

# Conceptualizing the green transformation

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## Natural science perspective

- planetary boundaries, risk of tipping points
- very limited global carbon budget (750 Gt/ exhausted in 20 years)
- „anthropocen“ (Paul Crutzen) ... new era of human mankind as **the** driving force in the Earth System

... BAU growth only an option for one more generation (or: adaptation to dangerous climate change, tipping points becomes the new paradigm)

**Great Transformation: comprehensive societal and economic change**

**Very small „n“ case: neolithical revolution/ industrial revolution ... no „great transformation theories“ available**

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## **Specific green transformation challenges**

- **global transformations needed ... beyond national green adjustment processes (Global Governance of the green transformation)**
- **time dimension: high time pressure/ long term perspectives needed**
- **green transformation needs to be governed, managed (> „evolution“, > „crisis driven“)  
.... „Learning from the future“ (role of science!)**

**Elke Weber: long list of behavioral mechanisms ... we are not well equipped to manage short time costs/ sacrifices and long term gains (loss aversion, discounting of future benefits ...)**

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# Which theories and concepts could help?

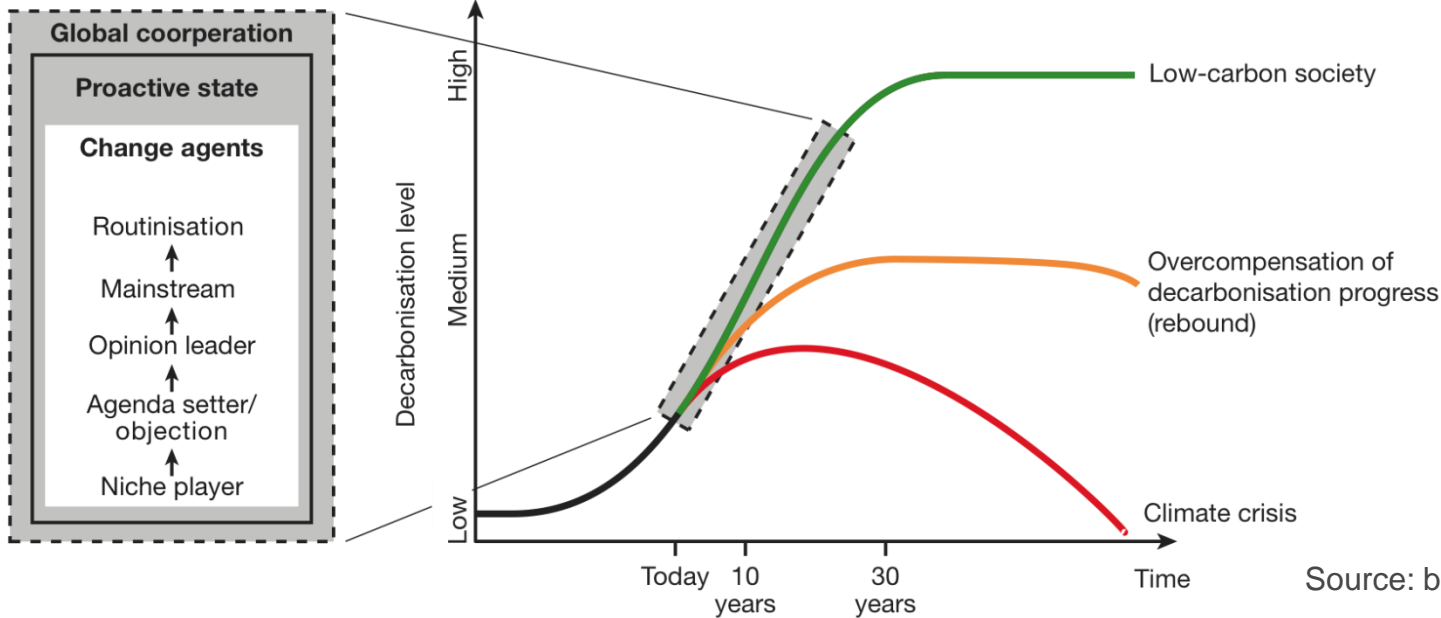
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- historical research (Polanyi: Great transformation; Osterhammel: Global metamorphosis of the 19th century; Braudel: Economic, social and cultural transitions in the global economy)
- innovation theory/ organisational theory: incremental vs radical change
- transitions to sustainable development (Rotmans/ Grin et al):  
co – evolution; agents of change; experiments of innovation
- actor oriented institutionalism (Max Planck/ Cologne): societal change driven by
  - actors/ interests/ power (negotiations, politics)
  - cognitive frameworks (in which be trust; arguing)
  - norms and values (fair, acceptable, appropriate behaviour; dialogue)  
... in a given institutional framework

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**Green transformation: changes on all these levels**

**> „good policies“/ „getting prices right“**



Since the 1970s: “we do have a problem”:

