



DYNAMIX

Decoupling growth from resource use
and its environmental impacts

DYNAMIX – Dynamic policy mixes for absolute decoupling of economic growth from EU resource use and environmental impacts

Resource policy and circular economy – Approach of the DYNAMIX projects

Joint DYNAMIX/POLFREE Policy Platform “*An ambitious Circular Economy Package for Europe:
realizing the social, economic and environmental benefits of resource efficiency in Europe*”

13/14 April 2015, Ateliers des Tanneurs, Brussels

<http://dynamix-project.eu/>

<https://twitter.com/EUResources>



DYNAMIX is a project funded
under the European Union
Seventh Framework Programme



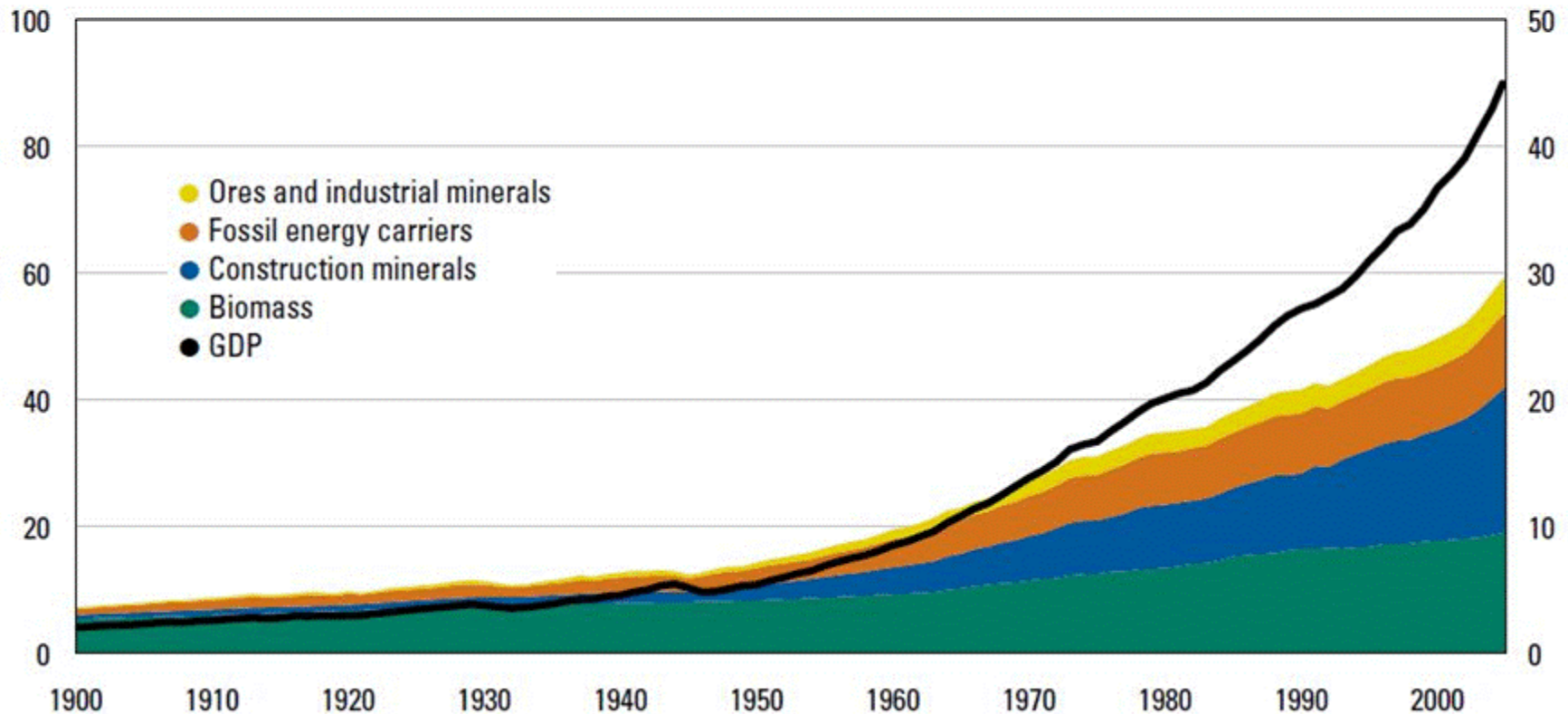
RESOURCE POLICY – GLOBAL RESOURCE USE

Material extraction

Billion tons

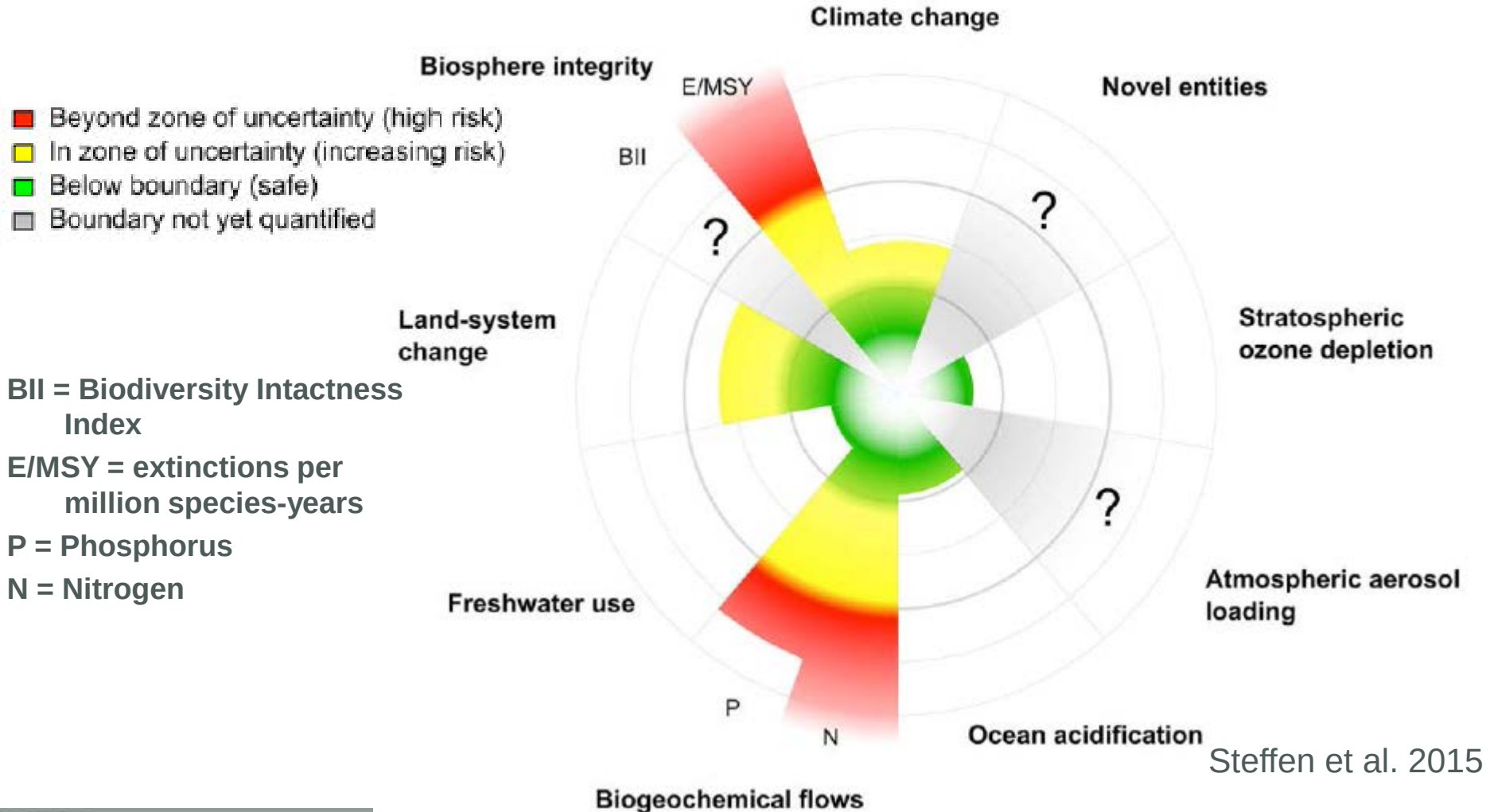
