Controversies in the environmental debate: Consequences for indicator development to support a „green“ transformation

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F·E·S·T

A three-step approach: Controversies – transformation discourses – indicators for a “green” transformation

Long-standing controversies in the environmental debate

contribute to shape

Current discourses on transformation towards ecological sustainability

require different

Indicator systems to support transformation

Focus of the presentation:
“Green growth” discourse and its indicator requirements

Outlook: Can a “socio-ecological transformation” discourse profit from indicator development for GG?

Controversies in the environmental debate

1. Nature and its substitutability
2. Limits to economic growth
3. Social equality

4. The role of markets
5. Priority and type of technology
6. Conceptions of Work

7. Political institutions
8. Cultural change
9. Main agents of change

Diverging positions on these issues influence

- *what* should be measured (issues and dimensions) and
- *which methodologies* are adequate to quantify and aggregate the information.

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1. Motivations to protect nature: Anthropocentrism vs. eco-centrism

2. Substitutability of nature by human-made assets and between different forms of nature:

→ Determination of the limits of environmental consumption

Controversies and transformation discourses

1. Nature and its substitutability
2. Limits to economic growth
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4. The role of markets
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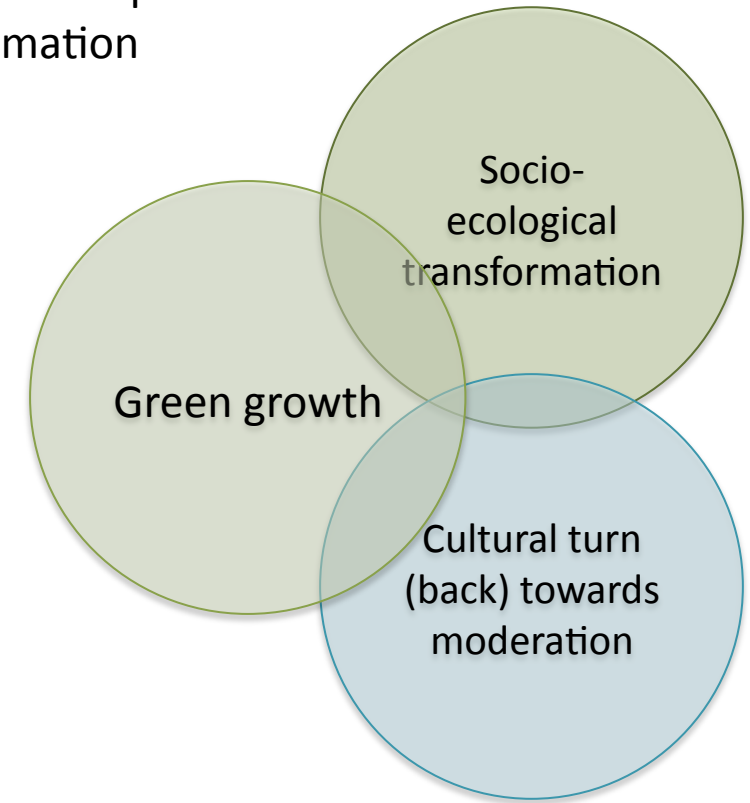
Different positions shape current transformation discourses.



Discourse I: Green growth

Central claim: Decoupling of environmental impacts and economic growth (C2)

Emphasis on critical natural capital (incl. sinks & ecosystems), reference to 'planetary boundaries' (C1)

Environmental crisis as a problem of misallocation of resources due to external effects (C4)

Main strategies:
- address market failure to get the prices right (C4)
- technical innovation & diffusion of new technologies ("pushing out the frontier"), preferably via markets (C5)
- massive investments into infrastructure to overcome lock-in

But: varying emphasis on government intervention

Work = jobs (C6)

Few social requirements (C3, C8)

But: well-being debate

Representative & expert governance (C7)

But: debate on participatory governance

Main agents: innovative business actors (esp. 'green' industries), rational governments & IO (C9)

Indicators for transformation

Indicators: Variables, which are constructed and selected (…) to operationally represent properties of wider 'representation targets'; and which are fed with values in order to allow simplified communication about and possibly control over these targets

(cf. Gudmundsson et al. 2009)

Indicators for transformation

Indicators for transformation should support

- understanding of determinants and their trade-offs and synergies
- monitoring of trends and structural changes
- target setting
- awareness raising to the central issues and the message of the discourse

Indicator criteria

Common indicator criteria:

1. Analytically sound: valid, reliable, sensitive to change, specific
2. Feasible and available: measurable at reasonable cost, timely,…
3. Coherent within broader (existing) frameworks
4. Policy relevant and adapted to user's needs: representative of target system, easy to understand and interpret, appropriate in terms of scale, comparable, …

Criterion proposed by Thiry (2013): performative coherence, i.e.

absence of contradictions between the normative message sent by the inclusion of an issue and the "performative" impact of the methodology used to quantify it, points to retroaction of indicators on reality

Additional criteria emphasised by some approaches (for ex. Meadows 1998):

- democratic
- participatory
- policy relevant for all stakeholders, including the least powerful

→ Trade-offs arise between different criteria

Indicator requirements of Green Growth

User groups

- governments and IO (= policy makers & administrative experts)
- business actors (opportunities, benchmark performance)

- *public (constituency for change)*

Geographic scope

Focus on national and international level

Indicators should i. a.

