



Adapting utilities to climate change – challenges, conflicts and barriers in Germany

Nordic Adaptation
Conference

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August 31st, 2012, Helsinki

Content

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 - Sector Surveys
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Background and Motivation

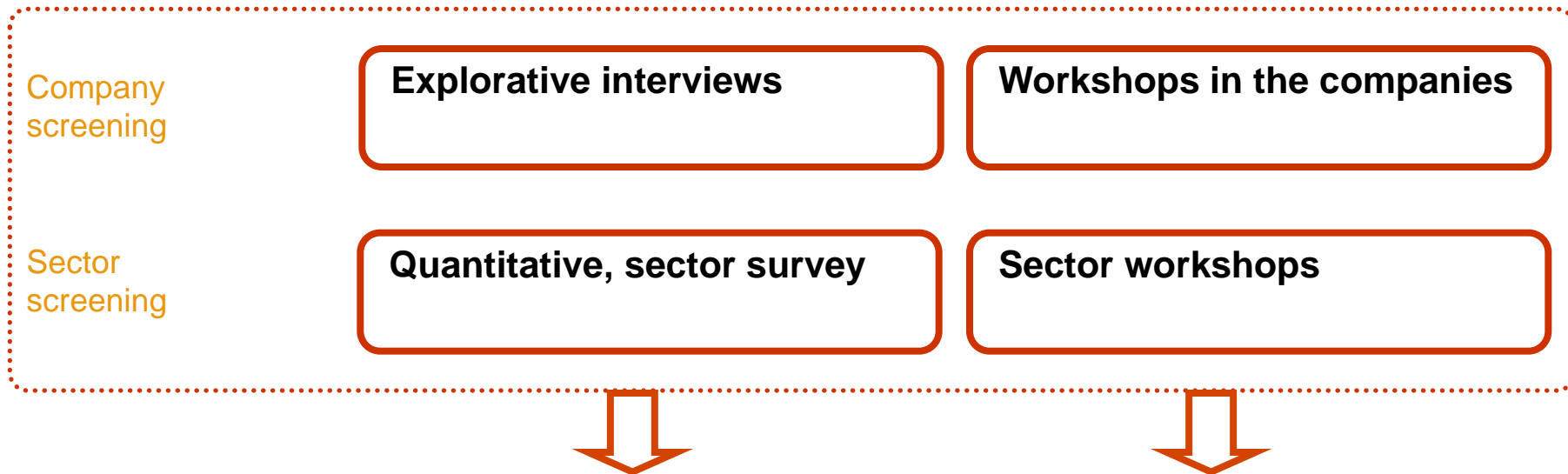
- Weather as well as climatic conditions influence utilities in the transport and energy sector
- Transport and energy are based on critical infrastructure and are of high socio-economic importance: failure leads to shortages in supply, disturbance of public safety, and consequences in other sectors
- Due to long-lived infrastructure anticipatory adaptation is necessary

Research Context Chameleon

- **Focus on transport (railway) and energy**
- **Overarching research interest:**
 - Compatibility of public and corporate action concerning a well-adapted and robust infrastructure
- **Research question on corporate adaptation:**
 - How do internal and external factors affect corporate processes of perception, learning and decision making in the field of climate change and adaptation?

