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Beyond Zero Sum Politics: New Frameworks for delivering Global Climate and Energy Security

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Introduction

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- **E3G:** Independent, non-profit European environmental organisation

My Background

- **UK Prime Minister's Strategy Unit:** Energy policy; climate change; international security; conflict prevention; organised crime.
- **UK Foreign Office**: G8 Renewable Energy Task Force; REEEP etc
- **Energy Economics and Policy** in academic and private sector

Outline

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- The Strange Absence of Energy Security Cooperation
- Raising the Stakes: the New Geopolitics of Energy
- A New Cooperative Paradigm: Energy and Climate Security?

The Varied Faces of Energy Security

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Why does international cooperation on energy security lag behind other – less important – issues?

- **Energy security is ill-defined:** multiple definitions; multiple timelines; poor quantification of costs and benefits

- **Energy security has two incompatible institutional homes:**
  - Security Sector:
    - Problems: supply disruption; national threat; infrastructure risks;
    - Solutions: direct supply control; national defence; force projection
  - Economic sector:
    - Problems: price levels; price volatility; infrastructure costs
    - Solutions: transparency; markets; rules; buffer stocks; diversification

- **Resulting advice to leaders biases against preventative and collaborative approaches – towards state-led, direct control approaches focused on perceived national "interests"**

Is broad cooperation needed on "Traditional" Energy Security Issues?

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- **Access to stable energy producers**: could energy cooperation help stabilise the Middle East, Africa and Russia/ Central Asia?
- **Gas pipeline transit and infrastructure cooperation**: but bilateral deals are making progress.
- **Higher investment rates in energy infrastructure**: mostly driven by domestic investment conditions.
- **Collective hard security issues**: other fora are addressing sea lane protection; supply transparency and cooperation; terrorism vulnerability.

There seems too little benefit from multilateral cooperation on these issues to overcome traditional tensions and national approaches

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The New Geopolitics of Energy

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Energy is at the heart of most serious foreign policy disputes

- Impacts on cooperative management of geopolitical issues: Iran; Sudan; Myanmar; Central Asia
- Destabilising impact of competition for resources: Sudan; Angola; Congo
- Distrust between major consuming nations: China-US; EU-China etc

Failure of major consumers to manage energy issues cooperatively is:

- increasing risks and prices ($10-20 bbl?);
- lowering investment in supply;
- interfering with more vital security cooperation.

Green shoots of cooperation – but it continues to stumble

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- Disputes over NPT and access to nuclear power continue to undermine IAEA and any new nuclear fuel regime.
- Supplier stability being addressed through EITI, multilateral trust funds, improved peace support – but fails to engage new investors?
- War on Terror and AFCOM has increased Chinese and Indian suspicion that they will be excluded from supplies. But some Chinese cooperation in Sudan?
- Lack of common consumer view on energy security seems more important than emphasis on consumer-producer dialogue?

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Climate Security: the magic ingredient for cooperation?

