

The Road from Bali to Cancun: High Expectations, Low Results?

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Outline

- Bali and Copenhagen
- Fair Mitigation: Different Viewpoints
- The Cost of Mitigation
- IIASA's Tools
- The Good News



The Bali Road Map (2007)

- Recognition that evidence for global warming is *unequivocal*
- 2-year process to finalizing a binding agreement
- Development of a shared vision
- Launch of an Adaptation Fund

The Bali Road Map – cont'd

- 2 parallel Ad-hoc Working Groups
 - (KP) Annex I Parties under the Kyoto Protocol
 - Aim: new binding targets for 2020 (excl. USA)
 - (LCA) Long-term Cooperative Action
 - Aim: Broader discussion and integration of Annex I and non-Annex I commitments on
 - Mitigation
 - Adaptation
 - Financing
 - Technology transfer

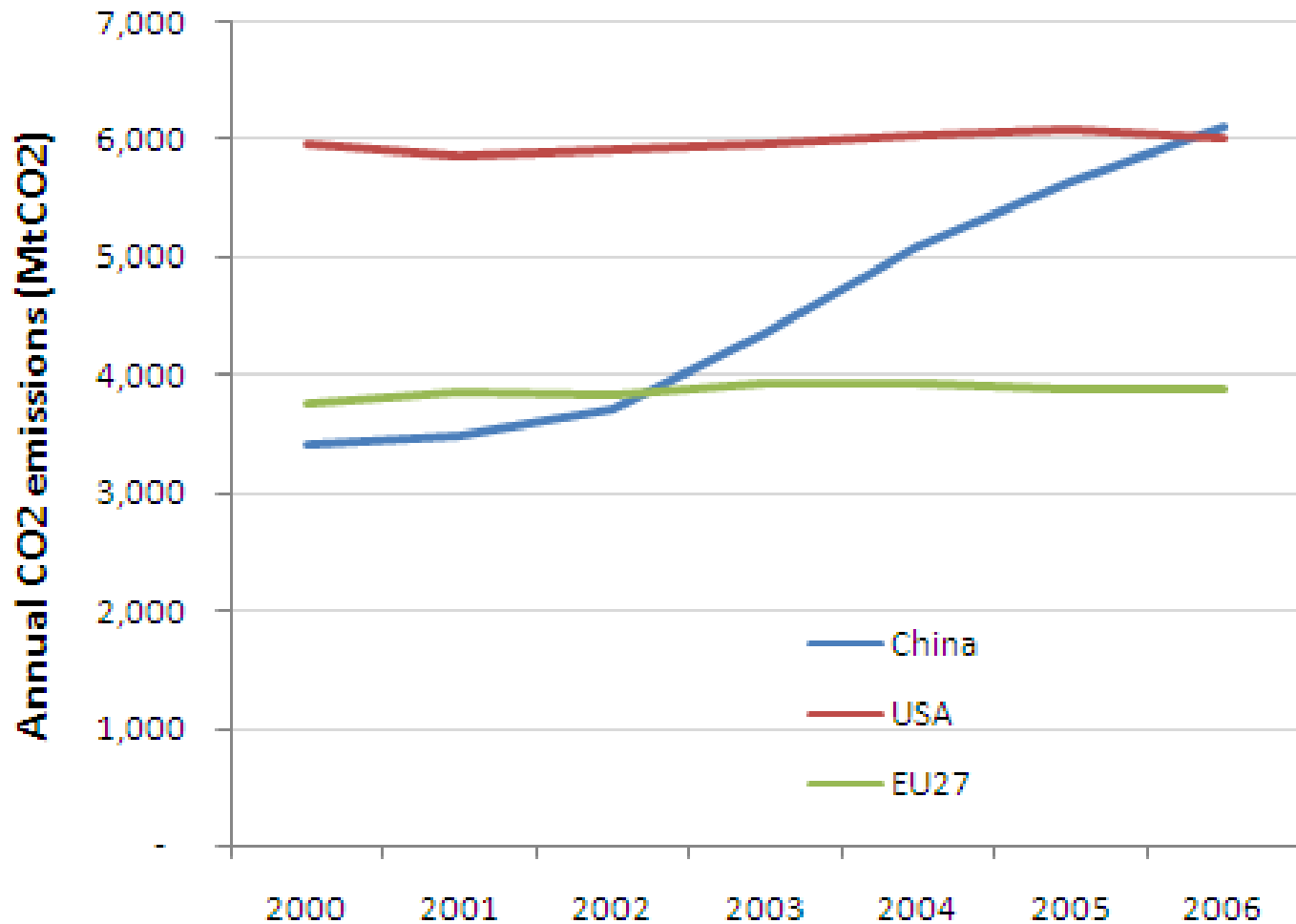
The Copenhagen Accord (2009)

- Objective is to keep warming below 2°C.
 - Basis for action: Equity and Science
- Annex I Parties implement pledged emission reductions for 2020
- Non-Annex I Parties will commit to emission targets
- Annex I Financing:
 - US\$30bln (2010-2012)
 - US\$100 bln p.a. by 2020
- Green Climate Fund

