

How will climate change and climate change policies affect our economies?

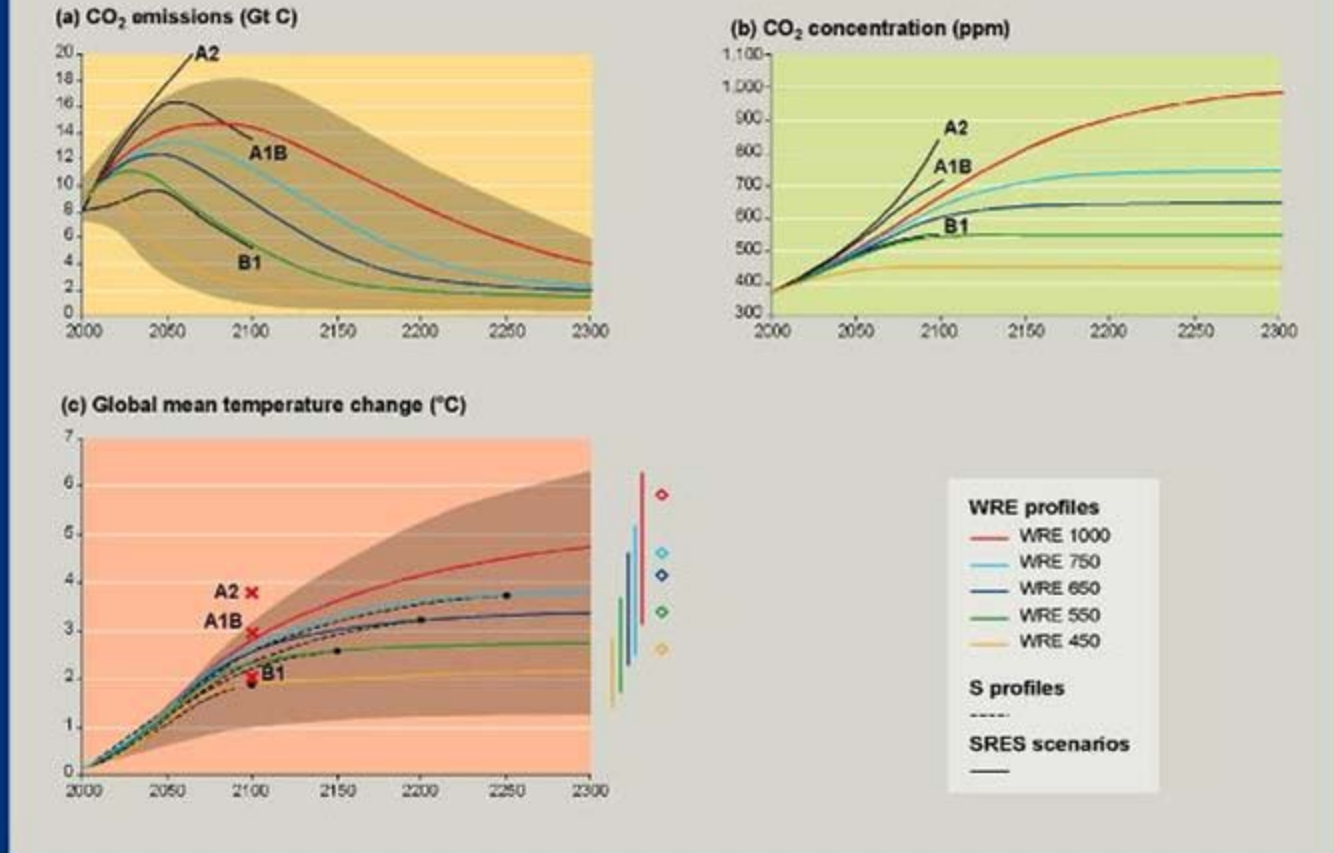
John Bensted-Smith

Director

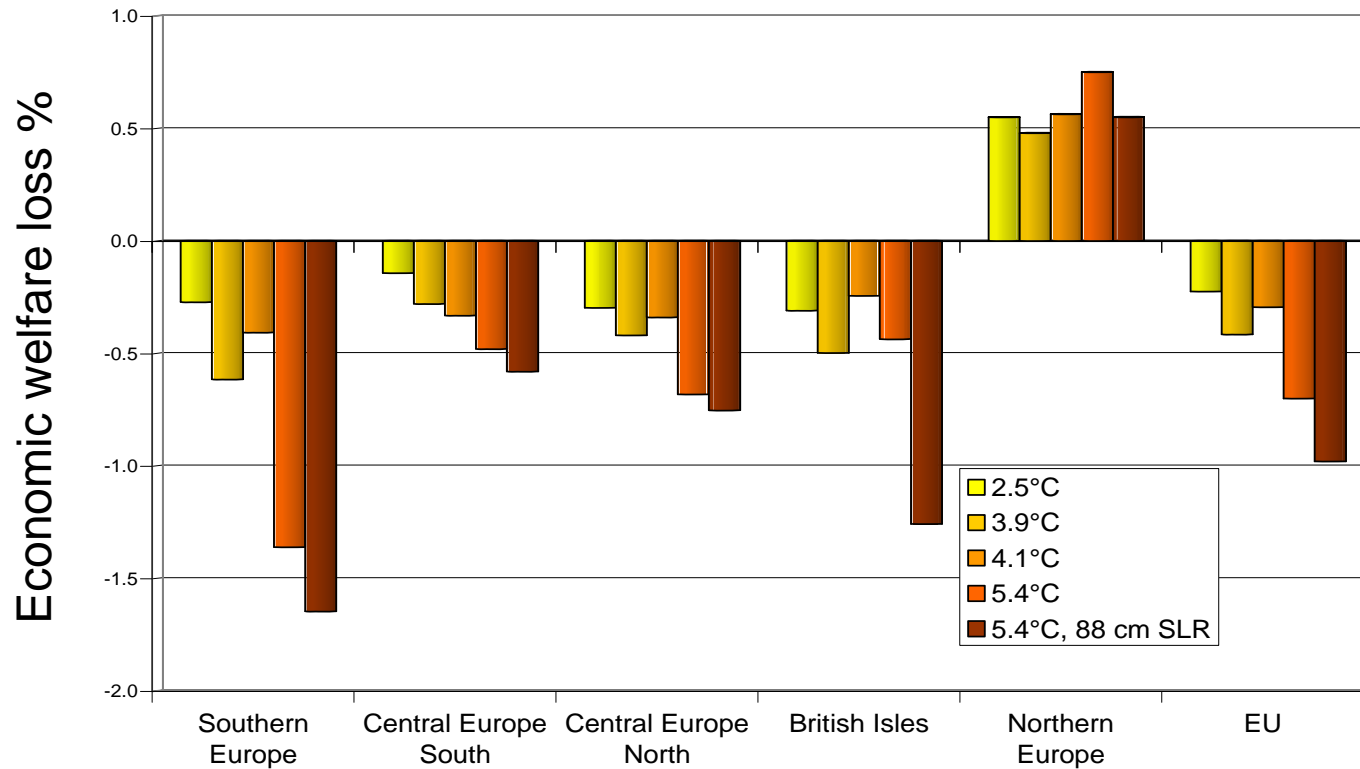
Institute for Prospective Technological Studies

Joint Research Centre - European Commission

Emissions, concentrations, and temperature changes corresponding to different stabilization levels for CO₂ concentrations



