

The International Resource Panel

Presentation to US Government Agencies

March 2nd, 2021

Merlyn Van Voore, head, IRP Secretariat

María José Baptista, member, IRP Secretariat



Who is the IRP?

The **International Resource Panel – IRP** was launched in 2007 by the United Nations Environment Programme with the idea of creating a **science-policy interface** on the sustainable use of **natural resources**

Climate
Change

ipcc
INTERGOVERNMENTAL PANEL ON
climate change

Biodiversity
Loss

 ipbes

Natural
Resources

 International
Resource
Panel



The Panel's mission



Provide independent, coherent and authoritative scientific assessments of policy relevance on the sustainable use of natural resources and, in particular, their environmental impacts over the full life cycle.



Contribute to a better understanding of how to decouple economic growth from environmental degradation while enhancing human well-being.

The importance of decoupling

INNOVATIVE SOLUTION

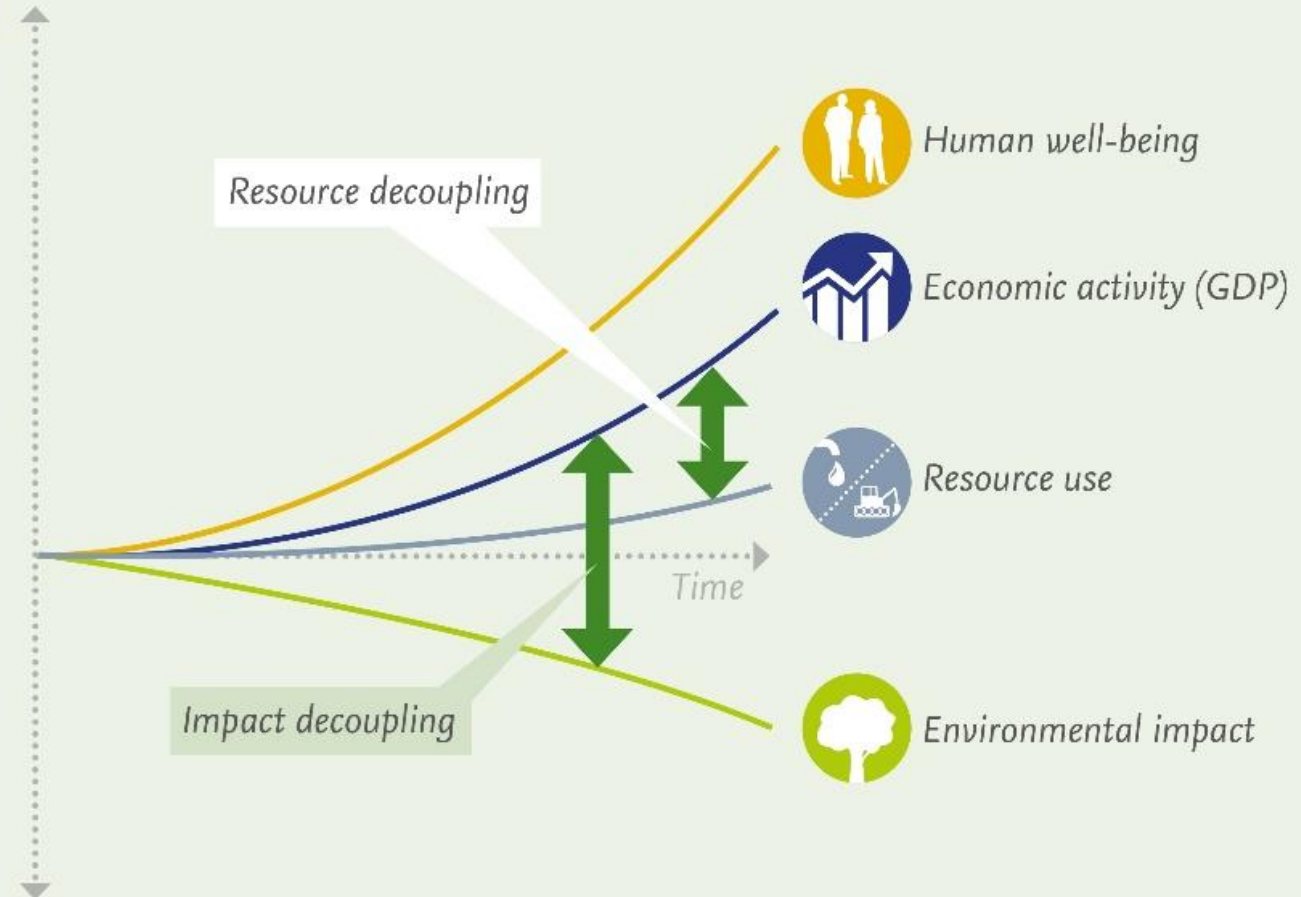
How can we protect the environment, reduce poverty and maintain economic growth?

