



Bundesministerium
für Umwelt, Naturschutz
und Reaktorsicherheit

Benefits of Climate Change Policies

Some comments from the point of view of
policymakers

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**OECD Global Forum on Sustainable Development on the Economic
Benefits of Climate Change Policies**

6/7 July 2005



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EU climate policy objective

EU interpretation of Art. 2 – ultimate objective of FCCC:

“ (...) REAFFIRMS that, with a view to meeting the **ultimate objective** of the United Nations Framework Convention on Climate Change ("the Convention") to **prevent dangerous anthropogenic interference** with the climate system, overall global annual mean surface temperature increase **should not exceed 2°C above pre-industrial levels in order to limit high risks, including irreversible impacts of climate change; ...**”

EU Environment Council, October 2004



EU climate policy objective (2)

WELCOMES the **Commission's communication** "Winning the battle against global climate change"; NOTES that there is increasing scientific evidence that the **benefits** of limiting overall global annual mean surface temperature increase to 2°C above pre-industrial levels **outweigh** the **costs** of abatement policies

(EU Environment Council March 2005)

The European Council welcomes the **Commission communication** entitled "Winning the battle against global climate change" and calls on the Commission to **continue its cost-benefit analysis** of CO₂ reduction strategies.

(European Council March 2005)

...Looks forward to the **Commission's further analysis of benefits and costs** of greenhouse gas reduction strategies

(EU Environment Council March 2006)



Basis for EU 2°C target

1996: IPCC SAR (1995)

Also: Safe landing analysis,
Tolerable Windows Approach (WBGU)
Risks beyond 2°C increase substantially

2003: IPCC TAR (2001)

confirms and strengthens SAR results
New scientific evidence since TAR, e.g. Exeter
Conference on Stabilisation (2005)

➤ **EU climate objective not based on cost-benefit analysis, but on risk assessment**



Impacts - thresholds

1-2 °C: Significant global impacts on **ecosystems and water resources** are likely.

2-3 °C: Risks of **net negative impacts on global food production. Negative regional impacts** for some regions already below 2-3 °C

Above 2 °C: increase in the risk of a range of severe **large scale events**, such as shutdown of ocean thermohaline circulation.

Around 2 °C: Melting of **Greenland Ice sheet** leading to **sea-level rise of several meters** over many centuries

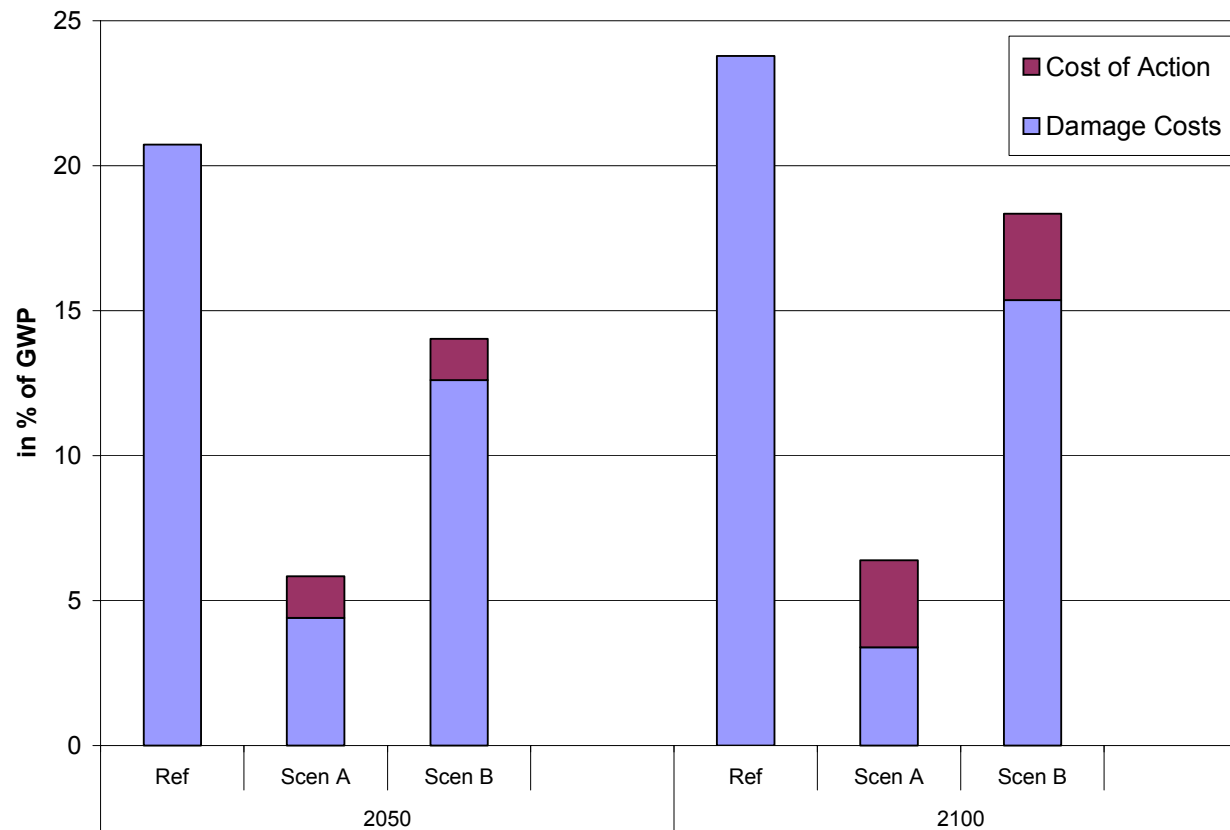


Important Results of OECD Project on Benefits of Climate Change Policies

- **Summary estimates of benefits in a single (monetary) measure to compare with aggregate costs may not be adequate on their own**
- **Costs of inaction should also be presented as physical impact estimates**
- **Preliminary goal: consistent and comparable regional information on physical impacts**
- **Second step: monetisation of regional effects**
- **Finally: Attempt of monetised aggregate benefits assessment**