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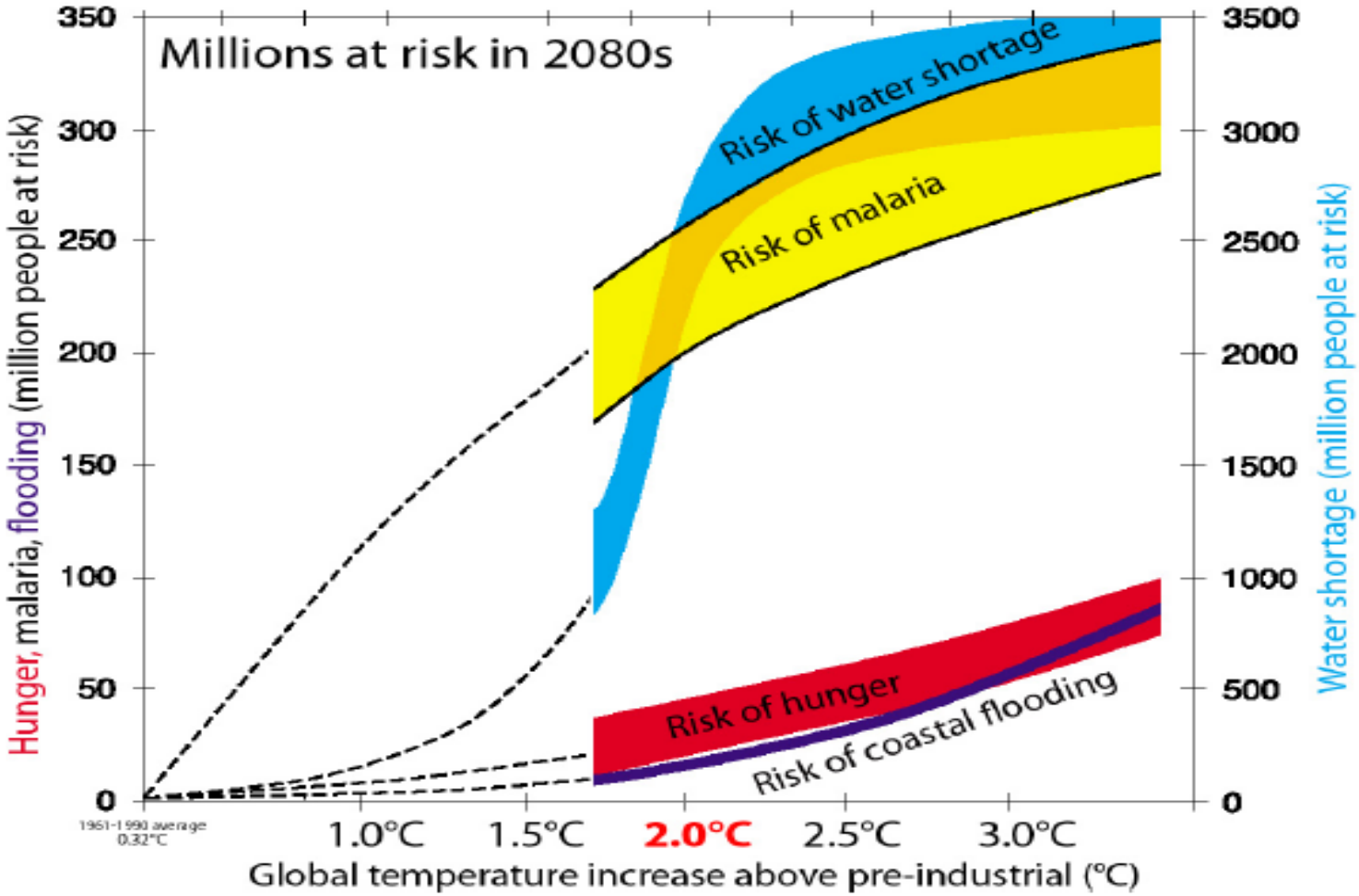
- Stern Review estimates cost of climate change to be between 5-20% of global GDP from 2050
- World Bank estimates that 40% of development aid investment is at risk from climate change
- Humanitarian costs could rise by 200% by 2015
- UN Security Council debate on climate change April 2007
- EU Climate Security Paper March 2008; US National Intelligence Assessment on Climate Change May 2008?

Global temperature rises above 2^{0}C will greatly increase humanitarian risks and impacts on poverty reduction



Source: Vattenfall (2007); IPCC WG II (2007)

