the London School of Economics and Political Science

Key Elements of a Global Deal on Climate Change

the London School of Economics and Political Science

Key Elements of a Global Deal on Climate Change

Part I Emissions targets and the 3 e's

Dimitri Zenghelis

CISCO

LSE, Stern

CHATHAM HOUSE

Three ‘E’s

- **Effectiveness:** The frameworks avoid dangerous climate change
- **Efficiency: mitigation should be undertaken where it is cheapest**, with markets playing a central role in determining type and origin of mitigation
- **Equity: mitigation should be paid for on the basis of fairness** - this is as shared problem with differential responsibilities, (‘reservoirs’, targets and one-sided trading)

Three ‘E’s

- **Effectiveness:** The frameworks avoid dangerous climate change

- **Efficiency: mitigation should be undertaken where it is cheapest**, with markets playing a central role in determining type and origin of mitigation

- **Equity: mitigation should be paid for on the basis of fairness** - this is as shared problem with differential responsibilities, ('reservoirs', targets and one-sided trading)

Three ‘E’s

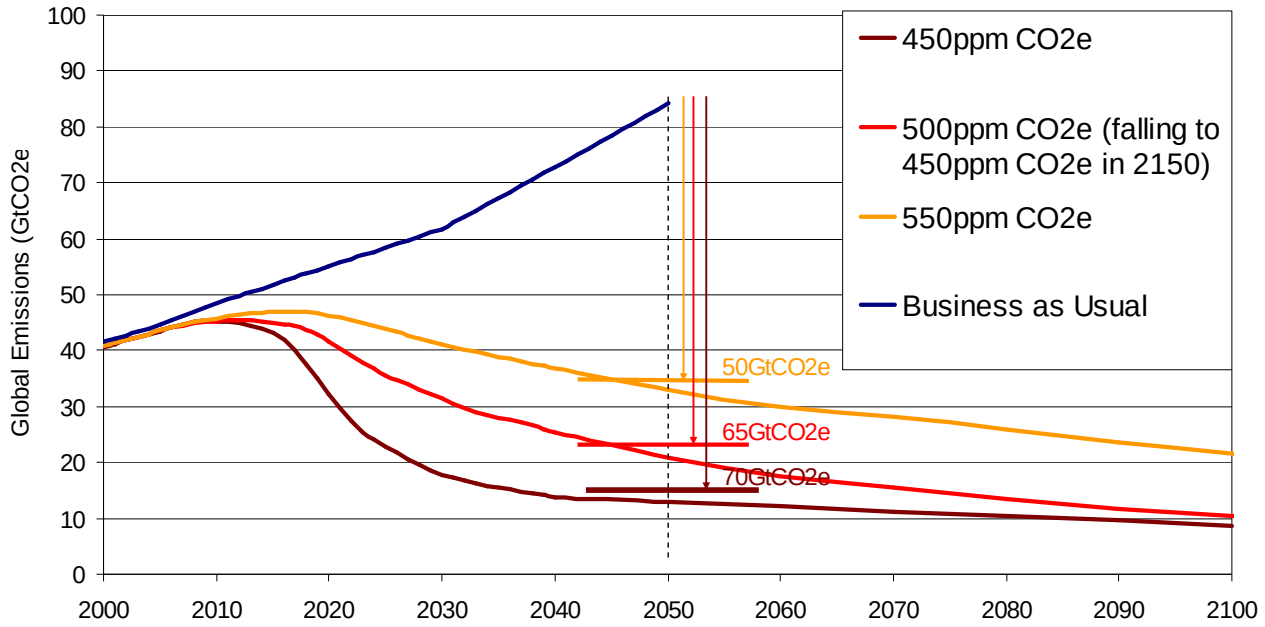
- **Effectiveness:** The frameworks avoid dangerous climate change

- **Efficiency: mitigation should be undertaken where it is cheapest**, with markets playing a central role in determining type and origin of mitigation

- **Equity: mitigation should be paid for on the basis of fairness** - this is as shared problem with differential responsibilities, ('reservoirs', targets and one-sided trading)

Note demand/supply dichotomy: separate out where mitigation takes place from who pays for it!

