



E3G

Adapt or Surrender? The Challenges of Climate Change for Humanitarian Action

June 2008

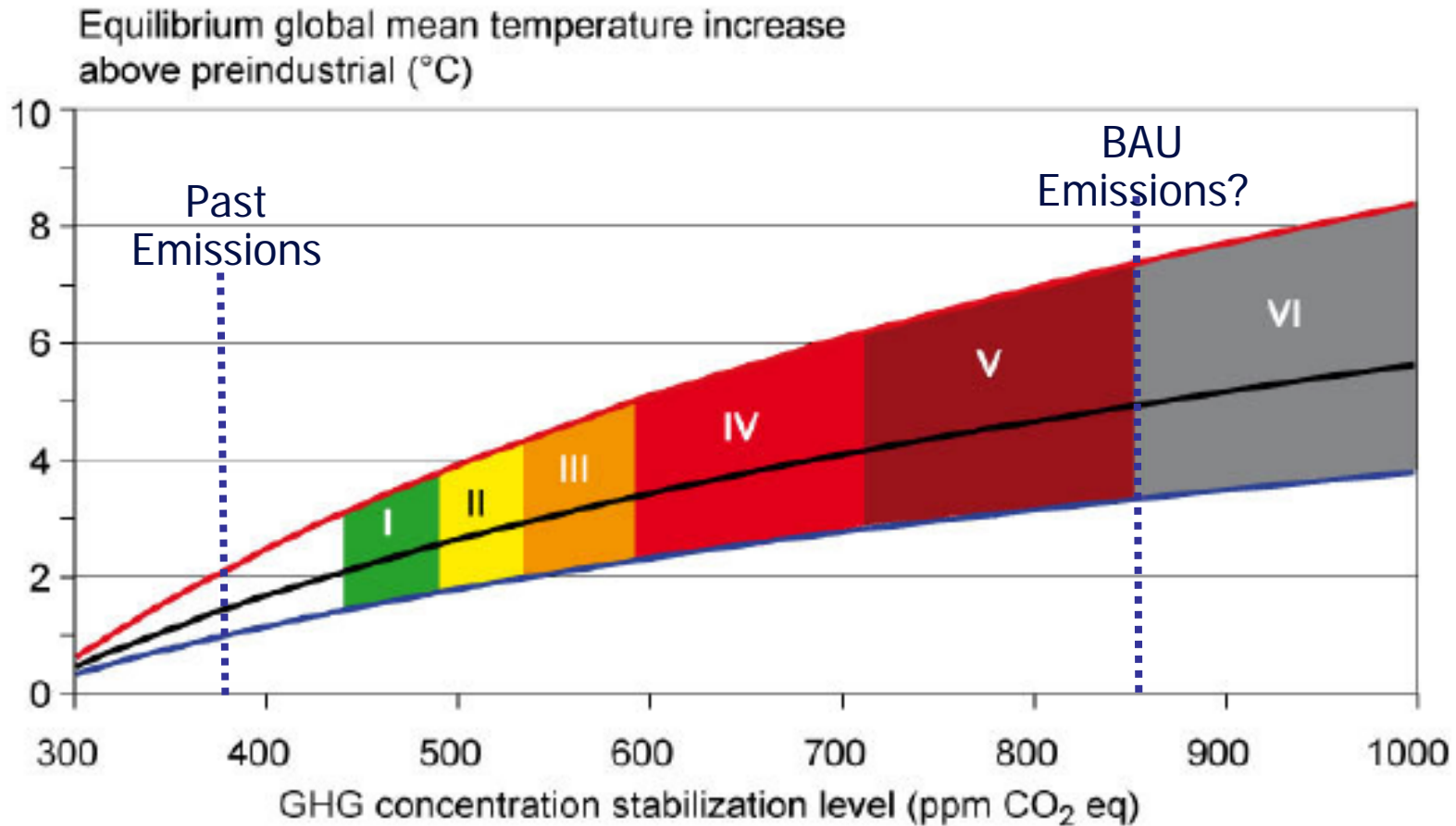
E3G – Third Generation Environmentalism



- Mission: “To accelerate the transition to sustainable development”
- Build on success of 2nd Generation (advocacy) organisations to mobilise networks of aligned and motivated insiders in mainstream institutions in order to generate action
- My background:
 - E3G Programme Leader Systems for Change
 - Prime Minister’s Strategy Unit, UK Government

- The Climate Challenge
- Understanding Energy and Climate Security
- The Economics of Transformation

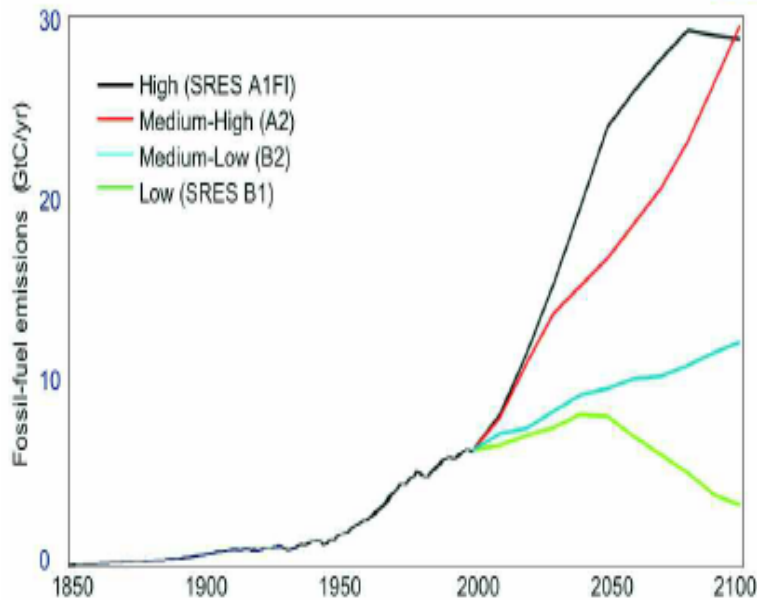
Past GHG emissions will result in 1.6C warming. Business as Usual will result in a rise of up to 6.5C by 2100