GDP

trillion (10^{12}) international dollars



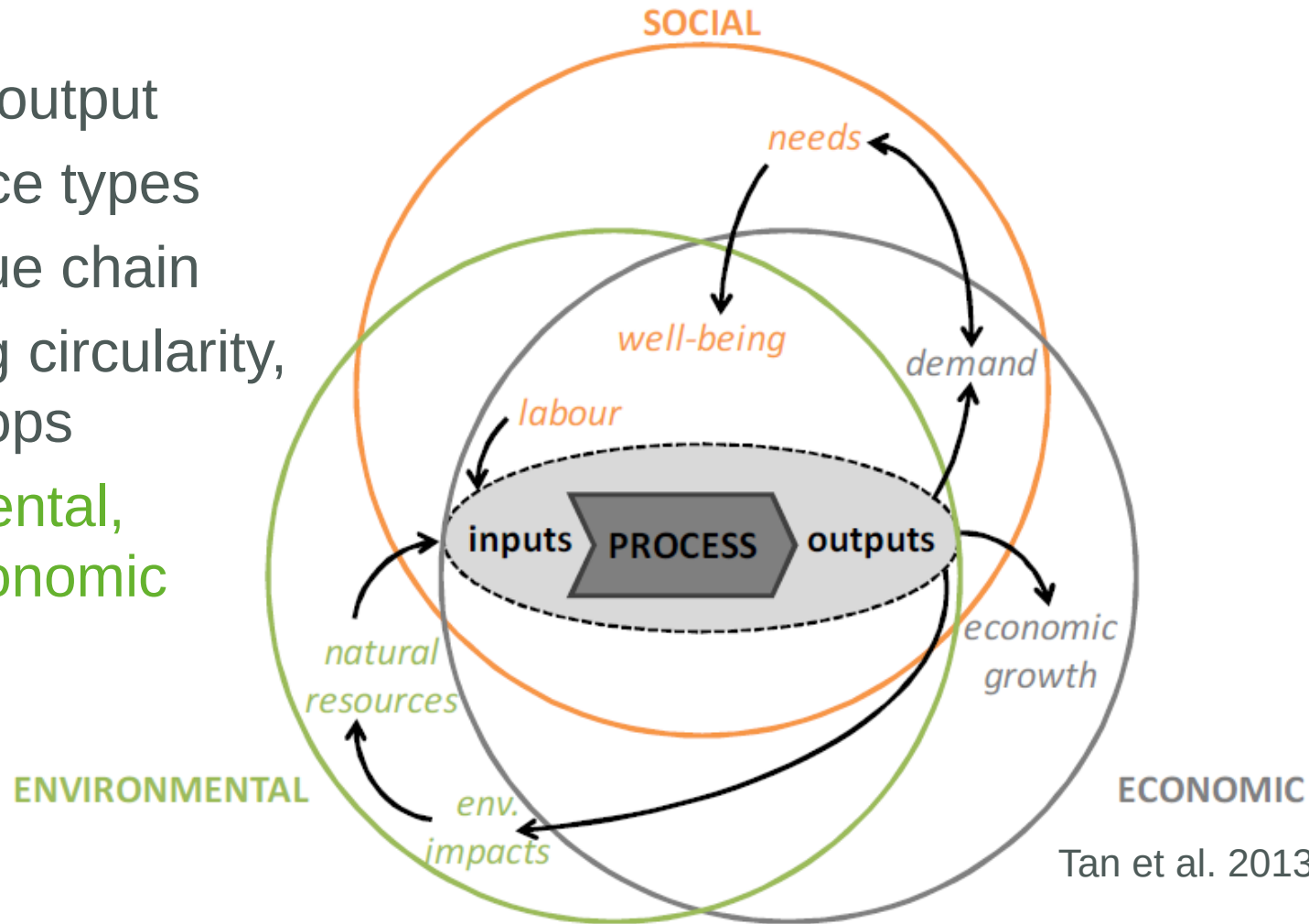
Global Material Extraction in billion tonnes, 1900 – 2005; Krausmann et al. 2009

RESOURCE POLICY – PLANETARY BOUNDARIES



PROJECT SCOPE – SOCIO-METABOLIC & CIRCULAR

- Input and output
- All resource types
- Entire value chain
- Enhancing circularity, closing loops
- Environmental, social, economic impacts