By **Decoupling**: breaking the link between resource use and economic growth

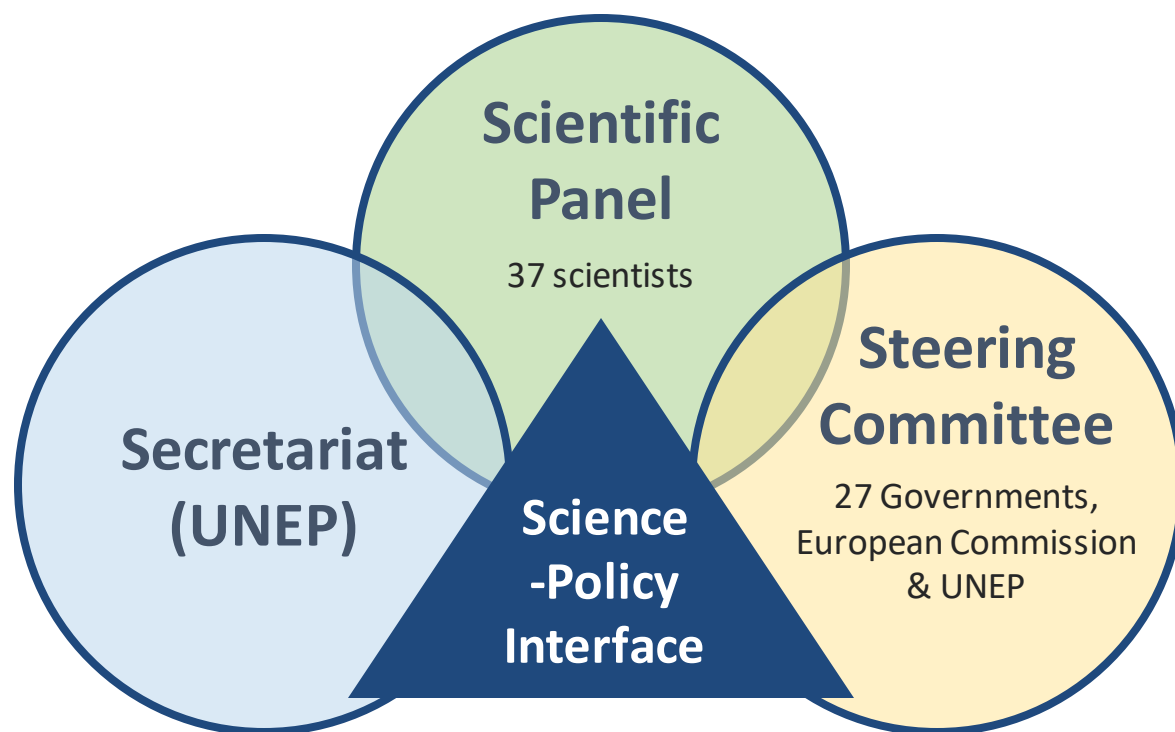


Using less land, water, energy and materials to maintain economic growth is: **Resource decoupling**

Using resources wisely over their lifetime to reduce environmental impact is: **Impact decoupling**



IRP set up and partners



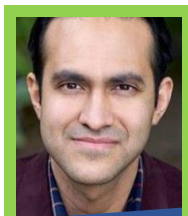
Panel members



Steve
Hatfields-Dodds



Bing Zhu



Saleem Ali



Stefan Bringezu



Ester van der
Voet



Patrice
Christmann



Mark Swilling



Marina Fischer-
Kowalski



Anders
Wijkman



Janez Potocnik
(Co-Chair)