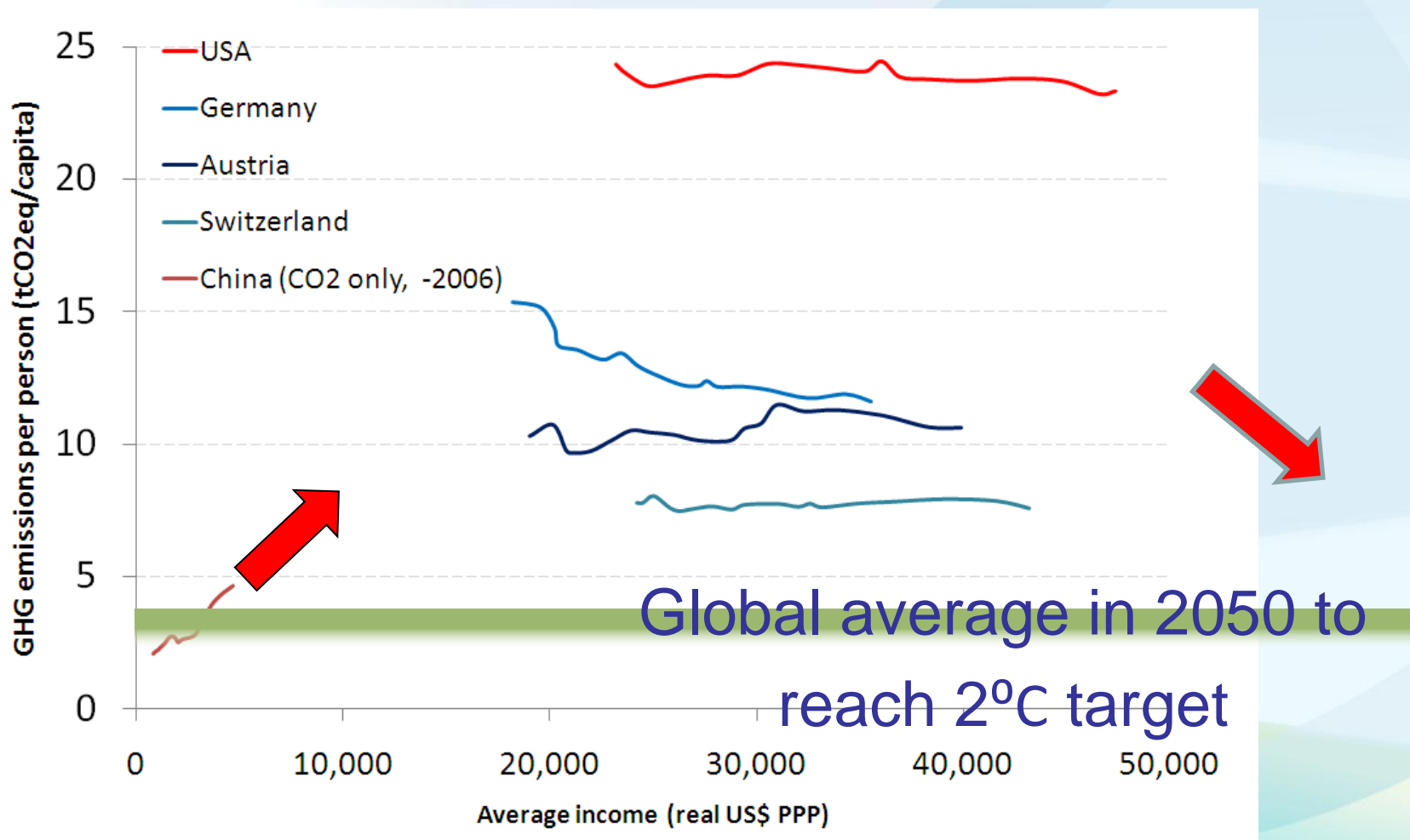
Is it enough?

Is it fair?

Metrics for measuring mitigation efforts (I): Fossil CO₂ emissions



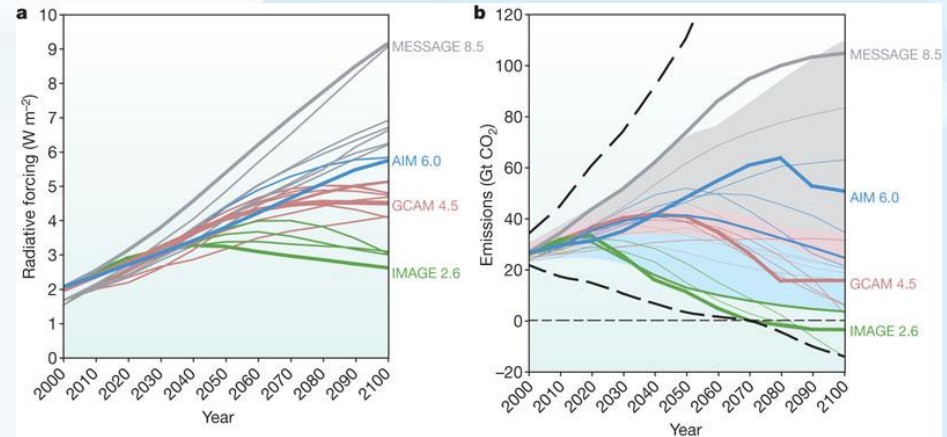
Metrics for measuring mitigation efforts (II): Per capita income and emissions 1990-2008



Part II

How much does mitigation cost?

1. Macro-economic (model) analysis:



- Dynamics of aggregates (employment, total income, goods)
- How prices react to changes and vice versa

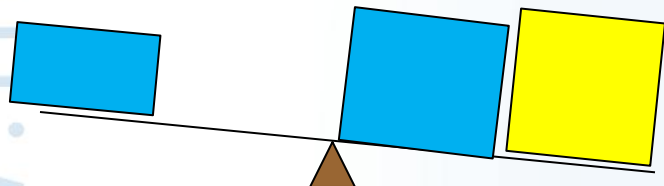
Macro-economic analysis:

Crucial role of discounting = valuation of the future

Models using
'Low' discounting (e.g. Stern
Review)

Short-term

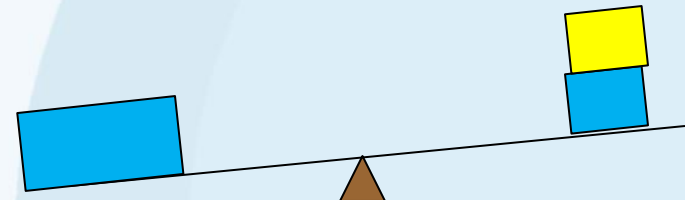
Long-term



Models using
'High' discounting

Short-term

Long-term

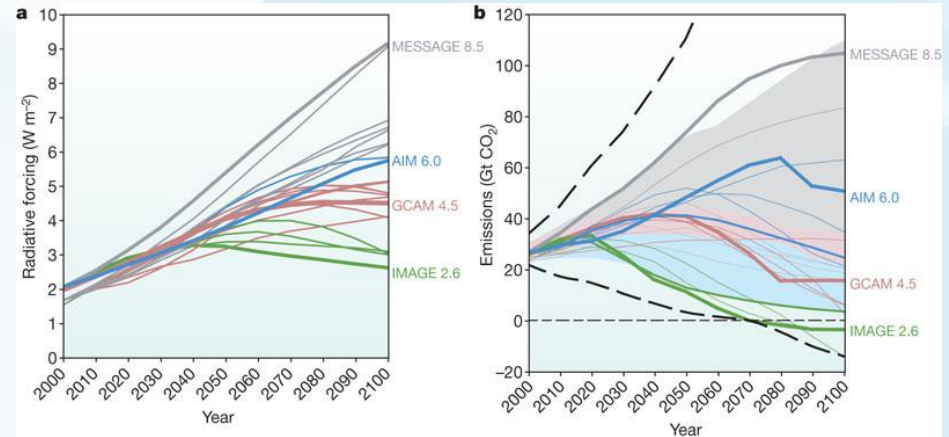


-  Mitigation costs
-  Adaptation costs

How much does mitigation cost?

