



A DIFFERENT KIND OF GROWTH

European Parliament, 8th March, 2017

Janez Potočnik

Co-Chair UNEP International Resource Panel (IRP)

Partner SYSTEMIQ

***THE WORLD WE
LIVE IN
AND CHALLENGES WE ARE
FACING***



International
Resource
Panel

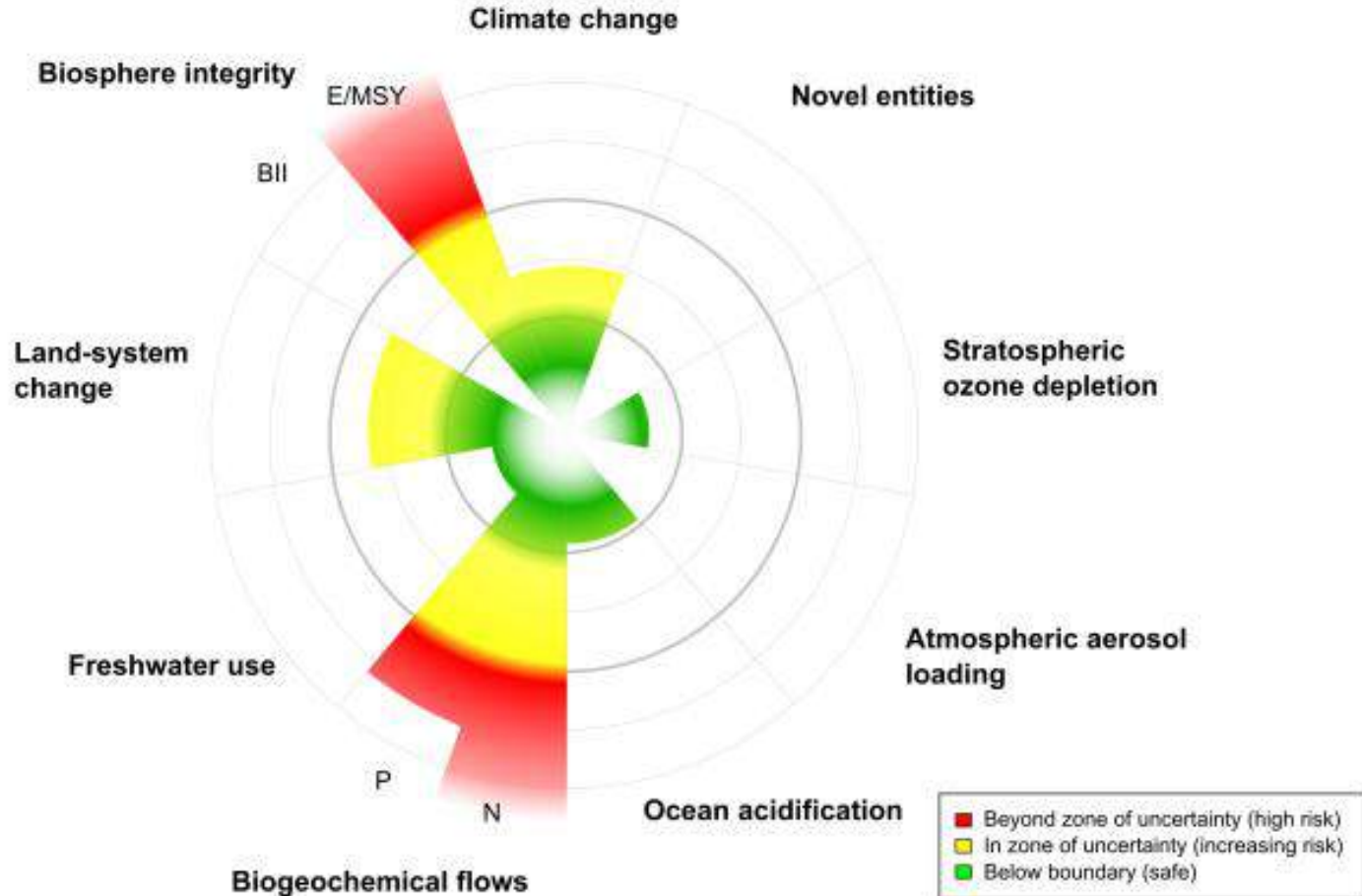
20th CENTURY

THE GREAT ACCELERATION



- Growth of population by a factor **3.7**
- Annual extraction of construction materials grew by a factor of **34**, ores and minerals by a factor of **27**, fossil fuels by a factor of **12**, biomass by a factor of **3.6**
- Total material extraction grew by a factor of **8**
- GHG emissions grew by a factor of **13**