Preserving Climate Security: Avoiding Climate Tipping Points

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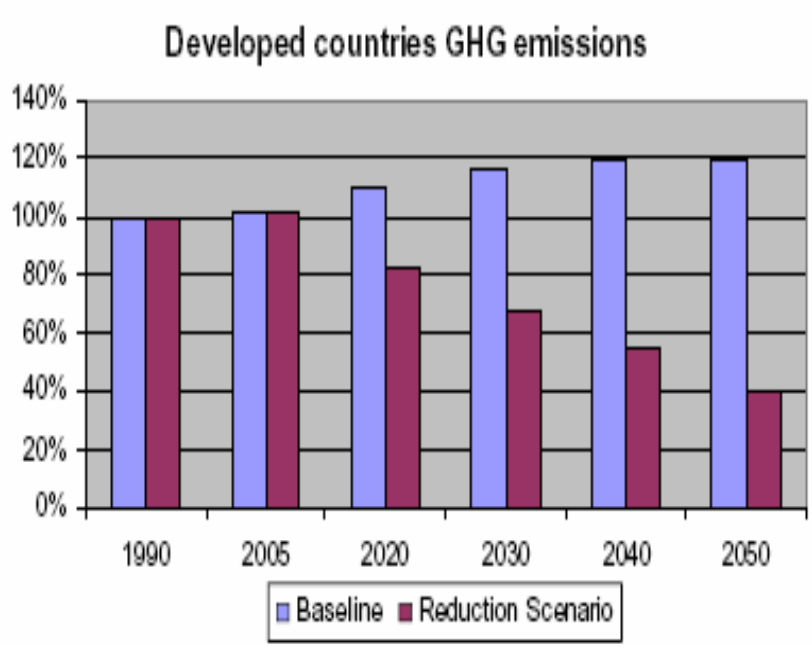
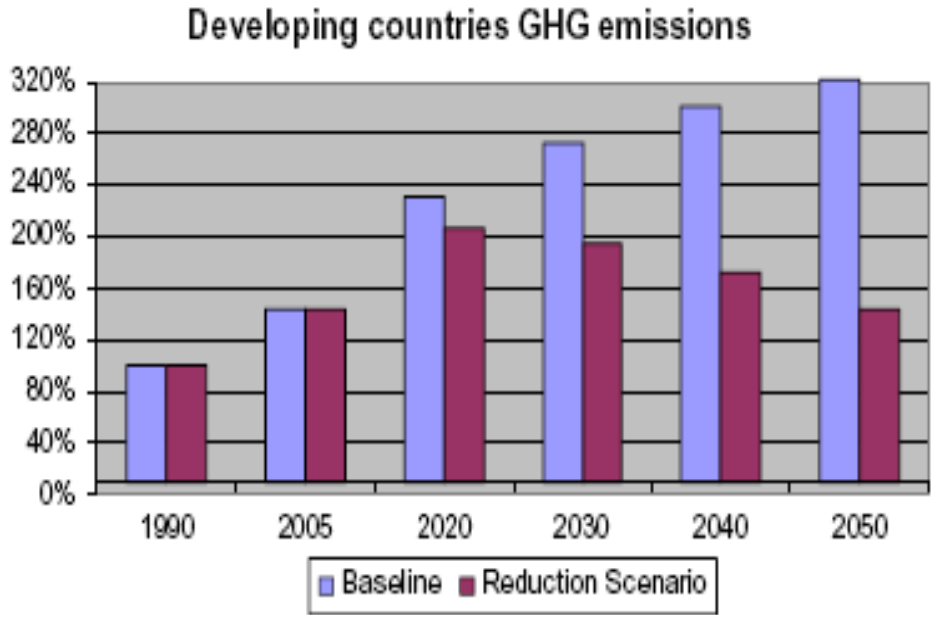
IPCC/Stern analysis did not include many of the most extreme impacts of climate change

- High impact scenarios: Atlantic conveyor slowdown; increased storm activity; monsoon variation;
- Cost of social instability and conflict
- Irreversible impacts (all accelerating): glacial melting; icesheet melting rates; ocean acidification
- Runaway climate change: Amazon forest dieback; tundra melt; release of methane hydrates;

Stern acknowledges he underestimated the cost of climate change. Real issue is how we avoid passing these tipping points

A 2C Future means Developing Countries emissions beginning to fall by 2020





Source: European Commission EPRG January 2007

This very aggressive scenario gives a 50% chance of avoiding a 2C temperature rise

Moving to low carbon energy system is affordable but will change the global landscape

