



“Blueprint Germany” – 95% reduced GHG emissions by 2050 and the relevance of infrastructure

Infraday 2010 – October 8th, Berlin
Panel: Sustainable Infrastructure in 2050



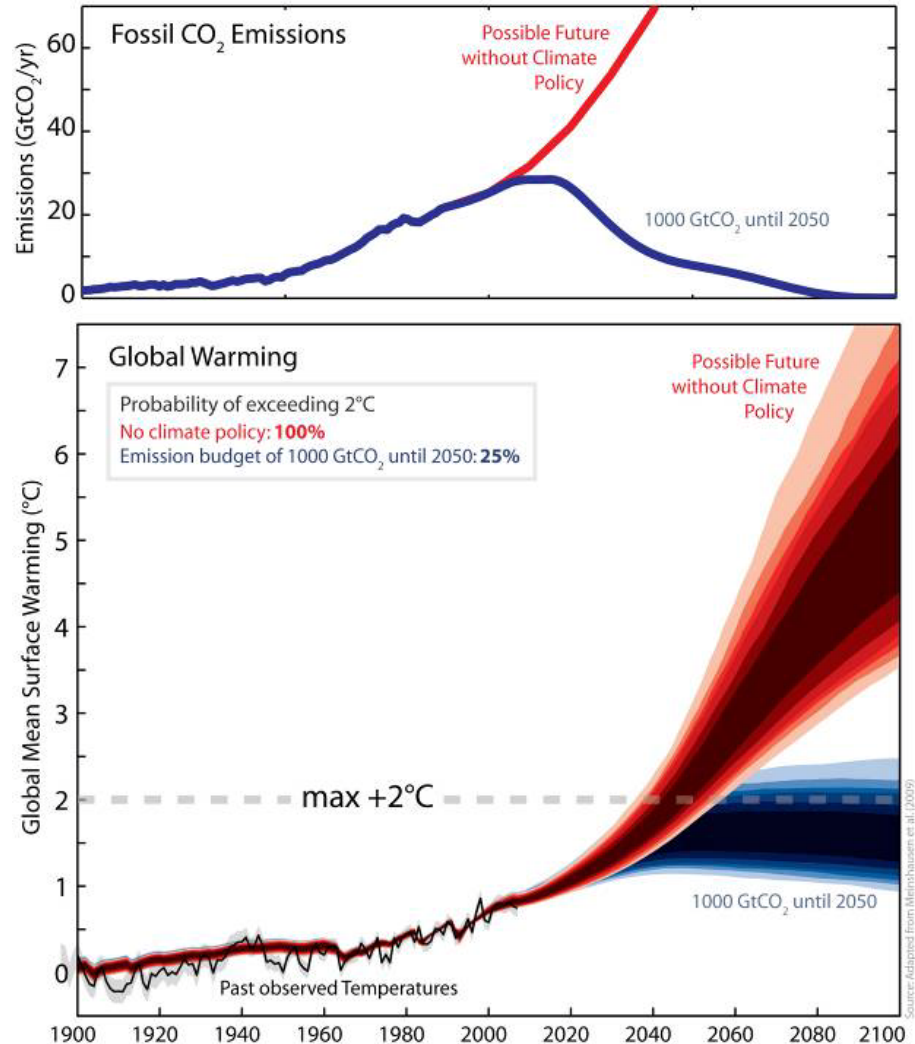
An NGO in Infrastructure ?





Context of Blueprint Germany

- **Objective: Staying below 2°C warming compared to pre-industrial levels**
- **requires GHG-emissions reductions in 2050:**
 - **by 60-80% globally**
 - **by up to 95% for industrialised countries**





