



POTSDAM INSTITUTE FOR
CLIMATE IMPACT RESEARCH

Comments on the WEO 2009

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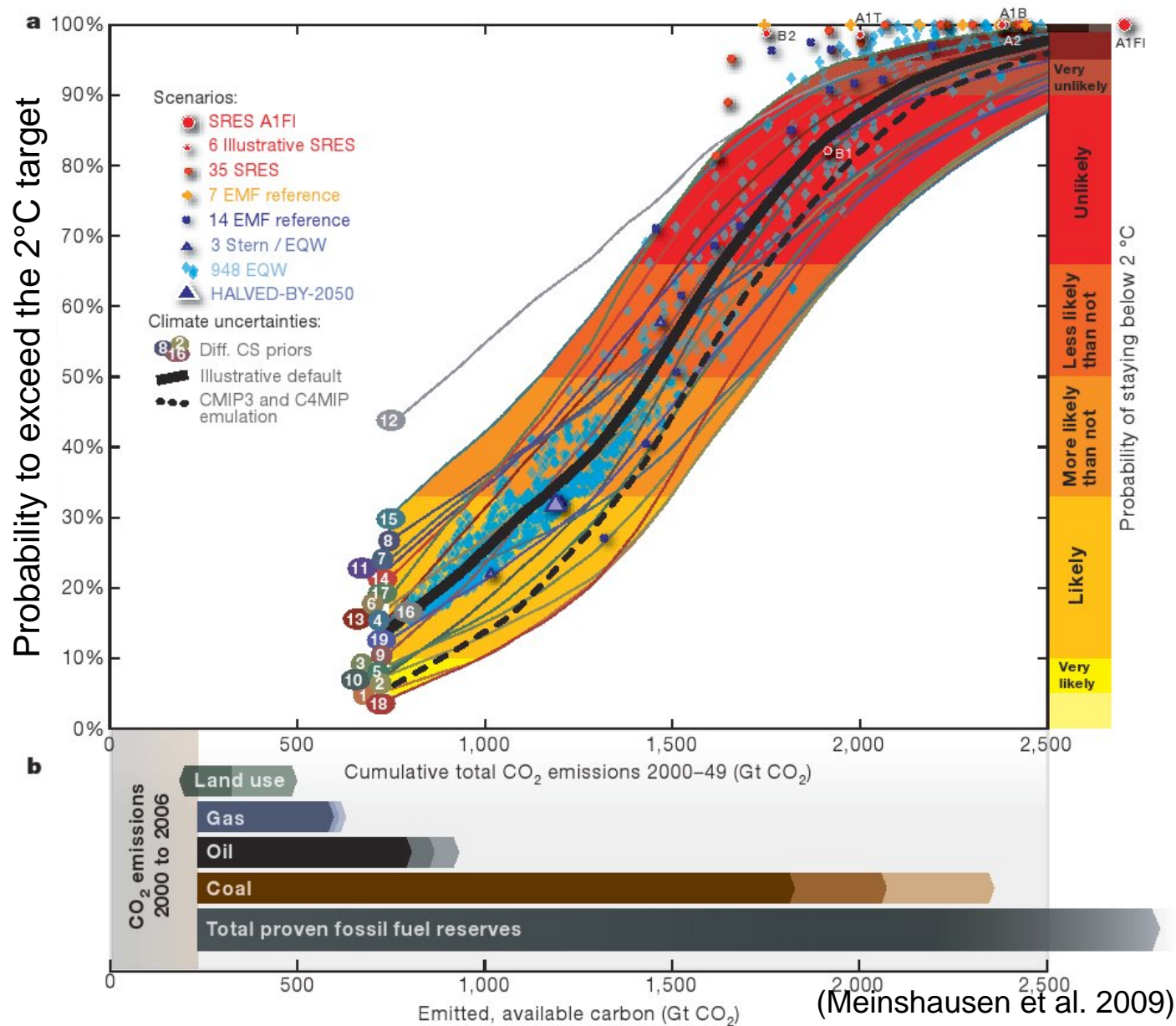
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