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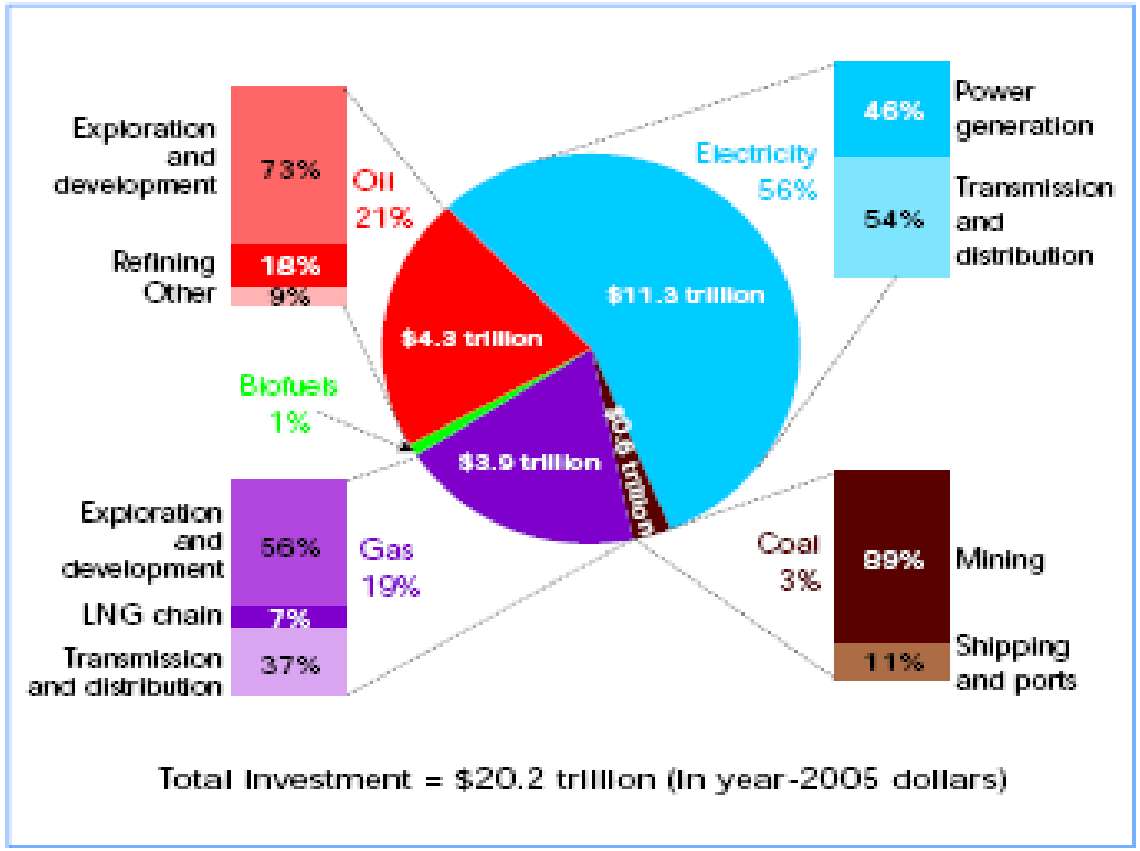
- Stern Review estimates total additional cost of stabilising global temperature rises at 3 degrees is 1% GDP in 2050- falling to 0.1% GDP with $80bbl oil price;
- IEA "Alternative Scenario" consistent with 3 degrees breaks even at $60bbl and $20 t carbon
- IEA scenarios reduce investment needed in energy supply sector by $7-11 trillion over 25 years; much of this in lower pipeline and transmission investment.

Investment shifts from oil, gas and power transportation to efficiency and low carbon energy

