

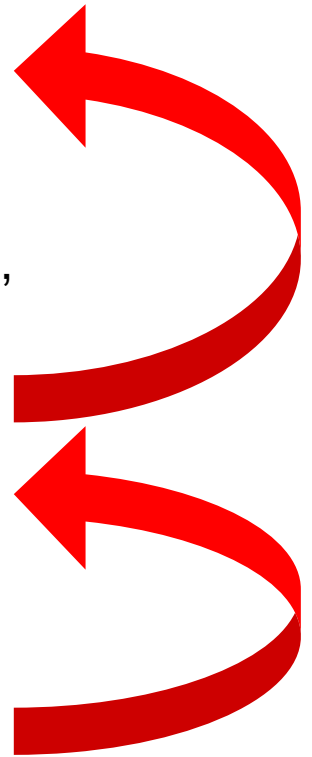
Policy mapping tools and analytical approaches

**Partnership for Market Readiness (PMR) Technical Workshop
» Post-2020 Mitigation Scenarios and Carbon Pricing Modelling «**

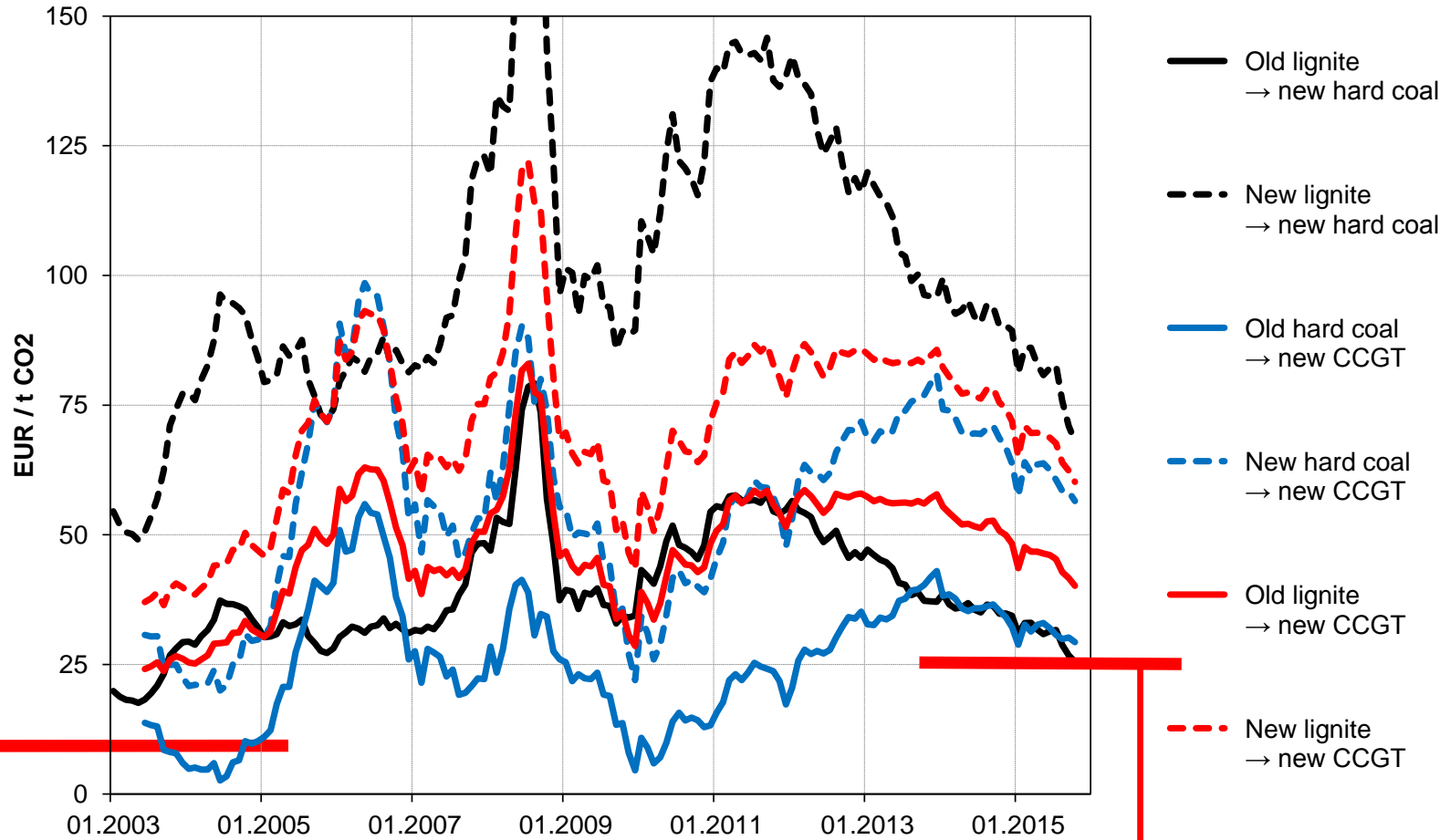
**Dr. Felix Chr. Matthes
Brasilia, 2nd February 2016**