Working Group III
Mitigation of Climate Change



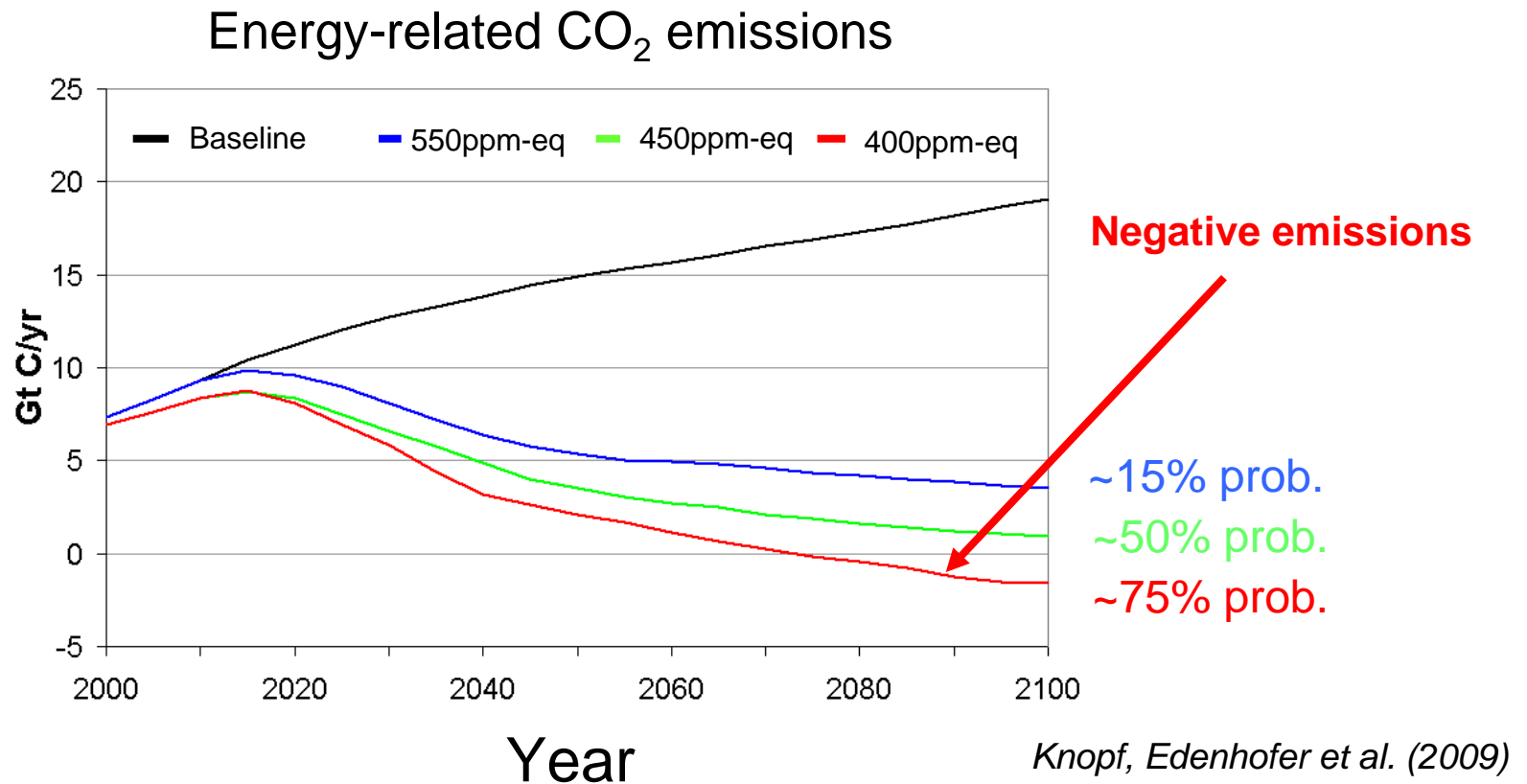
Climate Protection Implies a Remaining Stock of Emissions