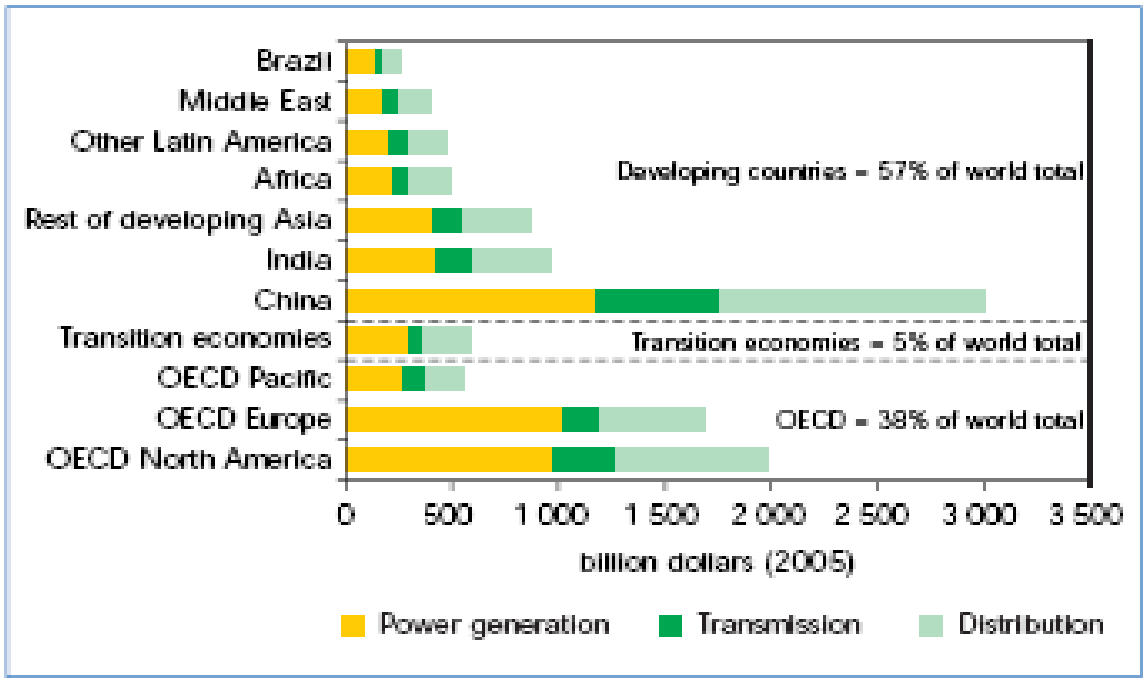
Cumulative Investment in Energy Infrastructure in the Reference Scenario by Fuel and Activity, 2005-2030 (in year-2005 dollars)



Source: IEA, WEO 2006