Keisuke Nansai



Maarten Allard
Hajer



Edgar Hertwich



Anuradha
Ramaswami



Bruno Oberle



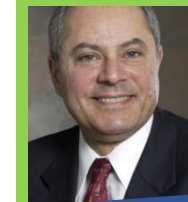
Michael
Obersteiner



Jeff
Herrick



Hans
Bruyninckx



Nabil Z. Nasr



Antonio Pedro



S. Vijay Kumar



Paul Ekins



Heinz Schandl



Eeva Primmer



Yonglong Lu



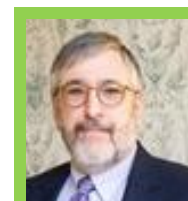
Elias Ayuk



Helga Weisz



Erinç Yeldan



Reid Lifset



Ashok Khosla



Porfirio Alvarez-
Torres



Stefanie
Hellweg



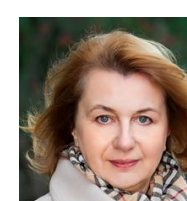
Stephen
Fletcher



Anthony Chiu



Seiji Hashimoto



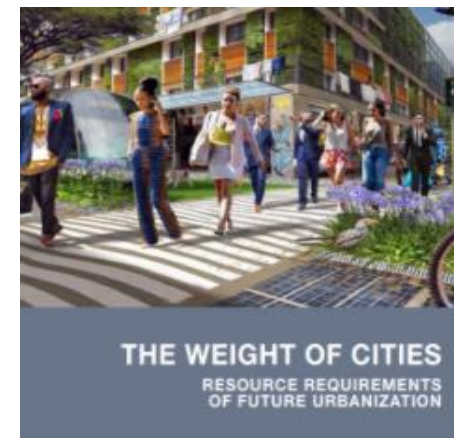
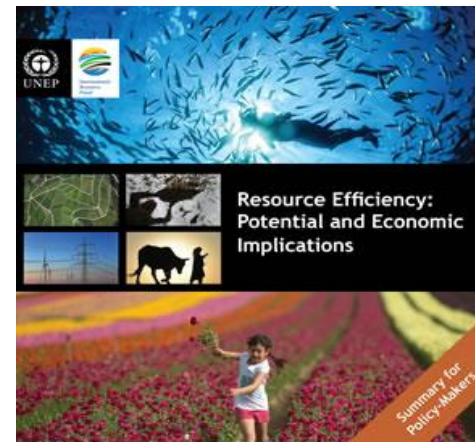
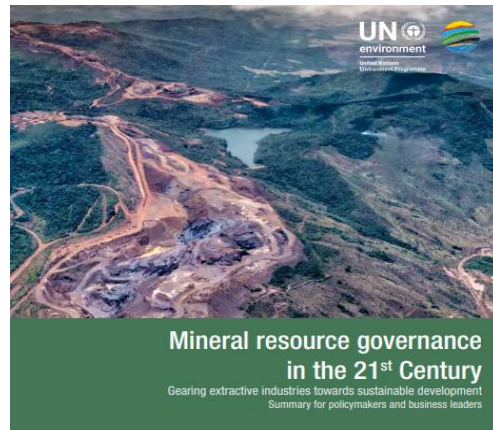
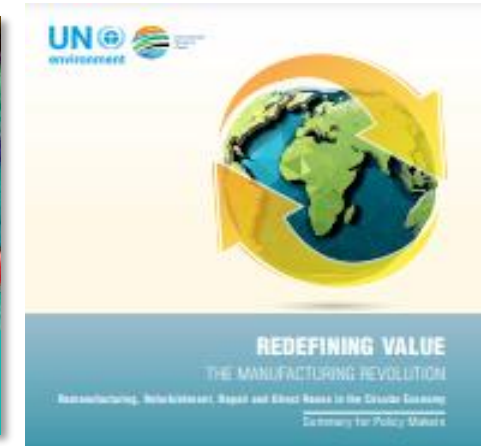
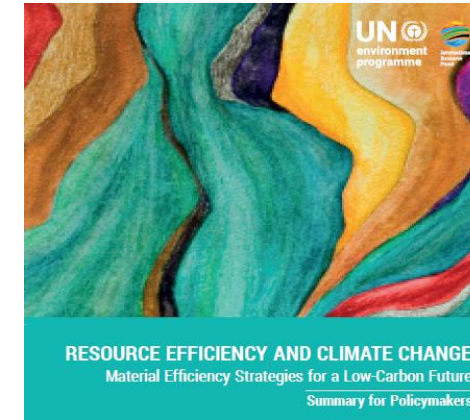
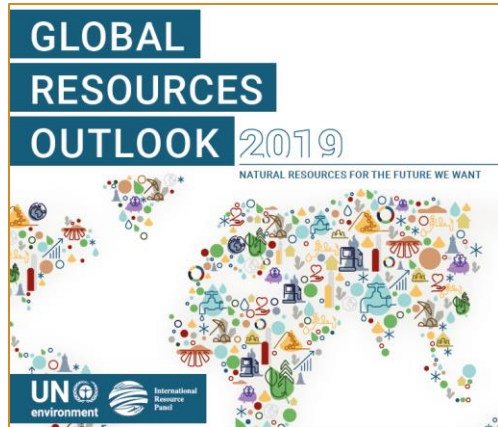
Joanna Kulczycka



Izabella Teixeira
(Co-Chair)

34 published reports between 2011-2021

IRP
flagship
report



And many more at:

<http://www.resourcepanel.org/reports>

2018-2021 High-impact priority areas and upcoming reports



Current trends and future prospects of natural resources

- Defining Sustainable Levels of Resource Use (2021)
- Global Resources Outlook 2023 (2023)