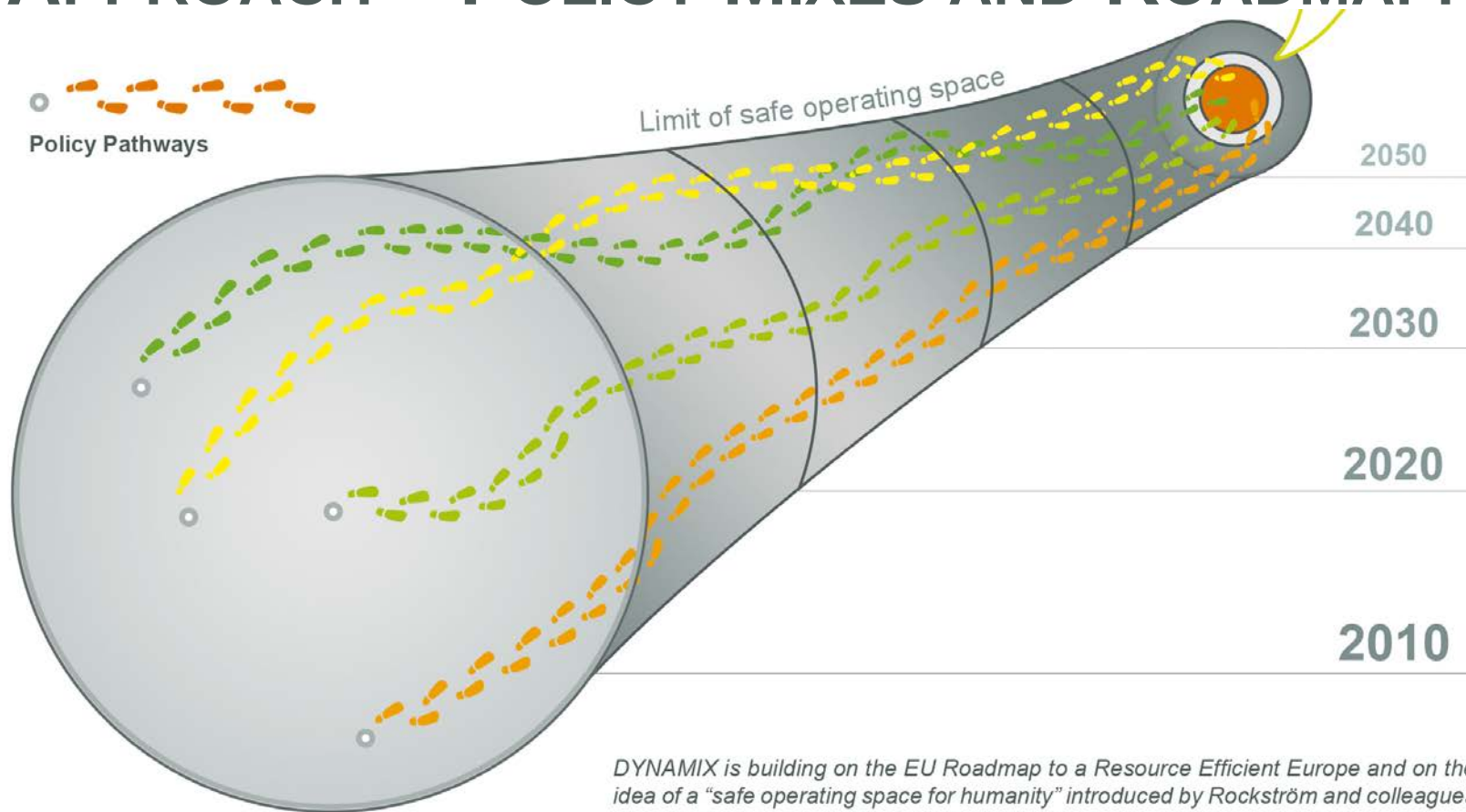


PROJECT OBJECTIVES

DYNAMIX aims to

- Identify promising policy mixes based on key drivers for (in)efficient resource use and past examples of successful/failing resource policies
- Assess environmental, economic and social impacts for medium-term (2030) / long-term (2050)
 - Involve stakeholders in knowledge production
 - Provide analytical framework for policy packaging
 - Support RE Roadmap, Circular Economy, ...

