

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

Fabian Wagner

Climate Change – Looking beyond Copenhagen, 17 May 2010,  
UNA-Austria-Club, Hofburg, Vienna, Austria

# 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

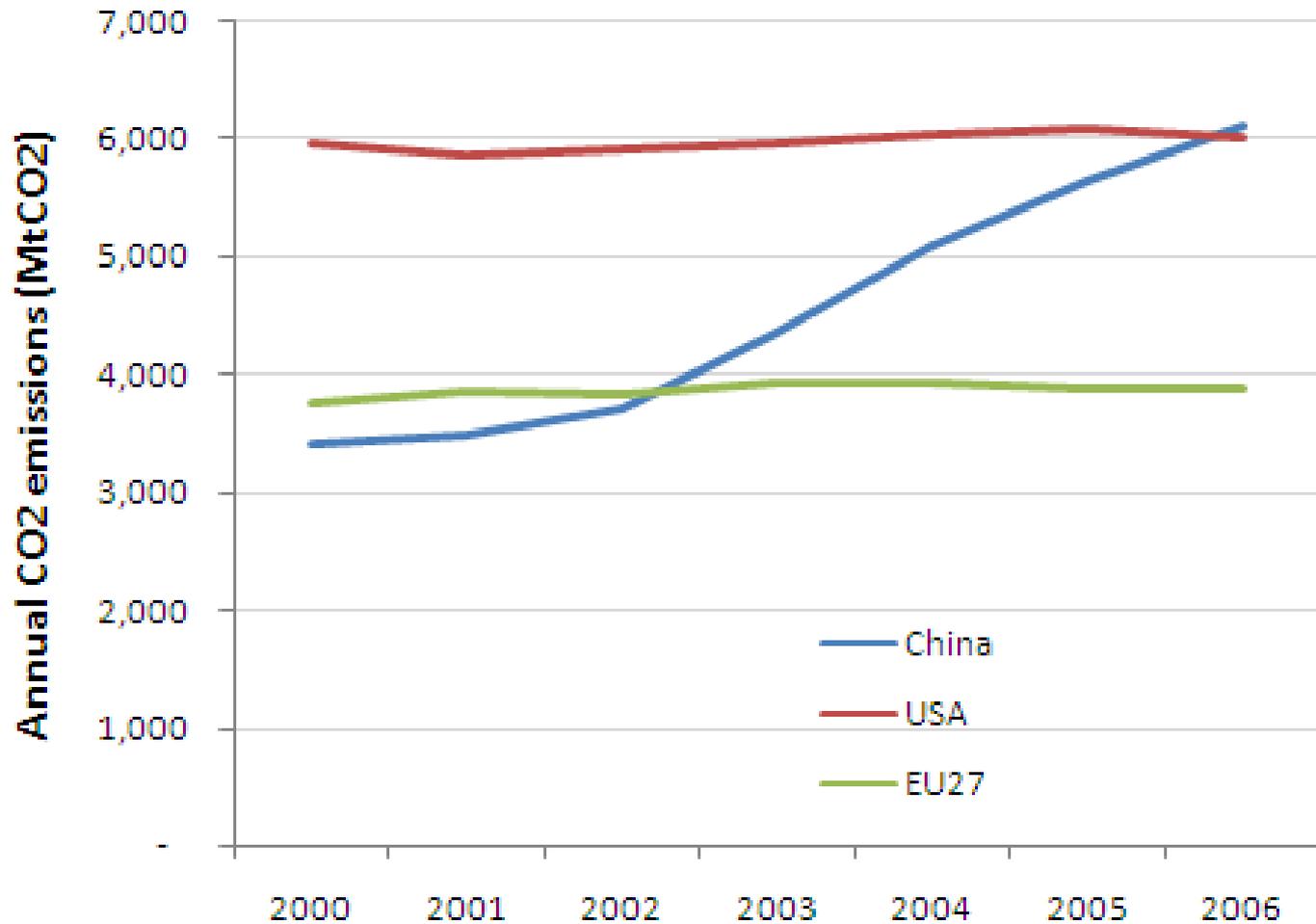
# The Copenhagen Accord (2009)

- 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 CO<sub>2</sub> emissions



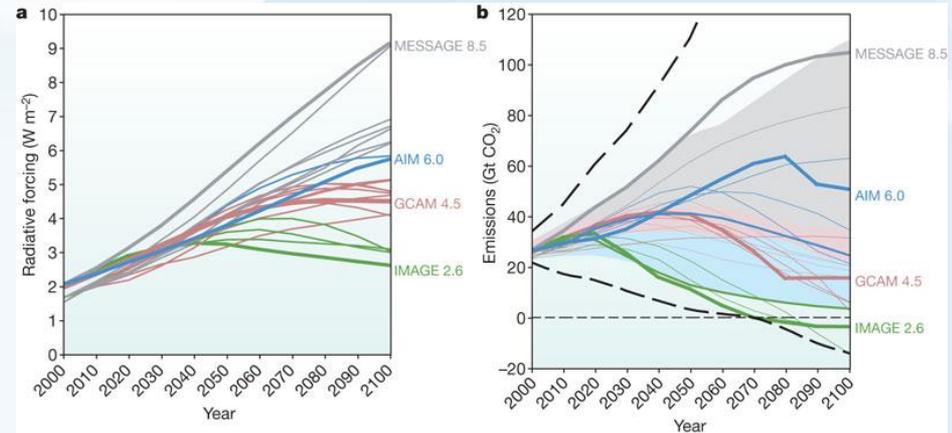
# Metrics for measuring mitigation efforts (II): Per capita income and emissions 1990-2008



