

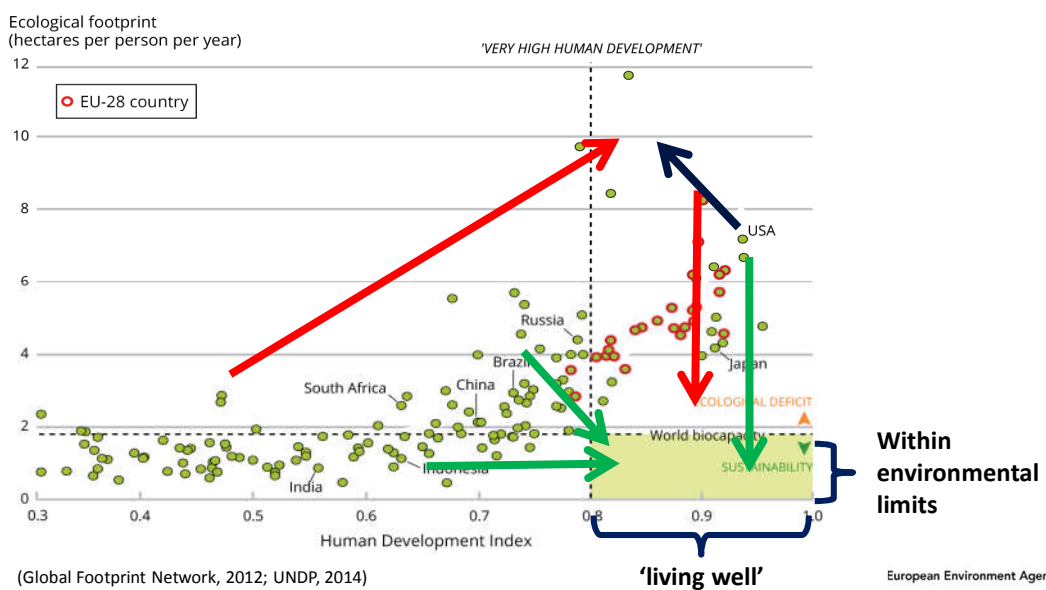
Europa's langetermijn milieu- en klimaatambities: Kennisuitdagingen en de rol van universiteiten en wetenschappelijke instellingen

Dr. Hans Bruyninckx, Executive Director, European Environment Agency

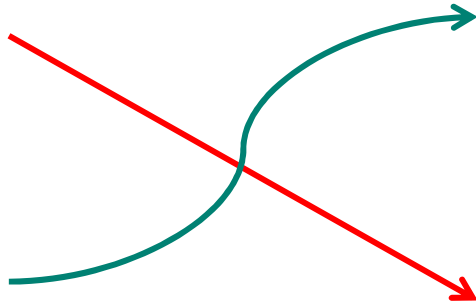
UGent, Studium Generale
29 March 2017

European Environment Agency 

10 miljard mensen, 1 planeet: dé uitdaging voor de 21st eeuw



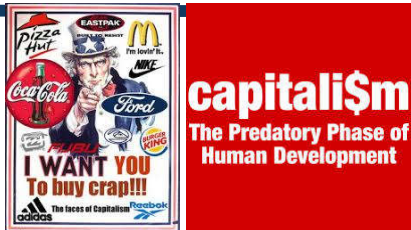
Institutional vs environmental developments



Different explanations:

- Counterfactual
- Implementation GAP
- Improve regimes
- Time lag effect
- Institutional solutions don't address the core issues!

Some answers/explanations?



capitali\$m
The Predatory Phase of Human Development




green BUSINESS



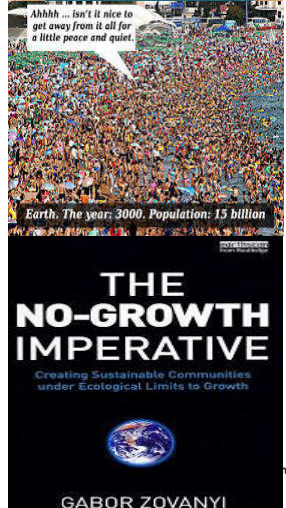
**DRAW SOMETHING
SEW SOMETHING
COOK SOMETHING
SING SOMETHING
BUILD SOMETHING
MAKE SOMETHING
BUY NOTHING**

ENOUGH?
ANTICONSUMERISM CAMPAIGN
a critical look at consumerism, poverty and the planet





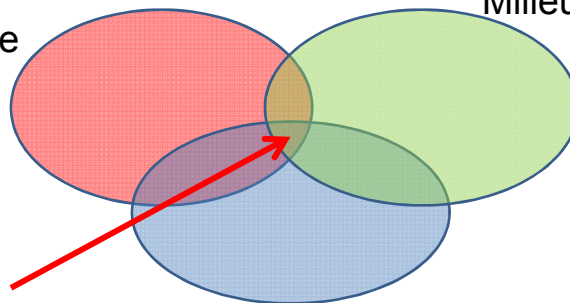
[political economy of war versus energy research](#)