Resource efficiency and climate change



Socio-economic implications of natural resource use

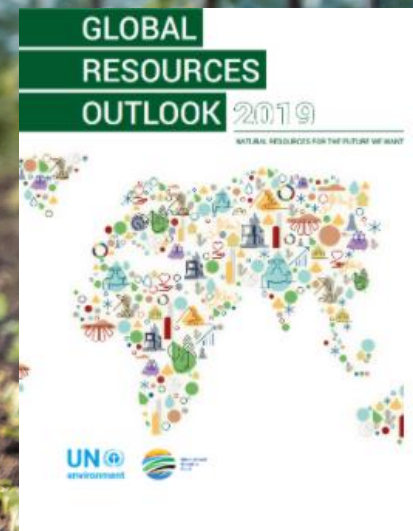
- Transition to a Resource-Efficient Economy (2021)
- Socio-Economic Implications of Enhancing Resource Efficiency and Promoting Circular Economy (2021)
- Resources and Finance (2023)



Links between sustainable resource management, migration and conflict

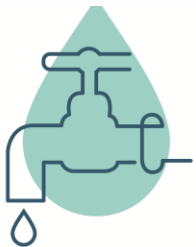
- The Role of Resources in Environmental Displacement and Migration (2021)

Global Resources Outlook 2019: Key Messages



Scope

- **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**



1. The **USE** of natural resources has more than **tripled** from 1970, and **continues to grow**

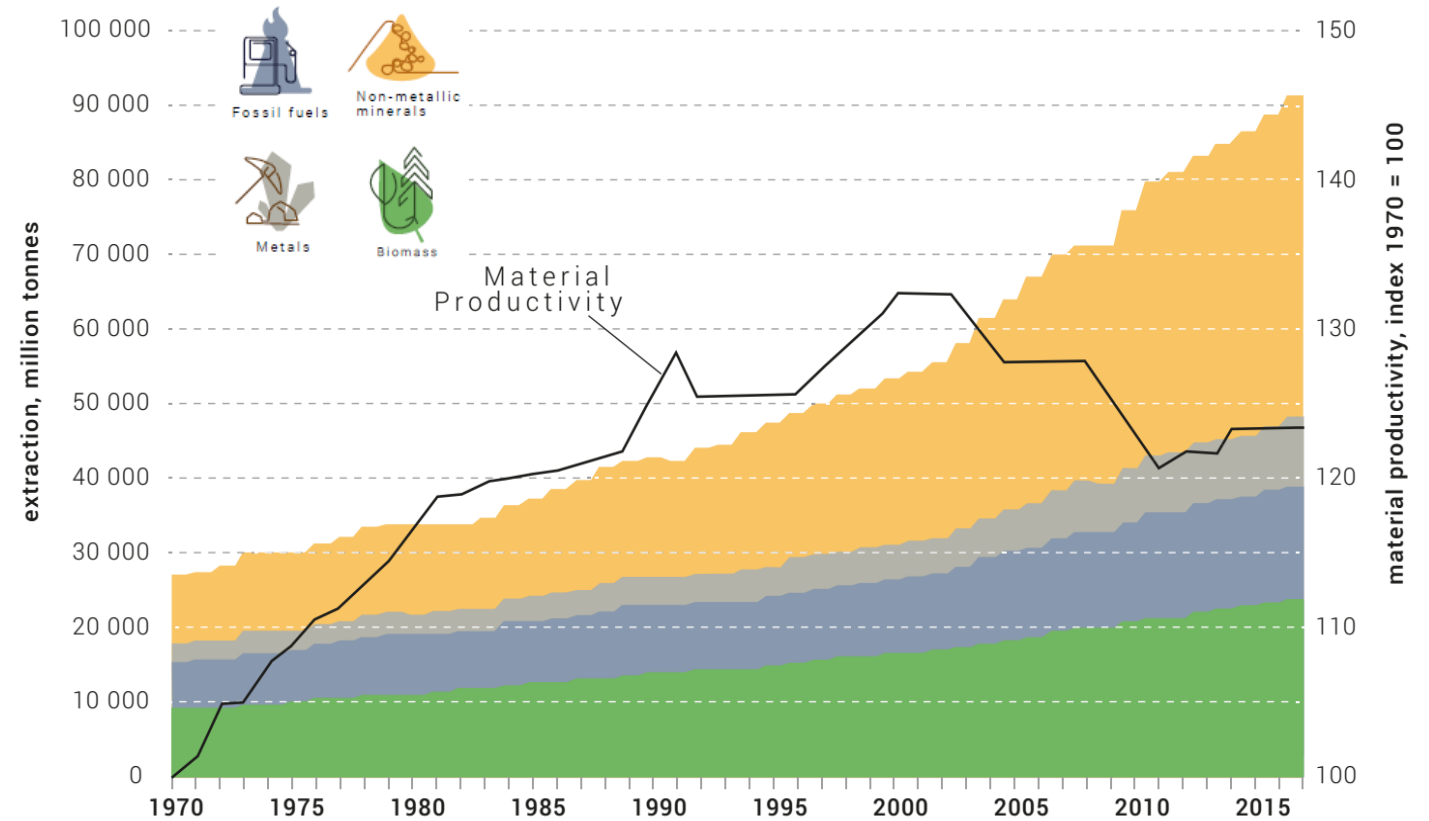


92 billion tons of global extraction



12.2 tons materials demand per capita