# 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

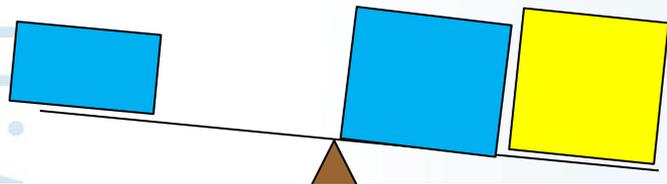
# Macro-economic analysis:

## Crucial role of discounting = valuation of the future

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

Short-term

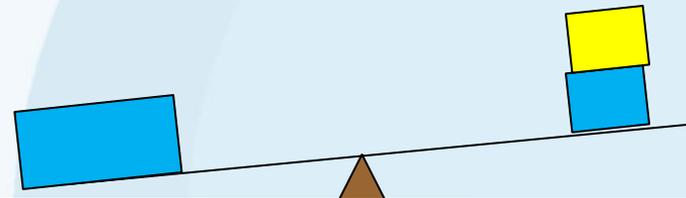
Long-term



Models using  
'High' discounting

Short-term

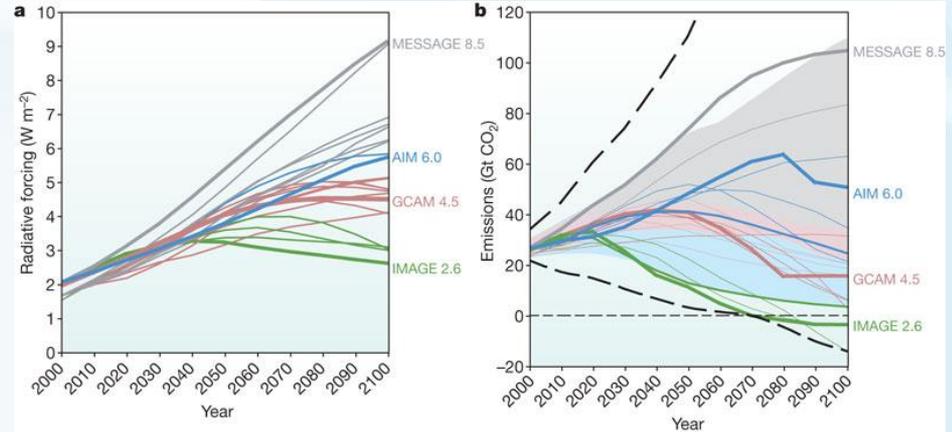
Long-term



-  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

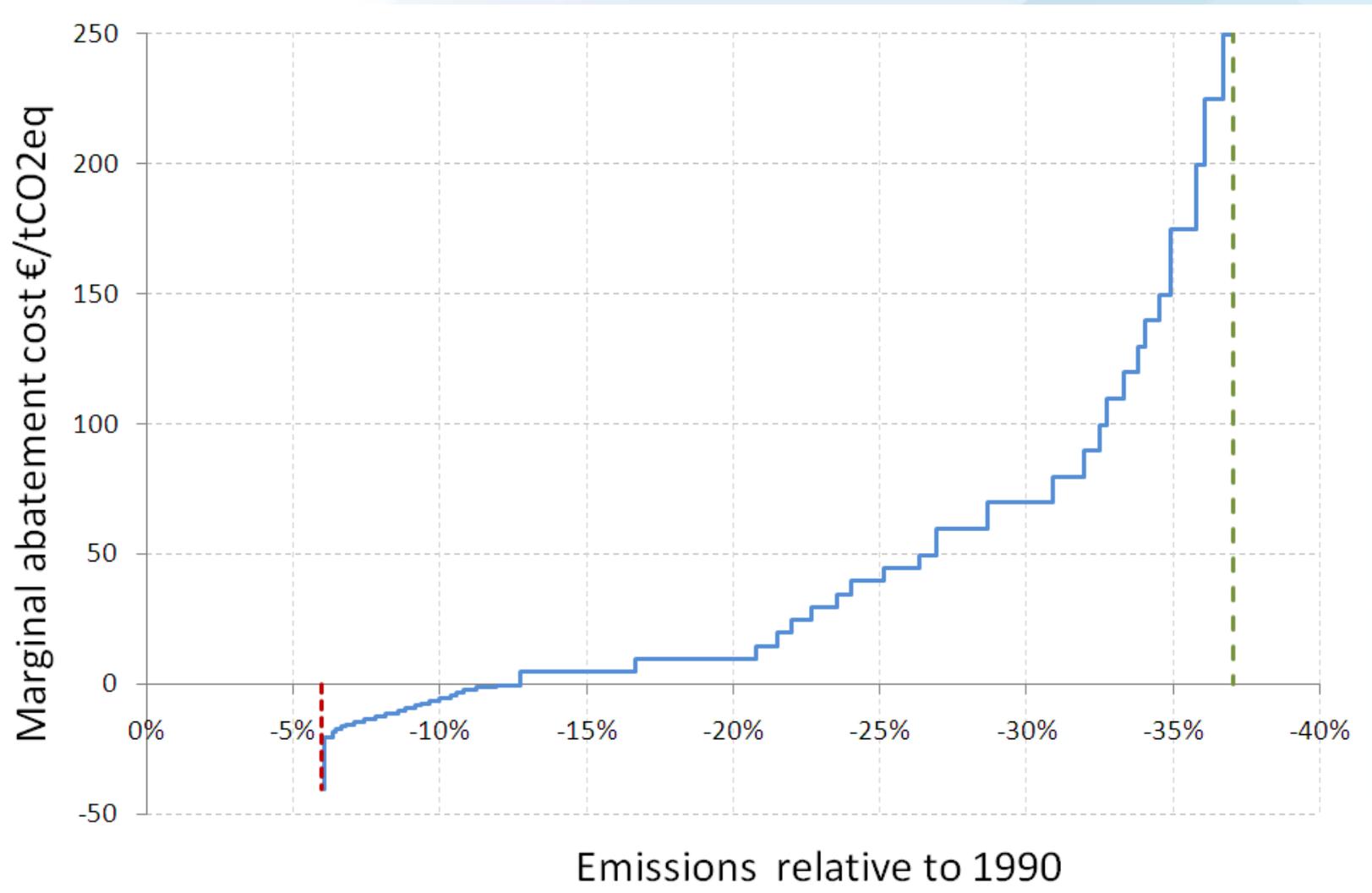
### Pro's:

- 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

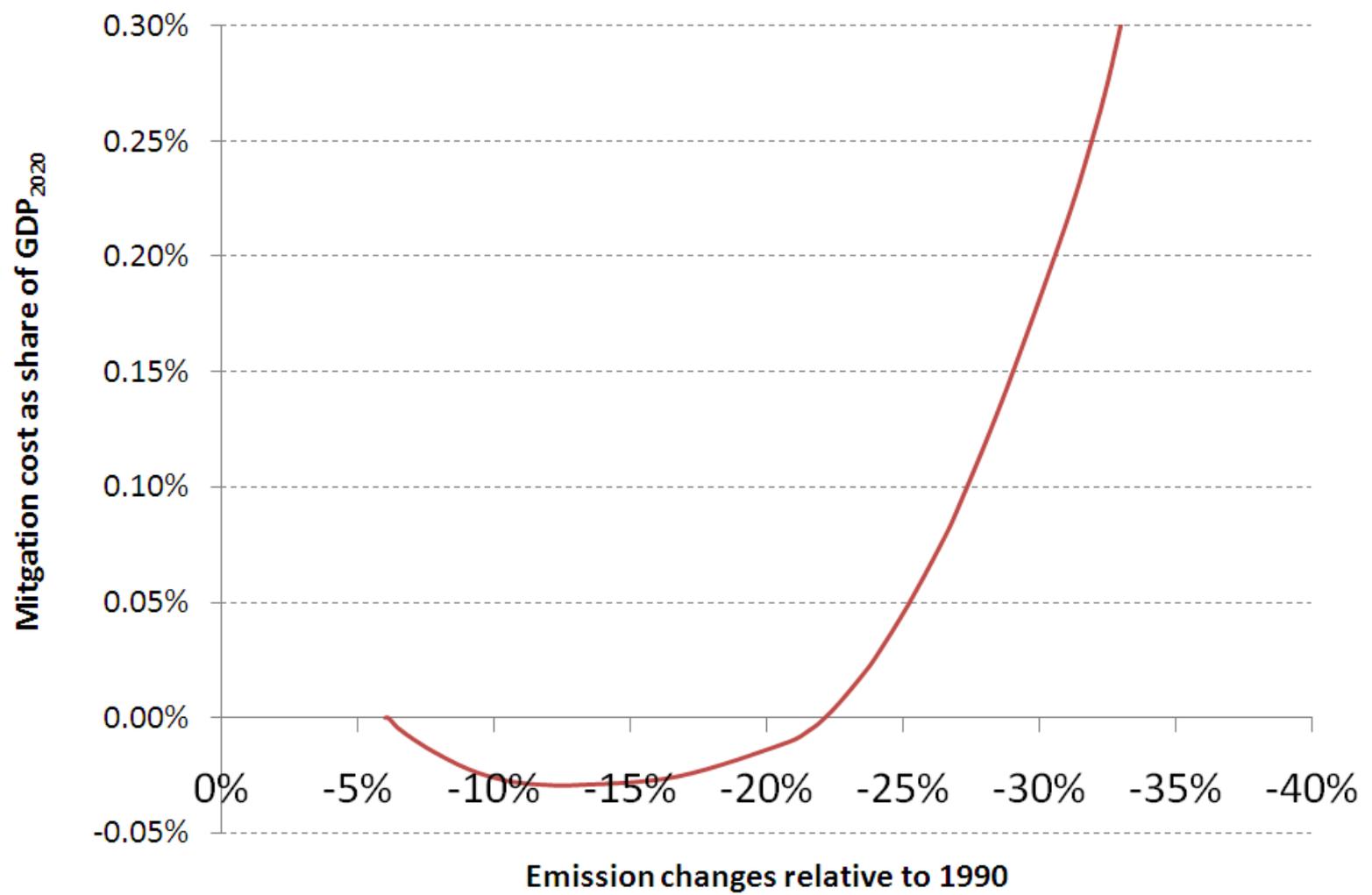
### Con's:

- No behavioural changes
- No macro-economic feedbacks

# Mitigation in industrialized countries: Costs at the margin



# Mitigation in industrialized countries: Total costs

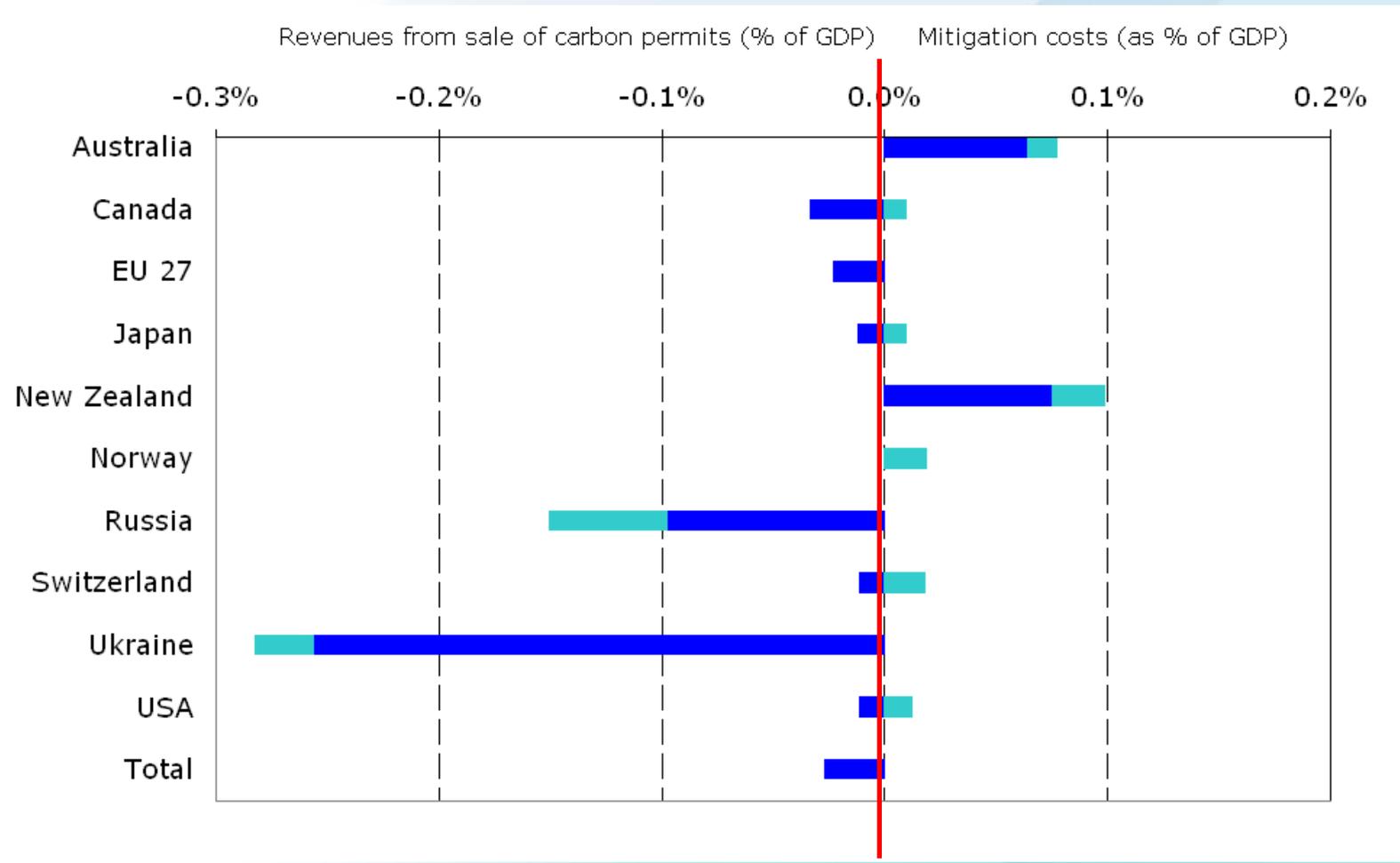