- “Limits to Growth”
- Rio 1992

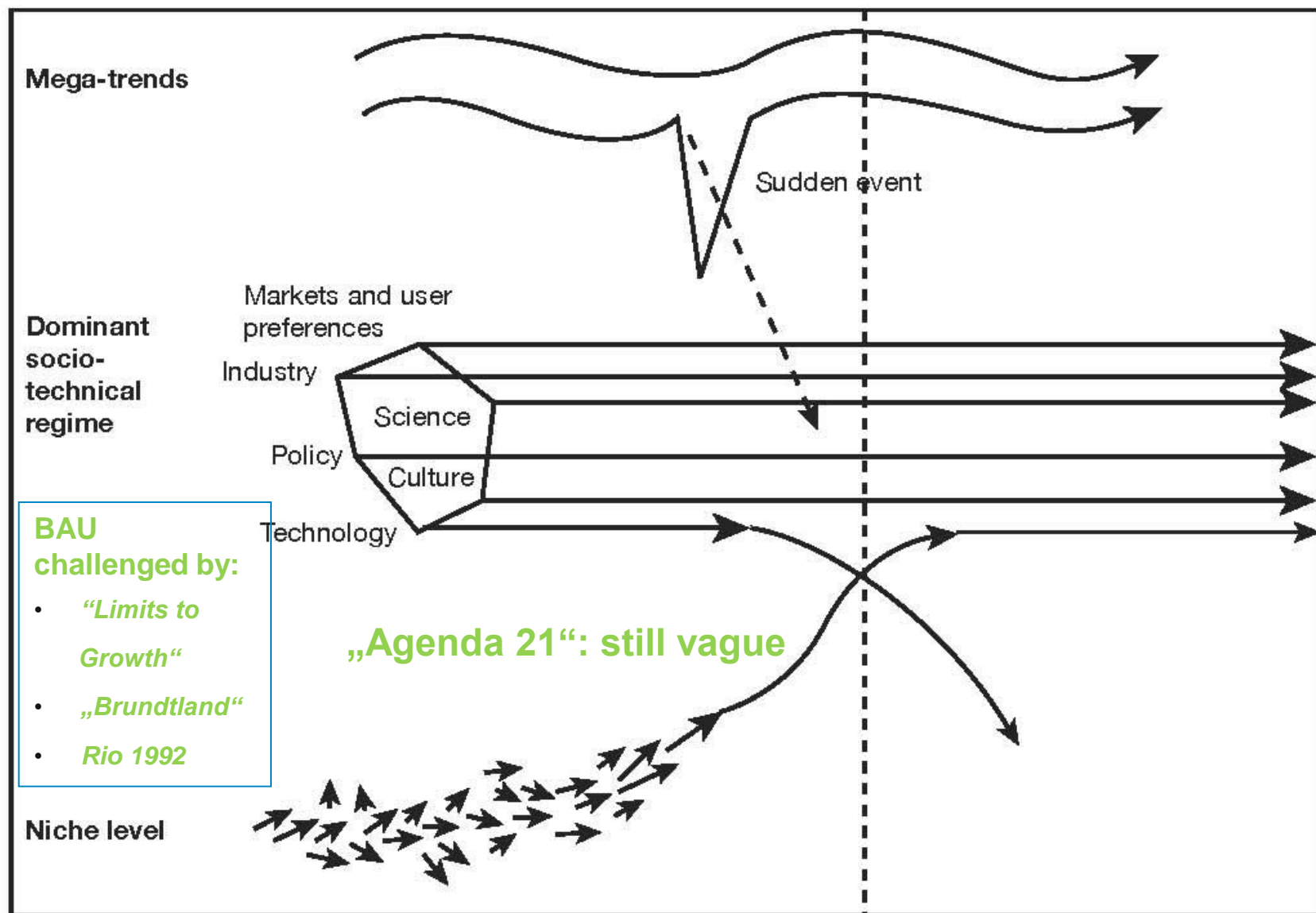
## Driving the transformation

- scale: from pilots to systems
- acceleration
- setting the course: long-term perspectives towards 2050 (roadmaps)
- from sector to system reforms (cities, mobility, energy, lifestyle)

➔ *Building a low carbon society ... beyond policy reforms*

# Rio 1992: Still an Early Stage of the Green Transformation

Increasing structuration of local practices



# From „crisis/ path dependency“ to „transformation“

*Crisis/ path dependency:*  
*BAU has no future ... but:*  
*the „new“ still not existing,*  
*very weak*

*Transformation:*  
*the „new model“ emerging,*  
*gaining importance, growing*  
*faster than „the old“, getting*  
*dominant*