Global material extraction and material productivity, 1970 - 2017



Myth: Technological advancement is making the global economy more resource efficient.

Fact: Some (high-income) countries are becoming much more efficient but **global productivity has not improved** in the last 20 years

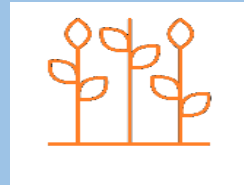
2. Historical and current patterns of natural resource use are resulting in increasingly negative impacts on the environment and human health



50% of global climate change impacts

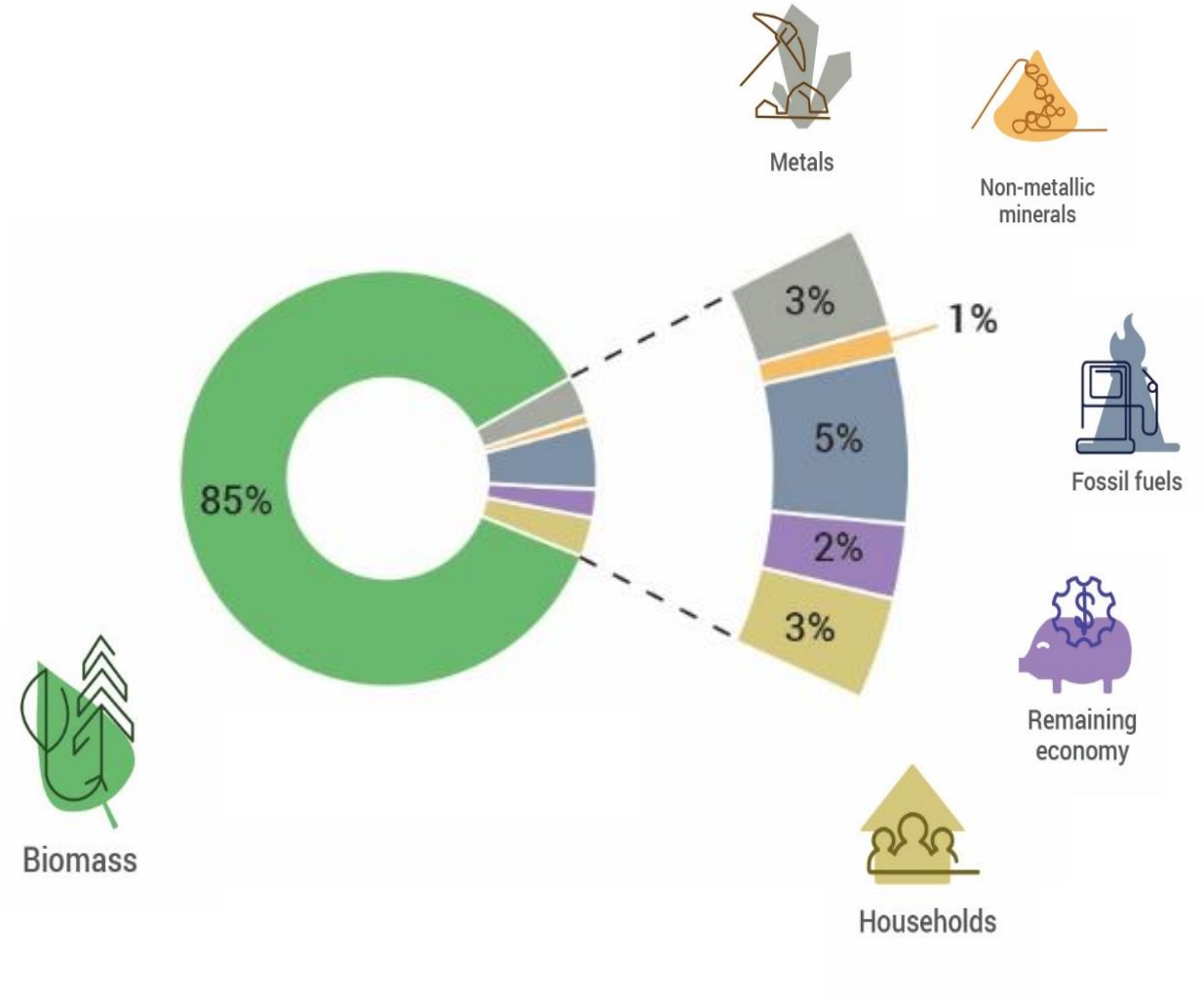


90% of global biodiversity loss and water stress



11% of global species loss

Water Stress Impacts



3. The **use** of natural resources and the related **benefits** and environmental **impacts** are **unevenly distributed** across countries and regions

The 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.

