGY

MATERIALS

DECOUPLING

RESOURCES

A snapshot of Cumulative and 2050 emission reductions for buildings and cars from the incoming report requested by G7 countries



To conclude

How and why?



- *The challenge seems to not be one of not inadequate scientific evidence anymore; rather it is one of **cooperation and implementation**.*
- ***Complexity and scale of these challenges requires** a space that allows actors with responsibility for those environmental governance mechanisms to be able to consider and experiment with both **new forms of collaboration and more „systemic“ approaches** ... through promoting multi stakeholder cooperation, more agile governance (including sub-state actors, such as cities, states and provinces), the use of new technologies, and enhanced accountability and transparency.*

We need more “Circularity” even in the

GLOBAL GOVERNANCE



Sharing sovereignty instead of owing sovereignty

Important messages to remember

- *The existing global resource use trends and their environmental and health impact are extremely worrying and can/should not continue.*
- *Resource efficiency/circular economy/SCP policies based on the concept of decoupling are essential ingredients of an economy, which would be SDG compliant.*
- *If appropriate policies, including resource efficiency, are applied, we can reduce social differences, efficiently fight against climate change, biodiversity loss and pollution, while economic growth would be even higher than in the case that the current trends would continue.*
- *Resource efficiency policies are an important part of the solution in the fight against climate change.*

And why is it important to keep resources in the economy and make it more resource efficient?

- *We have to fix a broken **compass!** In essence this means the **development of new economic model** based on sustainable consumption and production integrating all pillars of sustainability.*
- *To **avoid globally extensive and inter-systemic crisis and frequent conflicts** and to show that we are committed to implement what we have agreed in SDGs. Changes are **unavoidable** and humans are supposed to be intelligent. It is high time to prove it.*



International
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THANK YOU

For more information

Contact IRP Secretariat at resourcepanel@un.org

Visit our website at <http://resourcepanel.org/>