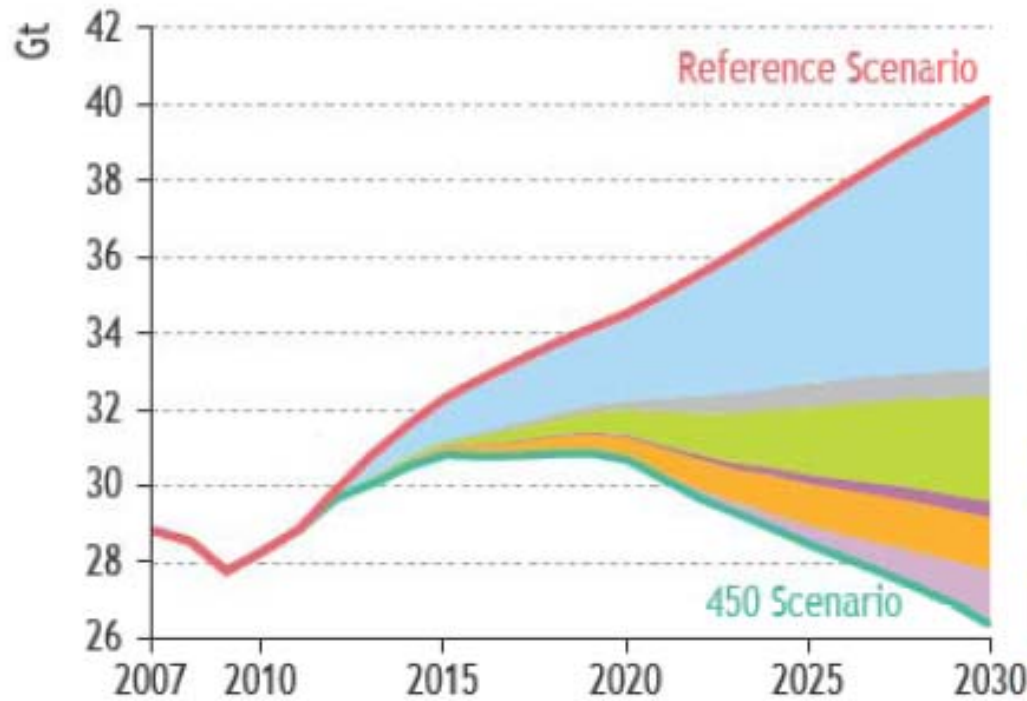
The Economics of Atmospheric Stabilisation



3 stabilisation targets with different probabilities to reach the 2° target:
550ppm-eq, 450ppm-eq, 400ppm-eq