Investments shifts need in all developed and industrialising countries

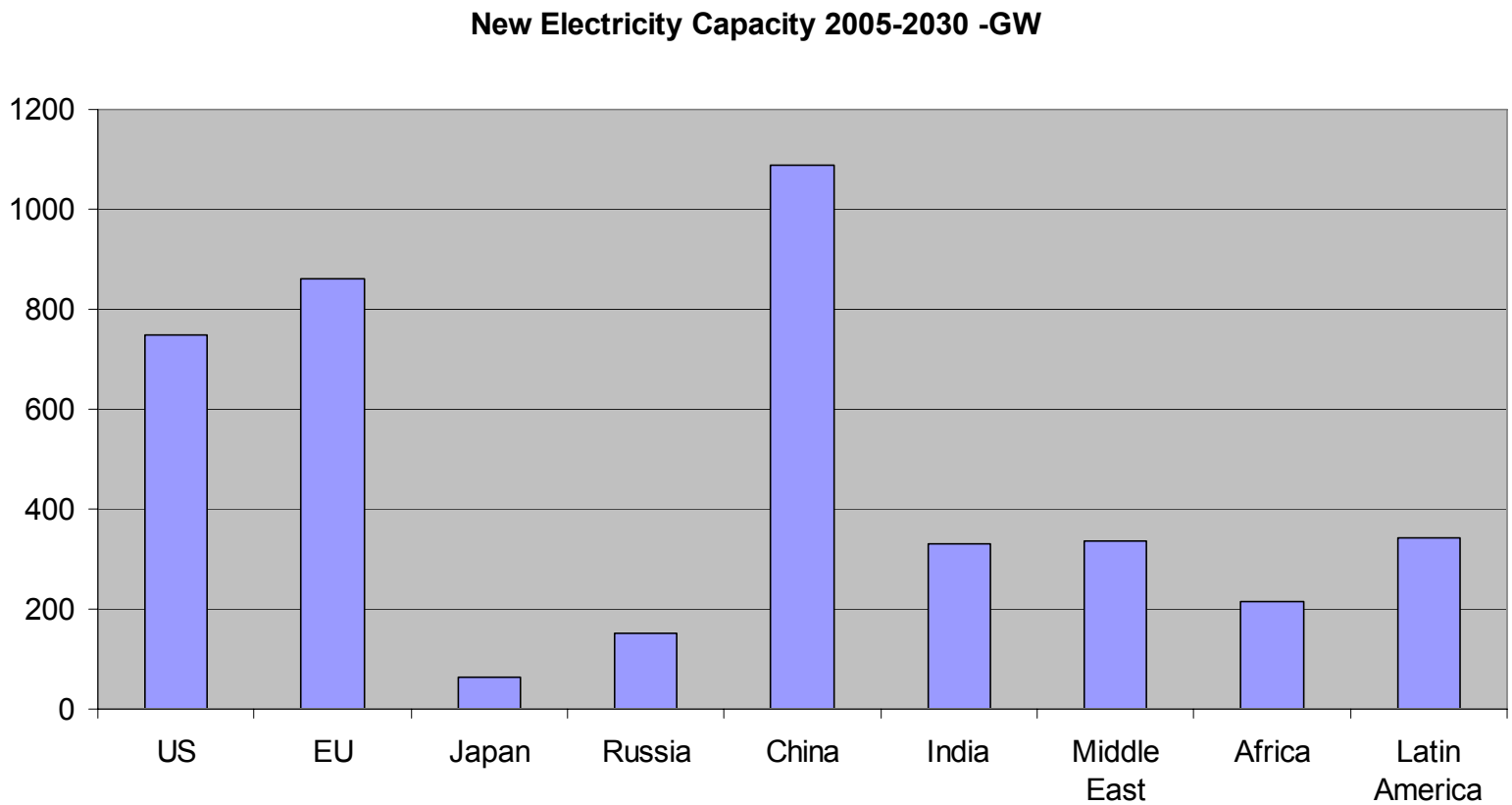
Cumulative Power-Sector Investment by Region in the Reference Scenario, 2005-2030