## Annex I Parties have 'pledged' emission reductions

	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

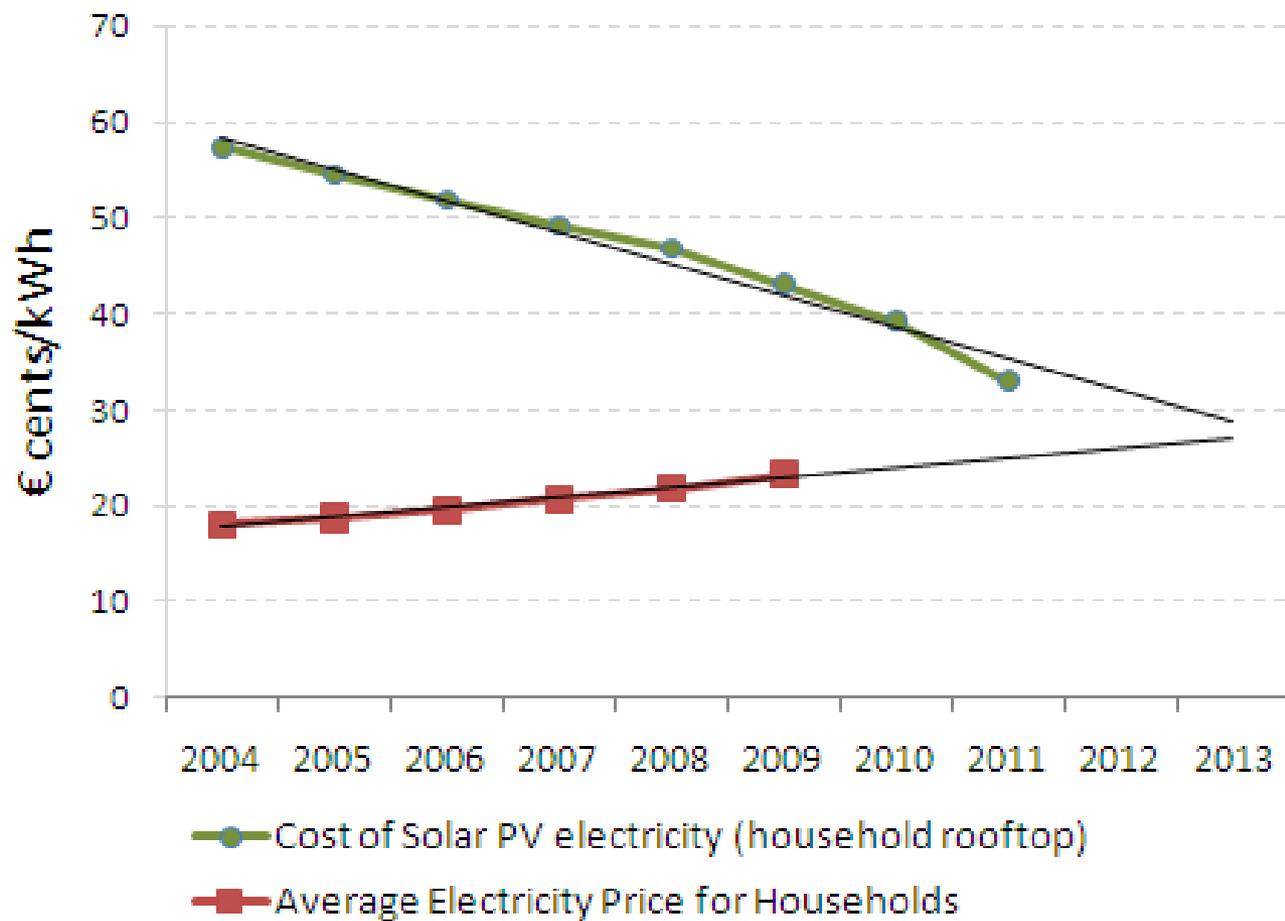
## Total costs are small, if not negative