Effectiveness



Stabilise below 500ppm CO_2e; emissions peak before 2020 then annual declines of 3%. (10 year delay almost doubles rate of decline)

Efficiency

Least cost options mean global in scope

- **Efficient institutions** and implementation mechanisms
- Broadly uniform, **credible, long term**, **global price** for the externality - carbon pricing via tax or trading (or implicitly through regulation)
- **Financial and technology flows** - support to bring forward lower carbon **technology-** research, development and deployment
- **Overcoming information barriers** and transaction costs – regulation, standards
- Promoting a **shared understanding** of responsible behaviour across all societies – beyond sticks and carrots

Basic arithmetic

- Current 40-45 GtCO2e p.a.
- **50% reduction by 2050 requires per capita global GHG emissions of 2-3T/capita** (20-25 Gt divided by 9 billion population)
- Currently US ~ 20+, Europe ~10+, China ~5+, India ~2+ T/capita
- **At the COP15 meetings in 2009, developed countries should commit to cutting emissions by 80-90% from 1990 levels by 2050 together with credible interim targets**
- Many developing countries would have to cut strongly too if world average of 2-3 T/capita is to be achieved

Effectiveness - commitments

All countries will eventually need to take on binding national targets

- G8 Heiligendamm – **50% by 2050 (consistent with stabilisation ~ 500ppm $C0_2e$**)
- California (and US under most candidates) - 80% from 1990 levels by 2050
- France – 75% by 2050 (Factor 4), relative~1990
- EU Spring Council: 60-80% by 2050 & 20-30% by 2020, relative~1990
- Germany – 40% by 2020, relative~1990

Equity

- **Developed countries** will need to take on **immediate binding national emissions targets**
- **Developing countries should be at the forefront** of work to shape a global deal…
- **Developed countries** must **demonstrate** that they can achieve low carbon growth, and transfer resources and technologies to developing countries
- **Developing countries** take on binding national targets of their own **by 2020**
- **Developing countries must draw up emissions reduction plans now**, and be able to benefit from scaled-up opportunities to sell emissions reduction certificates

the London School of Economics and Political Science

Key Elements of a Global Deal on Climate Change

Part II Credibility, developing countries action and trading

Mattia Romani
Stern Team

Office of Climate Change

Notion of credibility

- Developed countries demonstrate:
  - Low carbon growth is possible
  - Effective carbon markets will deliver substantial financial flows
  - Technology will be accessible and affordable
- Developing countries:
  - Recognize common goal to go to 2T per capita by 2050
  - Commit to commit by 2020
  - Credible action plans to get there
  - Participate actively in global carbon markets

Common understanding of the benefits of collaboration: a choice not to collaborate globally is pro-poverty, anti-growth, anti-market choice.

Developing countries

- Binding targets now: not effective
- ‘One-sided’ trading regime until 2020 rewarding developing countries for reducing emissions
- Until 2020 sectoral action supported by the international financial institutions and the carbon markets
- The CDM needs to move from a project-based to a wholesale mechanism to scale up; sector-specific efficiency targets, technology benchmarks, policy triggers

Trading

- Long term objective: international cap-and-trade system for the three Es
- Financial flows to developing countries: around $20-75bn per year in 2020 and $50-100bn per year by 2030
- Build on current institutions and mechanisms (e.g. linking up existing and developing regional carbon markets)
- Other policies (e.g. regulation, standards, and taxation) should also be pursued, and can complement a cap-and-trade system

Implementation & institutions

- Put principles to work in the run up to the UNFCCC COP in Copenhagen in 2009 and to guide national governments
- Three key phases of implementation:

1. **Copenhagen 2009**: determine international targets; establish developed country caps; set developing country responsibilities
2. **2010-2020**: build effective and cooperative institutions on finance and technology as a basis for establishing developing country caps. Coordinate heterogeneous measures. Bottom-up links
3. **post-2020:** all countries form part of an international cap-and-trade system and adhere to technological agreements

Institutions: long-term yet flexible, not overly prescriptive, reflecting the current world community, promote trust.

the London School of Economics and Political Science

mattia.romani@occ.gov.uk

Office of Climate Change

dzenghel@cisco.com
d.a.zenghelis@lse.ac.uk

CISCO

CHATHAM HOUSE

Full report on:
http://www.lse.ac.uk/climateNetwork

Spares

Conclusion from Stern analysis

- **Effectiveness**: we are in a much better position now to use our **shared understanding** to agree on what goals to adopt and what action to take
- **Efficiency**: we know that the **technologies, global economic incentives for effective action are available or can be created**
- **Equity**: appropriate market institutions help **overcome inequities** of climate change; provide incentives for developing countries to play strong role in global deal, eventually taking on their own targets
- • By promoting reduced pollution, improved resource efficiency, and energy security, cost-effective policies can bring about a safer, cleaner, and more prosperous world without jeopardising growth or poverty reduction. By contrast, inaction stands eventually to damage both growth and social stability.

The GHG ‘reservoir’

- **Equity requires a discussion of the appropriate use of this reservoir given past history**
- Current stocks around 430ppm; pre-industrial stocks 280ppm.
- Long-term stabilisation at 500ppm CO2e implies that only a further 70ppm CO2e can be ‘allocated’ for emission, given that we start at 430ppm
- 130ppm out of 150ppm reservoir drained already by rich countries
- Or could “start the clock” at XT, the stock when problem was first recognised at T (e.g. around 20 years ago)