1. Macro-economic (model) analysis

2. Technology (model) analysis



IIASA's GAINS model

Bottom-up approach

- Detailed technical level (~ 300 mitigation measures),
- all gases and sectors,
- systems approach,
- technical, economic and market potentials

Advantages and disadvantages of a bottom-up approach

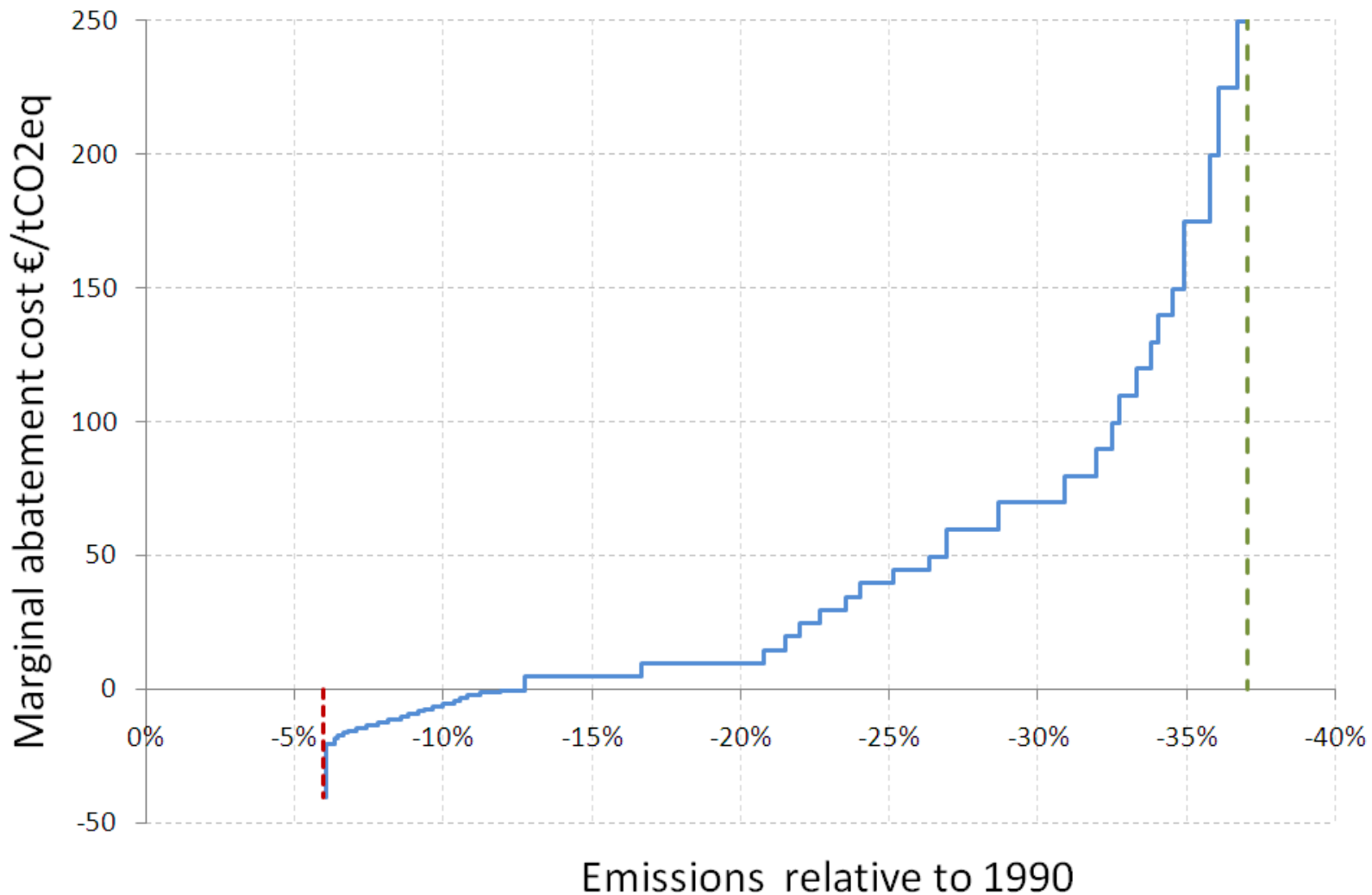
Pro's:

- Transparency
- Explicit accounting of structural differences between countries at a technical level
- Baseline projection of economic activities provided by countries or international organizations
- Participatory approach
- Can assess co-benefits (e.g. health) from air pollution

