Wuppertal Institute
for Climate, Environment
and Energy

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Building blocks for a post-2012 regime

Presentation of the Wuppertal Institute for Climate, Environment and Energy

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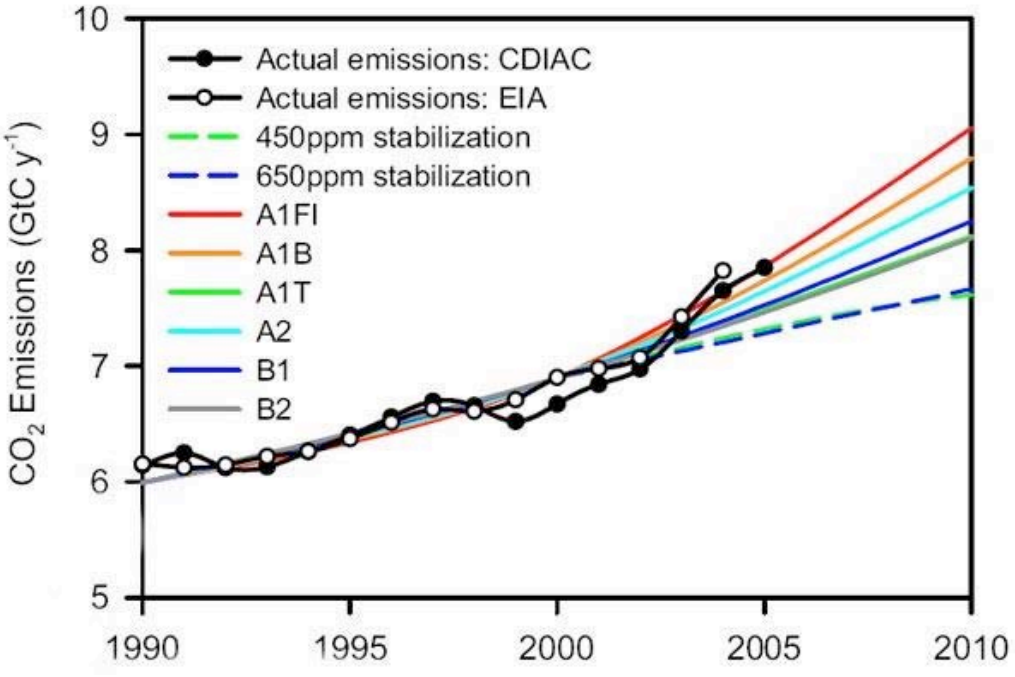
Global carbon emissions are higher than expected



Source: Global Carbon Project, PNAS, New Scientist

Three possible scenarios post-2012

1. Business as usual: nothing is done
2. Structurally conservative: the wrong things are done
3. Eco-fair: action fast and with social adjustment

1. Business as usual: nothing is done

- North and South deeply divided, accusing each other of inaction, negotiations in Kopenhagen fail, no interim arrangement to bridge the gap after 2012;
- Carbon markets break down, EU misses target -20%;
- Fossil and other ressources expoited to the maximum;
- Societies fall back, many “enjoy life to the fullest”;
- From 2020, hectic attempts at geo-engineering;
- Outlook: >4,5°C until 2100, accelerating climate change

3. Eco-fair scenario

- Negotiations concluded by 2009, Kyoto2 in force 2012
- High reduction in ICs, EU 25%, US takes on unilateral reduction target, large DCs sectoral targets, PAMs;
- Mass movements against coal in EU, coal freeze in EU 2011, US 2015, China 2020 -> CCS with limited capacity;
- Massive investment in efficiency, renewables, decentralised grids; solar industries booming, US regains position as no.1 in renewable energies;
- GHG-concentrations peak at 475 ppm CO_{2eq}, staying <2°C possible, large-scale environmental disruptions.

2. Structurally conservative: wrong actions

- South and North remain in their trenches, US blocking, weak Kyoto2 concluded in 2011, in force by 2014;
- Large, centralised energy "solutions": coal (with promise of CCS), nuclear, big biofuels, big hydro, oil sands;
- EU-MS miss targets, enforcement of internal emissions trading targets weak, markets lose confidence in emissions trading;
- Many pockets of changed lifestyles, but no turn-around;
- Not clear whether 550 ppm CO_{2eq} within reach - slide into first scenario (run-away climate change) possible.

Conclusion:

If we want to come close to the third scenario, getting North and South out of the trenches is key…

…and the first moves have to come from the North:

1. Substantial reductions by ICs;
2. Substantial financial support for mitigation;
3. Substantial financial support for adaptation.

1. Reductions by industrialized countries & possible dev. country commitments

- EU's 20% unilateral target is good start, but must increase to 30%;
- Long-term "aspirational" target of 80% by 2050 for ICs;
- US integration: adopts national plan in 2009 (incl. binding reduction target) plus unilateral, legally binding declaration becoming part of negotiation package;
- Large DCs (emerging powers, +5-countries) may agree to sectoral targets (steel, cement, electricity), maybe designed as dual or no-lose targets;
- Other DCs may agree to implement sets of policies and measures (SD-PAMs), e.g. certain share of renewables, efficiency gains, recovery of methane from dump sites etc.