Source: IPCC (2007)

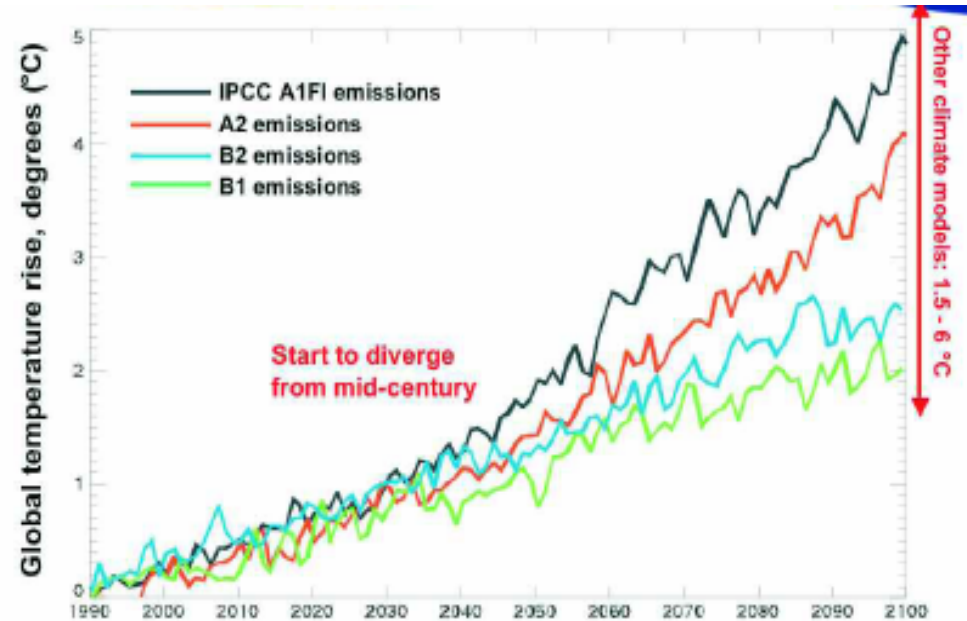
Large scale adaptation is needed for at least 40 years – even with the most aggressive mitigation measures

Emission Scenarios Diverge Radically ...



The low emissions scenario is consistent with a 450ppm (CO₂ eq) atmospheric concentration

But impacts only begin to slow after 2040



This effort would give a 50% chance of limiting temperature rise to 2C, and requires global emissions to peak by 2020

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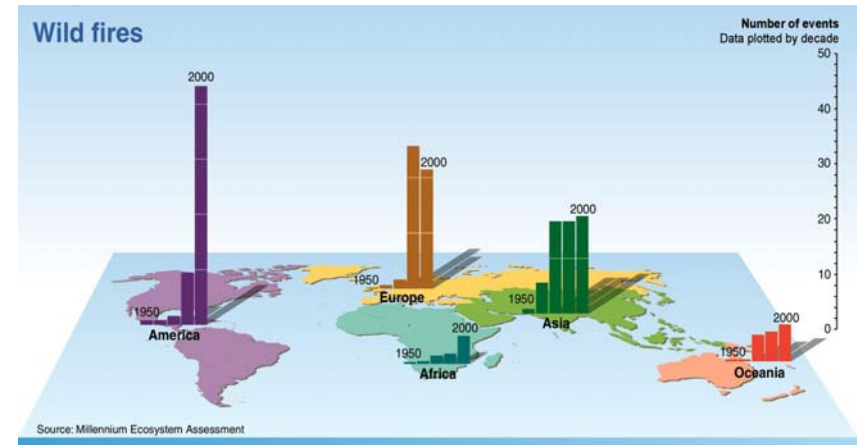
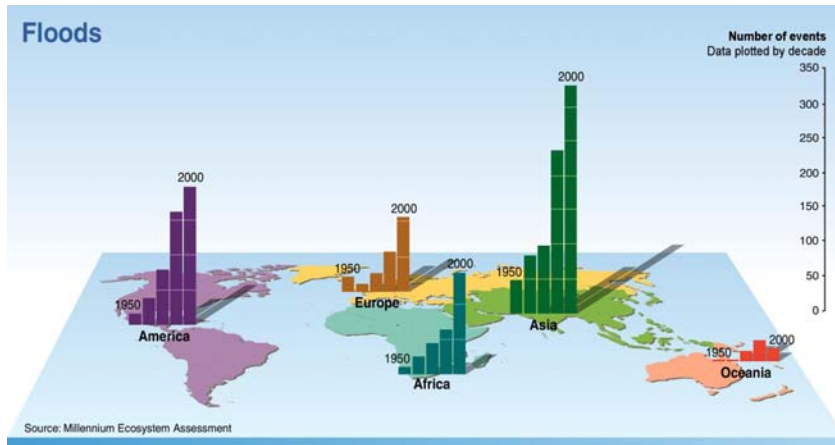
- Climate Change has usually been dealt with as an environmental and economic issue
- Radical Action unlikely unless seen as a core security issue
 - Human security
 - Economic security
 - Internal stability
 - International peace and security