The per capita environmental impacts high-income countries is:



3-6x those of the low-income groups.

3. The **use** of natural resources and the related **benefits** and environmental **impacts are unevenly distributed** across countries and regions

Domestic Material Consumption
tonnes per capita



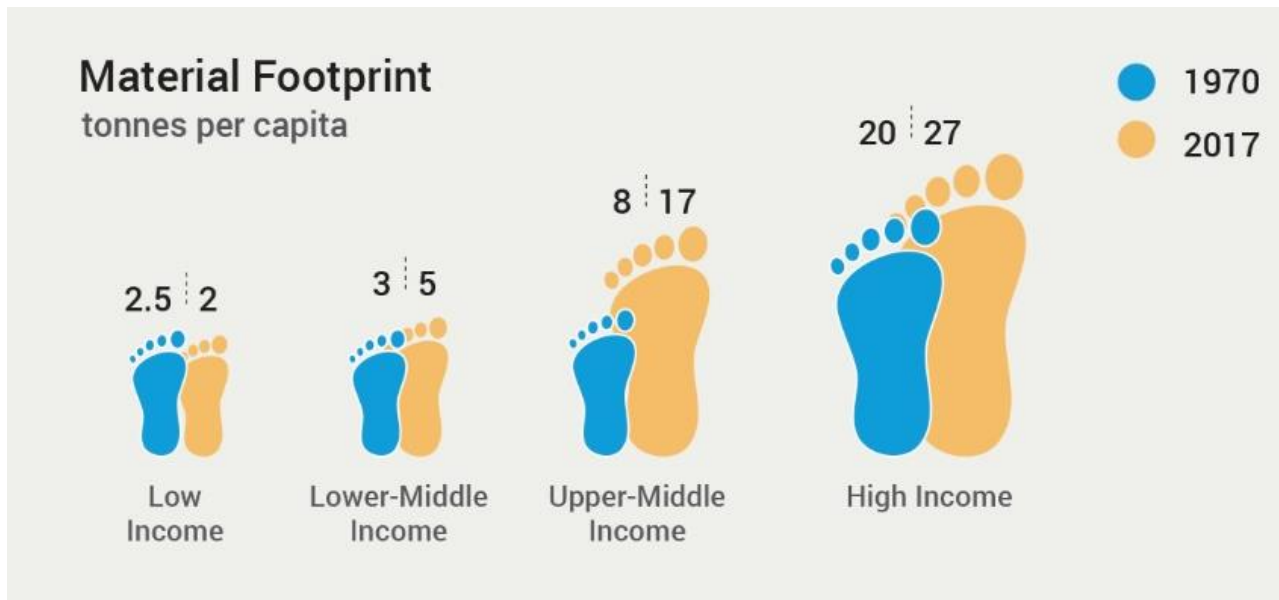
Rise of the upper-middle-income nations

56% of the global share of domestic material consumption in 2017

Higher per capita material consumption than the high-income group as of 2012

Practically **no change** for low income countries despite needing it the most

3. The **use** of natural resources and the related **benefits** and environmental **impacts** are **unevenly distributed** across countries and regions



Two Key Drivers of Middle-Income Resource Use Growth

New infrastructure

buildup in developing countries

Outsourcing of material & resource intensive production from high-income countries

High-income countries still dominate material footprints per capita

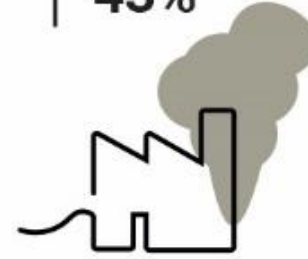
4. Without **urgent and concerted action**, rapid growth and inefficient use of natural resources will continue to create **unsustainable pressures** on the environment.