WEO 2009 Mitigation Wedges

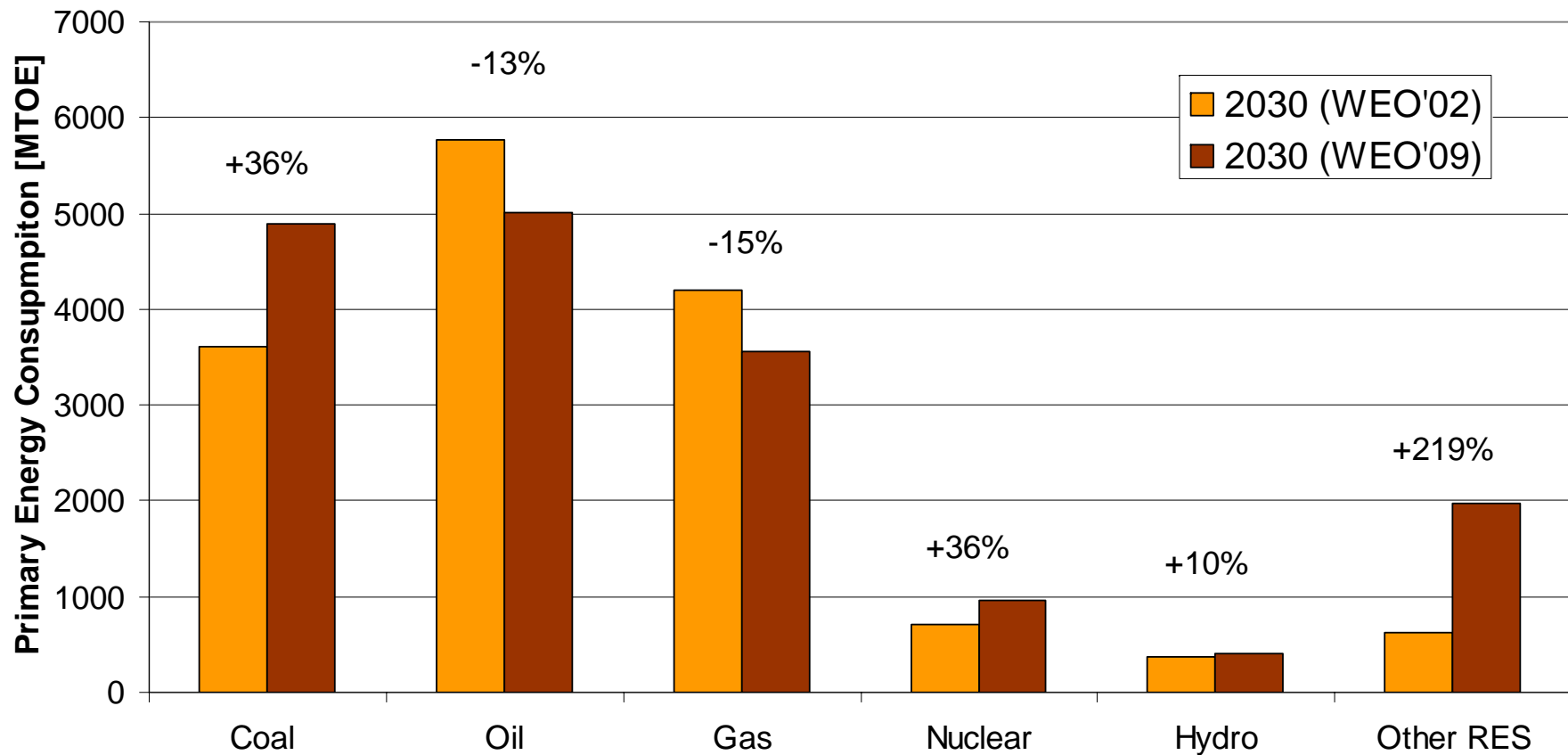


	Abatement (Mt CO ₂)		Investment (\$2008 billion)	
	2020	2030	2010- 2020	2021- 2030
Efficiency	2 517	7 880	1 999	5 586
End-use	2 284	7 145	1 933	5 551
Power plants	233	735	66	35
Renewables	680	2 741	527	2 260
Biofuels	57	429	27	378
Nuclear	493	1 380	125	491
CCS	102	1 410	56	646

