



# 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.***

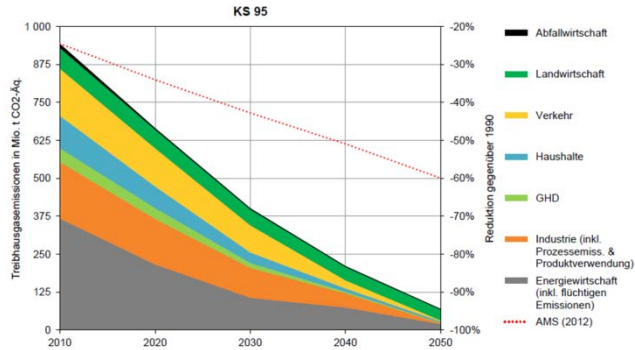




# *Use of scenarios on different time horizons*

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- 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 ...*

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- 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*

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- 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*

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- 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*

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- 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*

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- 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*

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- 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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