↑ more than
doubles



Global material
extraction

↑ increases by
43%



Greenhouse gas
emissions

↑ increases by
more than **20%**



Area of
agricultural land

↑ increases by
25%



Global
pasture land

↓ reduces by
over **10%**

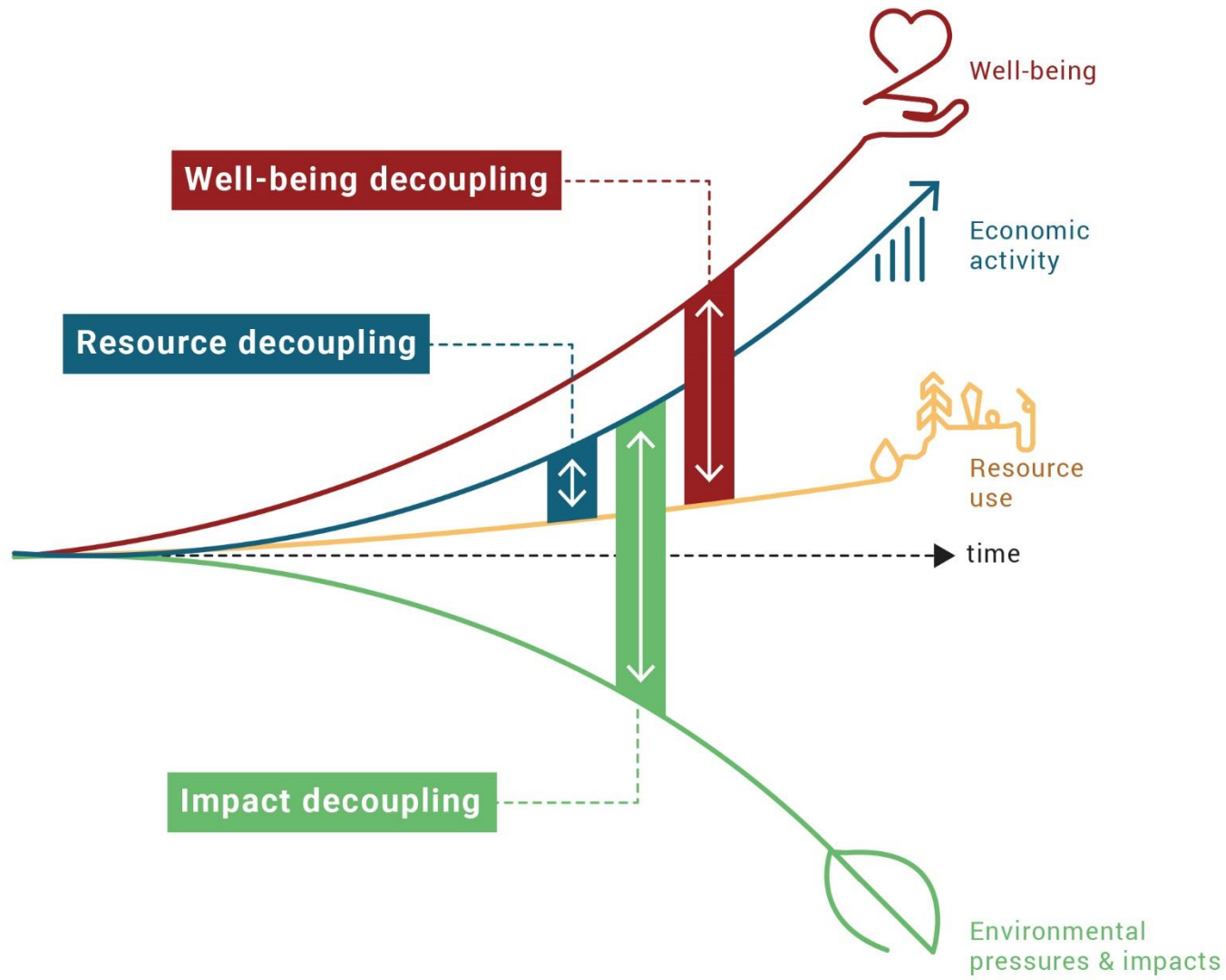


Forests

↓ reduces by
around **20%**



Other
natural habitat



5. The **decoupling** of natural resource use and environmental impacts from economic activity and human well-being is **essential, possible** and could deliver socio-economic and environmental **benefits**.