Understanding Energy and Climate Security - impacts on development



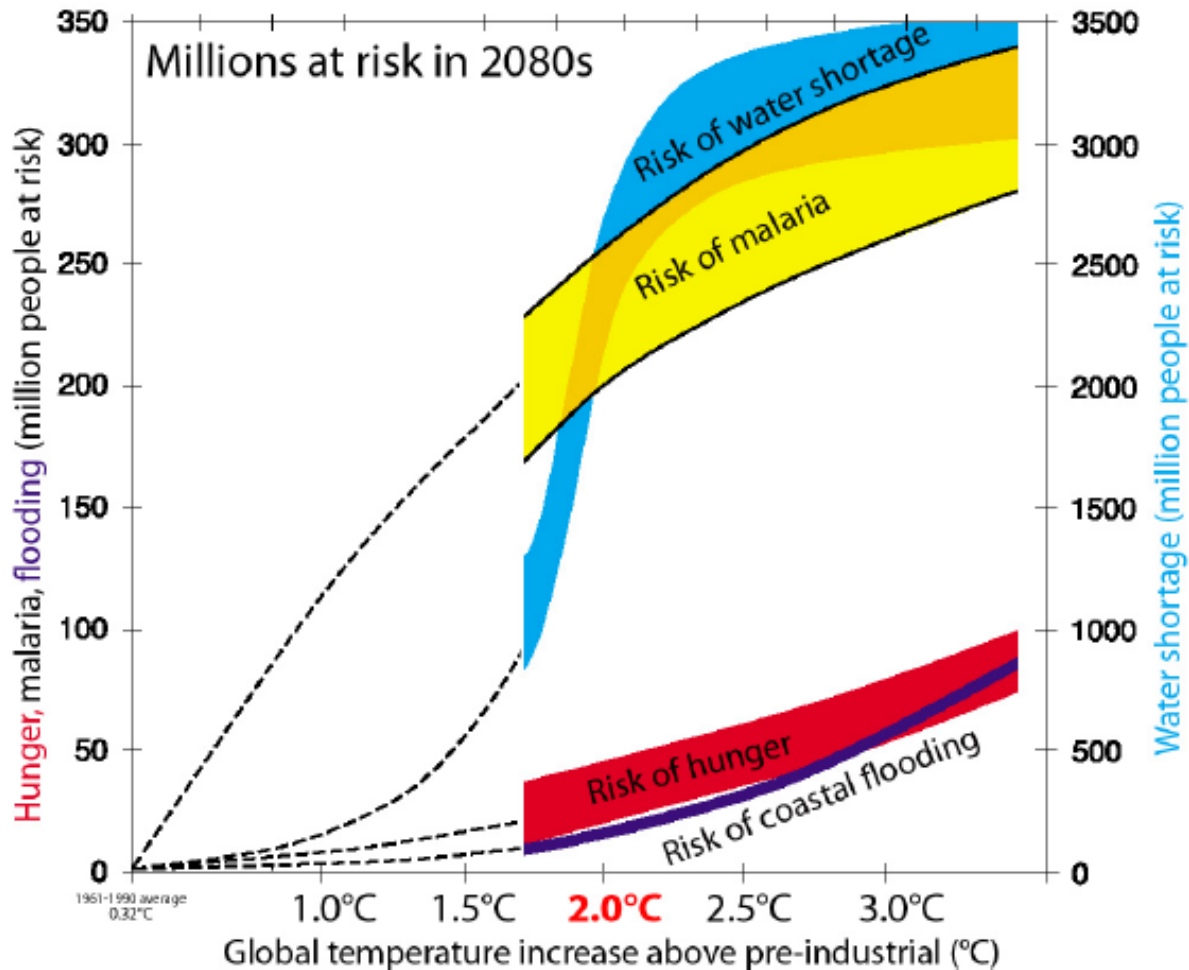
- Stern Review estimates cost of climate change to be between 5-20% of global GDP by 2050
- Recent oil prices rises have annual cost to developing countries \$137 billion – compared to \$85 billion in net aid
- 2005 saw the highest global financial losses due to weather-related disorders costs to be borne by the world's economies exceeding US\$185bn
- Humanitarian costs could rise by 200% by 2015 under higher climate change scenarios

Security/stability impacts may be first strong climate signal



- Climate change will cause gradual change in temperature, water availability and sea levels over long term. There will also be increased climatic variability and extreme weather events – and there is already some evidence for this
- When coupled with demographic changes there are likely to be big increases in resource scarcity over next 20 years – has been estimated that by 2025, 63% of global population will be living in countries of significant water stress
- Evidence demonstrates that environmental stress can exacerbate tensions (e.g. poor grain harvest in Rwanda linked to genocide of early 90s)

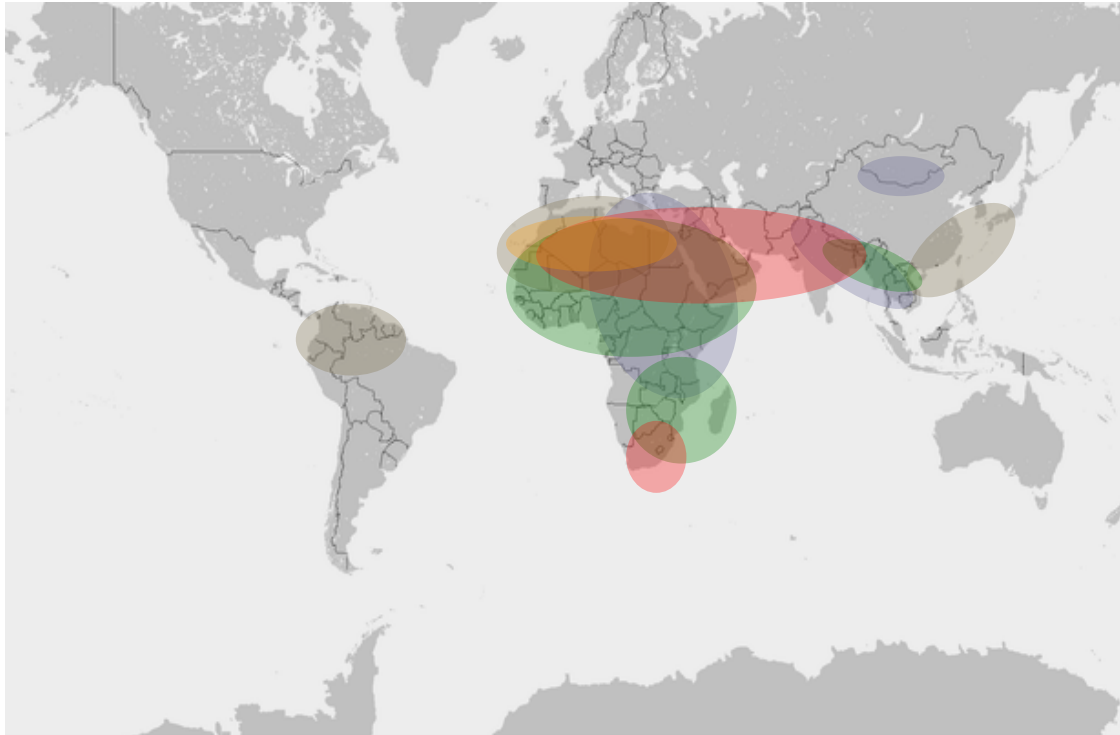
Global temperature rises above 2°C will greatly increase humanitarian risks and impacts on poverty reduction



