Deciding our future in Copenhagen: will the world rise to the challenge of climate change?

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Three Part Structure

- Section 1: Introduction.

- Section 2: Current position and where we need to be.

- Section 3: A structure for action: policies and measures for a global deal.

Introduction

- The two defining challenges of the 21st century are managing climate change and overcoming poverty. If we fail on one, we fail on the other.

- Global emissions are about 47 billion tonnes of carbon dioxide-equivalent (CO_2e) next year. We are already over 430ppm CO_2e, and are adding at a rate of over 2.5ppm per year (likely to accelerate with little or weak action). BAU will take us over 750ppm by the end of the century.

- This level of concentration would result in a large probability, around 50%, of an eventual temperature increase of more than 5^oC compared with the pre-industrial era. This would be enormously destructive.

- Physical and human geography would be transformed. The planet has not seen such temperatures for 30 million years. Potential cause of migration of hundreds of millions of people around the world and thus likely severe and prolonged conflict. Poor countries will be hit earliest and hardest, increasing the struggle against poverty.

- Cannot predict with certainty but risks are huge. This requires wise risk management. Failure to act risks irreversible and catastrophic damage. Acting strongly will produce new technologies, more energy security, cleaner and more bio-diverse world, even if risks are less than anticipated.

Introduction

- A strong political agreement in Copenhagen must provide a clear framework of targets and policies as a basis for more detailed formal agreement.

- An agreement should be based on clear principles: effective, efficient and equitable. Significant progress over the last two months – greater ambition and specificity of plans. This has created a strong momentum.

- If fail to take this opportunity we may not find a better one.

- Transition to low-carbon growth likely to be the most dynamic and creative in economic history. Very attractive when established: more energy secure, cleaner, quieter, safer, more bio-diverse. High-carbon growth, if attempted, would kill itself.

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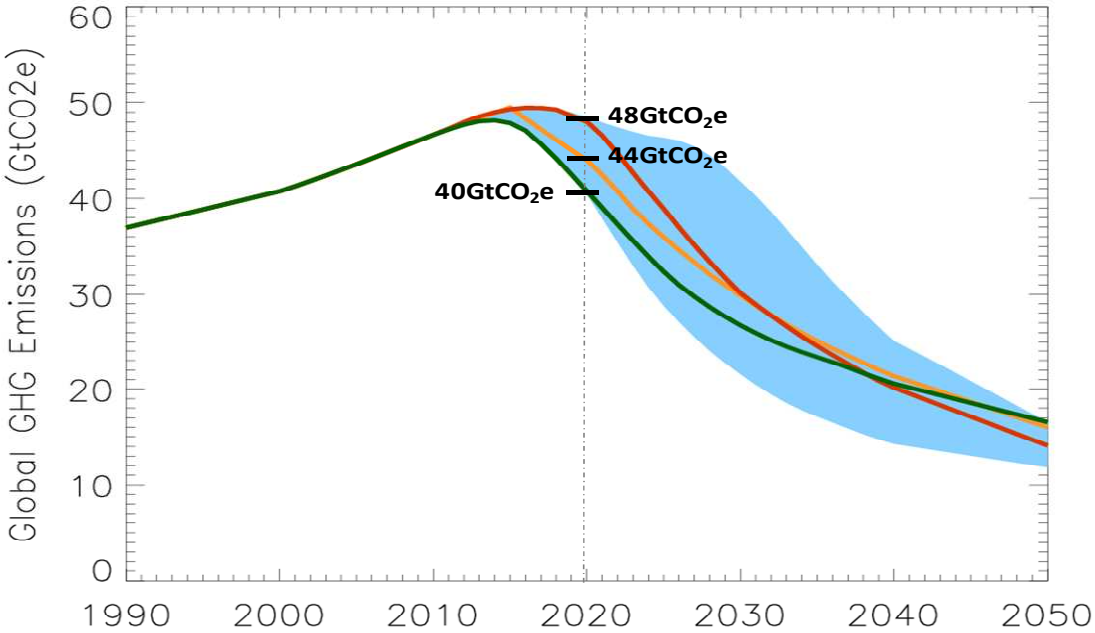
What our targets should be



- Holding below 500ppm CO_2e, and reducing from there, is necessary to give a reasonable chance of staying below 2 degrees. This requires bringing emissions down to below **20Gt CO2e** (approx. 50% of 1990 levels) by 2050. Would reduce the risk of a 5ºC increase to less than a 5% probability.
- A range of trajectories is possible – later peak years require stronger action later on.
- As global population likely to be around 9 billion in 2050, these simple headline numbers imply average emissions around **2 tonnes per person**.
- Cannot afford any delays: a delay of 10 years in initiating action would be likely to increase the 'starting concentration' from around 435ppm CO2e to over 465ppm CO2e, making required deductions more costly or impossible.
- This presentation examines trajectories with around **47Gt** CO2e in 2010 (reduced by slowdown – might have been 50), **44Gt** in 2020, **under 35Gt** in 2030 and **under 20Gt** in 2050. Likely to have to go **'well under'.**

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These results are based on the Hadley Centre climate model MAGICC
Thanks to Jason Lowe and Laila Gohar for running these trajectories through the model.