The 'Blueprint Germany' project at a glance

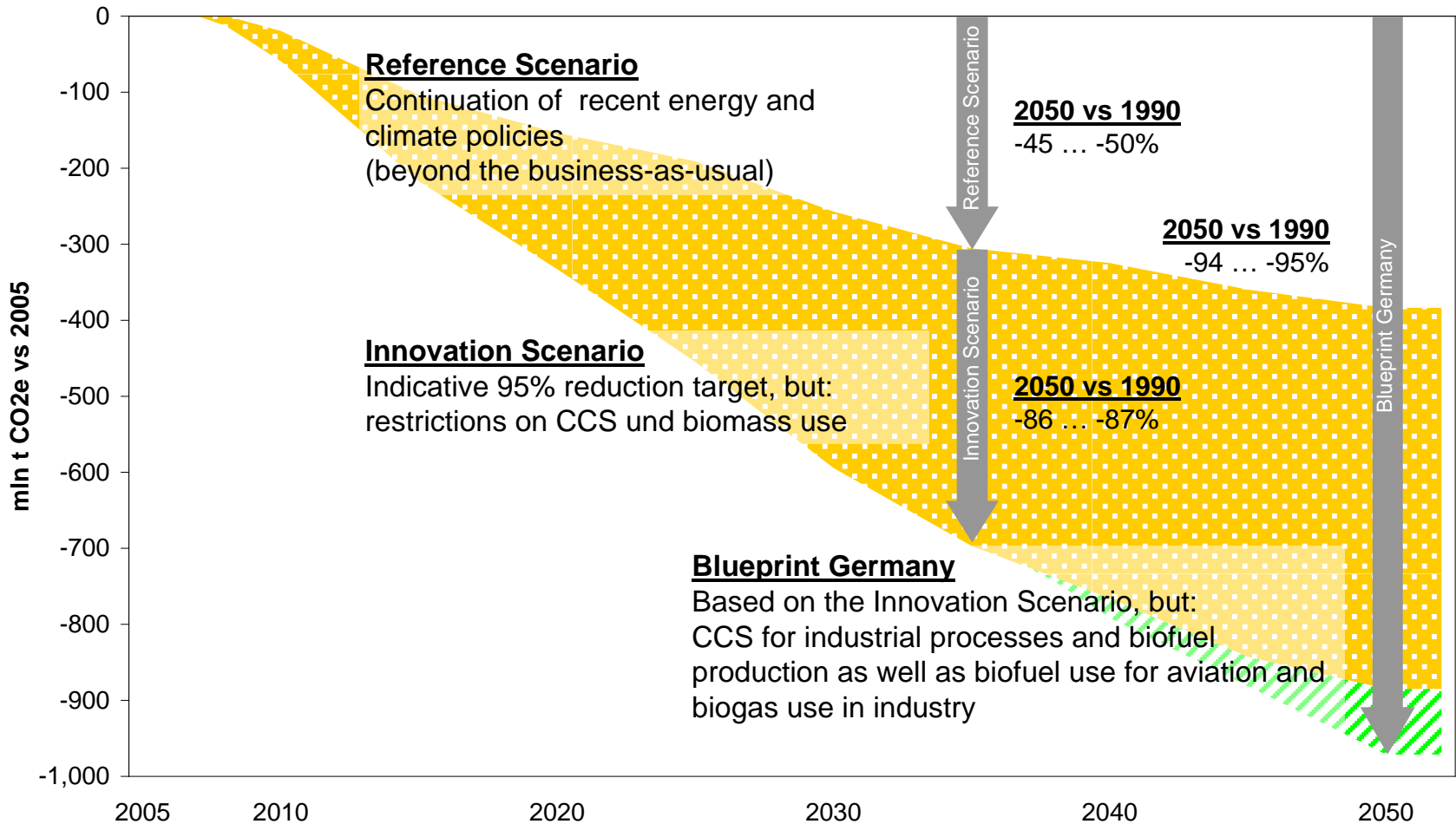
- Available: sufficient technologies and options will be available to reduce GHG emission by 95% compared to 1990 in a highly industrialized country
- Achievable: a 95% GHG emission reduction can be achieved
 - if the windows of opportunity are used (60% of reduction is related to long-living capital stocks)
 - if the necessary innovation is triggered (60% of reduction depends on innovative technologies and options)
- Affordable: 0.3% of GDP on average, 0.6% at the maximum
- All sectors must deliver significant emission reductions, key role of power, industry and transport