- Climate change beyond 2°C risks catastrophic and irreversible impacts on ecosystems and ecological systems
- There is a high risk that beyond a certain tipping point “positive carbon feedbacks” could make climate change uncontrollable

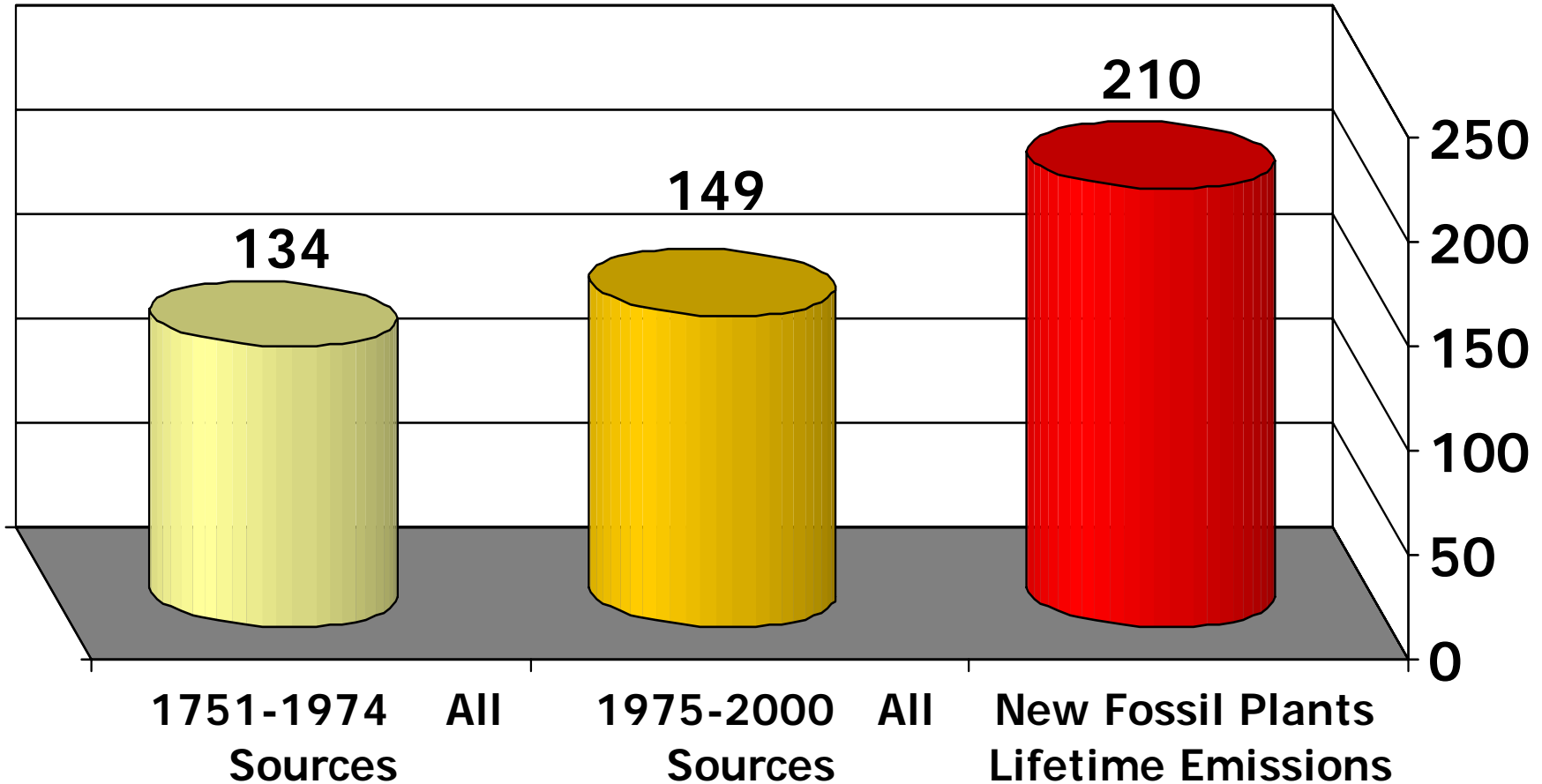
These effects will be concentrated in regions that already have relatively weak governance systems

Core Areas of concern in the face of climate change



- Climate instability is projected to primarily affect the developing world
- Developing countries are the least able to cope and adapt to the consequences of climate change

