



Climate Change and Development

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Part One

Climate change and development

Climate change and development

- Development and climate change are the central problems of the 21st Century
- If the world fails on either, it will fail on both
- Climate change undermines development
- No deal on climate change which stalls development will succeed

“The costs of strong and urgent action to avoid serious impacts from climate change are substantially less than the damages thereby avoided”

- Key finding of the Stern Review of the Economics of Climate Change, October 2006

'Probabilities' (in %) of exceeding a temperature increase at equilibrium

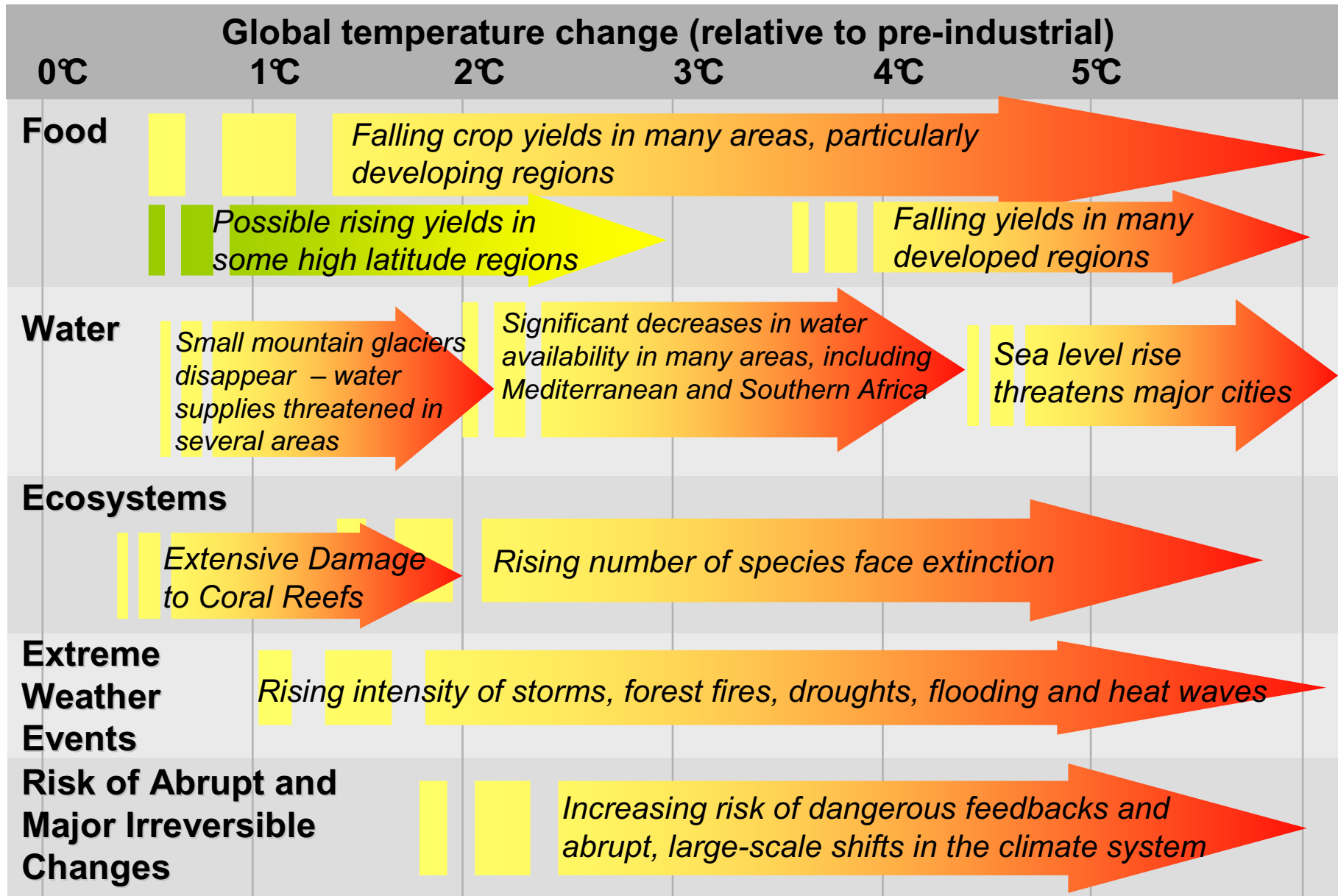
Stabilisation level

(in ppm CO ₂ e)	2°C	3°C	4°C	5°C	6°C	7°C
450	78	18	3	1	0	0
500	96	44	11	3	1	0
550	99	69	24	7	2	1
650	100	94	58	24	9	4
750	100	99	82	47	22	9