SYR - FIGURE 6-1

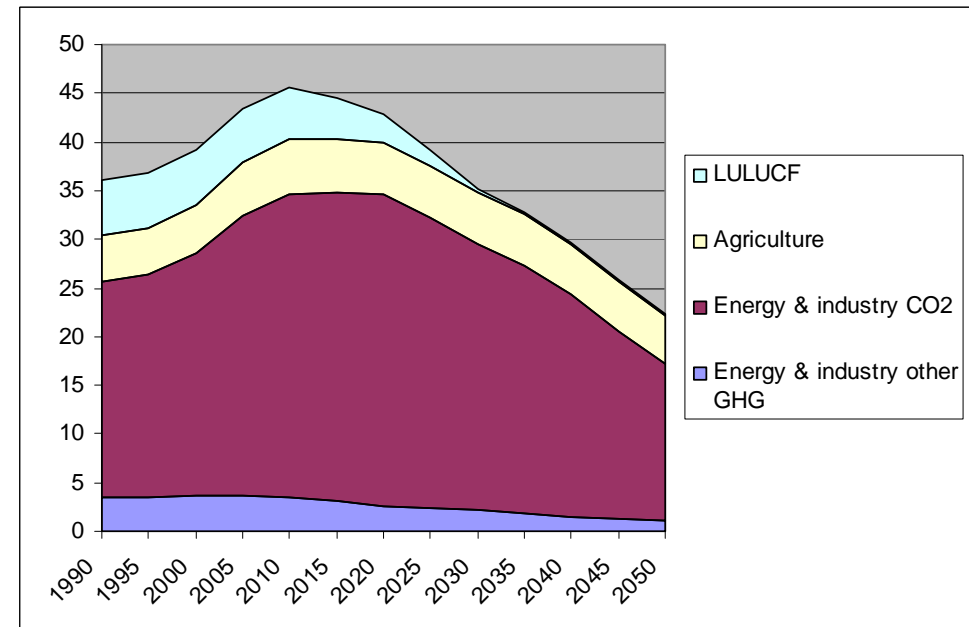
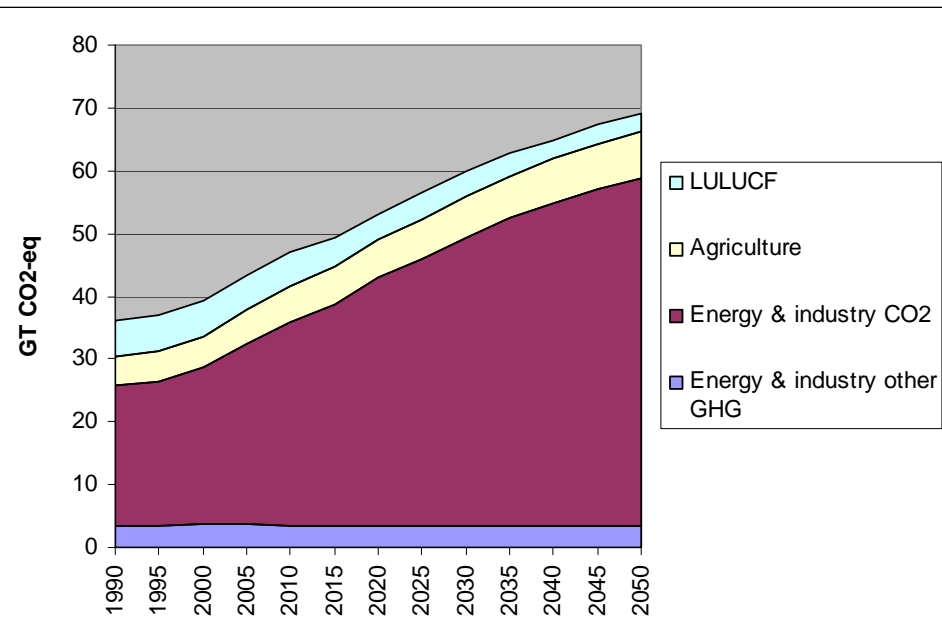


The EC PESETA study projects economic losses that could severely affect the long-term welfare growth of EU