Without radical action we may become 'locked-in' to a high carbon world



Billion tonnes Carbon

Source: ORNL, CDIAC; IEA, WEO 2004

Reframing the Security Debate

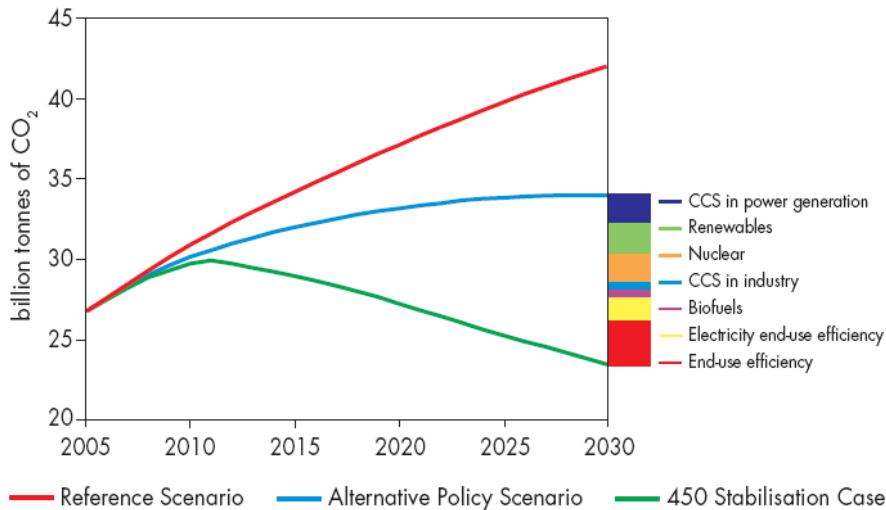


- Climate change is a key security problem in many countries
- Needs to be given same prominence as energy security- as both require changes in the energy system
- Unless country's understand the security implications of climate change unlikely to be prioritised in policy making

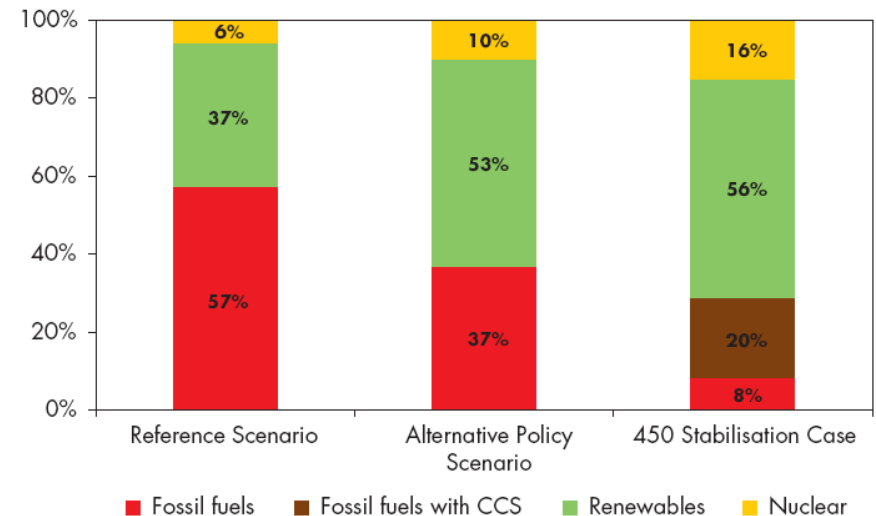
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To stabilise below 2°C global emissions will need to peak and reduce emissions in the next 10-15 years

CO2 Emissions in the 450 Stabilisation Case



Share of Cumulative Power-Generation Investment by Technology, 2006-2030



- Innovation and technological development will be crucial for achieving low carbon stabilisation