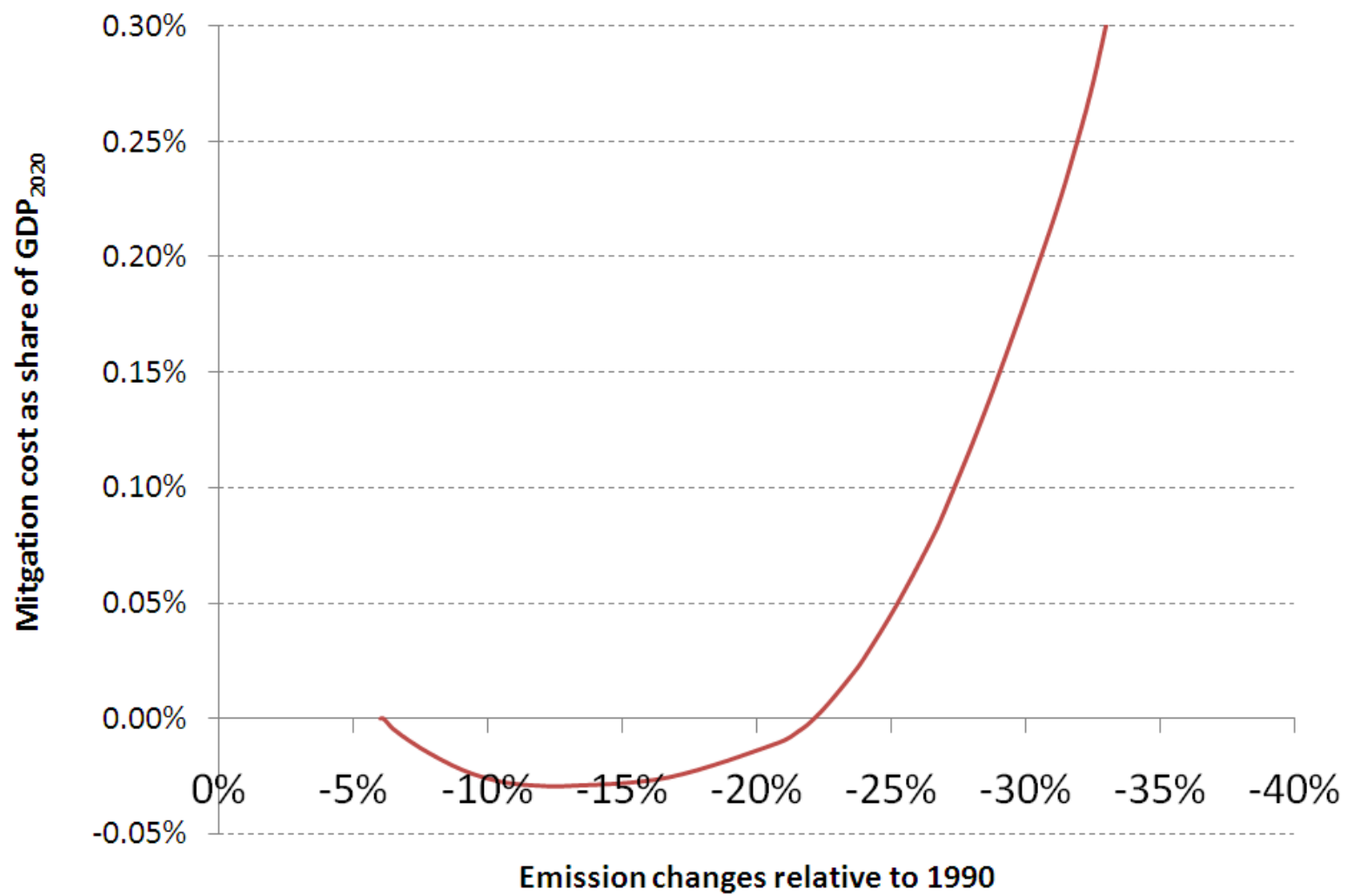
Con's:

- No behavioural changes
- No macro-economic feedbacks

Mitigation in industrialized countries: Costs at the margin



Mitigation in industrialized countries: **Total costs**

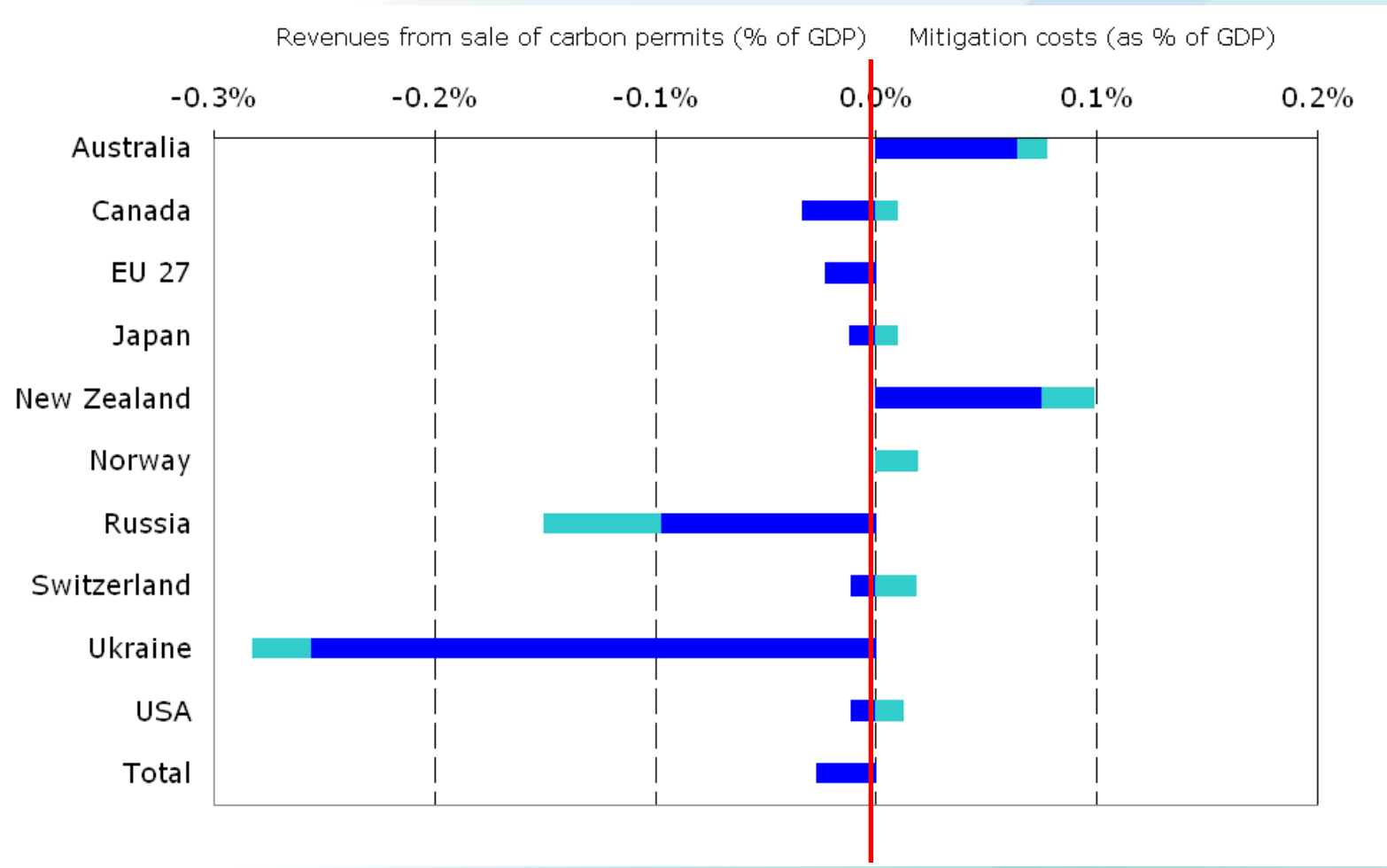


Annex I Parties have 'pledged' emission reductions

	Conservative interpretation	Optimistic interpretation	Reference year	Inclusion of LULUCF	Status
AUSTRALIA	-5%	-25% through -20% cap and trade of domestic emissions and -5% government purchases of international credits	2000	Yes	Officially announced (May 4, 2009)
CANADA	-20%	-20%	2006	t.b.d.	Officially announced
EU	-20%	-30%	1990	Not for the 20% target, t.b.d. for the 30% target	Adopted by legislation
JAPAN	-15% (relative to 2005; through domestic measures)	-25% (relative to 1990)		Not for the 15% target, t.b.d. for the 25% target	Low pledge officially announced June 10, 2009; high pledge demanded by the Democratic Party
NEW ZEALAND	-10%	-20%	1990	Yes (with current rules)	Announced in Bonn (11 August 2009)
NORWAY	-30%	-30%	1990	Yes (with current rules)	Officially announced
SWITZERLAND	-20%	-30%	1990	Yes	Switzerland announced to follow the EU
UKRAINE	-20%	-20%	1990	?	Under consideration
USA	-1% (cap: 6,095 Mt COeq)	-17% (5,123 Mt COeq) (through cap plus complementary measures)	1990	Yes	Waxman & Markey bill as of May 19 (WRI paper 22 June 2009)
RUSSIA	-10%	-15%	1990	?	Announced by president Medvedev

Annex 1 Emission reduction pledges

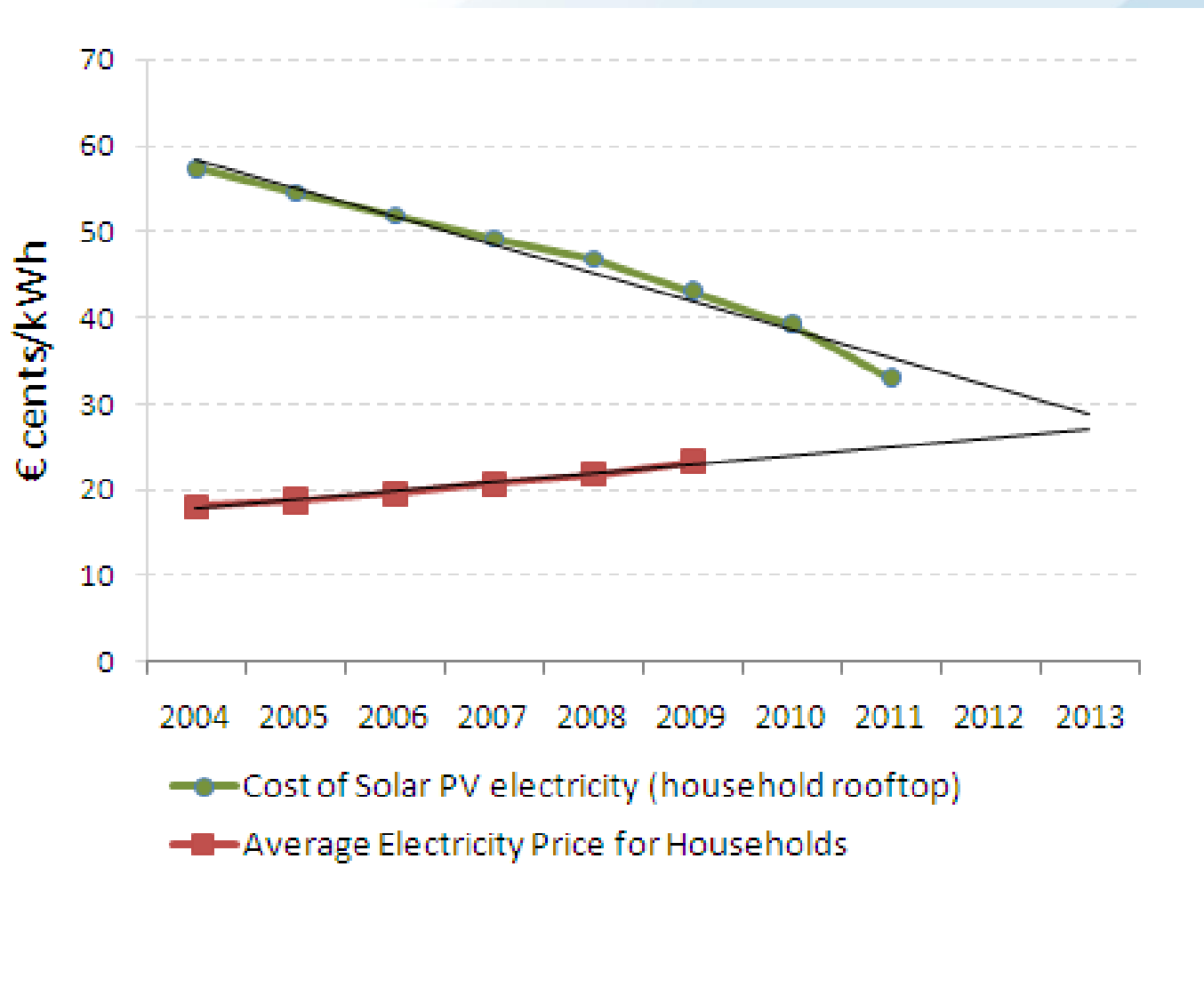
Total costs are small, if not negative



Part III Good News:

Example 1: PV feed-in tariffs in Germany

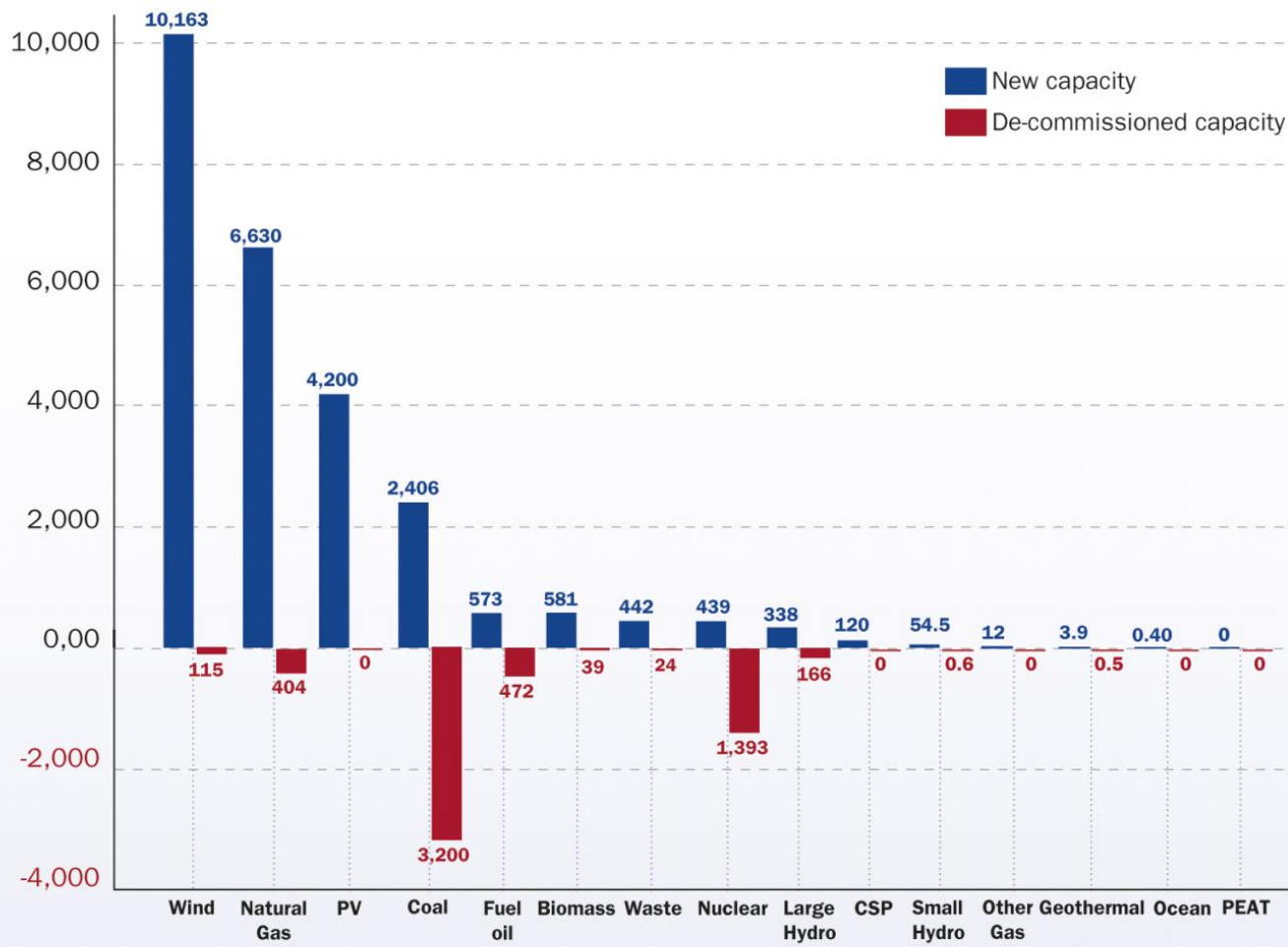
Costs of small scale technologies can change rapidly



2009: 60% of **new** power capacity in EU renewable

NEW INSTALLED CAPACITY AND DE-COMMISSIONED CAPACITY IN EU 2009

FIGURE 1.2



Source: EWEA, EPIA, ESTELA, EI-OEA, and Platts Powervision

Conclusion

- Expectations from UNFCCC process may be too high
 - Complex problem, complex agenda, complex linkages
 - Transparency not always in the interest of negotiators
- Costs for mitigation could be low
 - Low hanging fruit & co-benefits
 - Resistance from sectors that will lose revenues
- Political will & national initiatives important
 - Creating incentives & harvesting co-benefits

“What can I do about mitigation?”

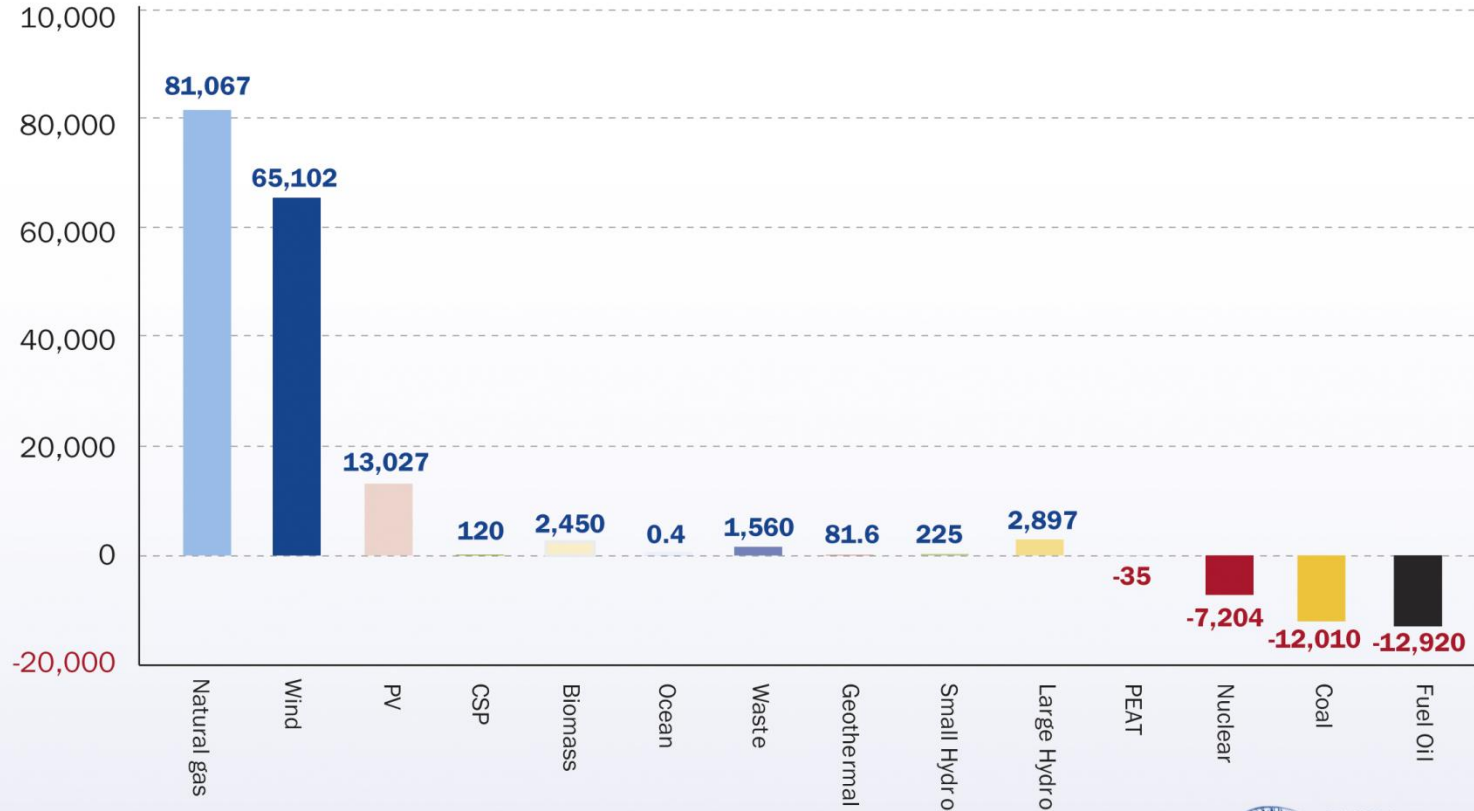
- Push for incentives!
- Insulate your house or build a ‘Passive house’
- Avoid traveling by air, buy a smaller car
- Invest into a solar roof
- Buy green electricity
- Eat more vegetables
- Tell your friends and colleagues about it!