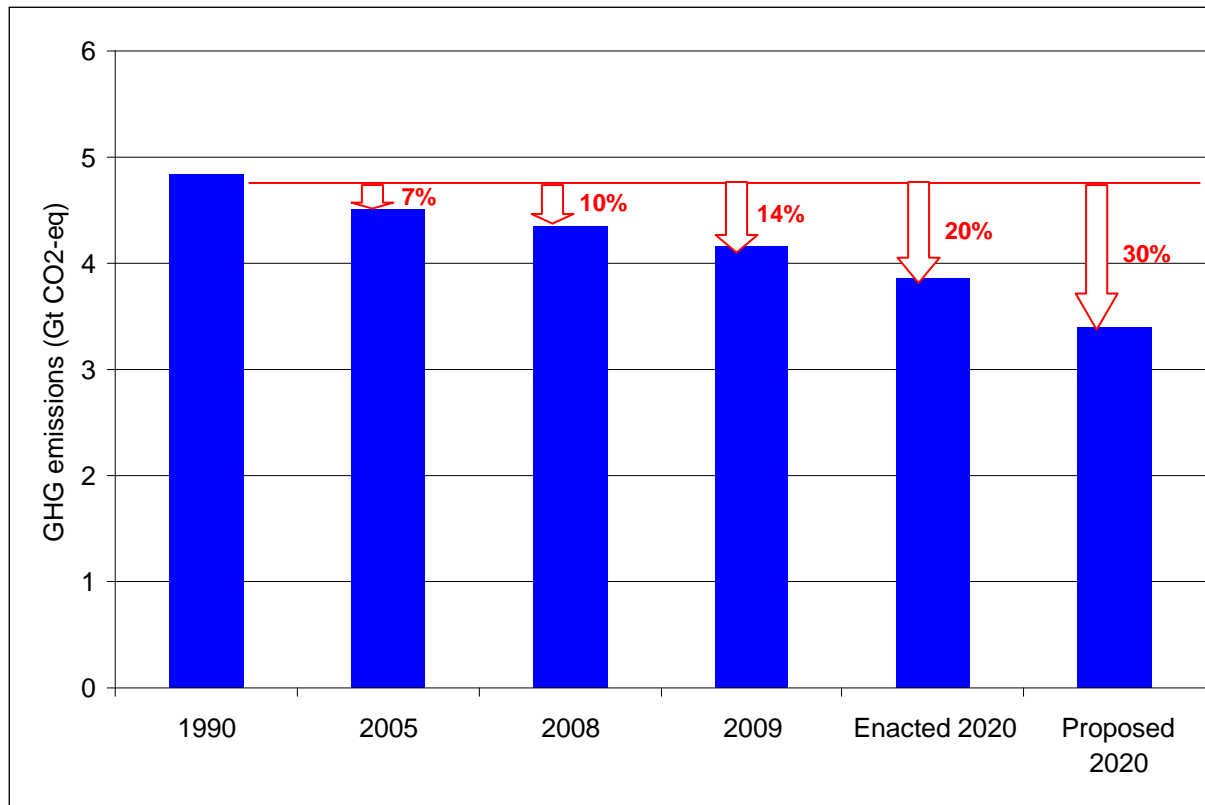
- Only considering 4 market damaging mechanisms, up to halving long-term growth potential
- Including natural disasters and other non-market damages, estimates go up to 20% of GDP (Stern report)