Current “intentions” for 2020

	High intentions	2020 Emissions (Gt CO2e)
US	-17% on 2005	5.9
EU	-30% on 1990	3.9
Japan	-25% on 1990	1.0
Other developed countries	Current intentions	5.0
Developed country total		**15.7**
China	2010 intensity target; 2020 renewable and nuclear target (1.3 Gt saving)	11.2
India	2020 solar mission, renewable target, 2017 forestry target (0.2 Gt saving)	3.6
Other developing countries	Business as usual	16.7
Developing countries total		**31.5**
International aviation and maritime		1.3
Global total		**48.5**

- Based on these commitments (first part of November) global emissions would be 4.5Gt short of achieving 44Gt in 2020 (the gap would be 5.1Gt based on low “intentions” like the EU 20% on 1990 target).
- It assumes business as usual in developing countries – incorporating recent proposals by South Korea, Indonesia and Brazil could provide up to 2.5Gt additional mitigation. Further proposals and revisions likely.
- Many developing country proposals are conditional on international support increasing the importance of an adequate finance package.
- International support could not be in the form of offsets from existing targets if we are to avoid double counting.

Reducing emission intensity

- If these emissions targets are to be met without affecting ambitions for growth in developing countries then the emissions intensity will need to fall over the next decades.
- A possible route, given reasonable growth assumptions, would be for India to cut its emissions per unit of output by a factor of two by 2030 relative to 2010, and China, the US, EU-27/Japan and Indonesia/Brazil to cut by a factor of 4. A cut of 4 in 20 years is 50% each decade.
- The most recent announcement by the US (17% below 2005 levels in region of current bills) is equivalent to an emissions intensity improvement of 45% over the period 2005 to 2020; China recently proposed a 40 to 45% improvement over the period 2005 to 2020 (no higher than intentions summarised in previous table).
- Stronger progress from biggest emitters, on deforestation, and on aviation/maritime could close the gap and reach 44Gt in 2020.

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A structure for action: policies and measures for a global deal

- Leadership from rich countries on reductions, finance and technology is key to delivering an effective, efficient and equitable global deal.
- Clear financial commitments will play a critical role in finding international agreement. **Rich countries to provide US$50bn p.a. by 2015. This should rise to US$100bn p.a. in 2020 and US$200bn p.a. in the 2020s.**
- Progress in developing countries over the next decade would be conditional on evidence of strong examples of action and sharing of technologies and substantial finance by developed countries. Many existing developing country plans are already conditional on developed country support.
- Immediate priorities – around US$15bn p.a. for adaptation in Africa and other vulnerable countries, a similar sum for both deforestation and technology (focus on R&D, demonstration and deployment).
- Developed countries should not articulate the immensity of the issue and the 'crucial role' of developing countries, and then claim support is unaffordable. US$50bn p.a. represents around 0.1% of likely rich country GDP in 2015. This is insignificant compared to the costs we will face if we are unable to secure a global deal. Support must be additional to existing commitments on ODA.
- Current pressures on public finances may result in a commitment on only part of the 2015 and 2020 funding, with exploration of new sources of finance to indicate how to find the remainder (see below).

A structure for action: policies and measures for a global deal

- How might the contributions be divided amongst the rich countries?
- The US is around 35% of total rich country GDP, the largest emitter among rich countries and is likely to remain so on current plans (per capita emissions twice that of EU and Japan in 2020): on this basis 50% might be seen as reasonable. However difficult domestic politics and should not be too formulaic.
- EU to contribute the majority of the remainder. The EU has been at the forefront of analysis and action on climate change and has a good track record in providing development funding, e.g., IDA funding. Must express that leadership now. Including by moving to 30% reductions 1990-2020.
- UK has a valuable role to play: has led on climate change legislation and proposals on finance. The UK is around 6% of rich country GDP and could contribute around 6% or US$3bn p.a. required by 2015; possibly more.
- Forthcoming Pre-Budget Report is a key opportunity for the UK to state its intentions and make clear and credible commitments.

A structure for action: policies and measures for a global deal

- New sources of funding: national carbon taxes; national permit auction revenues; international auction revenues (Norwegian proposal); international transport levies; creative use of SDRs.

- Revenue potential:
  - One billion tonnes of CO_2e with tax/price of US$30 per tonne would yield US$30bn in revenue per year. International aviation and maritime emissions around 1bn tonnes. Rich country emissions are around 18bn tonnes - just 10% of this, auctioned or taxed, yields US$54bn per year at US$30 per tonne.

- Whilst current public debt positions are worrying this is one place where there are arguments for borrowing – sound policy can increase the welfare of both current and future generations. Debt can be paid off in the future, climate damage severe and much of it irreversible.

- Dynamics between public and private finance:
  - Strong public action on finance will generate a multiplier effect;
  - Public and private finance not substitutes – public finance required for adaptation investment and higher risk projects, private finance important for mitigation investment (interest, capital repayments and dividends are basic to these flows).

- Mechanism for delivery of funds critical:
  - Use existing development channels where possible to avoid adaptation and mitigation funding becoming separated from development, e.g., African Development Bank, with support of other multi-lateral and bi-lateral institutions, should play a leading role in administering funds for Africa.

Priorities for last few days

- To be on a climate responsible path we should go to the top end of commitment range of each country or region and find another 2-3 billion tonnes.
- Now is the time for European leadership and moving to 30% reductions 1990-2020.
- Rich countries should find financing from 2010 to 2015 for both adaptation and mitigation rising to US$50bn p.a. in 2015, and US$100bn p.a. plus in 2020s.
- Could consider two-step process with firm commitment in early years, recognition of requirements and exploration of new sources of funding for 2015 and 2020.
- Leaders must participate with strong collaborative spirit. Everyone has their politics: leaders should lead. Not the time for ‘red lines or exits’.
- If we lose this moment it will not be easy to recreate. The dangers of failure are immense and the prize of low-carbon growth is of great value.