**In the beginning a reminder:
The four 'A'-questions for strategy assessments**

- **Are the potentials for GHG mitigation AAVAILABLE?**
 - from today's knowledge
 - with sufficient trust in innovation
- **Can these potentials be implemented in a way that certain (long-term) targets are ACHIEVABLE?**
 - considering the lifetime of capital stocks
 - considering the necessary lead-times for implementation, infrastructure & innovation
- **Can pathways be designed that are AFFORDABLE?**
 - for the economy in total (efficiency)
 - for (different) consumers (distributional implications)
- **Will such pathways be ACEPTABLE?**
 - for policy makers
 - for the public
 - for key (“backstop”) stakeholders



Beyond policy coordination: a dynamic market environment requires dynamic analysis & responses



2005: cheap abatement options ~5 to 10 €/t CO₂

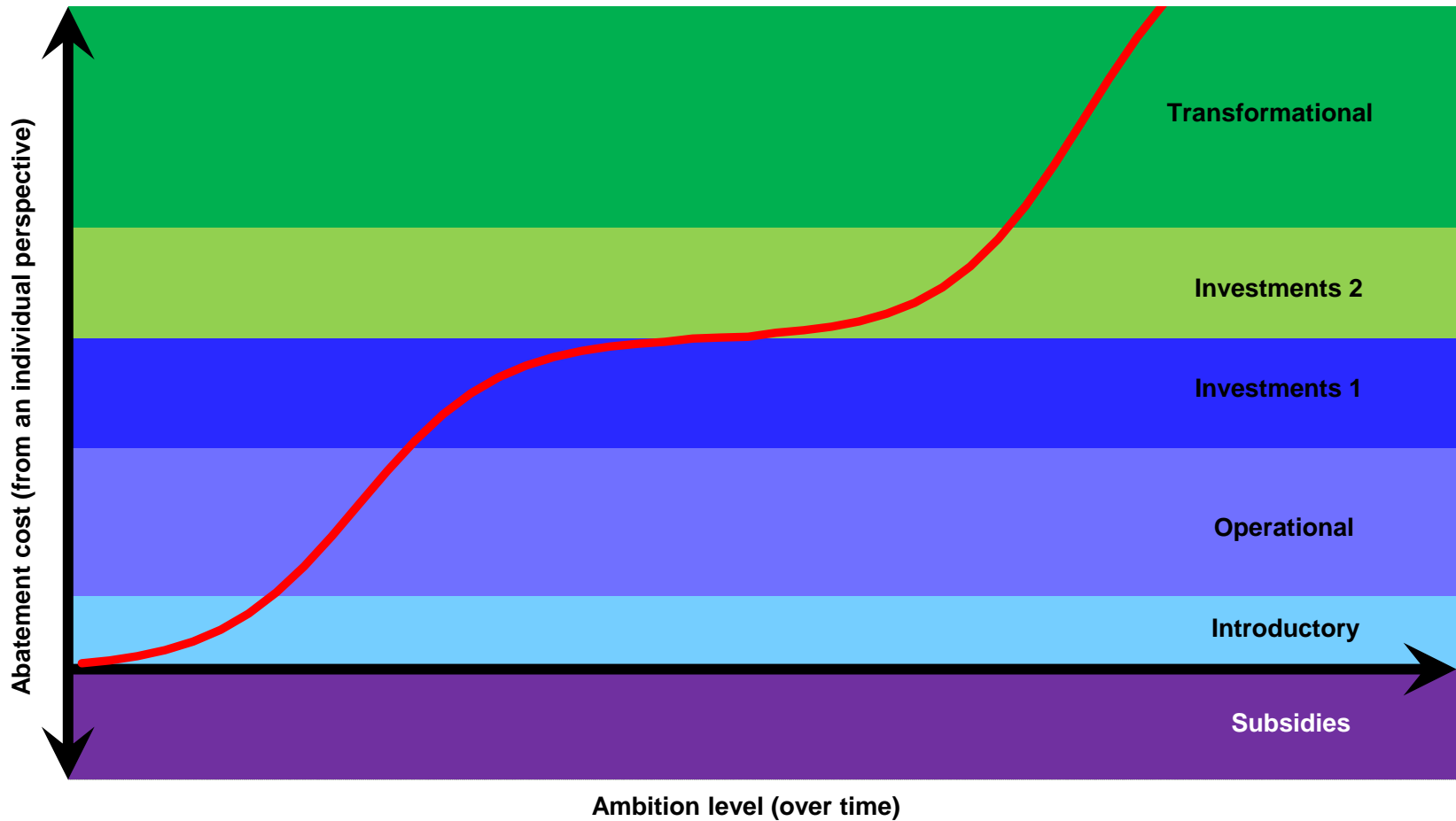
end-2015: cheap abatement options ~25 €/t CO₂