Supplementary material

Wind on the forefront since 2000

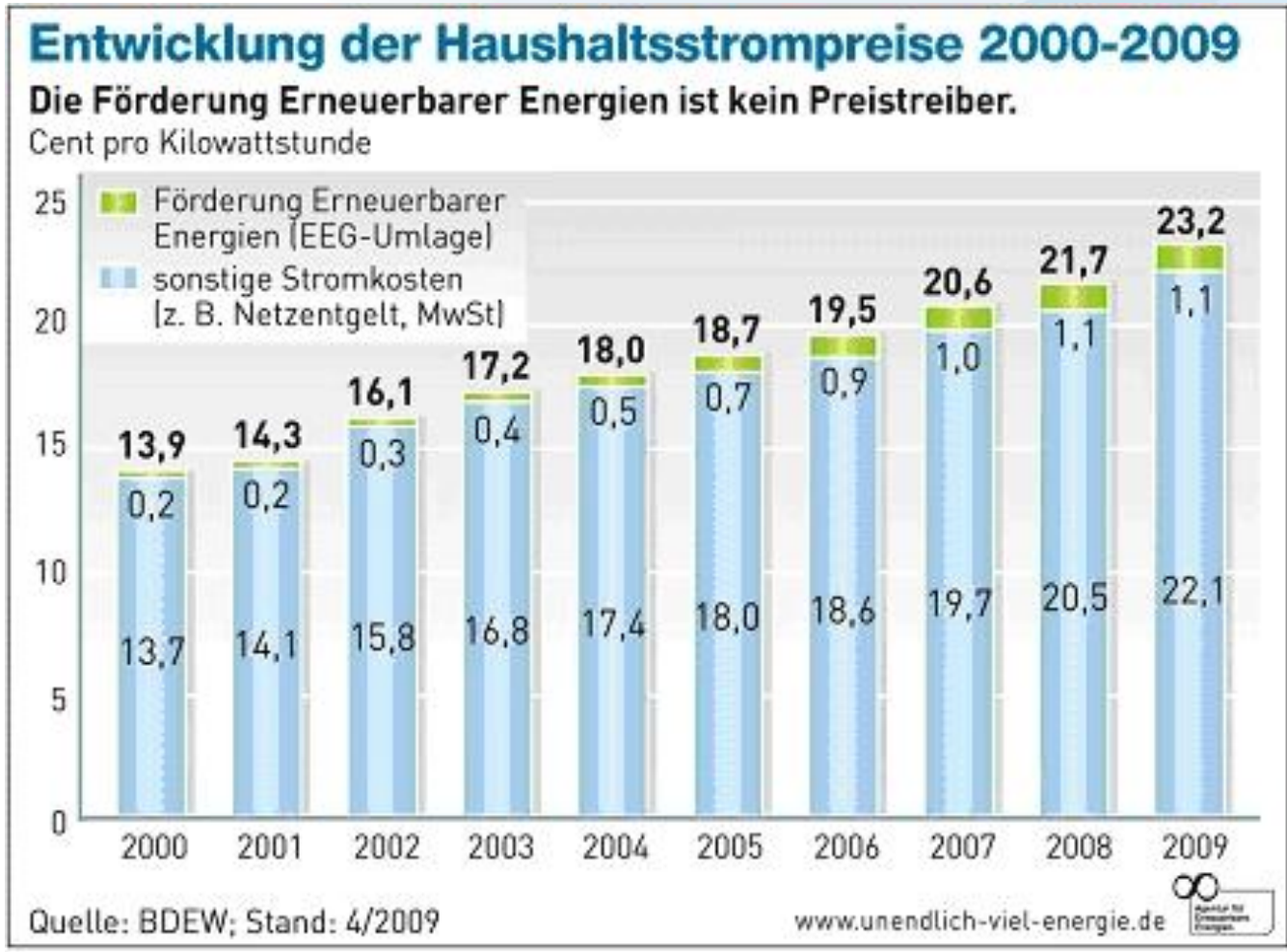
NET ELECTRICITY GENERATING INSTALLATIONS IN EU 2000 - 2009