Source: Hadley Centre: From Murphy et al. 2004

- Monte Carlo estimates from Hadley Centre
- Model 'fairly cautious'
- Those who argue e.g. for stabilisation levels of 650ppm CO₂e and above are accepting very big risks of a transformation of the planet
- Figures similar to IPCC AR4 (no probabilities in TAR)

Projected impacts of climate change



Threats

- Developing countries are particularly vulnerable to impacts of climate variability
- Climate change will threaten all aspects of the development agenda
 - Income poverty and hunger
 - Direct and indirect health effects
 - Dislocation, migration and conflict
 - Some effects already here

Opportunities

- Opportunities for adaptation
- Opportunities for low carbon development
- Opportunities to improve land use and reduce deforestation
- Opportunities to shape international co-operation

Opportunities for low carbon development

Growth, being green, energy security and energy access are mutually supportive.

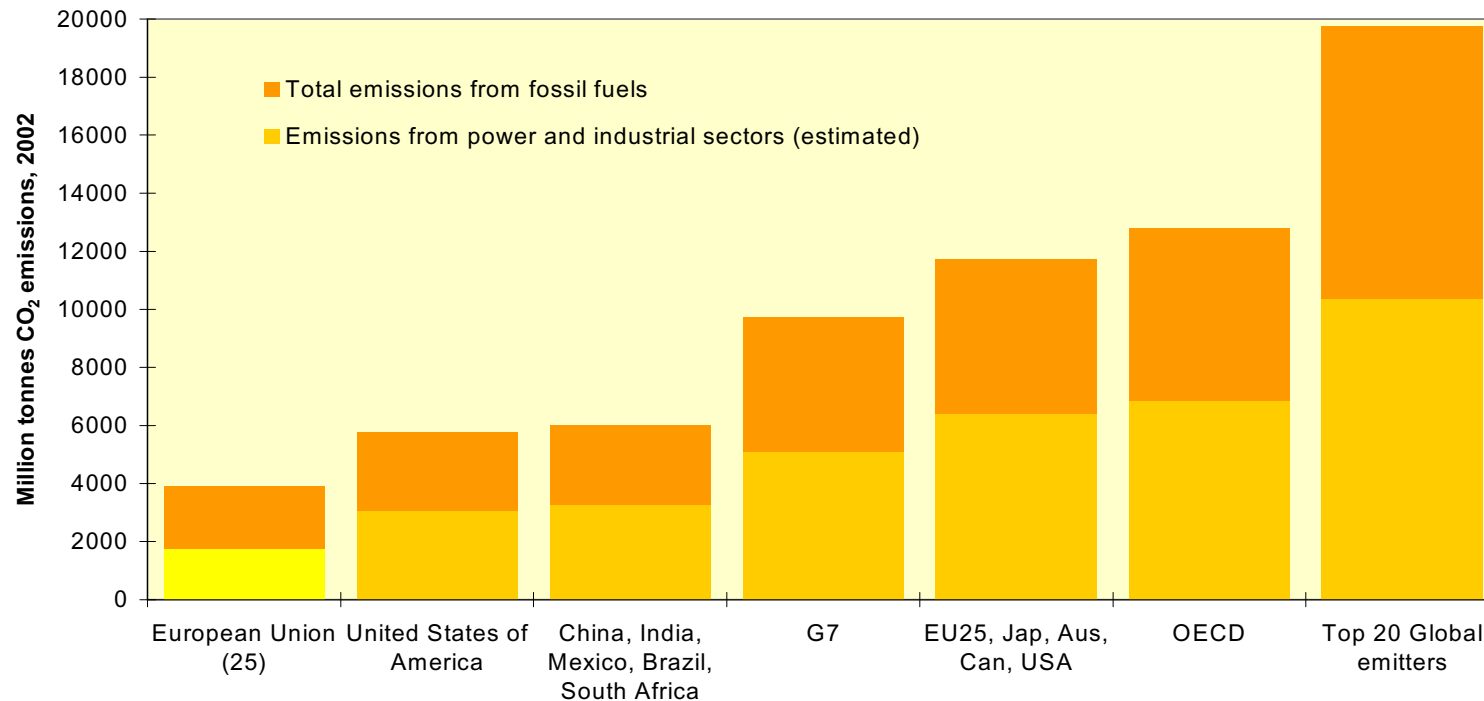
Low carbon investment paths support wider development goals