Öko-Institut 2016

- **Different dimensions of policy interactions**
 - interactions between energy, climate and environmental policies
 - interactions between climate policies and other policy areas (market regulation/oversight, industrial policy, foreign policy)
- **Different mechanisms of policy interactions – and interactions of policy mechanisms**
 - (simple) overlapping
 - reinforcing effects
 - countervailing effects
- **The variety of interactions is huge, clear focus is needed**
 - on most significant sectors (for certain time-horizons)
 - on different economic dimensions
 - operational and behavioral patterns
 - investment patterns
 - innovation patterns

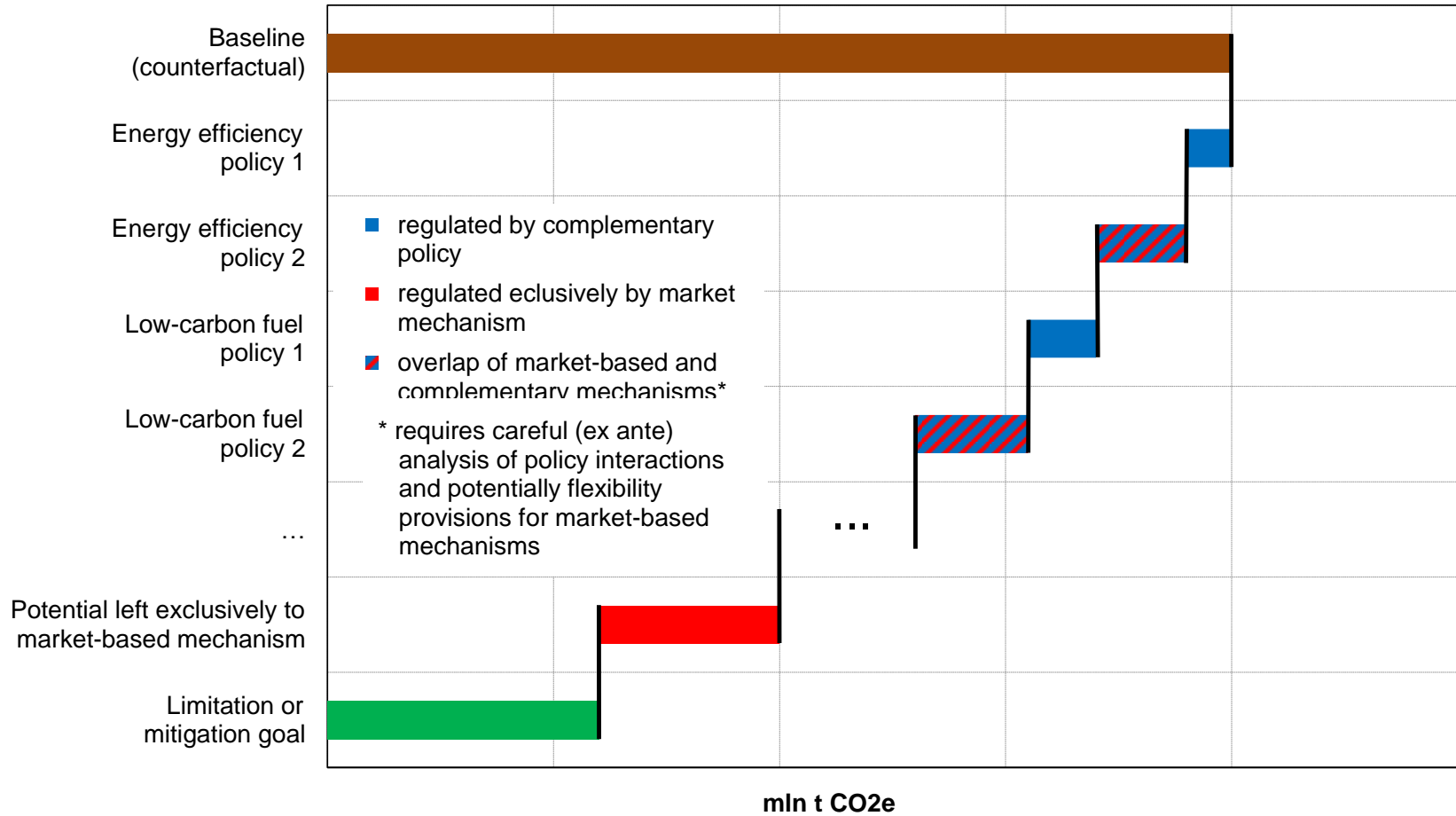
Analysis of policy mechanisms & policy interactions