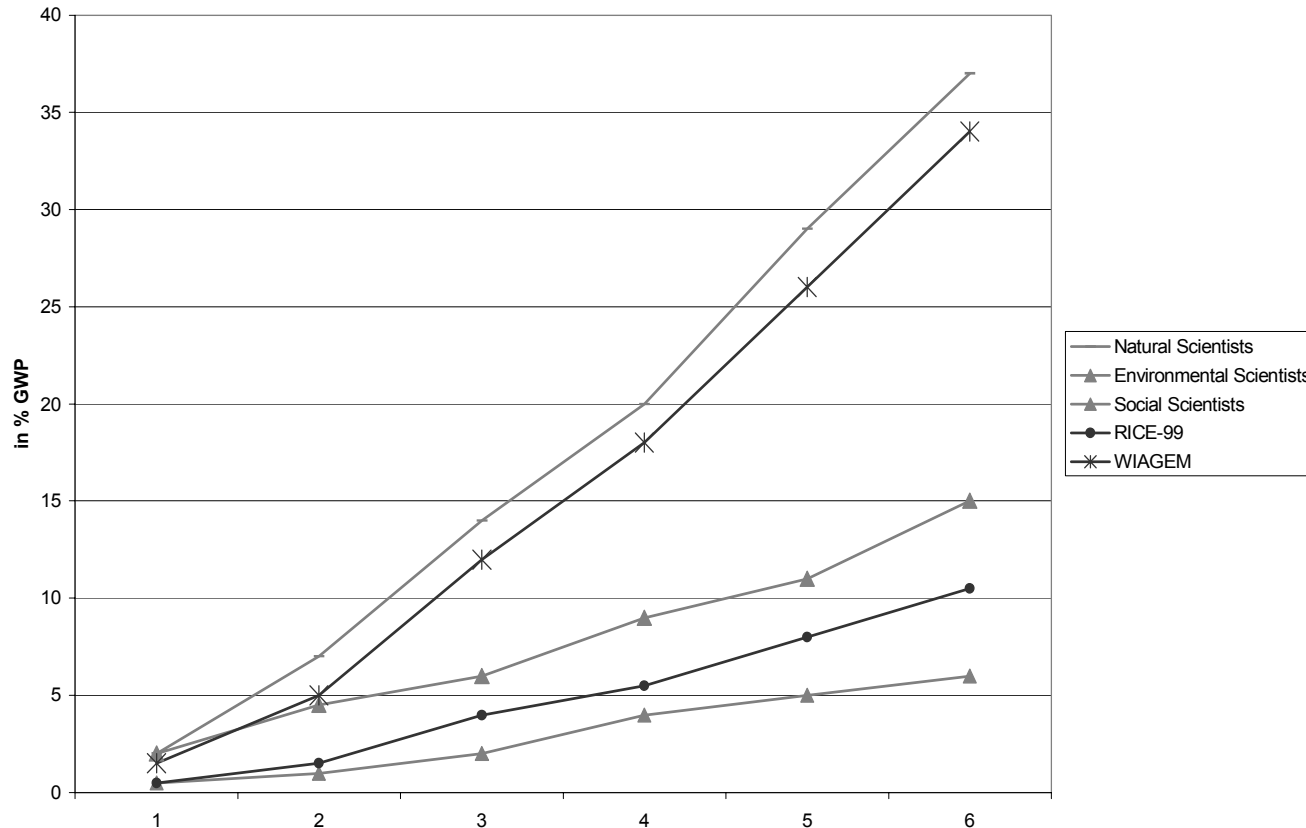
Example of result of German study: Total costs



Source: Claudia Kemfert (study for German Environment Ministry) (WIAGEM-model)



Estimates of Damage Costs: depend on perspective



Source: Claudia Kemfert (study for German Environment Ministry), based on OECD, 2003 ENV/EPOC/GSP.OECD Estimating the Benefits of Climate Change Policy and own model results (WIAGEM)



Damage costs: Examples from Europe

Floods summer 2002: hit Germany, Austria, Czech Republic the hardest. Economic damages amounted to up to 9.2 billion Euros in Germany only (Munich Re)

Heat wave summer 2003: Economic damage estimate at 10 to 17 billion Euros (Munich Re) (mostly due to damages of crop gains, also: disruption in energy supply increase in forest fires, increased diseases)



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DIW workshop on cost of inaction

<http://www.diw.de/english/dasinstitut/abteilungen/evu/aktuelles/index.jsp>



Cost of Inaction – preliminary conclusions (1)

Attempts of monetising aggregate benefits are useful, if **complementary to assessment of physical impacts/other metrics**, and if limitations are recognised appropriately

Alternative decision-making frameworks to cost-benefit analysis are needed (cost effectiveness, risk assessment frameworks, tolerable windows approach)

No need to reduce complexity to a single number - crucial: **Transparency** with regard to assumptions



Cost of Inaction – preliminary conclusions (2)

- **Important: Assessment of costs of delay**
 - Missed opportunities for technology development
 - Higher risk of passing dangerous thresholds
 - Role of inertia (both in climate system as well as in socio-economic system)
- **Uncertainty** does not argue for delay
- **Need for consistent and comparable metrics and scenarios for impact assessment**