## Part III Good News:

# Example 1: PV feed-in tariffs in Germany

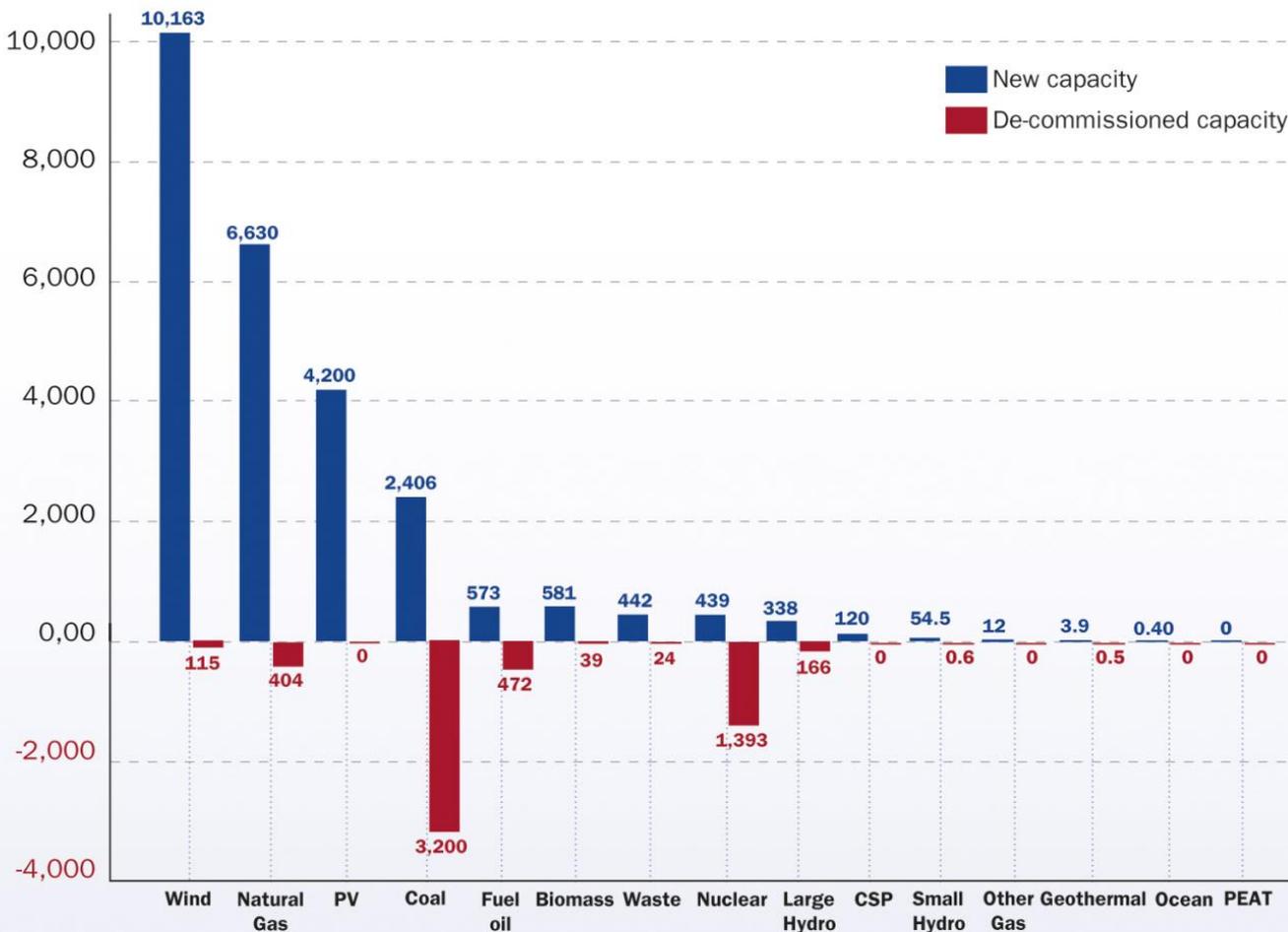
Costs of small scale technologies can change rapidly