WEO Up-dated BAU Expectations



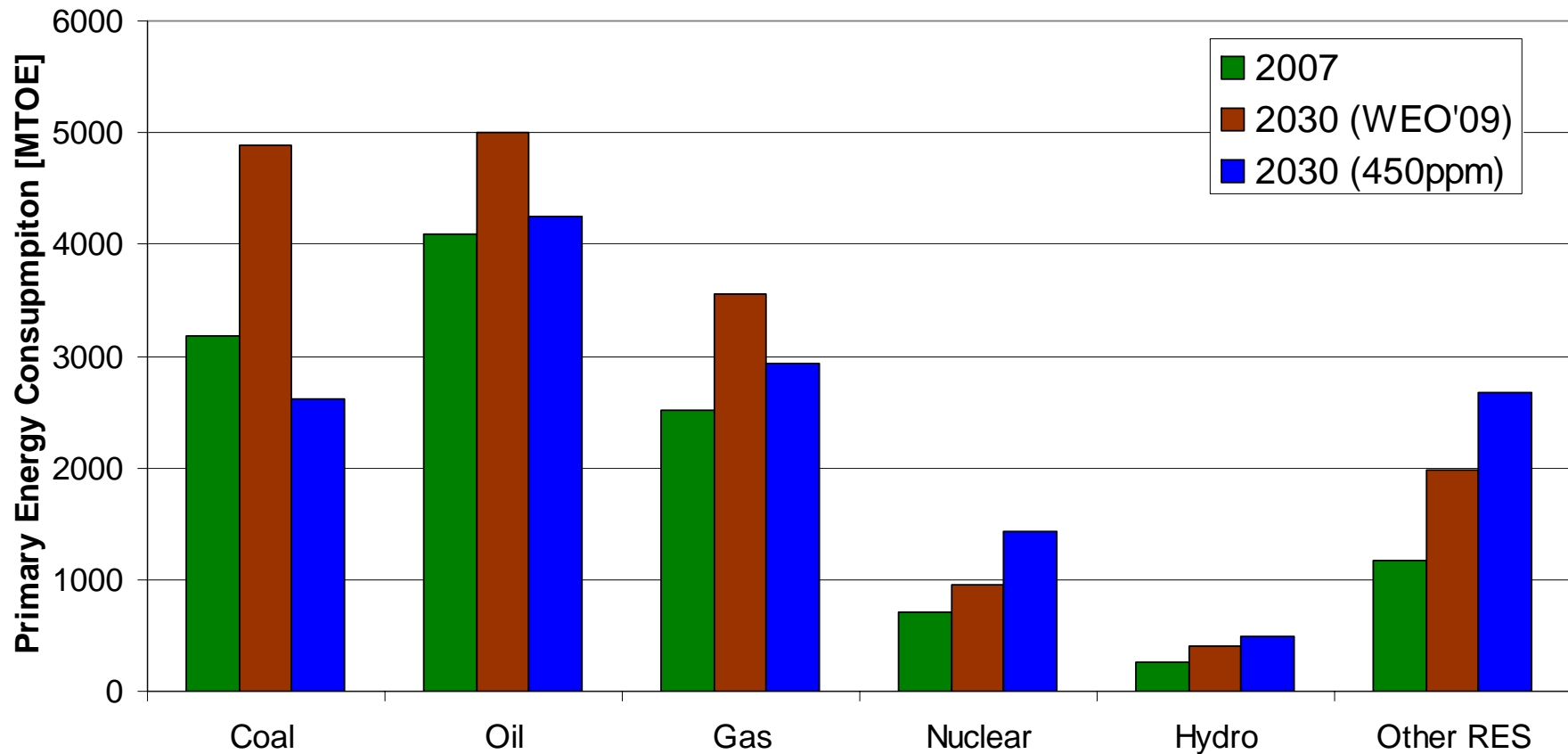
- Primary energy mix is expected to shift to coal and renewables
- Hydrocarbons may lose their dominant role