However,

- 'Uncomfortable' debates emerge: biofuels, CCS, central and decentral lock-ins



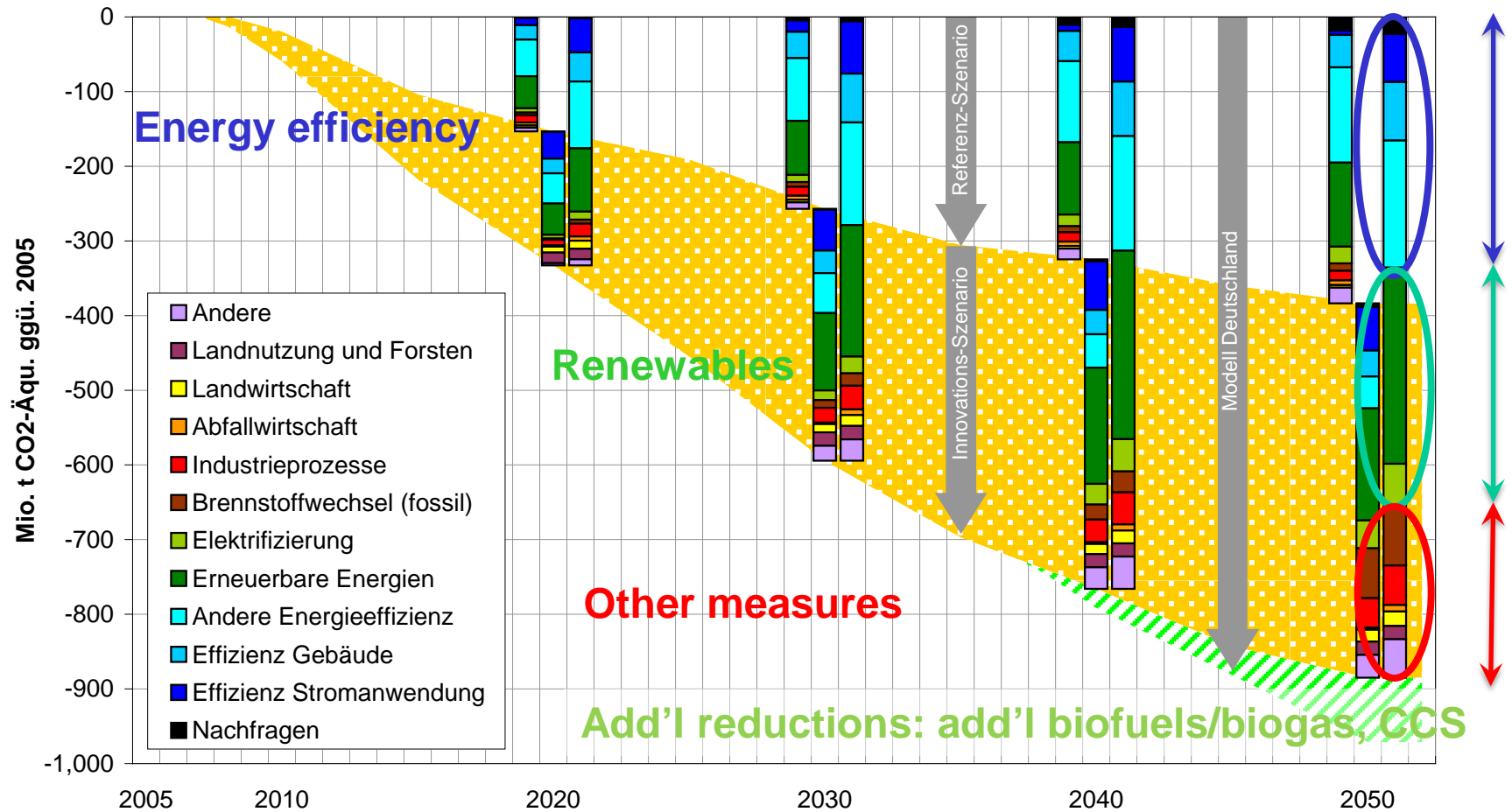
Outline of scenarios





Emission reduction contributions

Energy efficiency, renewables & more





Political strategies & implementation

New approaches are needed

Long-term guiding vision should guide also medium-term policies
(to ensure consistency & avoid lock-in, etc.)