.... *How does this work?*

- *legitimacy*

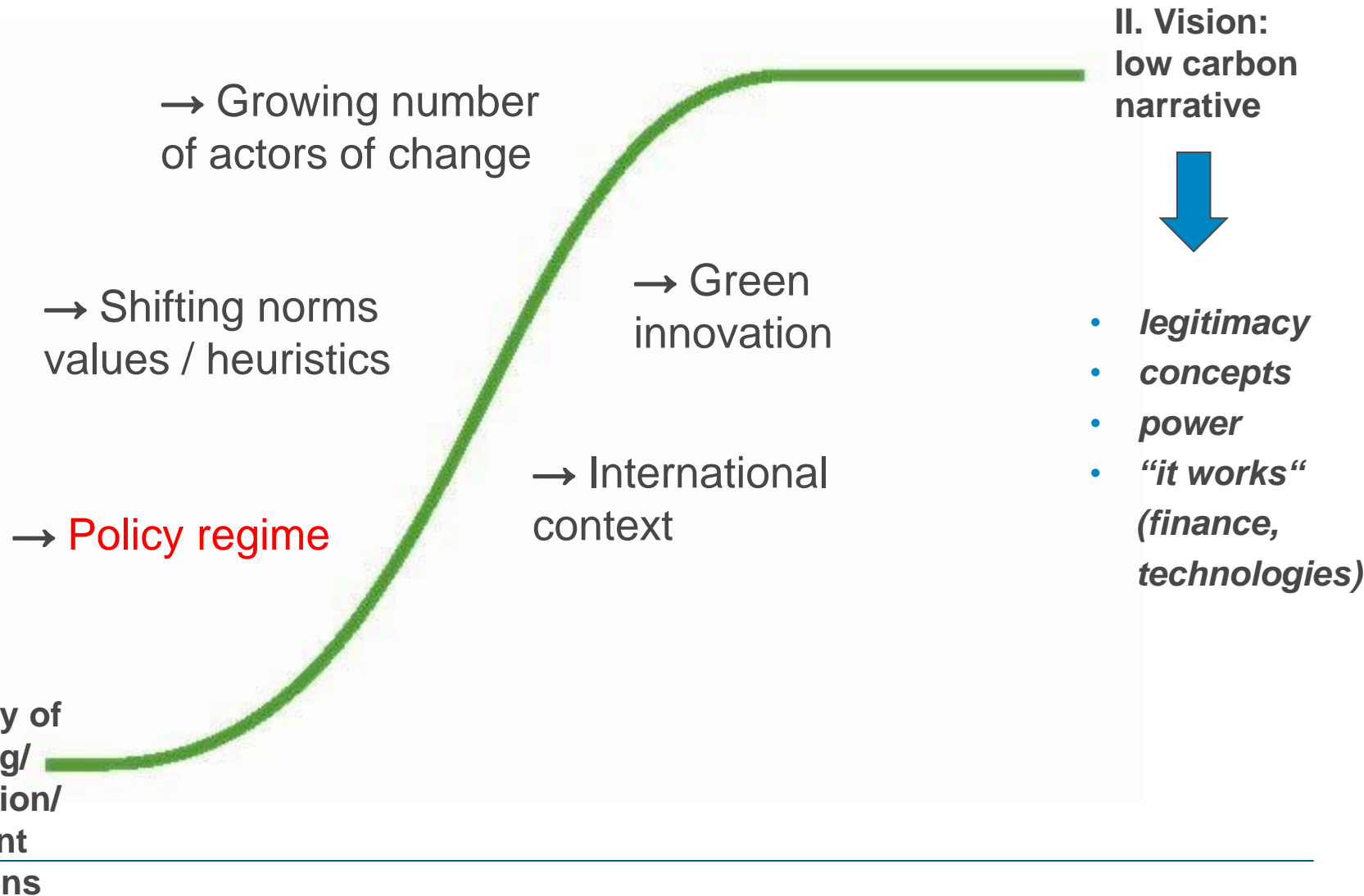
- *power*

- *concepts*

- *„it works“*

Rio 1992:  
We do  
have a  
problem

# Co-evolution: Transformation driven by the accumulation of multiple dynamics





# Co-Evolution, a social contract for sustainability. transformational policies ... mechanisms of change



- Arenas and drivers of transformation:
1. New narrative
  2. Actors
  3. Shifting norms / values
  4. Policy regime
  5. Innovation
  6. International context



*Social contract*

*Transformational policies*

### Co-evolution

- interaction between 1-6
- mutual reinforcement
- from "critical masses" to accumulation of multiple dynamics
- co-evolution strengthening low carbon: legitimacy – concepts – power alliances – "it works" examples

II. Vision: low carbon narrative

- scaling up
- acceleration
- global diffusion of low carbon concepts

Low carbon becoming the main driving force / new mainstream

I. Legitimacy of BAU eroding

# What can be done to make these drivers irreversible? Ten bunches of instruments

- 1 Proactive/ enabling state
- 2 Price for carbon
- 3 Regional energy cooperation
- 4 Internationalize feed in tariffs/  
DESERTEC for Africa
- 5 Reduce energy poverty – low  
carbon
- 6 Low carbon urbanization
- 7 Low carbon land use
- 8 Finance mechanisms and new  
business models
- 9 Low carbon research strategies/  
knowledge gaps
- 10 Global governance for the low  
carbon transformation

polycentric strategy



focused strategy