FIGURE 2.2

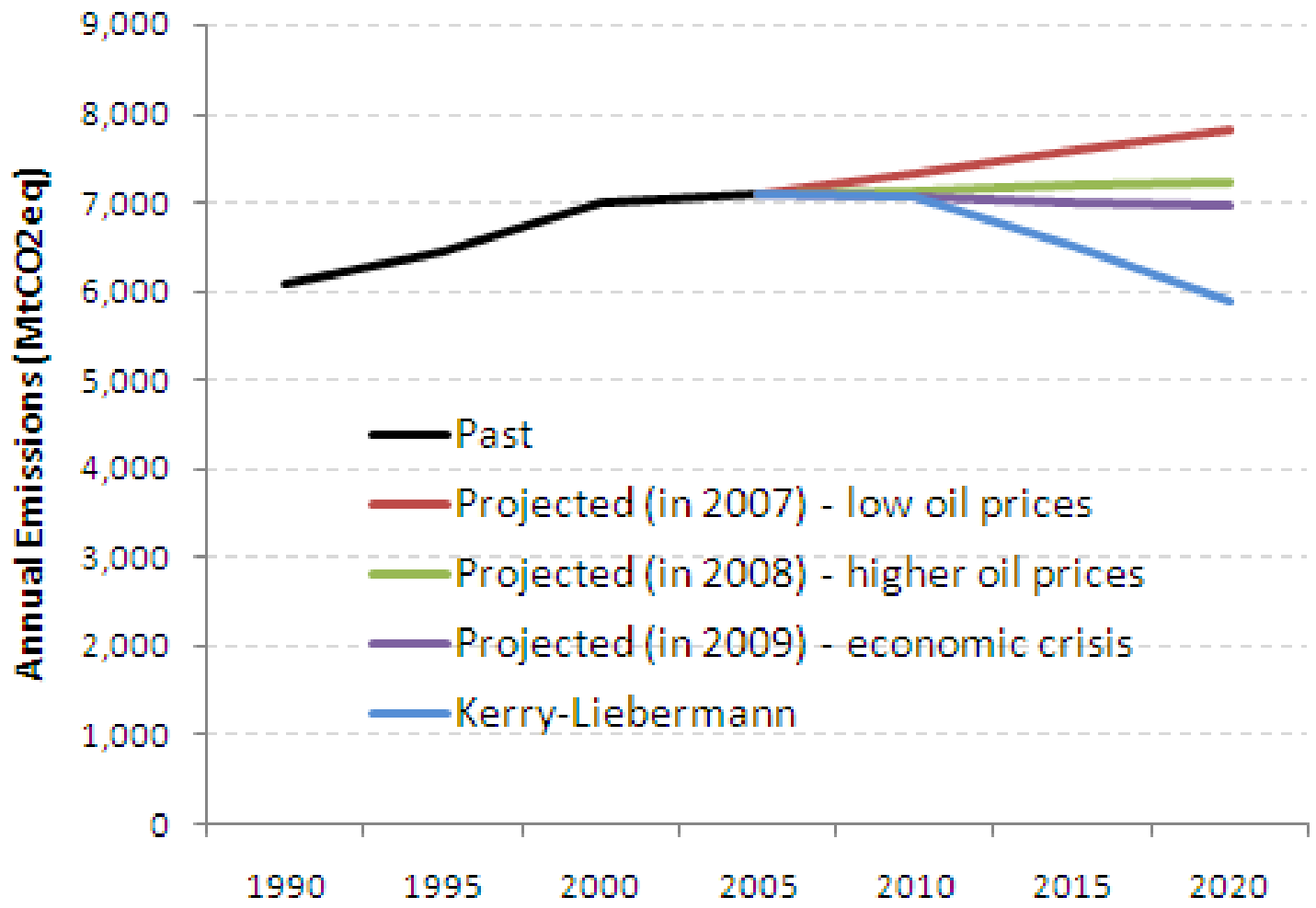


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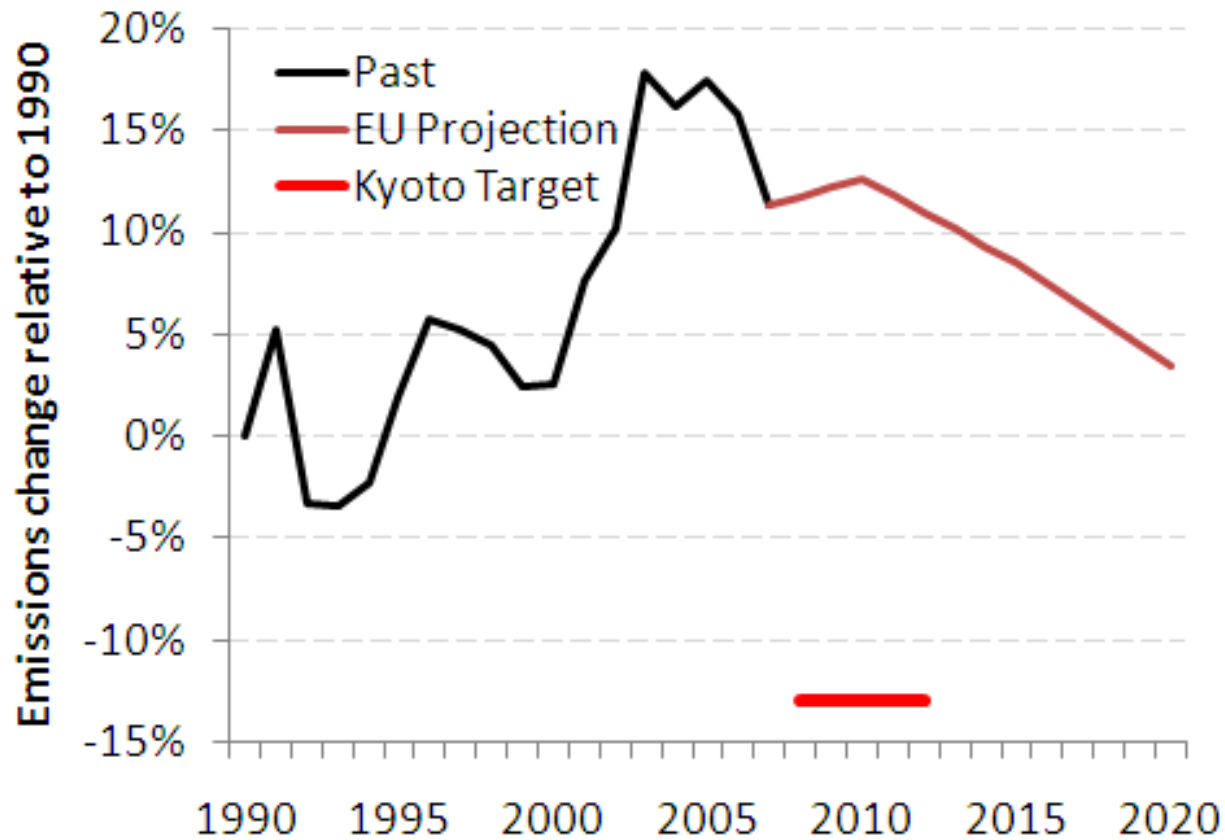
Cross-financing of renewable electricity DID NOT drive the increase in electricity price



Implications of the Kerry-Liebermann (Waxman-Markey) Bill



Austria



Needed: incentive structures for private investments

- Public 'beacon' projects
- Feed-in tariffs
- Tax breaks for clean investment
- overcome principal-agent problem