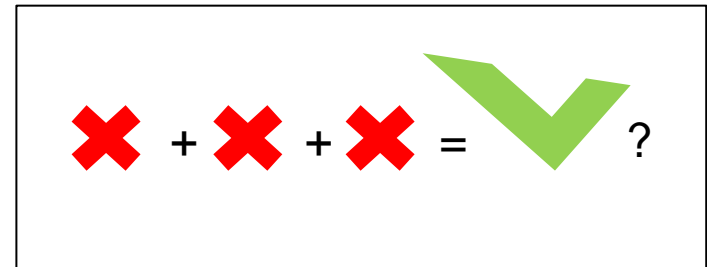
- Infrastructures and their long lead-times constitute a new challenge
→ requires technology-specific policies and measures alongside technology-neutral ones
- Lock-in is an emerging issue
 - Technological dimension
 - (infra-) structural dimension
 - Regulatory/Institutional dimension
- 2050 Scenarios for:
 - Optimization and extension
 - Transport and distribution networks
 - Electricity / (Bio)-Gas / CO₂ and rail



Sustainability along the value chain

- Sustainability – let alone integration of renewables or climate protection is not on the radar:

- Planning / calibration ✘
- Engineering ✘
- Authorization ✘
- Regulator ✘
- Cost acknowledgment ✘
- TSO ✘
- ENTSO-E ✘
- ACER



- Outcome is unlikely to be sustainable

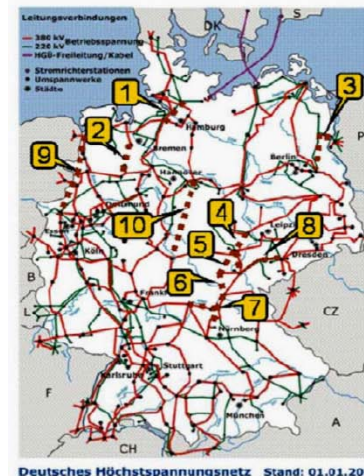
Planned measures in Germany: from dena I to dena II to “Roadmap 2050”

Dena I

- 2005: 850 km HV needed until 2015 (data not transparent = use with caution)
- 2010: 90 km built despite specific legal framework EnLAG and pilot project prioritization
- Low Transparency = low acceptance

Dena II

- Expected End 2010, 3500 km supposedly needed until 2020/2025 (data problem remaining)
- Pilot Projects Overlay
- Better transparency?



Bis zum Jahr 2010: 460 km

- | | |
|----------------------------------|--------|
| 1. Hamburg/Nord-Dollern | 45 km |
| 2. Ganderkesee-Wehrendorf | 80 km |
| 3. Neuenhagen-Bertikow/Vierraden | 110 km |
| 4. Lauchstädt-Vieselbach | 80 km |
| 5. Viesselbach-Altenfeld | 80 km |
| 6. Altenfeld-Redwitz | 60 km |
| 7. Netzverstärkung Franken | |
| 8. Netzverstärkung Thüringen | |

Bis zum Jahr 2015: zusätzlich 390 km

- | | |
|----------------------|--------|
| 9. Diele-Niederrhein | 200 km |
| 10. Wahle-Mecklar | 190 km |



Backcasting 2050: Regulatory & Time gaps

Roadmap 2050 (at national and EU/international level)

- Backcasting Exercise
- Integrate Climate (or Renewables) target in practice of all stakeholders
- Macro-economic Cost Benefit Analysis rather than business model optimization
- Time issue (10 years is not enough) T= twenty or T=thirty
- Harmonisation of national plans:
 - Different regulation
 - Different planning
 - Different investment determination
- Empowerment ACER / ENTSO-E/G
- National and supranational “coordinated planning agencies”



NGOs as partners

- Acceptance
- Regulatory / institutional design within climate goals



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100% renewables and 80/95%
GHG reduction



Many thanks for the attention

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