Klassieke duurzaamheidsdenken

Sociale dimensie

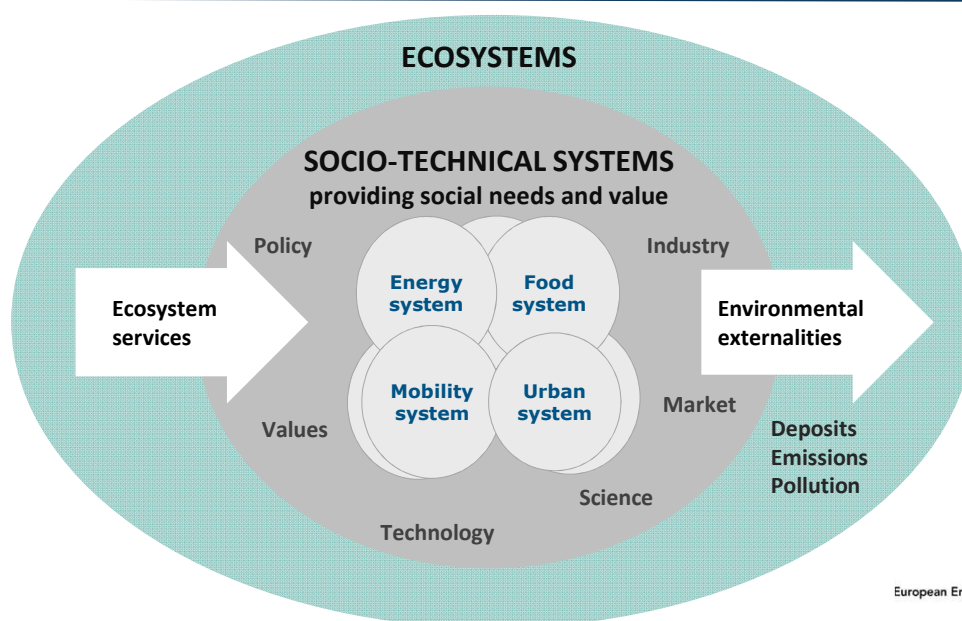
Milieudimensie



Duurzame ontwikkeling?
Natuurlijk niet!

Economische dimensie

Paradigmaverschuiving: Living well, *within* environmental limits



Vision of the 7th Environment Action Programme

'In 2050, **we live well, within the planet's ecological limits.**

Our prosperity and healthy environment stem from an innovative, **circular economy** where nothing is wasted and where natural resources are managed sustainably, and **biodiversity is protected, valued and restored** in ways that enhance our society's **resilience**. Our **low-carbon** growth has long been decoupled from resource use, setting the pace for a global safe and sustainable society.'

Transitieperspectief

“Strengthening a knowledge base to respond to long term systemic ambitions”