APPROACH – POLICY MIXES AND ROADMAPPING

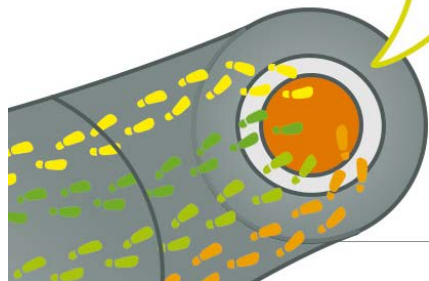


DYNAMIX is building on the EU Roadmap to a Resource Efficient Europe and on the idea of a “safe operating space for humanity” introduced by Rockström and colleagues in 2009. Visualisation is adapted from Leppänen et al. 2012 (SPREAD project).

ASSESSMENT BENCHMARKS – KEY TARGETS

Key targets 2050:

- **Greenhouse gas emissions:** 2 t CO_{2-eq} / capita.
- **Metals:** reducing consumption of virgin metals by 80%.
- **Land use:** zero net demand of non-EU arable land.
- **Nutrients:** reducing nitrogen and phosphorus surpluses.
- **Fresh water:** no water scarcity in any region.



2050

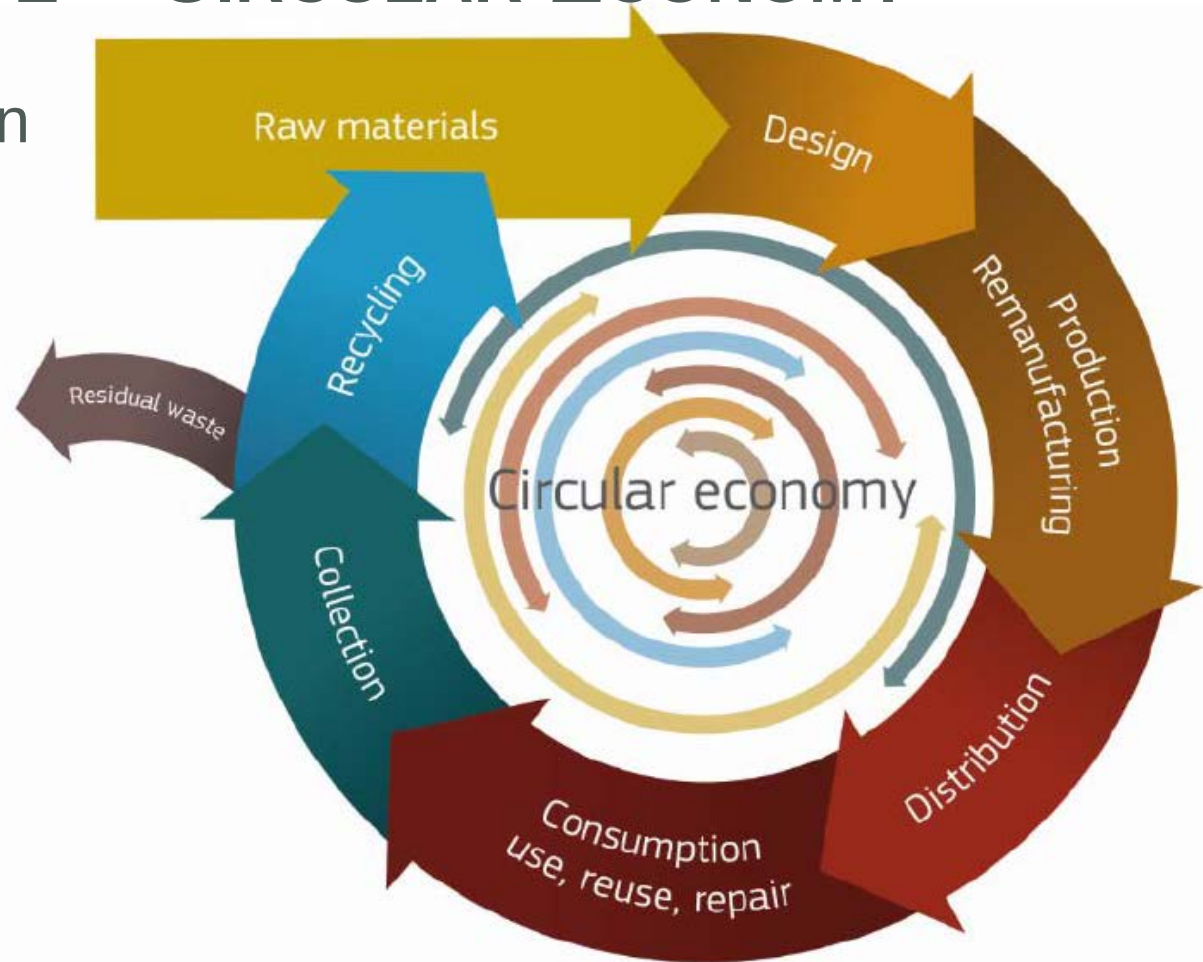
→ Qualitative ex-ante assessment
→ Quantitative ex-ante assessment
of policy mixes against
environmental objectives and the
mixes' economic, social impacts,
legal feasibility, and public
acceptance
=> policy mixes for land/agriculture,
metals and overarching