Research Design

Phase 1: Screening



Phase 2: Understanding and explaining

Qualitative in depth case studies in two companies

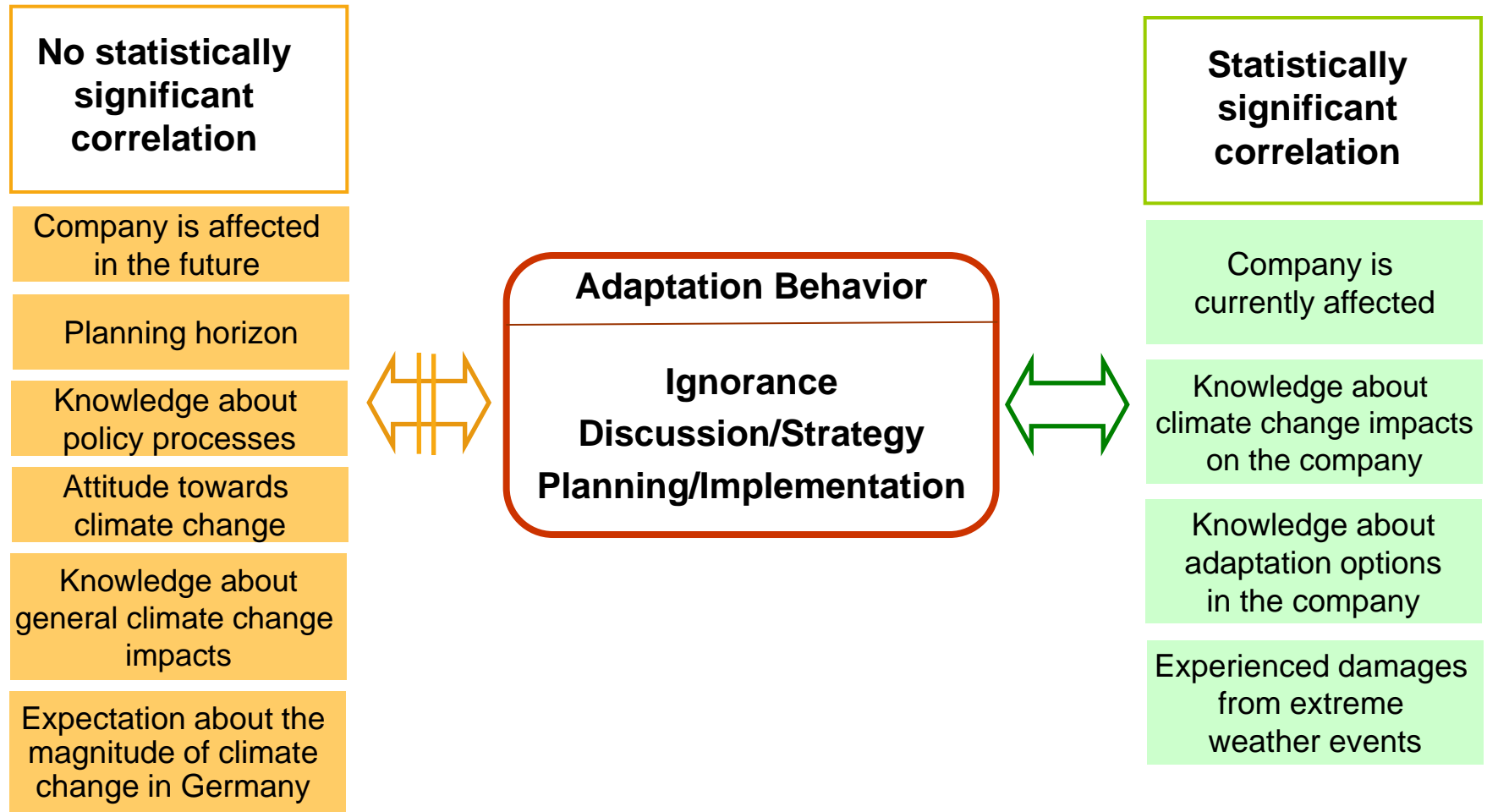
Research Design

- **Objectives of the quantitative sector surveys**
 - Describe status quo of corporate adaptation to climate change in the German rail-bound transport sector and the energy sector
 - Test the linkages between corporate adaptation and selected drivers

- **Objectives of the qualitative in-depth case studies in two German companies**
 - Analyze and understand corporate approaches and processes in dealing with adaptation challenges
 - Identify drivers for and barriers to corporate adaptation

Sector Surveys

Results on the drivers for corporate adaptation



Pechan et al. 2011: Anpassung in der Versorgungswirtschaft. Empirische Befunde und Einflussfaktoren

In-depth case studies in the companies

Method and approach

- Semi-structured expert interviews in two companies and in the business environment
- Conceptual background: risk-sensemaking and learning from rare events
- Case 1: Deutsche Bahn AG
 - Interviews and group interviews with managers from different company units as well as with representatives from the Federal Transport Ministry and the Federal Railway Agency
- Case 2: RWE AG
 - Interviews and group interviews with managers from different company units



VORWEG GEHEN

In-depth case studies in the companies

Findings: Interviewees' problem perception

- Both companies already have experienced damages from extreme weather events (EWE)
 - Interviewees do not perceive these as a clear cue for climate related risks
 - EWE considered as single, low-probability events that already existed in the past
- Interviewees consider the company's infrastructure as well prepared
 - CC is perceived as technical challenge that can be technically handled
 - Companies rely on technical standards and integrated safety margins
- Interviewees describe data on climate change as not appropriate for infrastructure planning
 - Exact data is needed to analyze the consequences for assets and to develop response strategies
- Interviewees consider others as responsible
 - Ministries /relevant agencies and a public debate should define objectives for a future security of supply and provide corresponding financial support
 - Standardization organizations should adapt technical standards

Conclusions

- Problem awareness for adaptation needs is still low in both sectors
- With respect to adaptation the responsibility between public and private actors is not clearly distributed
- Companies treat climate change as an external problem that cannot be influenced by internal action or by anticipatory measures
- Up until now companies are scarcely confronted with external (regulatory or market-related) drivers for adaptation, however some exceptions are observable (e.g. changed standards)
- In both sectors current regulation rather supports an efficient than a robust infrastructure (goal conflict security of supply vs. cost-efficiency)

Project Partners



Funded by the federal Ministry of Education and Research, contract period
November 2009 – October 2013



Thank you for your attention!

www.climate-chameleon.de

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