Global GHG emissions have to peak by 2020 under appropriate global action scenarios for not trespassing the +2°C threshold

- In baseline, the bulk of emission growth comes from the energy and industrial CO₂
- The same sectors will have to assume most of the future emission cuts

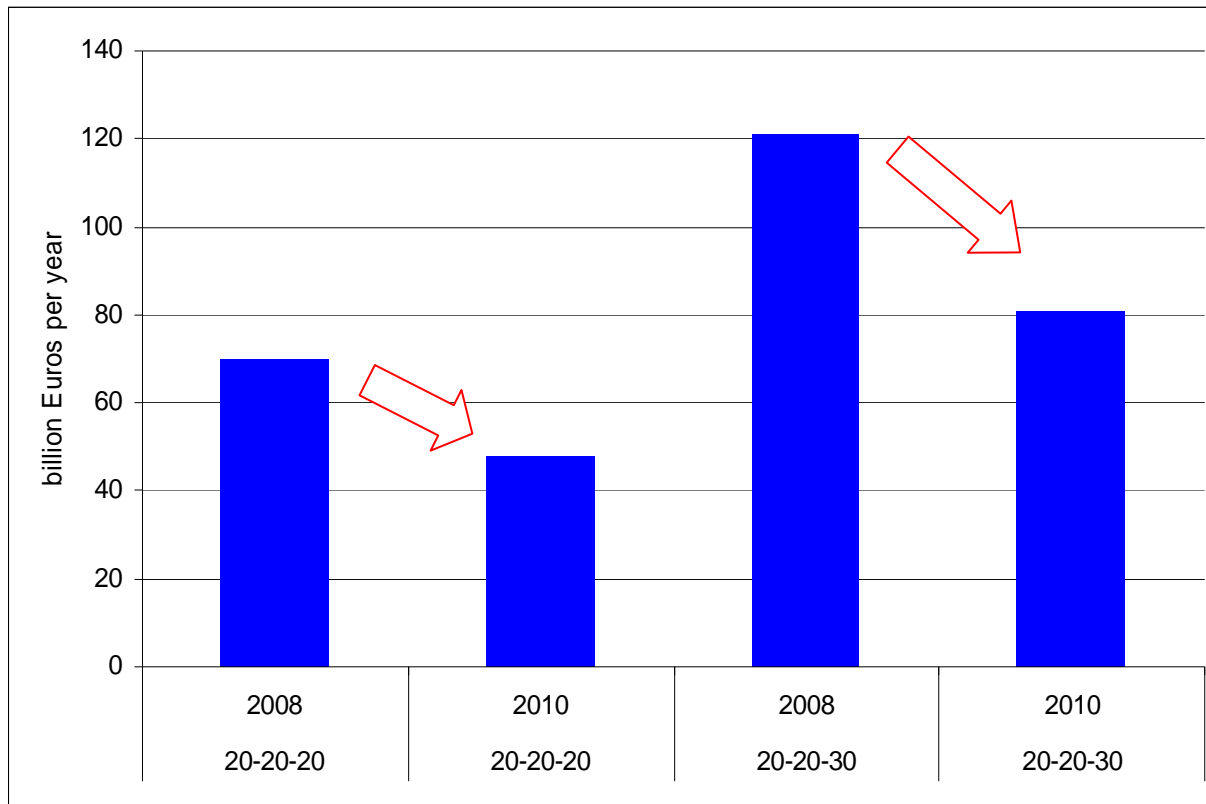


The recent Communication “Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage” finds that the global economic crisis has accelerated EU GHG emission reductions



By 2009 the EU was almost half way towards the more ambitious 30% reduction by 2020 target

- The global economic crisis has reduced the cost of action in the last 2 years
- ...but also the short term capacity to invest in low-carbon technologies



Reaching the 30% reduction target is now (COM(2010) 265) only 11 billion € more expensive than the 20% target was 18 months ago (COM(2009) 39)

Options for moving to 30%:

- reducing the number of auctioned allowances under the EU ETS
- regulation to promote greater energy efficiency
- smart use of fiscal instruments
- directing EU cohesion policy funding towards green investments
- improving the environmental integrity of the international carbon credits recognised in the EU ETS.

Carbon Leakage:

- Existing measures (free allowances and access to international credits) to prevent carbon leakage remain justified.
- The analysis also shows that raising the target to 30% while other countries implement their reduction pledges under the Copenhagen Accord would have a limited impact in terms of carbon leakage.
- An additional measure could be to include in the EU ETS imports into the EU from energy intensive industries.

Depending on the organisation of the international carbon markets the macroeconomic welfare cost of an “appropriate reduction pathway” can range between -1.2% and +0.1%

	Low Pledge				High Pledge			
	No access to Carbon Market		Access to Carbon Market		No access to Carbon Market		Access to Carbon Market	
	Carbon Price €/tCO2	GHG vs 2005	Carbon Price €/tCO2	GHG vs 2005	Carbon Price €/tCO2	GHG vs 2005	Carbon Price €/tCO2	GHG vs 2005
EU	34	-15%	29	-14%	69	-15%	52	-20%
US	32	-19%	22	-14%	33	-19%	25	-15%
Japan	136	-37%	58	-29%	138	-37%	59	-29%
Russia		-16%	14	-21%		-16%	25	-27%
China	12	-9%	14	-10%	23	-16%	25	-17%
India	6	-8%	14	-10%	12	-14%	25	-23%

A well organized global emission system can significantly lower the total mitigation costs, and raise the revenues for seller countries

The high end pledges put forward by countries under the Copenhagen Accord, if fully implemented, constitute an important step towards putting global emissions on a trajectory compatible with keeping global warming below 2°C, but they are not sufficient.

Industrialised countries' current emission targets collectively add up to:

- at best an 18% reduction below 1990 levels by 2020 (high pledges)**
- at worst a 12% reduction (low pledges).**

This range is well below the 25-40% reduction in industrialised country emissions which the IPCC has said is needed by 2020 to put global emissions on a trajectory that has a 50/50 chance of keeping global warming below 2°C above the pre-industrial temperature.

The EU made a unilateral commitment to reduce its greenhouse gas (GHG) emissions to 20% below 1990 levels.

The EU made also a conditional commitment to scale up the EU's GHG emissions reduction for 2020 from 20% to 30% if other developed countries commit themselves to comparable emission reductions

The JRC has assisted DG CLIMA in the analysis of the pledges announced by different countries further to the Copenhagen Accord

The costs of meeting the 20% GHG reduction target have fallen: in 2008 the costs in 2020 were estimated at at least €70 billion a year. Now, they are estimated at €48 billion.

However, not only costs have decreased - because of the crisis so has the short term capacity of economic operators to invest in low-carbon technologies.

The total costs of a 30% reduction, including the costs of the 20% target, are estimated at €81 billion a year in 2020.

The carbon price in the EU ETS in 2020 would increase from €16 per tonne of CO₂ under a 20% reduction target to €30.

A well-functioning international carbon market can significantly contribute to lower the cost

However, the aggregated emission reduction pledged does not suffice to guarantee a long term temperature increase below 2°C

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Thanks for your attention!