“PLANETARY BOUNDARIES”



Source: Steffen et al. 2015

21th CENTURY

FACTS WE CAN NOT IGNORE

POPULATION

- *Population* growth (2050 - 9.7 billion)
- *Per capita consumption* growth (McKinsey estimates 1 to 3 billion consumers moving from low to middle class consumption till 2030)



21th CENTURY

FACTS WE CAN NOT IGNORE

POVERTY AND SOCIAL INEQUALITY

- Oxfam Report: 62 people own the same as half of the world and the richest 1% is more *wealthy* than the rest of the world)
- Nearly 800 million people are *hungry*, over 2 billion suffer from micronutrient deficiencies ... while over 2 billion people are *obese*
- We *throw away* one third of all the *food* we produce

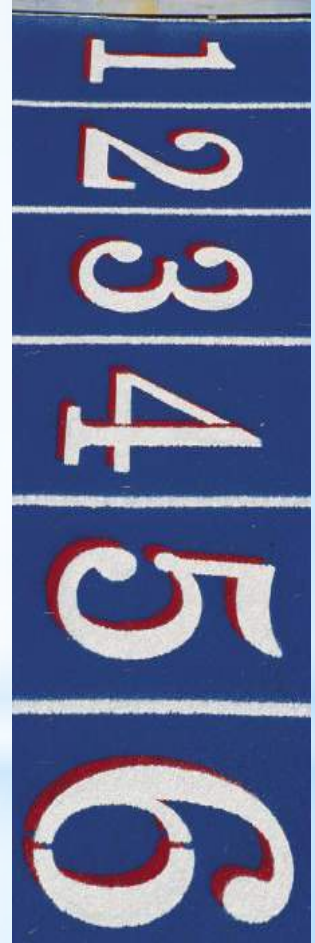


21th CENTURY

FACTS WE CAN NOT IGNORE

ENVIRONMENT

- 60% of *ecosystems* already degraded or used unsustainably
- Increasing evidence of the *climate change* threat
- 33% of *soils* is moderately to highly degraded due to erosion, nutrient depletion, acidification, salinization, compaction and chemical pollution
- 467 000 premature *deaths* yearly in EU *due to air pollution* (7 millions globally)





21th CENTURY

FACTS WE CAN NOT IGNORE

URBANISATION

- **52% of urban fabric** expected to exist by 2050 still needs to be constructed
- Between 2000 and 2030 it is estimated that **developing countries** would have added **400,000 km² of built-up urban area**, equal to the world's built-up area in 2000
- In the three year period (2011-2013), **China** has used more **cement** than the **USA** during the entire 20th century



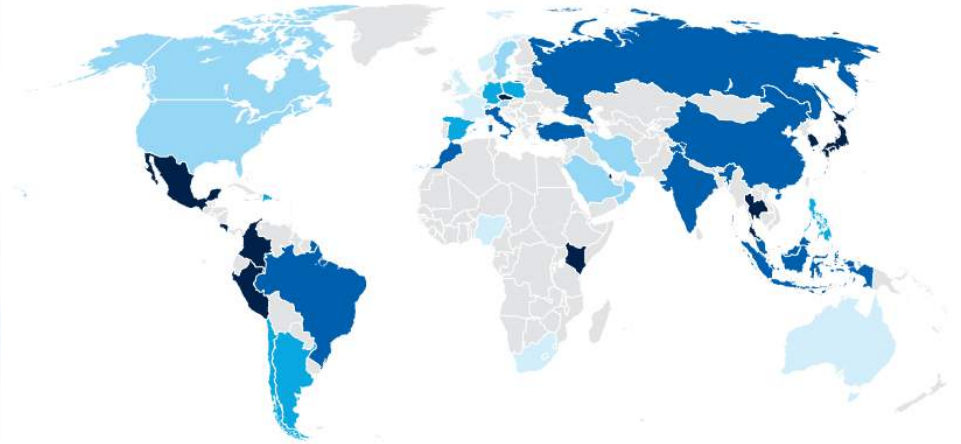
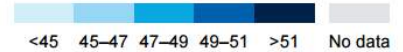
21th CENTURY

FACTS WE CAN NOT IGNORE

COMPUTERS AND ROBOTICS

- Nearly *half* of all the work we do will be able to be *automated* by the year 2055 (McKinsey Global Institute)