Assessing the costs of action for mitigation and adaptation

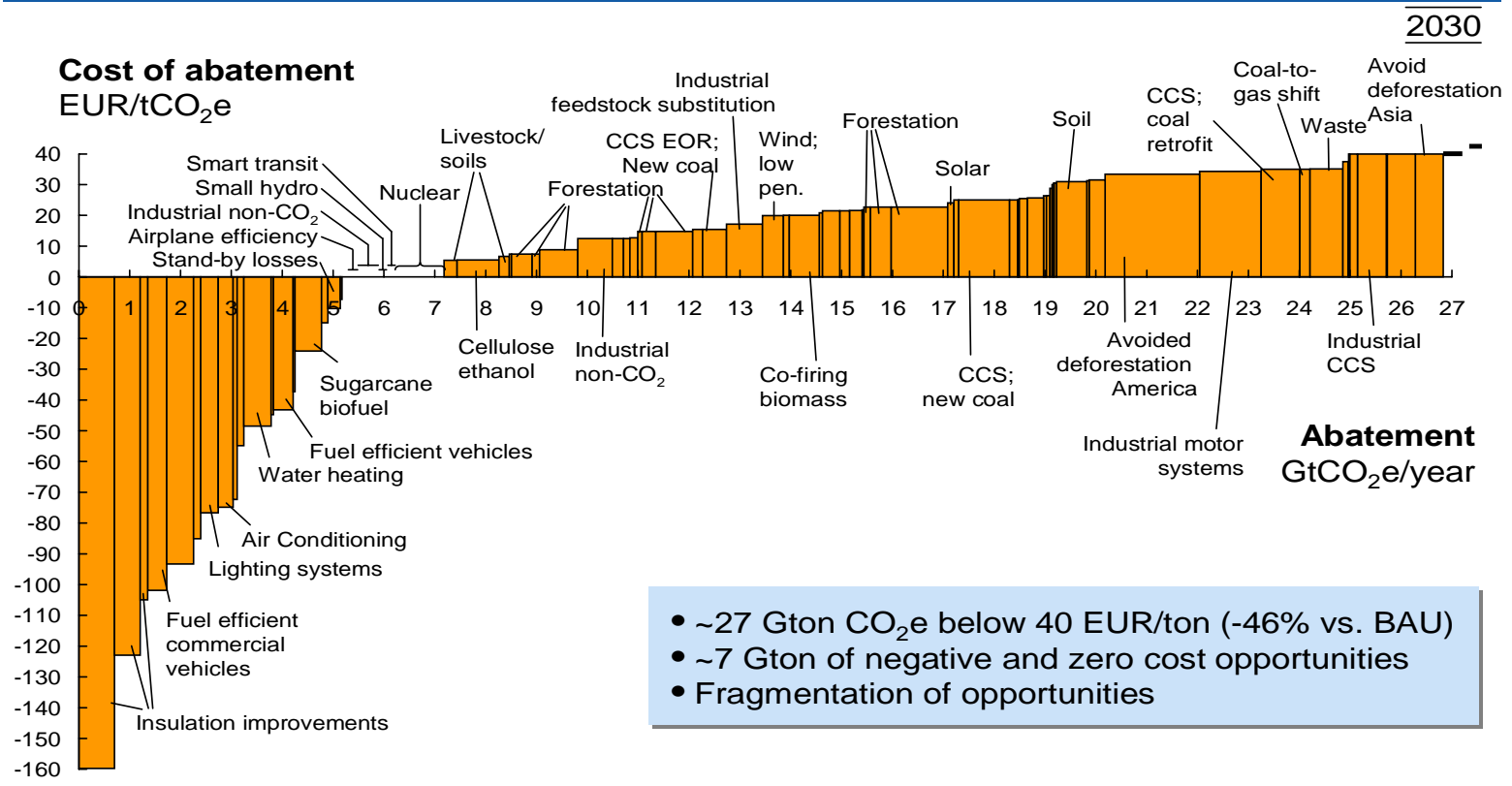


- The total annual cost of reducing global emissions is estimated to be around 0.3% of GDP in 2015, rising to 0.7% in 2025 and 1% in 2050 (Stern Review 2006)
- It is estimated that by 2015 the annual costs of adaptation in developing countries will be approximately \$86bn (UNDP HDR 2007)

However, there is considerable uncertainty attached to these estimates

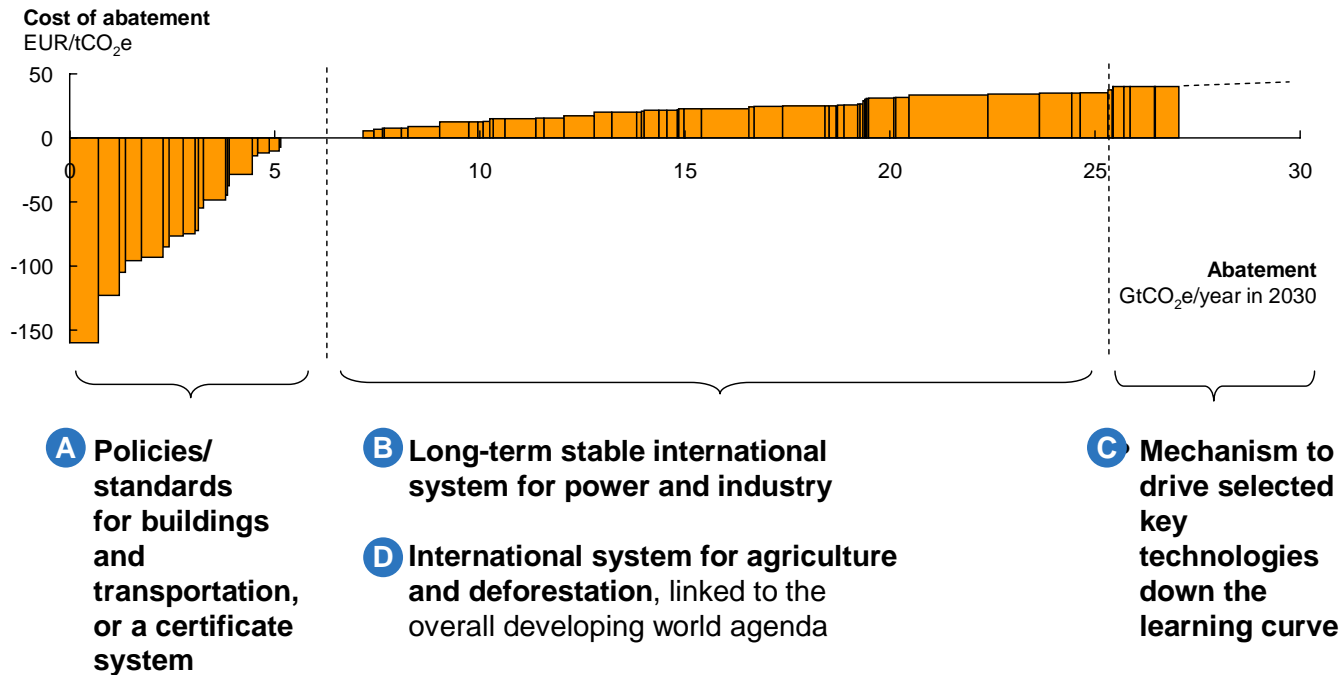
Need a range of actions in order to shift economies onto a low carbon development pathway