2. Financial support for mitigation

- Leap-frogging the fossil era will involve additional costs
  - €20-30 billion p/a according to Stern Review
  - $200 billion p/a in 2030 according to FCCC-Secretariat;
- (Carbon) Markets cannot produce miracles: prices alone will not push technologies, social bias of price signals - it hits the poor;
- CDM not adequate: cheap projects, geographical imbalance (not fit for Africa) and: certificates from South inflate Northern budgets;
- One good example for substituting dangerous and outdated technologies: Multilateral Fund of the Montreal Protocol;
- Financing and other support of activities to stop deforestation, which contributes as much to emissions as the transport sector.

3. Financial support for adaptation

- Financial needs: $10-40 billion p/a according to World Bank;
- Measures so far are totally inadequate:
  - Adaptation Fund: estimates predict income in the range of $100-$500 million through to 2012 (not per annum);
- Fund would be one solution for predictable funding
  - if one tonne of CO_{2eq} would be charged with €1, this would generate about €40 billion per year;
- New solutions needed
  - e.g. innovative insurance scheme like Turkish catastrophe insurance fund, AOSIS proposal, emissions trading levy.

The greatest challenge!

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Thank you!

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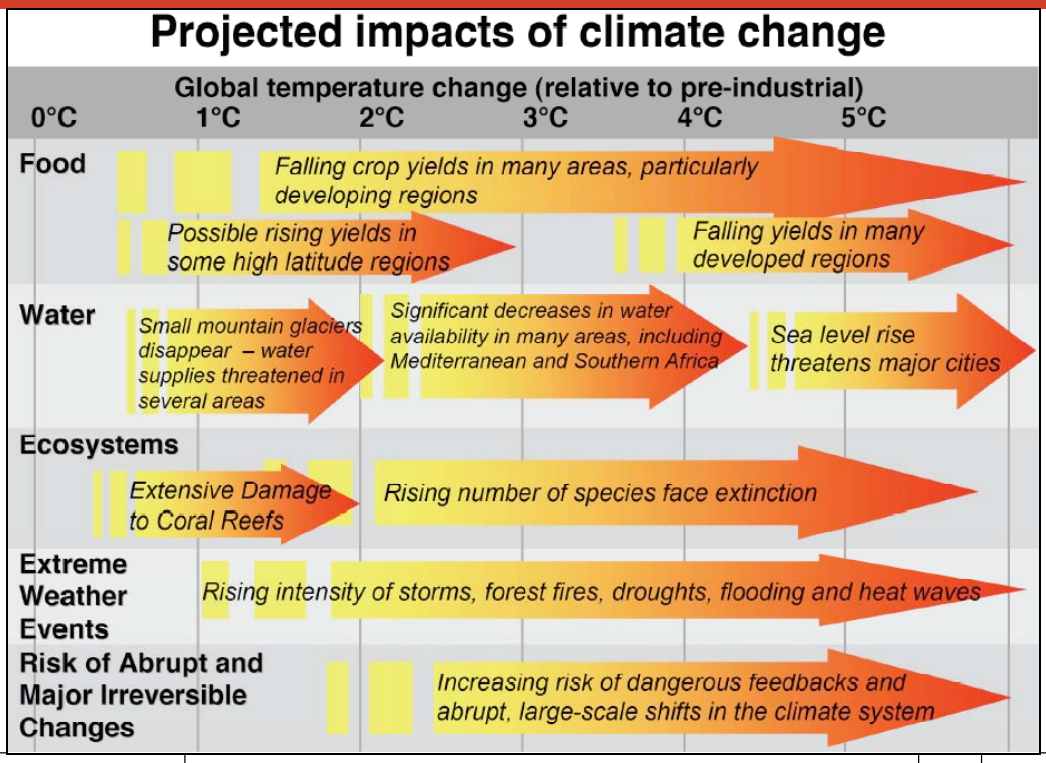
Impacts at different global mean temperature changes



Source: Stern Review 2006

Table SPM.5: Characteristics of post-TAR stabilization scenarios [Table TS 2, 3.10][37]

Category	Radiative Forcing	CO_2 Concentration	CO_2-eq Concentration	Global mean temperature increase above pre-industrial at equilibrium, using "best estimate" climate sensitivity[38, 39]	Peaking year for CO_2 emissions[40]	Change in global CO_2 emissions in 2050 (% of 2000 emissions)	No. of assessed scenarios
	W/m^2	ppm	ppm	°C	Year	percent	
A1	2.5 – 3.0	350 – 400	445 – 490	2.0 – 2.4	2000 - 2015	-85 to -50	6
A2	3.0 – 3.5	400 – 440	490 – 535	2.4 – 2.8	2000 - 2020	-60 to -30	18
B	3.5 – 4.0	440 – 485	535 – 590	2.8 – 3.2	2010 - 2030	-30 to +5	21
C	4.0 – 5.0	485 – 570	590 – 710	3.2 – 4.0	2020 - 2060	+10 to +60	118
D	5.0 – 6.0	570 – 660	710 – 855	4.0 – 4.9	2050 - 2080	+25 to +85	9
E	6.0 – 7.5	660 – 790	855 – 1130	4.9 – 6.1	2060 - 2090	+90 to +140	5
Total							177

[Editorial Note: In the column titled "Category", A1, A2, B…, will be changed to Roman numerals (I, II, III…)]