- monitor domestic trends, but take account of cross-border linkages
- be comparable across countries to allow benchmarking
- monitor global environmental issues on a global scale

Indicator requirements of Green Growth

Main dimensions with regard to content

1. Linkages between natural capital and the economy

2. Progress in the transition towards GG

3. Public and private action and framework conditions fostering GG

Indicator requirements of Green Growth

Main dimensions with regard to content

1. Linkages between natural capital and the economy:
   - Monitor *critical* natural assets. Indicators needed for:
     - Key stocks of natural capital
     - Material flows, incl. waste and related environmental damages
     - Ecosystem services provided to the economy and human well-being
   - Ideally in monetary terms, but physical indicators indispensable
   - Assess substitutability and economic risks associated with resource scarcity and environmental degradation
   - Disaggregate by industry/sector (consistency with economic accounting important)

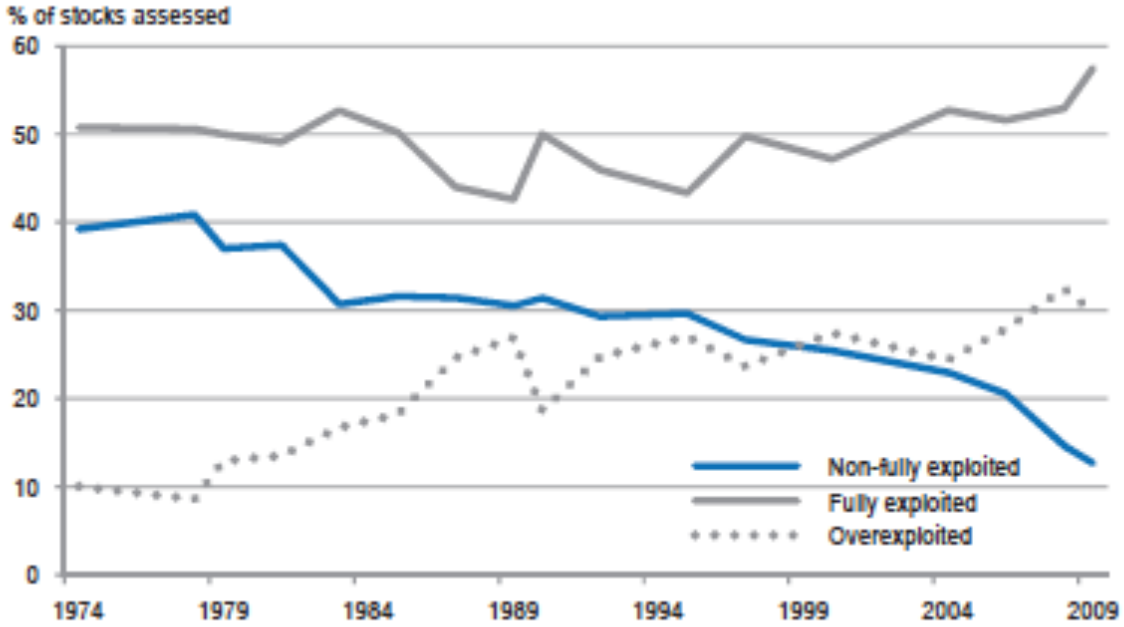
2. Progress in the transition towards GG

3. Public and private action and framework conditions fostering GG

Indicator requirements of Green Growth

1. Linkages between natural capital and the economy: Some examples

Figure 5.6. Global trends in the state of world marine stocks since 1974



Source: FAO (2012), The State of World Fisheries and Aquaculture.