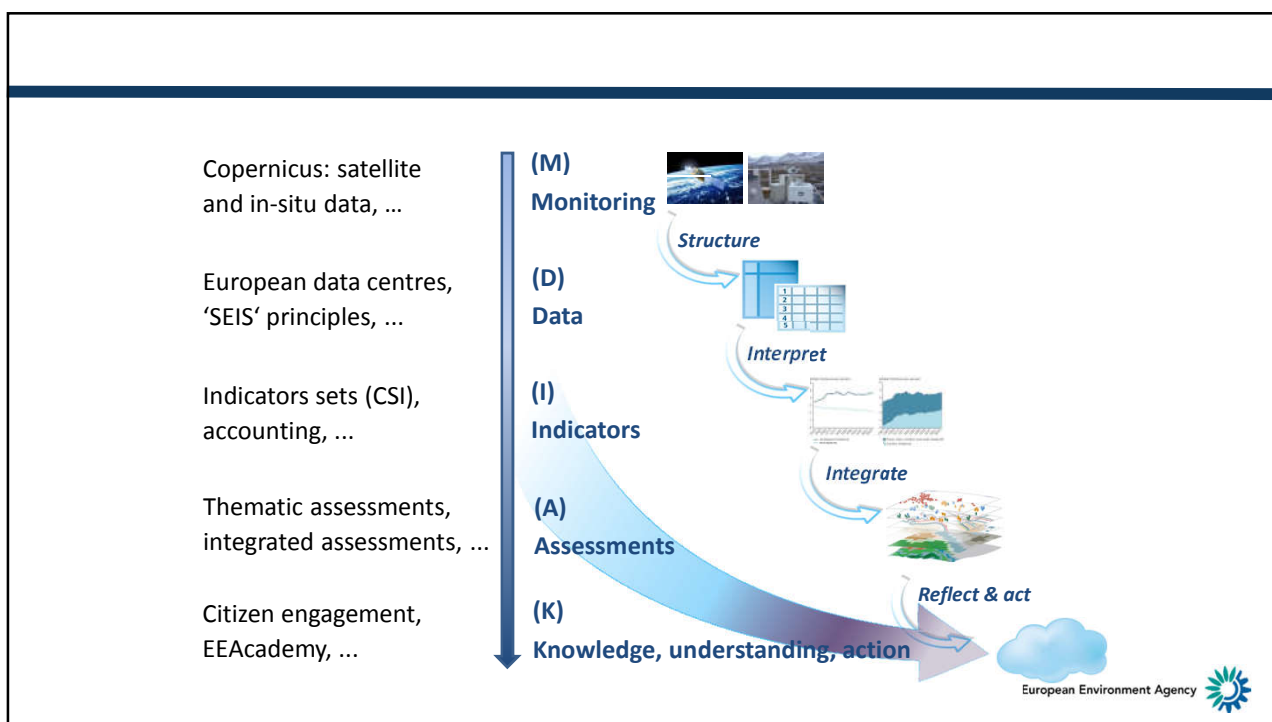
EEA, MAWP 2014-2018

Knowledge base ... a ‘body’ of complex, structured and unstructured information used by ‘a system’.

It is comprised of facts and data as well as the reasoning (or ‘inference’) about facts and data.

It also includes the rules and logic used to deduce new facts and data, and highlight inconsistencies.

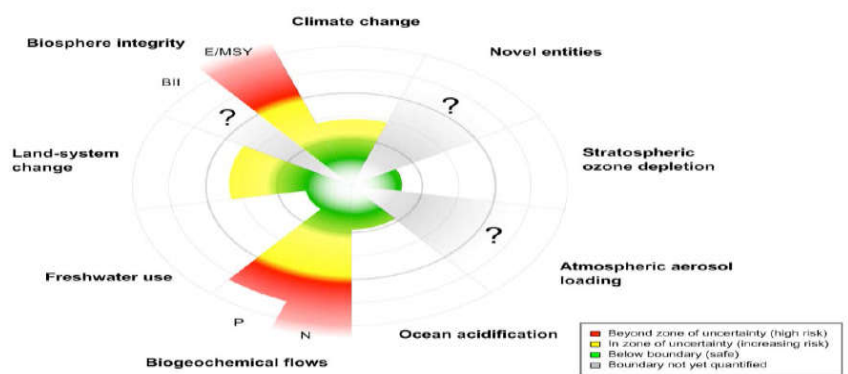
Related to this: Database = organized collection of data



Environmental knowledge at the 'half way point'

- Different types of knowledge and information
 - Statistical, indicators, numerical
 - Modelling
 - Integrated assessments
 - Policy evaluation
 - Qualitative, cases, best practices,
 - ...
- Resources, importance, legitimacy, ...?
- Where do we go from here?
- Requires serious reflection and debate

Planetary boundaries; safe operating space: kennisbasis?



European Environment Agency 

40 years of environmental knowledge

- Evolution in problem definition and knowledge approach
 - Heavy industrial pollution
 - Single issues
 - DPSIR thinking
 - Systemic approaches: problem analysis; analytical frames; solutions
- Evolution in disciplinary interest
 - Chemists, biologists, engineers
 - Economists, physicians, geographers, geologists
 - Political scientists, public administration, spatial planners, lawyers, philosophers
 - Psychologists, historians, ...

European Environment Agency  Environment Agency 

Future oriented knowledge development

- Long term
- Systems approach
- Meaning of limits in conceptual understanding, research and practices?
- Methodological innovation: Scenario's, futures studies, forecasting, back-casting, distance to target, gap analysis, cost/benefit analysis 2.0
- Uncertainty, non-linearity, tipping points, ...
- Niches, innovation, R&D
- Understanding of lock-ins, backlash, breakdown risks

Environment and climate in higher education

- Mainstreaming
 - Weak or non-existent
 - In the evident places only
- Electives
 - Late, sporadic
 - 'Soft choice'-connotation
- Specialisation
 - Limited number of Bachelor degrees
 - Master level specialisation
 - Little attention for systems approaches
- What in 'parade' degrees?

Considerations for higher education and research

- Education based on future systemic challenges?
- Questioning systems beyond efficiency gains?
- Examples:
 - Aging societies
 - Health
 - Energy transition
 - Climate change
 - Fiscal transition
 - Governance (200 of 200?)

Transities in kennis voor kennis in transities

Tijd voor een Kuhnianse scientific revolution?

Thank you

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