# 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?”

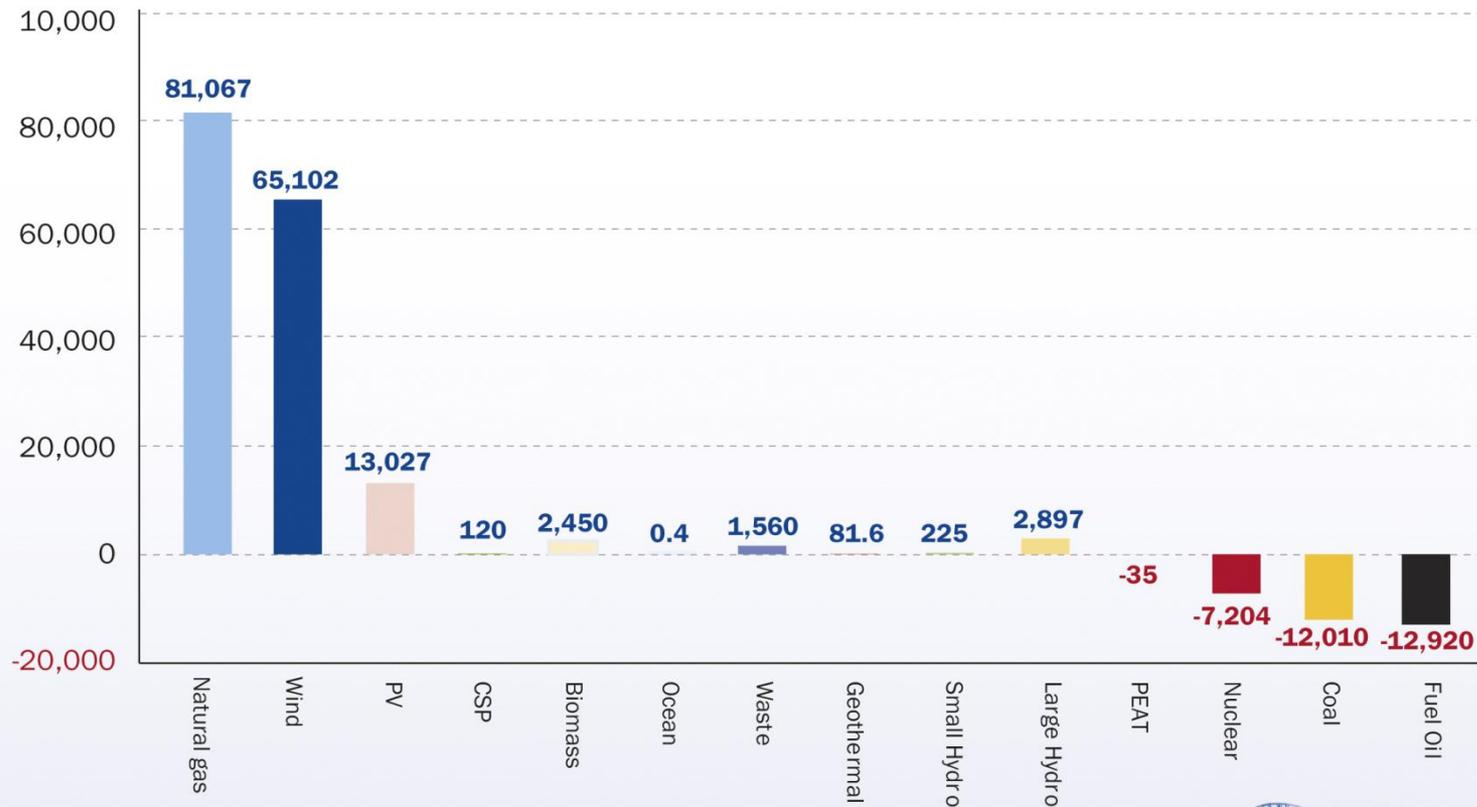
- Push for incentives!
- Insulate your house or build a ‘Passive house’
- Avoid traveling by air, buy a smaller car
- Invest into a solar roof
- Buy green electricity
- Eat more vegetables
- Tell your friends and colleagues about it!