THANK YOU VERY MUCH!

Dr. Martin Hirschnitz-Garbers, Ecologic Institute
martin.hirschnitz-garbers@ecologic.eu

PROJECT SCOPE – CIRCULAR ECONOMY

- Entire value chain covered
- Closing loops

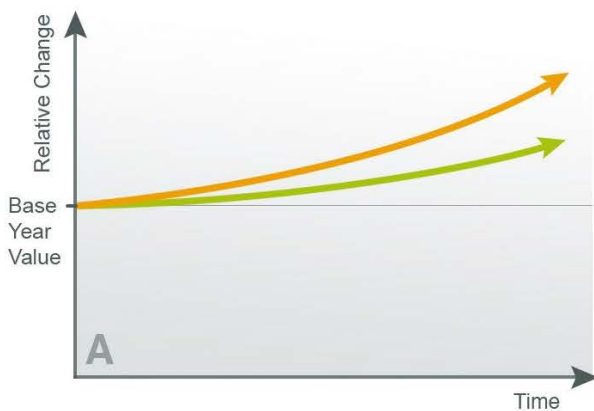


European Commission 2014

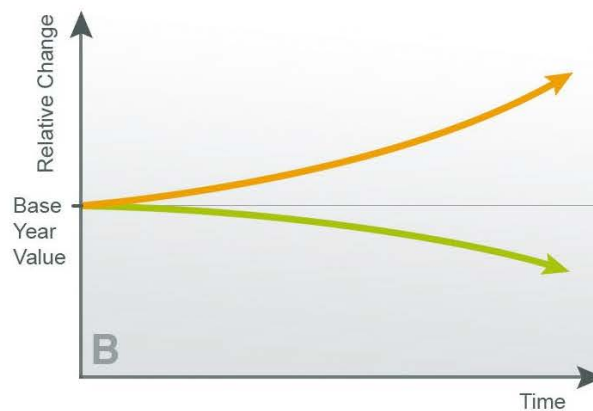
ABSOLUTE DECOUPLING

Conventional Decoupling

Relative Decoupling

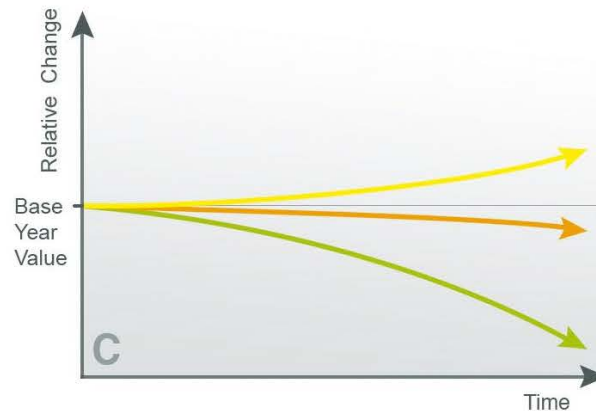


Absolute Decoupling



Reframing Decoupling

Absolute Decoupling of Resource Use from Wellbeing



WELLBEING

Figure 4. Definition of Wellbeing



DYNAMIX POLICY MIXES – BRIEF OVERVIEW

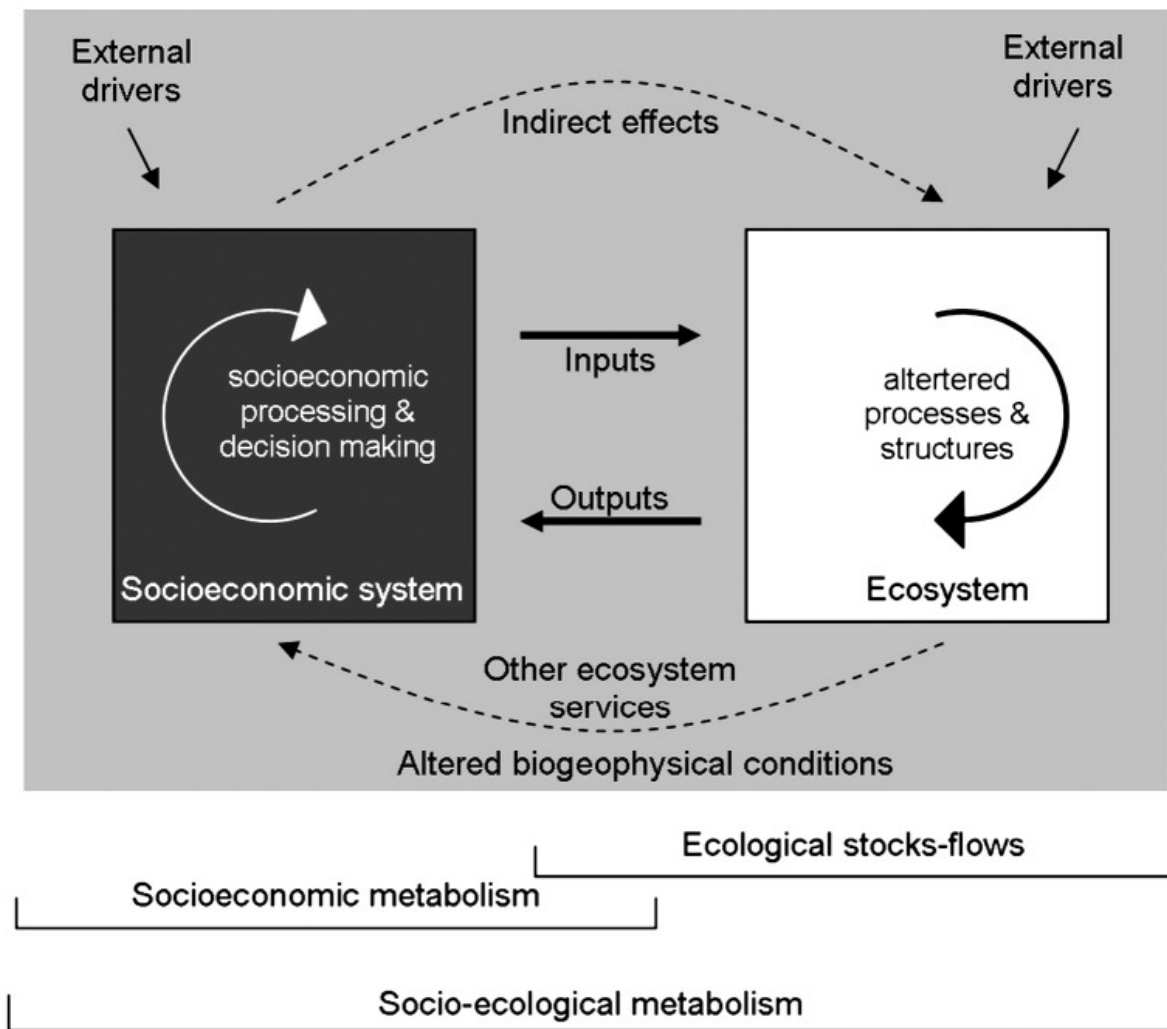
Land policy mix	Metals policy mix	Overarching policy mix
- Reduce the global agricultural land use due to EU consumption - Decrease environmental impacts of agricultural activities, in the EU and globally	- Reduce the use of virgin metals by 80%. - No significant increase in the use of other resources or environmental impacts.	- Support high levels of quality of life of European citizens - Reduce impacts associated with average household consumption
Regulation for Land Use Change VAT on meat products Strengthened pesticide reduction targets	Materials Tax Product Standards Increased spending on research and development	Circular Economy Tax Trio EU-wide feebate schemes Boosting Extended Producer Responsibility