Employee weighted overall % of activities that can be automated by adapting currently demonstrated technologies¹

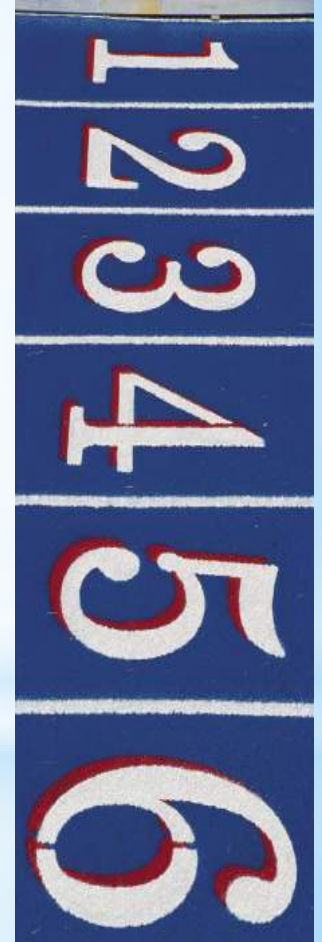


21th CENTURY

FACTS WE CAN NOT IGNORE

GLOBALISATION

- 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.
- Increased **multi-polarity**, but not in a way developed world expected to happen
- Our individual and collective **responsibility** has enormously increased.



SYNCHRONOUS FAILURE:

THE EMERGING CAUSAL ARCHITECTURE OF GLOBAL CRISIS

Ecology and Society 28/08/2015

[Thomas Homer-Dixon](#), [Brian Walker](#), [Reinette Biggs](#), [Anne-Sophie Crépin](#), [Carl Folke](#), [Eric F. Lambin](#), [Garry D. Peterson](#), [Johan Rockström](#), [Marten Scheffer](#), [Will Steffen](#), [Max Troell](#)

In a world where external reserves of resources are limited and second chances are thus increasingly rare, humankind must develop the ability to proactively navigate away from this new kind of crisis- globally extensive and inter-systemic - that could otherwise irreversibly degrade the biophysical and economic basis for human prosperity.

ECONOMIC MODEL

DRIVING OUR LIVES

OUR CURRENT GROWTH MODEL IS DEEPLY FLAWED



Total natural capital destruction cost USD 7.3 trillion in 2009, equivalent to 13% of global GDP in that year, or nearly half of US GDP at the time

**Environmental
Costs**



Decoupling of average wages and productivity, and significantly increased inequality in many developed markets