Global cost curve of GHG abatement opportunities beyond business as usual



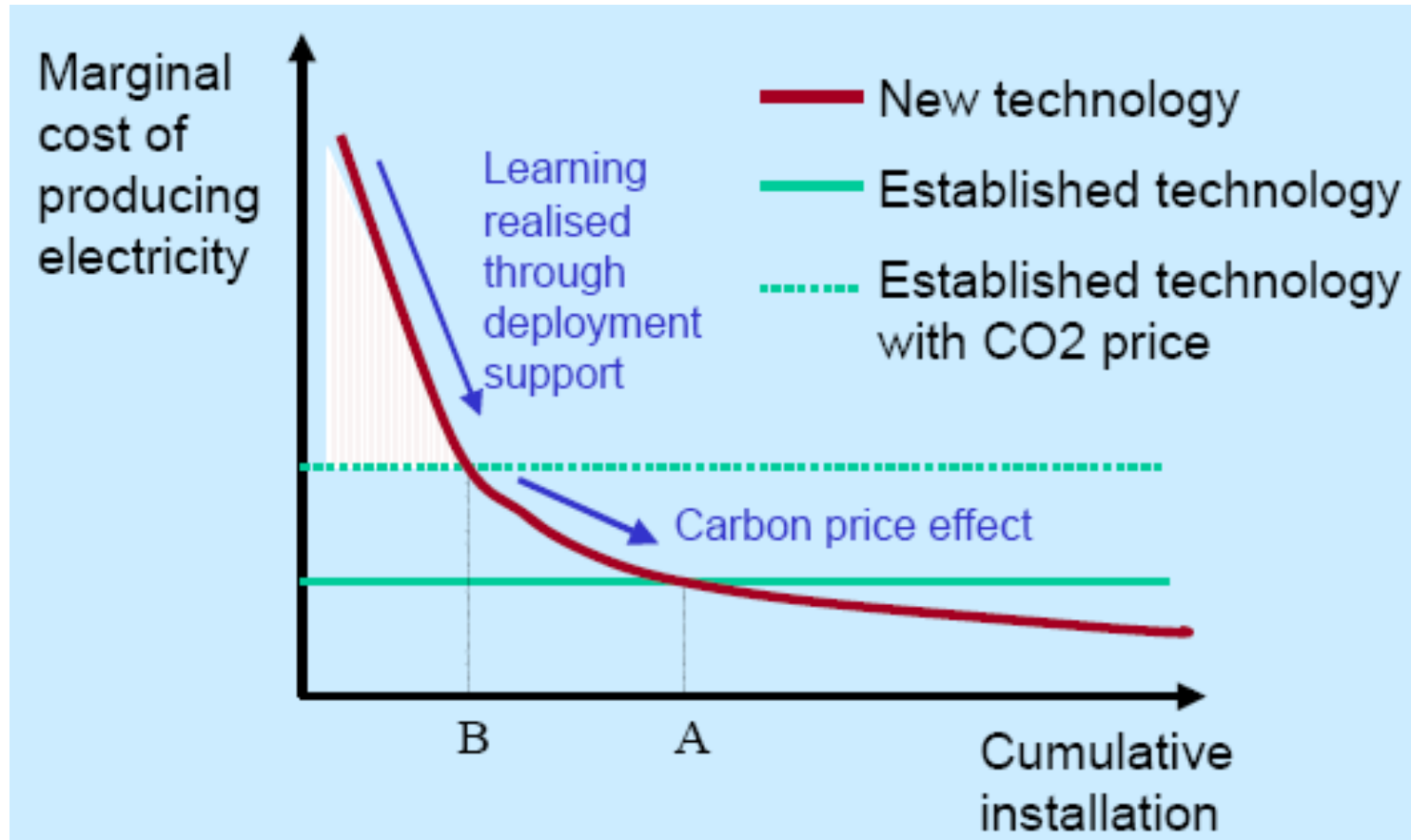
Globally, the key mechanisms and instruments necessary to trigger low-carbon investment and behaviour change have not been developed

Key regulatory mechanisms identified in the abatement investigation



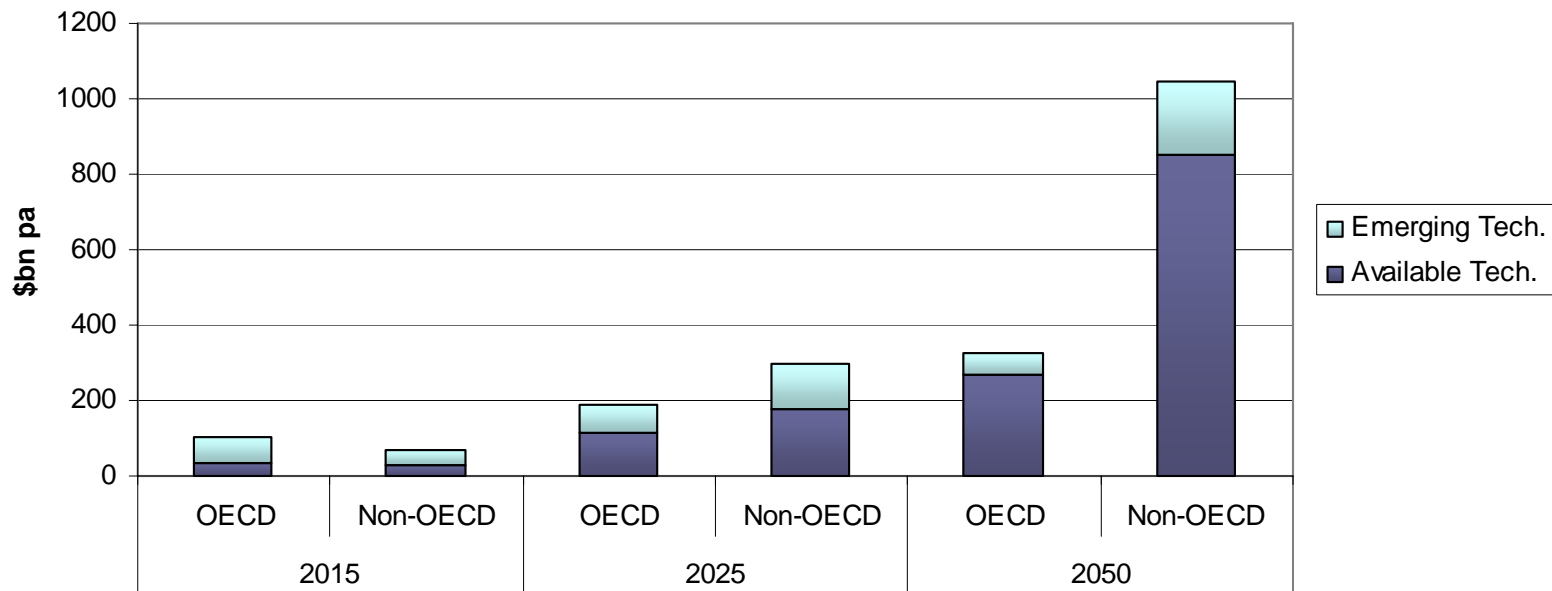
Within the context of climate change, the carbon price alone will not be enough to drive the deployment of low-carbon technologies

