Low-Carbon Scenarios after Paris: Ambition, Transition and Communication – a policy perspective

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Strategic Aspects of Climate Policy, Climate Action Plan
“I think there is a world market for maybe five computers.”

Thomas Watson, chairman of IBM, 1943.
Use of scenarios on different time horizons

• Exploring possible mid-century worlds
  • Technical/economic feasibility of certain objectives
  • Potential role for certain technologies
• Deriving appropriate policy milestones (e.g. 2030)
  • How deep do we need to dive by when?
  • What are appropriate contributions by different sectors?
  • What are possible no-regret milestones even if 2050 is uncertain?
• Transition pathways
  • What is the possible nature of the transformation, gradual, step change, disruption?
Scenario work to date

- Often focused on technical and economical feasibility
- Mostly deterministic: single or few pathways derived from assumptions about future developments
- Deep-dive into sectoral detail, sector integration to ensure consistency
- Only few sensitivities to account for key uncertainties, e.g. biofuel potentials, acceptance of CCS or nuclear
- Energy sector mostly centre stage, ambition level often “moderate” (e.g. - 80% by 2050 for ICs)
- No explicit exploration of social transition processes
... in the light of Paris ...

• More ambitious scenarios – greenhouse gas neutrality by mid-century
• Include all emitting sectors - and sinks, and international sources
• From exploring technical feasibility to designing social transition
• Need for more flexible toolbox to explore many different possible futures
• Strengthen use of scenarios in communication
Managing uncertainties

- Long-term objectives (relatively clear) vs. transition process (largely uncertain)
- Partial insights on role of specific technologies: explorative tools to identify robust solutions
- Economic circumstances: Neither high energy prices nor low energy prices, but probabilistic approaches
- Social preferences: Acceptability of specific technologies, inertia of social transformation
Perspective on costs

• Different perspective on cost: what is actually costly is the transition rather than the low-carbon society as such
• Cost of initiating the transformation: Which “tipping technologies” are needed and what is the cost to make them successful (or disruptive) in markets?
• Cost to “losers” of transformation: What business models are at risk of disruption, what assets are likely to strand?
Challenges in winning the climate race

• Scale up clean energy solutions rapidly
• Design the exit game for fossil business models
• Create necessary infrastructure for clean energy solutions
• Manage structural change

(adapted from Felix Matthes, Ökoinstitut)
Policy dilemmata

- Technology neutrality vs. strong policy role in creating infrastructure
- Uncertainty about “winning technologies”, innovations or breakthroughs vs. need to act early on because of urgency and social/economic inertia
- National policy making vs. global market dynamics
- Market efficiency vs. balanced social packages to manage transition
  ➤ Need scenarios to describe robust corridors and no-regret approaches
  ➤ Need for simpler model environments for policy makers to play around
  ➤ Need for international exchange to allow for comparison and mutual learning
Communication

• Dialogue and participation processes become more important when it comes to defining transition process in more detail and when it comes to implementing transformative policies
• Key to take both general public and stakeholders along
• Need to make scenarios more accessible to public dialogue and consultation
• Create interfaces to integrate scenario work by stakeholders with overall model framework
„The best way to predict your future is to create it“

Abraham Lincoln

Thank you for your attention!

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