**Economic Costs:
Developed World**



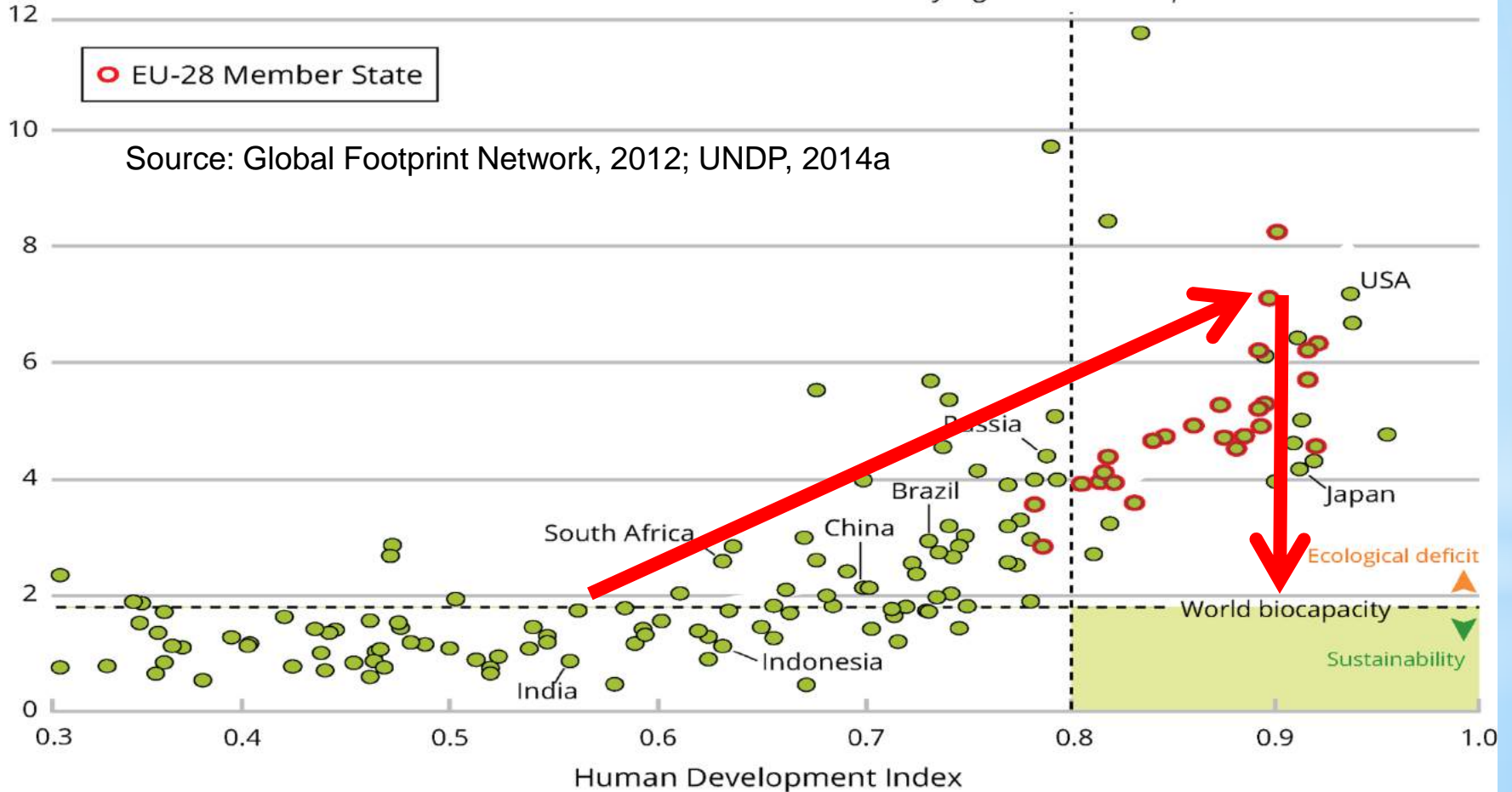
Almost 21 million people are victims of forced labour - 11.4 million of whom are women and girls

**Societal Costs:
Developing World**