Interaction between carbon pricing and deployment support



Mitigation will require additional investment in both emerging and currently available technology (available within each time period)

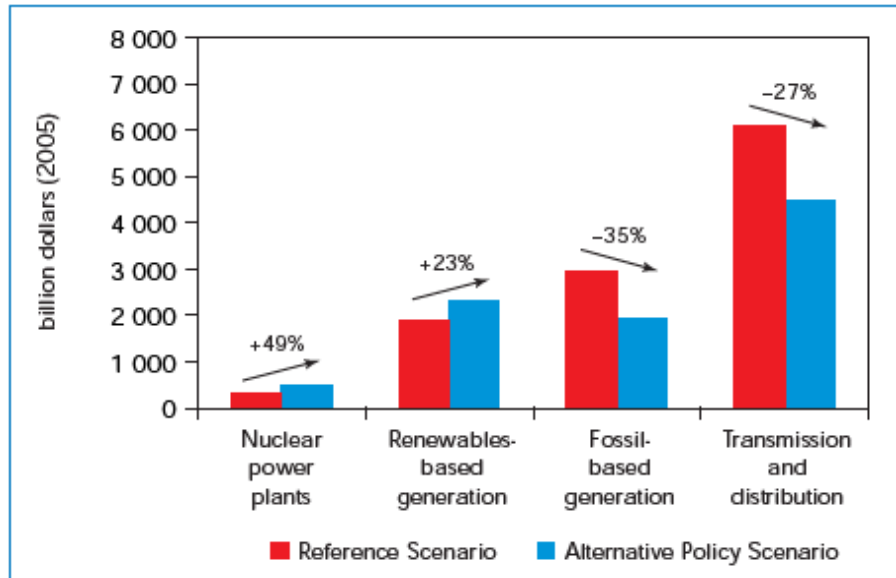
Stern Report: Implied Additional Annual Low Carbon Investment



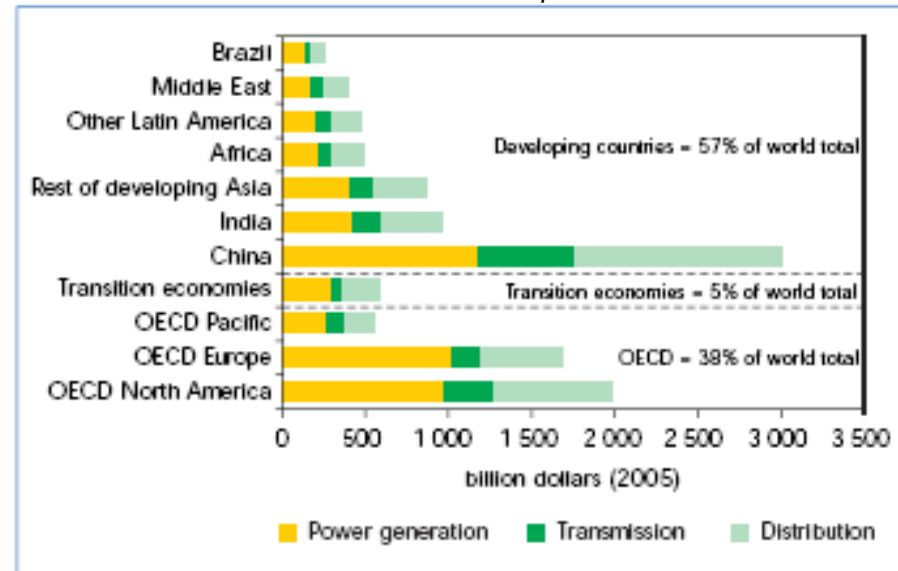
- The majority of this investment will need to be made in non-OECD countries
 - By 2030 China needs to invest about \$3.7 trillion in the energy sector – 18% of the world total. Russia and other transition economies account for 9% of total world

Aggressive mitigation implies large investment shifts inside – and out of – the energy sector

Cumulative Global Investment in Electricity-Supply Infrastructure by Scenario, 2005-2030



Cumulative Power-Sector Investment by Region in the Alternative Scenario, 2005-2030



- The IEA alternative scenario produces an emissions trajectory towards 600ppm.
- Energy sector investment falls from \$19-21 trillion to \$9-11 trillion. \$2 trillion lost from power sector and \$2.4 trillion more investment in energy efficient goods by 2030.

Economics of Transformation



- Need massive shifts of investment over the next two decades to ensure climate security
- Energy security concerns are currently working against this goal by increasing coal use
- Need mechanisms to redirect investment – global carbon markets will be part of this – but are not sufficient
- Will need global agreements on technical standards and direct financing

“Climate Justice” discussions have focussed too much on mitigation costs and too little on limiting the impacts of climate change on the poor



- Discussions of equity and justice in climate negotiations (e.g. contraction and convergence) have focused on the relative the balance of mitigation efforts between North and South
- This debate looks at apportioning 0-2% of Global GDP in mitigation costs, rather than the incidence of the 5-25% global GDP in damage costs identified by Stern. These costs disproportionately fall on the poorest people and poorest countries.
- This framing has poisoned climate negotiations and reduced pressure on developed countries and the middle-class in MICs to take their fair responsibility to limit GHG emissions.

Need to reframe climate justice primarily around the disproportionate impacts of climate change on the poor, in order to underpin an ambitious global climate deal