Reflecting different layers of abatement



Putting different policy mechanisms into context

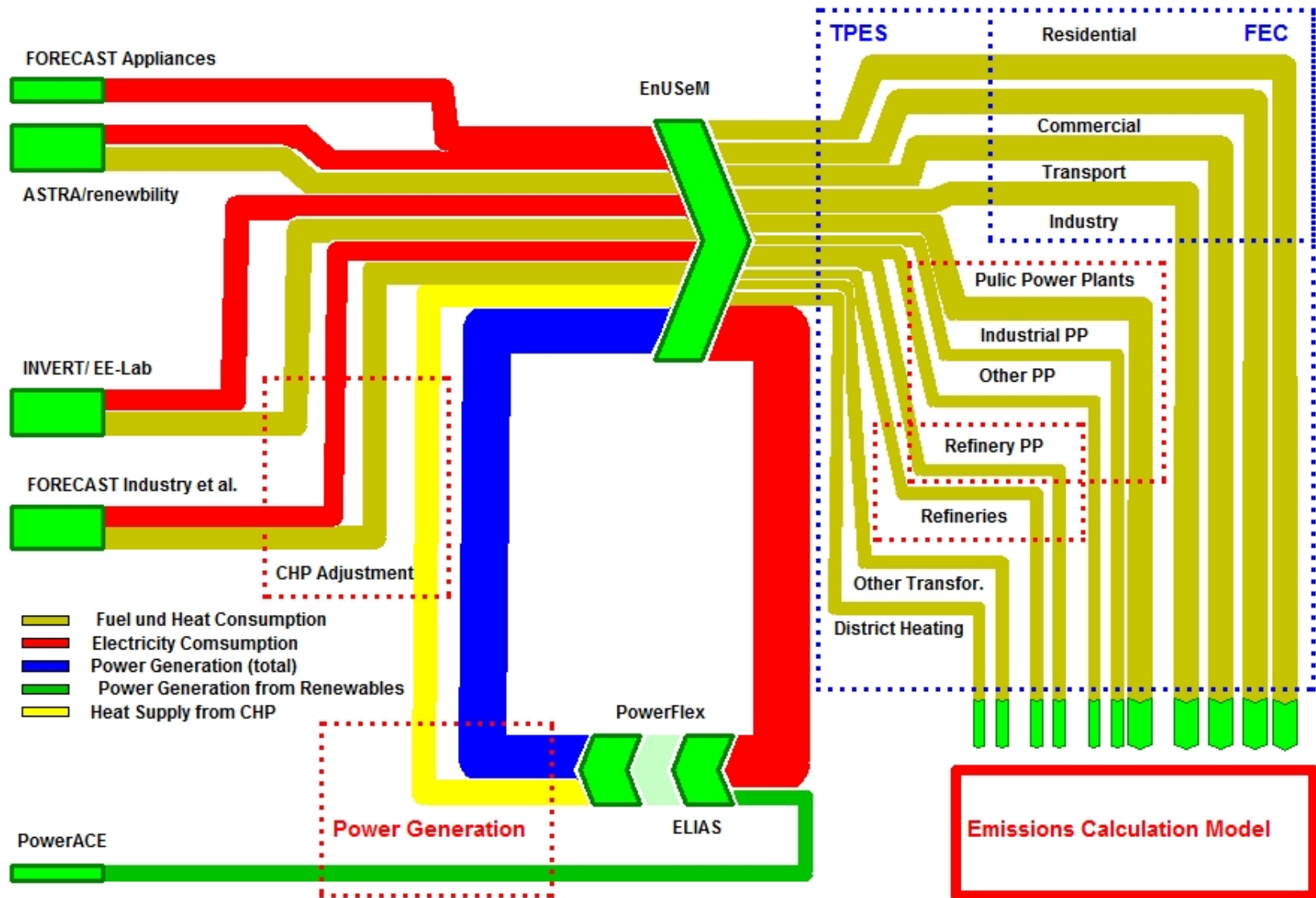
Identifying primary & complementary policies



- **Quantitative analysis is needed and essential**
 - with a strong focus on behavior of the economic entities (smart combination of bottom-up, simulation or partial equilibrium models)
 - with consideration of macroeconomic feedbacks (macroeconomic models like econometric or CGE models)
 - key outcomes
 - list of isolated policy outcomes (possible via decomposition analysis) – identifying the Top X to inform the policy process
 - numerical specification of policy interactions (comparing isolated policy outcomes with combined outcomes) – identifying the Top X to inform the policy process
- **How to deal with (increasing) uncertainties**
 - sensitivity analysis as an essential element
 - short modeling cycles (creating a modeling framework as well as modeling, modeling outreach and modeling feedback communities – for integrated policy modeling)

Biannual climate policy modeling for Germany

The integrated bottom-up modeling part



**Thank you
very much**

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