DEVELOPMENT TRAJECTORY ...

Ecological footprint
(hectares per person per year)

'Very high human development'



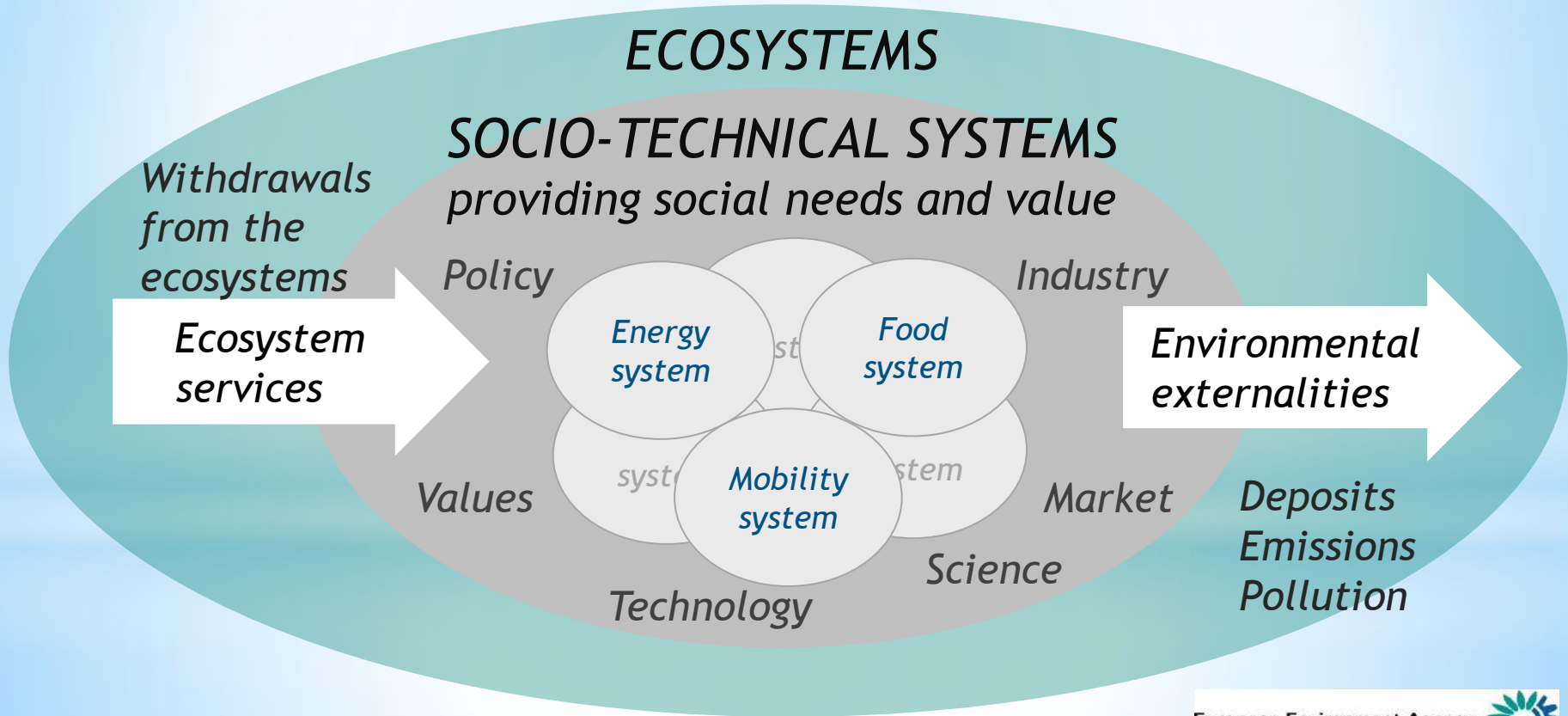
**SUSTAINABLE DEVELOPMENT: DEFINITIONS,
PRINCIPLES, POLICIES
(THE THEORY OF CHANGE)**