Source: OECD 2014

Indicator requirements of Green Growth

Main dimensions with regard to content

1. Linkages between natural capital and the economy

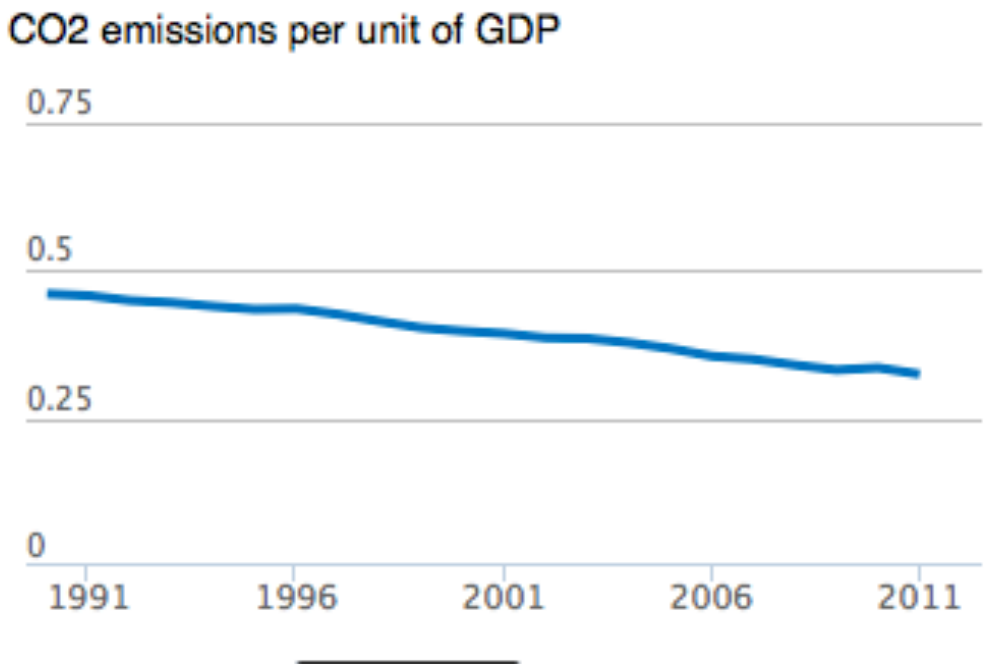
2. Progress in the transition towards GG in relation to the environment, the economy and human well-being
   - Decoupling: monitor productivity/intensity and development & diffusion of eco-friendly technologies
   - Business and employment benefits: monitor changes related to GG, in practice: profits, GDP and export shares of and jobs in environmental goods and services sector, changes in consumption patterns as outlook on new markets
   - Human well-being/quality of life: monitor environment-related health issues and access to ecosystem services

3. Public and private action and framework conditions fostering GG

Indicator requirements of Green Growth

2. Track progress in the transition towards GG in relation to the environment, the economy (and human well-being)

Carbon intensity in the OECD



http://www.compareyourcountry.org/green-growth

Indicator requirements of Green Growth

Main dimensions with regard to content

1. Linkages between natural capital and the economy

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Monitor

- "Green" investments in infrastructure, production systems, ecosystems
- Skills and training for a GE
- Conditions conducive to innovation (financial means for R&D in certain sectors, people employed…)
- Prices and transfers fostering or hindering GG (eco-taxes, environmentally harmful subsidies…)
- Environmental regulation and institutional capacities for environmental protection
- Perceptions & knowledge of main agents and public at large regarding GG

Indicator requirements of Green Growth

Main dimensions with regard to content

1. Linkages between natural capital and the economy

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3. Public and private action and framework conditions fostering GG

Socio-economic framework conditions (including GDP, labour market outcomes, social equity, IC & services sector, …)

Indicator requirements of Green Growth

User groups

Geographic scope

Main dimensions with regard to content

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Socio-economic framework conditions

To evaluate a GG strategy, the definition of targets and a time schedule linked to the transformation pathway are necessary!

Implications for indicator development for a socio-ecological transformation

Can socio-ecological transformation profit from indicator development for a growth-oriented green economy?

Particular contentious issues: The role of
- GDP
- monetary values for environmental assets & services and costs

Blind spots: Important aspects of economic and societal change
- re-localization, for ex. indicators for regional economies, length of supply chains and respective environmental impacts, …
- new organization of work, for ex. working hours, collaborative production
- cultural change, for ex. indicators for perceptions & values, environmental impact of individual consumption
- participation and democracy
- social equality
- agents & activities at a grassroots/local level

→ Indicators developed "beyond GDP" to measure well-being might *partly* bridge the gap

Implications for indicator development for a socio-ecological transformation

Can socio-ecological transformation profit from indicator development for a growth-oriented green economy?

Advantages:

- Improvements of data availability and research to close gaps on:
  - physical data on environmental stocks and flows, including industry-wise disaggregation
  - measurement concepts that take account of
    - complexity of ecosystems
    - non-linearity of effects and thresholds
    - non-price based regulation
    - …

- Prominent call for indicators increases salience and credibility

Implications for indicator development for a socio-ecological transformation

Can socio-ecological transformation profit from indicator development for a growth-oriented green economy?

„Indicators can be tools of change, learning and propaganda. Their presence, absence, and prominence affect behavior. (...) Indicators arise from values (we measure what we care about), and they create values (we care about what we measure)."

Donella Meadows 1998

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