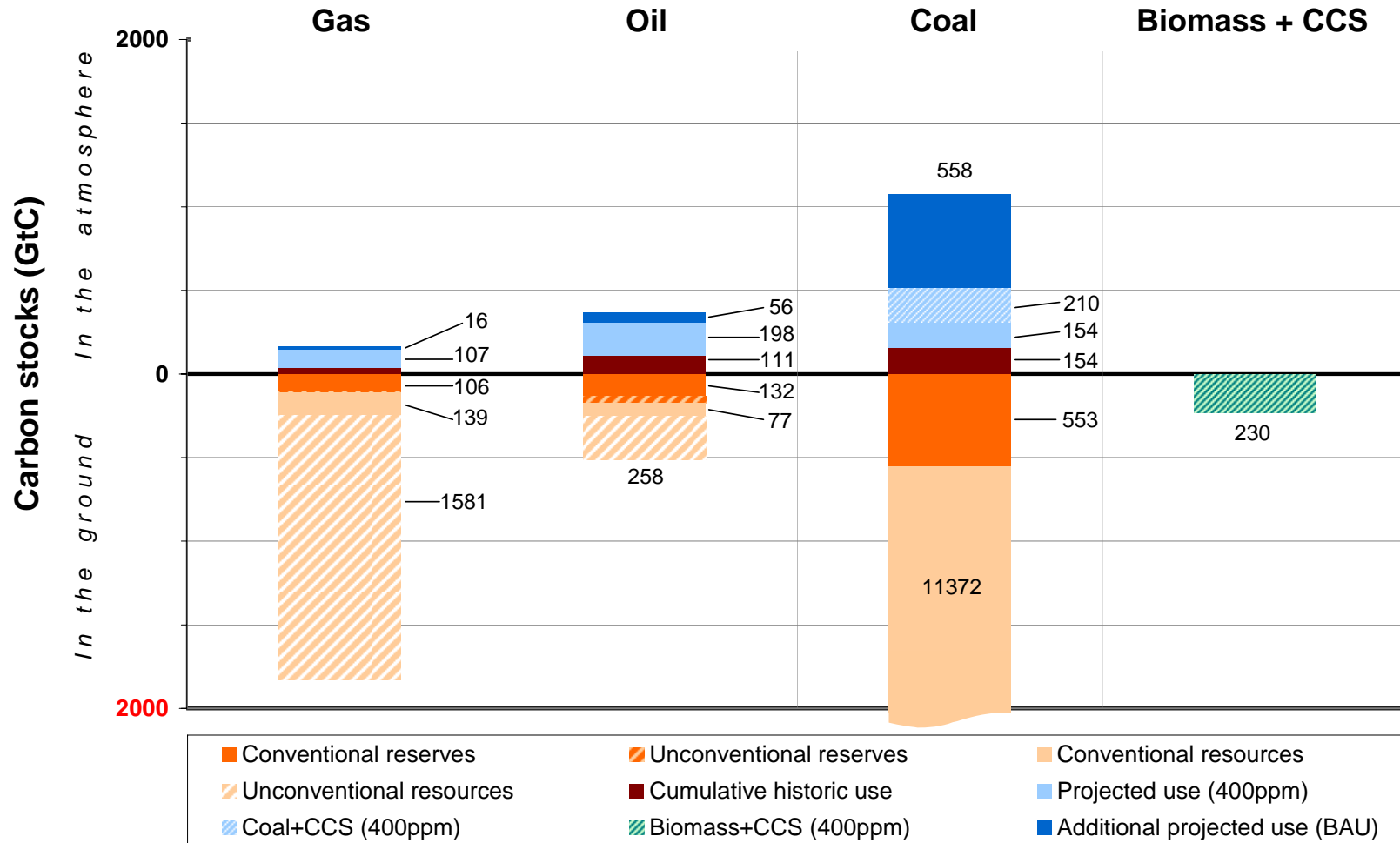
The Climate Challenge



- The growth of „King Coal“ must be contained
- Oil and gas grow slightly; low-carbon technologies must boom!



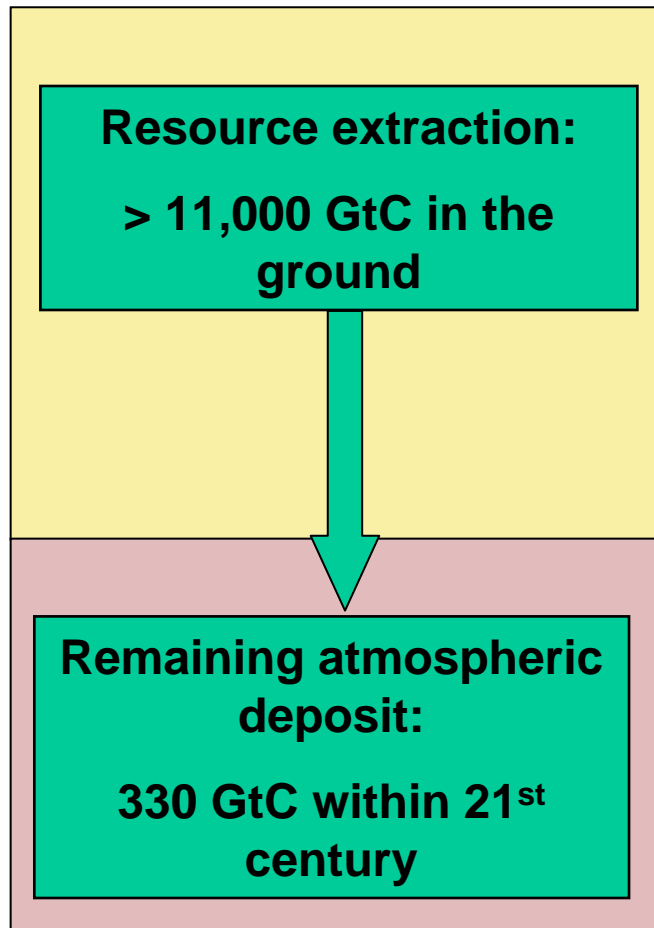
The Supply-side of Global Warming



Cumulative historic carbon consumption (1750-2004), estimated carbon stocks in the ground, and estimated future consumption (2005-2100) for business-as-usual (BAU) and ambitious 400-ppm-CO₂-eq. scenario.