Herman E. Daly: Invited Address, WB, 30/04/2002

- *Macroeconomics has no “when to stop” rule. GDP is supposed to grow forever.*
- *The optimal scale of the macro-economy relative to its containing ecosystem is the critical issue to which the macroeconomics has been blind. This blindness to the costs of growth in scale is largely a consequence of ignoring throughput, and has led to the problem of ecological unsustainability.*

LIVING WELL WITHIN ECOLOGICAL LIMITS

ECONOMIC SYSTEM FUNCTION OF ECOSYSTEM



SUSTAINABLE DEVELOPMENT: DEFINITIONS, PRINCIPLES, POLICIES

Herman E. Daly: Invited Address, WB, 30/04/2002

- *Throughput* - entropic physical flow from nature's sources through the economy and back to nature's sinks - *should be non-declining*. Natural capital should be kept intact.
- Bringing the concept of throughput into the foundations of economic theory does not reduce economics to physics, but it does force the *recognition of the constraints of physical law on economics*.
- How do we know that throughput growth, or even the GDP growth, is not at the margin *increasing illth faster than wealth*, making us poorer than richer?

SUSTAINABLE DEVELOPMENT: DEFINITIONS, PRINCIPLES, POLICIES

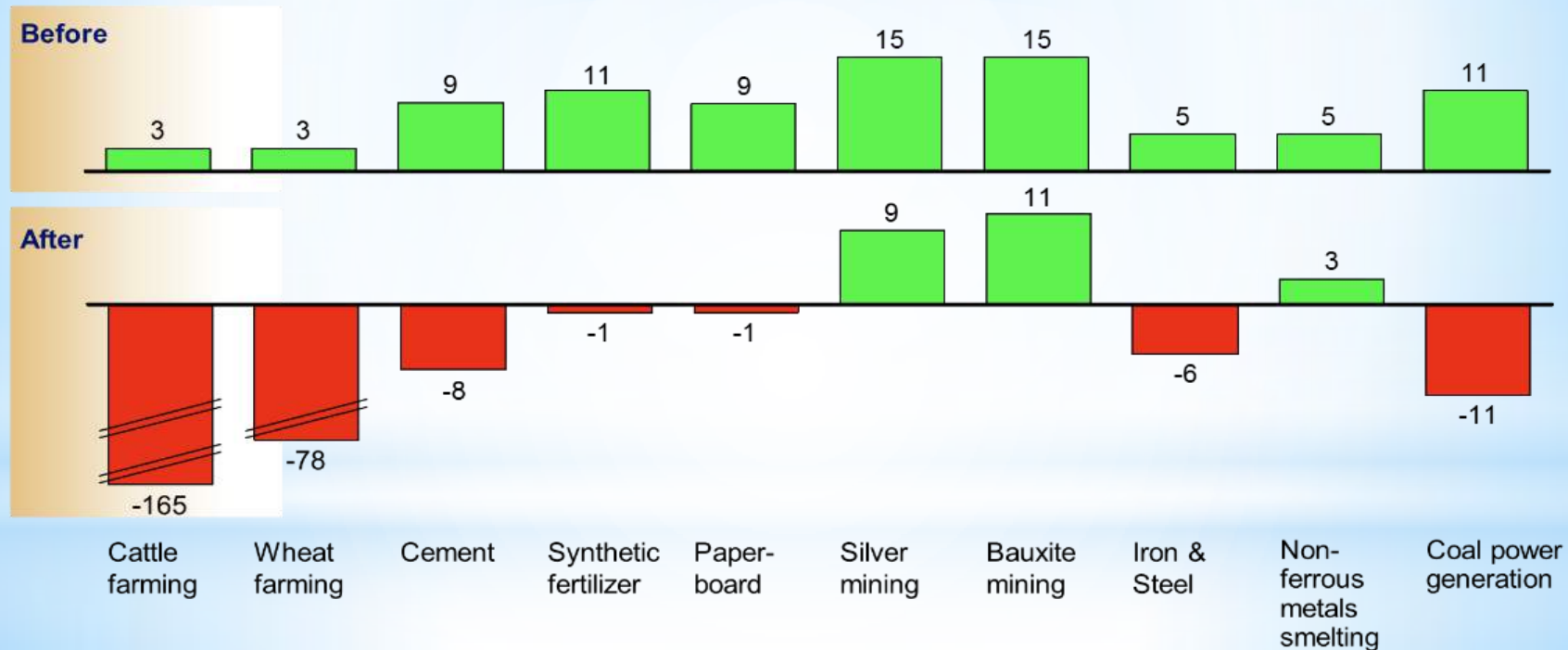
Herman E. Daly: Invited Address, WB, 30/04/2002

Why defining development as global growth can not be successful?

***Environmental sustainability reasons:** ecological limits are rapidly converting “economic growth” into “uneconomic growth”, making us poorer not richer. These opportunity costs can be, and often are, worth more than extra production benefits of the throughput growth that caused them. We cannot be absolutely sure because we measure only the benefits, not the costs.*

Negative profit margins in most of the world's raw material industries if natural capital costs are included

Profit margin (EBIT) before and after natural capital costs, based on top-2 companies in each Morgan Stanley Composite Index category, Percent, 2012



Source: Adapted from: Trucost and TEEB (2013)

SUSTAINABLE DEVELOPMENT: DEFINITIONS, PRINCIPLES, POLICIES

Herman E. Daly: Invited Address, WB, 30/04/2002

Why defining development as global growth can not be successful?

Social equity reasons: *Even if growth entailed no environmental costs, part of what we mean by poverty and welfare is a function of relative rather than absolute income, that is, of social conditions of distributive inequality. Growth cannot possibly increase everyone's relative income.*

SUSTAINABLE DEVELOPMENT: DEFINITIONS, PRINCIPLES, POLICIES

Herman E. Daly: Invited Address, WB, 30/04/2002

- Failing to tax away the scarcity rents to nature and letting them accrue as unearned income to favoured individuals has long been a primary source of resentment and social conflict.*
- “Efficiency first” or “Frugality first”? ”Frugality first” induces efficiency as a secondary consequence, “efficiency first” does not include frugality - it makes frugality less necessary, nor does it give rise to a scarcity rent that can be captured and redistributed.*



*In the mid-term, except in specific cases,
resource shortage will not be the core
limiting factor of our (economic)
development ...*

*... but the environmental consequences
caused by this excessive and irresponsible use
of resources will be!*

GROWTH

EU: from growth and jobs to jobs and growth

Growth rates in EU *by decades* - OECD data:

<i>Sixties</i>	5.4%
<i>Seventies</i>	3.8%
<i>Eighties</i>	3.1%
<i>Nineties</i>	2.3%
<i>First decade of this century</i>	1.4%