Fossil fuels will remain important part of global energy mix to 2050 and beyond

Specific opportunities for Brazil

- Biofuels, reduced gas flaring, role of future technologies eg solar

Global carbon markets can support clean energy investment in Brazil



- Equity requires cuts led by rich countries
- Strong rich country cuts plus trading lead to opportunities exist to increase carbon finance flows to Brazil
- Underlying conditions for private sector infrastructure investment are very important

Adaptation and development

- Development key to adaptation: enhances resilience and increases capacity
- Adaptation to current climate variability reduces costs of natural disasters
- Adaptation requires economy-wide planning and regional co-operation
 - Leadership and co-ordination is essential: key role for Heads of Government, Finance and Economic Ministries
- Mistake to separate adaptation and development either in analysis or funding: this issue concerns development in a more hostile climate

International support for adaptation

- Link between development and adaptation has implications for ODA scale and focus
- Equity requires assistance from rich countries as main source of climate problem
- This strengthens still further argument for delivery on aid commitments
- UNFCCC process and funds essential to support capacity-building and prioritisation
- Additional ODA flows will be a bigger source of funding for adaptation and development
- Adaptation must be part of post-2015 development goals and funding

Global opportunities for adaptation

International action also has a key role in supporting global public goods for adaptation

- Forecasting climate and weather
- Disaster response
- More resilient crop varieties
- Technologies for water conservation and irrigation
- New methods to combat land degradation
- Prevention and treatment of malaria and other water- and vector- borne diseases



Part Two

A Global Deal

Economics of a Global Deal: Principles

- **Effectiveness:** Action should deliver on a sufficient scale for both mitigation and adaptation.
- **Efficiency:** Mitigation should be undertaken where it is cheapest, with markets playing a central role in determining type and origin of mitigation; adaptation to be integrated with development.
- **Equity:** This is a shared problem with differential responsibilities; equity should take account of history, availability of technology and wealth and apply to both mitigation and adaptation.

Key elements of a global deal / framework (I)

Targets and Trade

- Confirm Heiligendamm **50%** cuts in world emissions by 2050 with rich country cuts at least **80%**
- Developing countries to take on **targets at latest by 2020** as rich countries demonstrate low-carbon growth, flows of funds, sharing technologies. Credible plans to reach 2 tonne/cap by 2050 - requires peaking before 2030
- Rich country reductions and trading schemes designed to be **open to trade with other countries**, including developing countries. **Supply side from developing countries** simplified to allow much bigger markets for emissions reductions: 'carbon flows' to rise to \$50-\$100bn p.a. by 2030

Key elements of a global deal / framework (II)

Funding Issues

- Strong initiatives, with public funding, on **deforestation** to prepare for inclusion in trading. For \$10-15 bn p.a. could have a programme which might halve deforestation. Importance of global action and involvement of IFIs
- Demonstration and sharing of **technologies**: e.g. \$5 bn p.a. commitment to feed-in tariffs for CCS coal would lead to 30+ new commercial size plants in the next 7-8 years
- Rich countries to deliver on Monterrey and Gleneagles commitments on **ODA** in context of extra costs of development arising from climate change: potential extra cost of development with climate change upwards of \$80bn p.a.

Nature of deal / framework

- Combination of the above can, with appropriate market institutions, help overcome the inequities of climate change and provide **incentives for developing countries to play strong role** in global deal, eventually **taking on their own targets**.
- Within such a framework **each country can advance** with some understanding of global picture.
- Individual country action **must not be delayed** (as e.g. WTO) until full deal is in place.
- Main enforcement mechanism, country-by-country, is **domestic pressure** ; but not in all – **leadership**
- If we argue that, “it is all too difficult” and the world lets stocks of GHGs rise to 650, 700 ppm or more must be **clear and transparent** about the great magnitude of these risks