2050 policy mix targets

selected instruments of policy mix

PROJECT SCOPE

- Input and Output
- all Resources covered

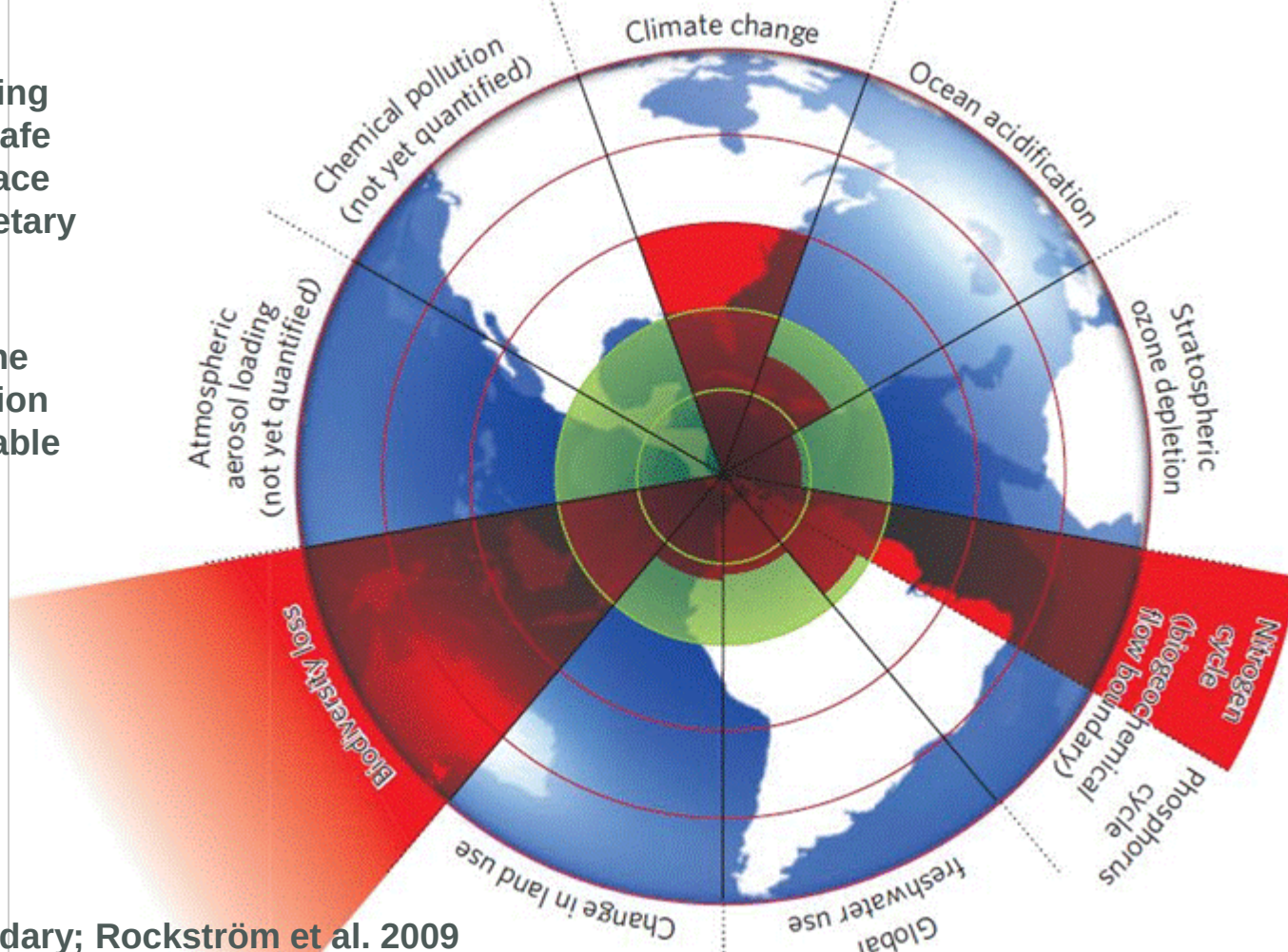


Source: Erb 2012

BACKGROUND – PLANETARY BOUNDARIES

inner green shading
= proposed safe
operating space
for nine planetary
systems

red wedges =
estimate of the
current position
for each variable



Beyond the boundary; Rockström et al. 2009

PROJECT LOGIC