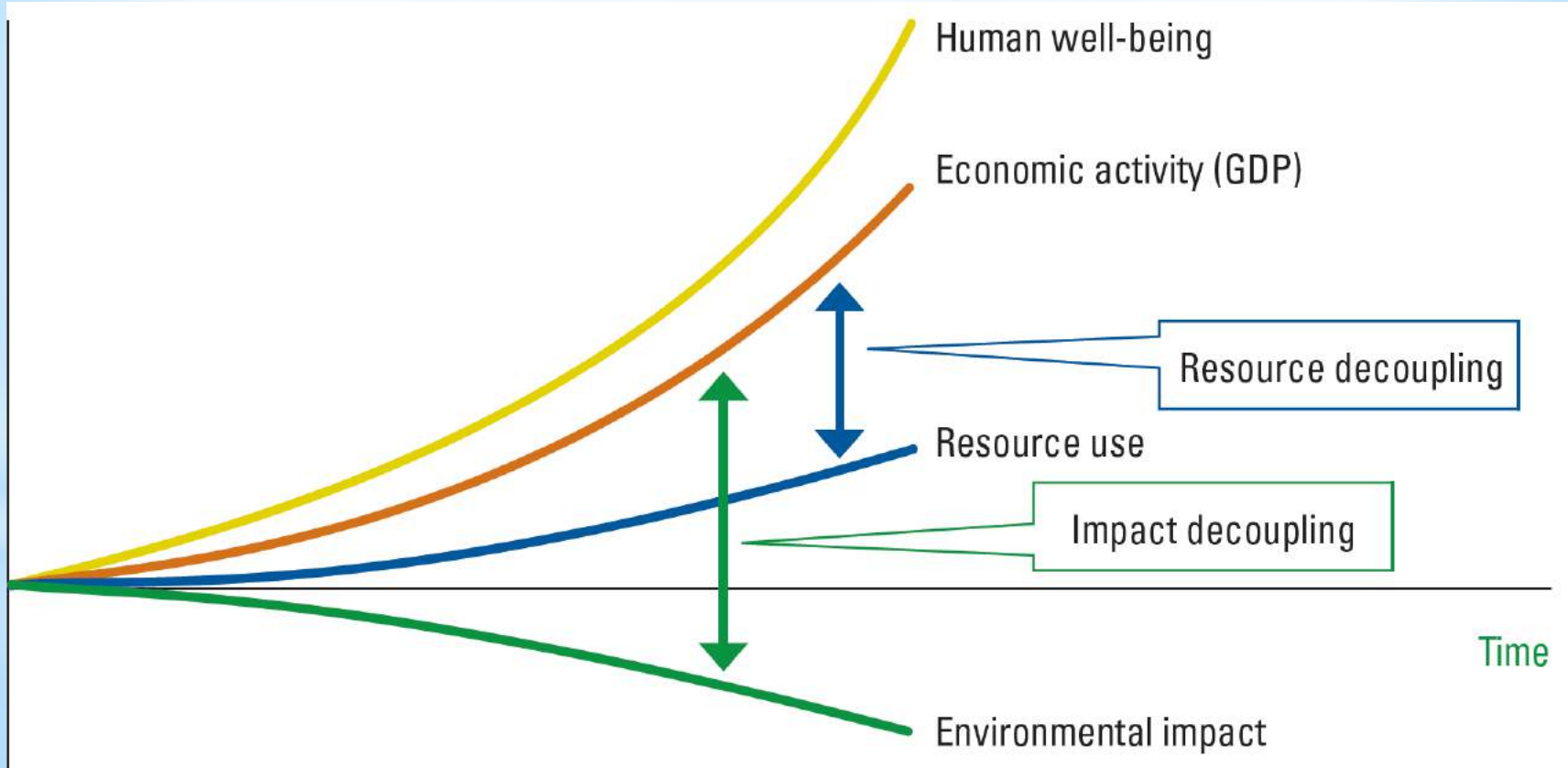


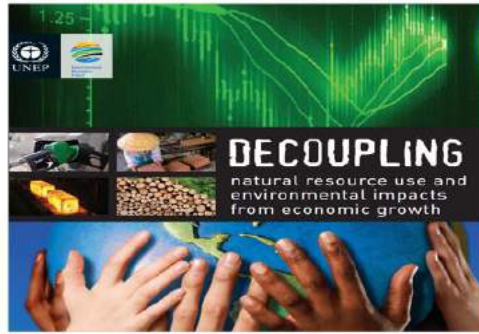
- “*Good*” growth - “*Bad*” growth - How much of the “growth” in the past actually qualifies for growth?
- 10% growth - *doubling* of everything in 7 years
- GDP *growth rates* - GDP *levels*





DECOUPLING IS THE IMPERATIVE OF MODERN ENVIRONMENTAL AND ECONOMIC POLICY





- *Developed economies* will need to adopt strategies that bring their resource consumption down to globally sustainable levels (**ABSOLUTE DECOUPLING**)
- *Developing nations* must strive to improve resource efficiencies and cleaner production processes as their net consumption of natural resources increases for a period until they achieve a societally acceptable quality of life (**RELATIVE DECOUPLING**)