# Supplementary material

# Wind on the forefront since 2000

NET ELECTRICITY GENERATING INSTALLATIONS IN EU 2000 - 2009

FIGURE 2.2

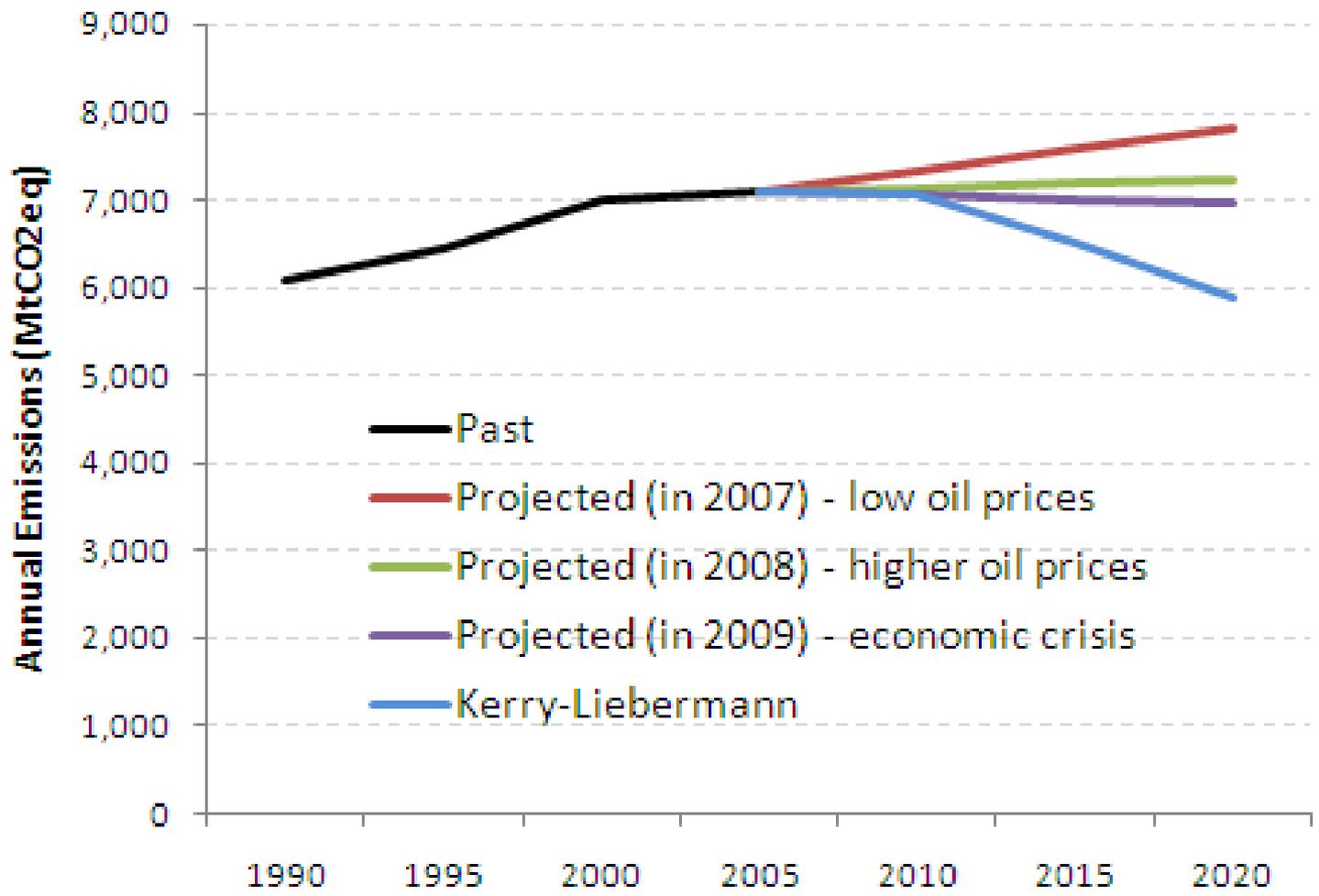


Source: EWEA, EPIA, ESTELA, EI-OEA, and Platts Powervision

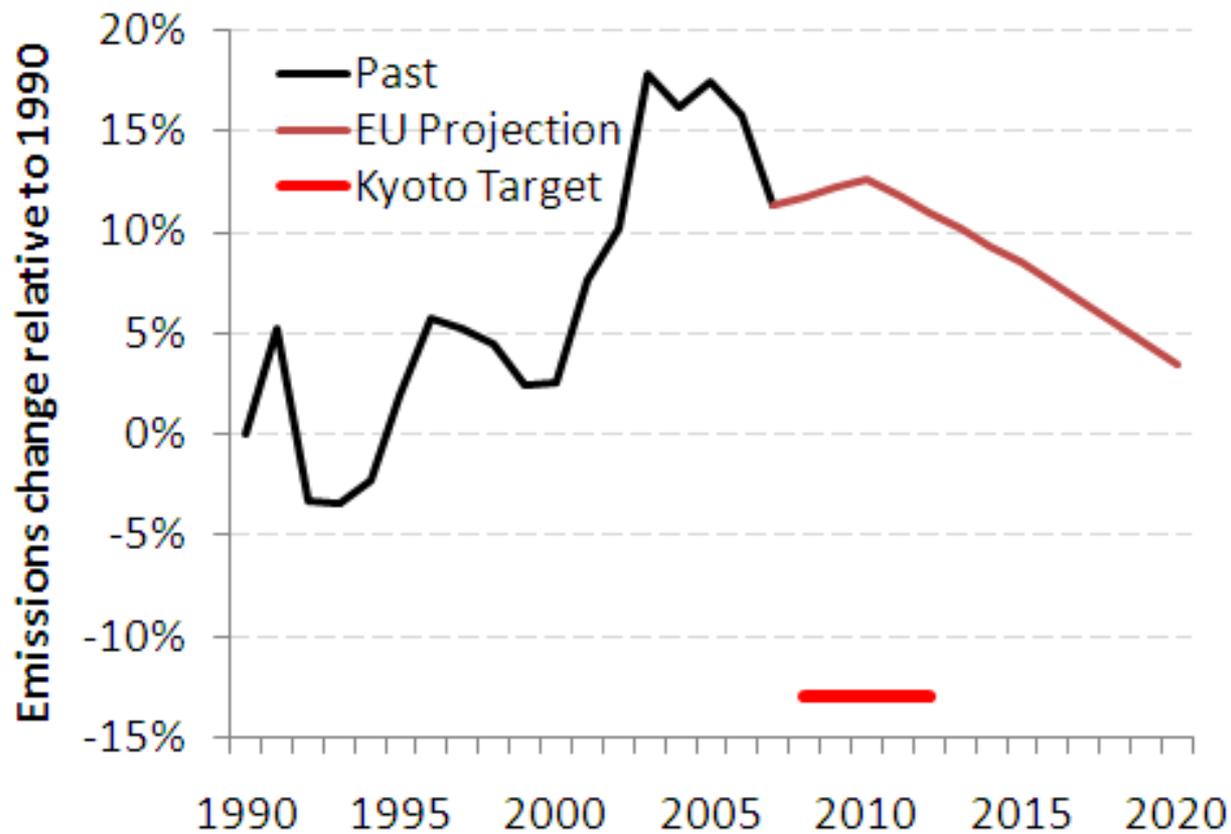
# Cross-financing of renewable electricity DID NOT drive the increase in electricity price



# 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