Historical Trends

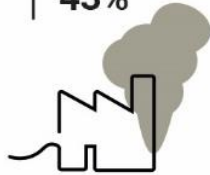
Projected 2060 compared to 2015 levels in absence of urgent and concerted action

↑ more than
doubles



Global material
extraction

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Greenhouse gas
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Area of
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↑ increases by
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Global
pasture land

↓ reduces by
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Forests

↓ reduces by
around **20%**



Other
natural habitat

Towards Sustainability

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

↑ US\$ 233 trillion
8% above
Historical Trends



Global
GDP

↓ **25%**
lower than
Historical Trends



Global material
extraction

↓ decrease by
90%



Greenhouse gas
emissions

↓ **9%**
less than
Historical Trends



Area of
agricultural land

↓ **30%**
less than
Historical Trends



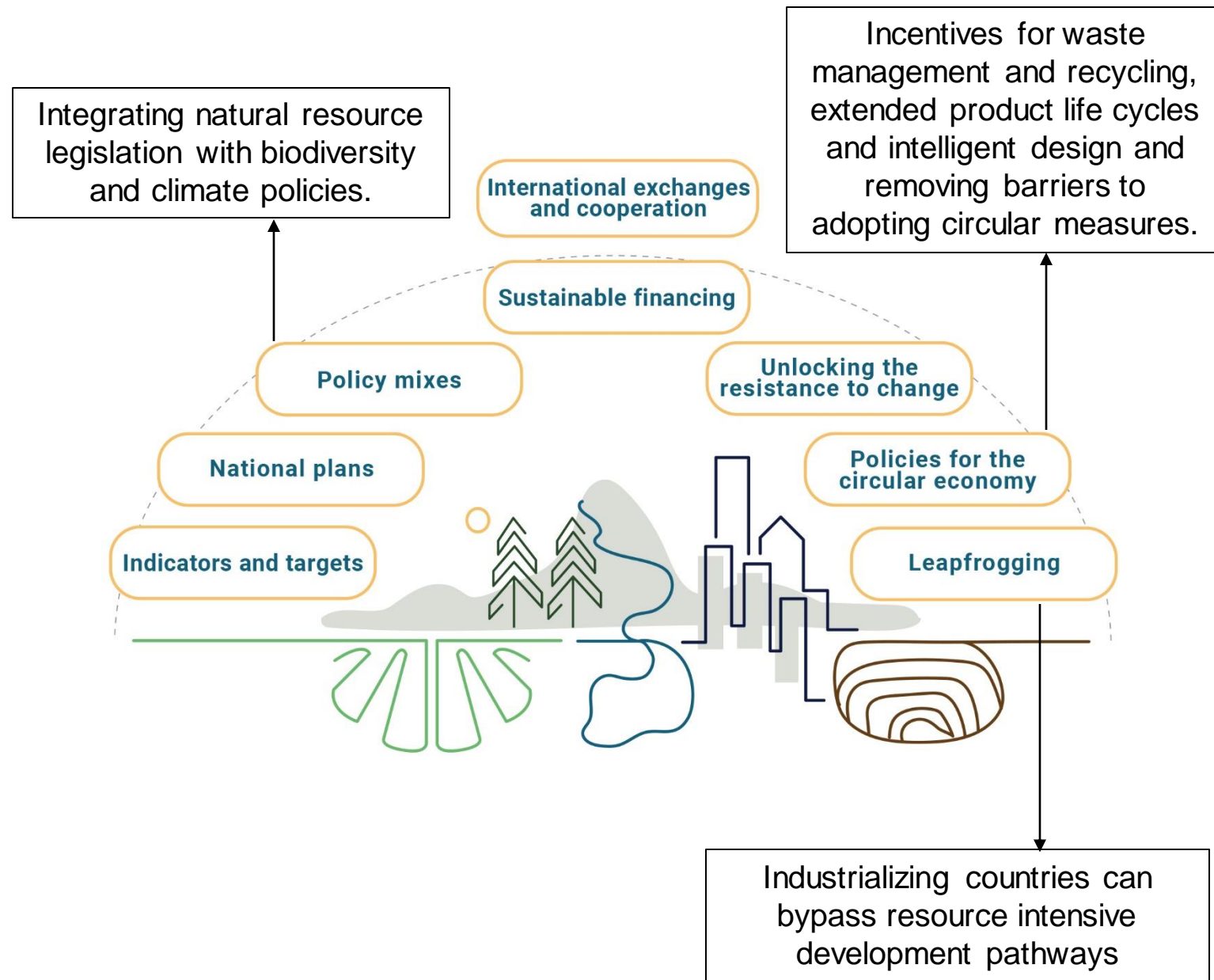
Global
pasture land

↑ increases by
11%



Area of forest and
other natural habitat

6. Policy and decision makers have **tools** at their disposal to advance worthwhile change at local, national and global scales.



7. International exchanges and cooperation are important for systemic change to happen

Cooperation and information sharing with other global assessments for science-based solutions

ipcc

ipbes
Science and Policy
for People and Nature

GEO6
GLOBAL ENVIRONMENT OUTLOOK

GCO
Global Chemicals Outlook



Exchange experiences and best practices through communities of practice and working groups



Inform global debate at high-level regional and global forums



Global Resources Outlook 2019:

All material available at:
www.resourcepanel.org/reports/global-resources-outlook