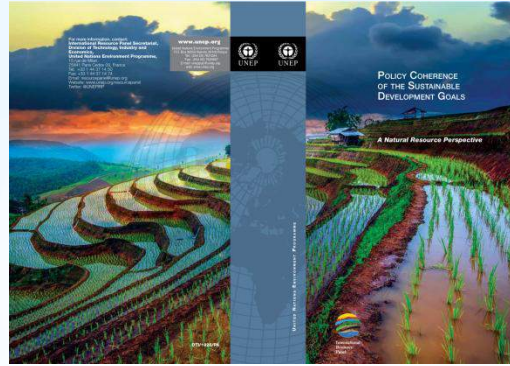
International
Resource
Panel

SDGs DIRECTLY DEPENDENT ON NATURAL RESOURCES





International
Resource
Panel



Sustainable Consumption and Production is the most efficient strategy to avoid trade-offs and create synergies to resolve the development and environmental challenges articulated in the SDGs.



TO CONCLUDE ...

*SUSTAINABLE, LOW-CARBON, CIRCULAR, GREEN,
RESOURCE EFFICIENT, ENERGY EFFICIENT,
DECOUPLING, 3Rs, ECOLOGICAL CIVILISATION,
C2C, BIOECONOMY, ECO-ECONOMY, BLUE ...*

- *What we actually talk about*



**WE HAVE TO FIX A BROKEN
COMPASS
(PAVAN SUKHDEV)**

**NEW ECONOMIC MODEL BASED ON SCP
INTEGRATING ALL PILLARS OF
SUSTAINABILITY IS**

**NECESSARY
AND UNAVOIDABLE**



MARKETS

CANNOT ENSURE EFFICIENCY IN THE ALLOCATION AND USE OF RESOURCES ...



- *If prices do not reflect the true value and costs of resources,*
- *If rewards to capital are disproportionate to other inputs (financial capital is overvalued, human capital is undervalued and natural capital in many cases not valued at all),*
- *If managers on annual contracts are induced to make short term investment decisions overly influenced by bonuses based on short term share price, if ...*
- *Example: Recent reaction of financial markets on the announcement of president Trump to relax the financial market rules*

Better regulation

is not about less regulation, it is about taking responsibility for public good and creating the conditions for confidence to invest in technologies for the markets of the future

Any global transition is a major new opportunity for the innovation, new development opportunities, new jobs

And alternative ...

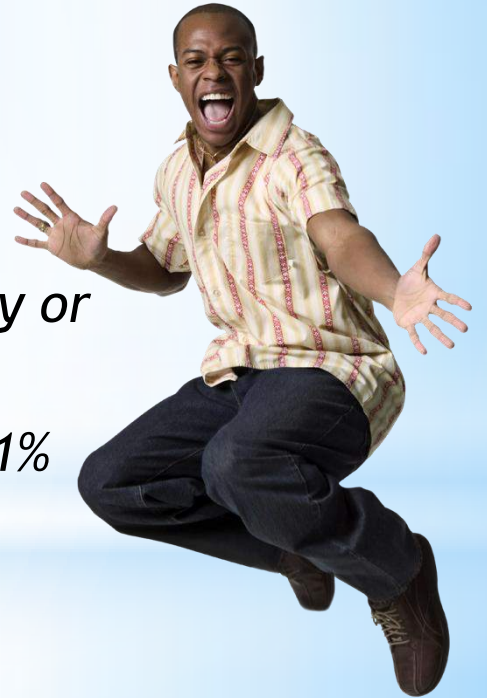
I would rather not think and talk about it!

IS WEALTH (GDP) MAKING US HAPPIER ...

- *Win-Gallup Survey*

(December 2014, 64000 people, 64 states)

- *70% of people satisfied with their lives*
- *The happiest people live in Africa (83% very happy or happy)*
- *The least happy people live in western Europe (11% very unhappy)*
- *In improvement of quality of life believes 75% Africans and 26% western Europeans*



UNDERSTANDING SUSTAINABLE PROSPERITY



ESRC Centre for the
Understanding of
Sustainable Prosperity



Prosperity transcends material concerns. It resides in our sense of identity, our pursuit of meaning. It rests in our ability to participate in the life of society.

Prosperity consists in our ability to flourish on a finite planet.



International
Resource
Panel



THANK YOU

www.unep.org/resourcepanel