Source: Kalkuhl, Edenhofer and Lessmann 2009

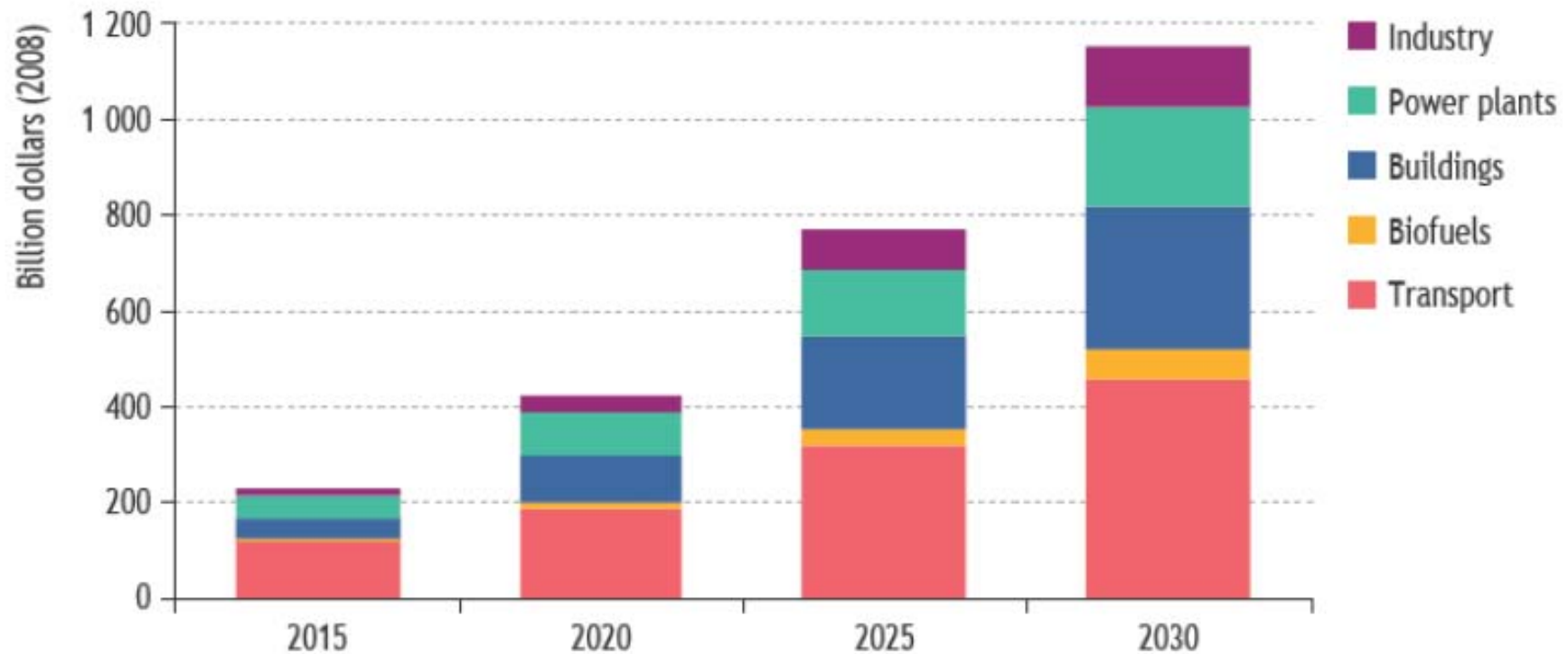
The Economics of Climate Mitigation



Issuing of permits in accordance with the remaining atmospheric deposit:

- 1) Dividing the global budget into national budgets by international negotiations
- 2) International and intersectoral permit trade for a cost-effective achieving of the budget
- 3) Long-term credibility of the budget

Additional Investments in 450ppm Scenario



A Potential Copenhagen Deal



Set **carbon budget** consistent with +2°C planet (ca. 800 -1000 GtCO₂ for 21st century)

Outline roadmap for subsequent negotiations on budget **allocation**

Outline roadmap for implementation of **global carbon market**