- **A large part of all the energy investment needed worldwide is in middle-income countries, where demand and production increase most quickly.**
- **China alone needs to invest about $3.7 trillion – 18% of the world total. Russia and other transition economies account for 9% of total world**

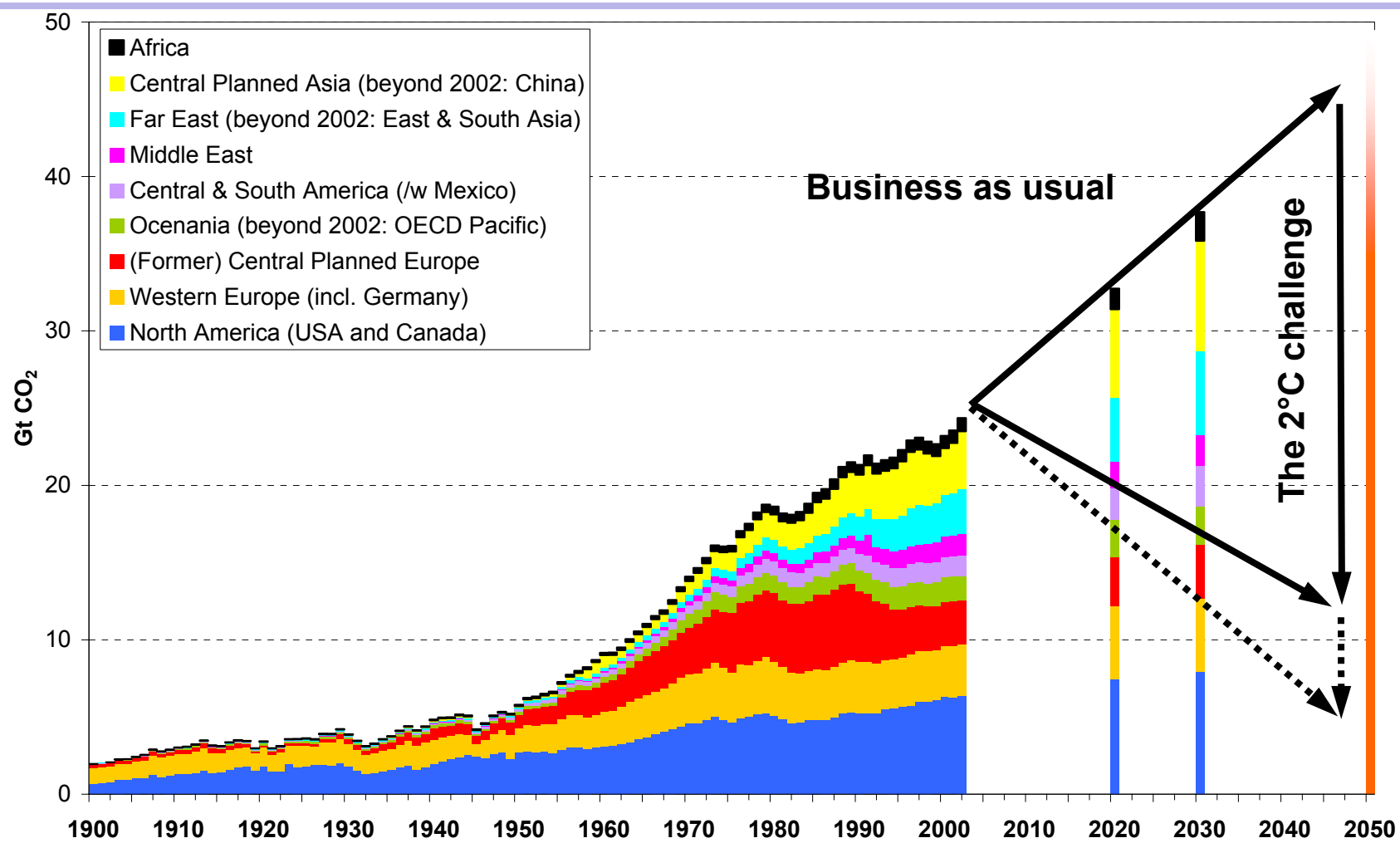
Source: IEA, WEO 2006

Aging infrastructure gives unique opportunity for clean energy investment in Europe and US



Source: IEA, 2006; Euroelectric 2007

Hitting the 2 Degree target will be more expensive and very radical



Shifting to a low carbon economy can increase energy security

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- Radical reductions in energy demand – especially space heating and cooling (-40% in EU gas demand by 2025?)
- New clean domestic sources of energy: EU 20% primary energy from renewables by 2020; plus coal with carbon capture and new nuclear.
- Investment in integrated intelligent grids and demand management
- Transportation revolution: much higher efficiency; new biofuels; plug-in hybrids. E.G. in 2007 European vehicle economy standards saved nearly 1% of EU GDP per year compared to the US.

But only if the politics of energy and climate security work together

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- Trying to generate two public goods- energy and climate security - from the same energy system
- Energy price rises have driven more investment in coal, biofuels and coal-to-liquids than efficiency – and swamp carbon prices
- Political priorities of energy security are driving investment into high carbon solutions using direct policy tools (spending, subsidy, regulation)
- Even Germany is planning up to 40 coal power plants - plus 40% renewables – both subsidised!

Currently the politics of energy security is shaping energy markets far more than the politics of climate change

Three areas needed for Energy and Climate Policy coherence

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- **Clear investment signals**: Both energy and climate security depend on changing energy sector investment patterns, which are mainly delivered though the private sector. This requires coherent, effective and long term investment signals to be sent from the public to the private sector.

- **New Institutional Structures**: few countries have truly integrated strategies for delivering energy and climate security; this results in policy and regulatory incoherence and failure to deliver on strategic outcomes.

- **Political Coherence**: it will not be possible for countries to cooperate at the level needed to deliver climate security, if they still see each other as strategic competitors over energy resources.

Security is Security is Security

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- You cannot achieve energy security by undermining other countries' climate security
- You cannot achieve agreement on climate security without guaranteeing energy security
- There is no military solution to climate security (or energy security?)

Four Areas for Cooperation in 2009/10

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1. From supplier relationships to consumer cooperation
2. Taming King Coal
3. Standards, Trade and Sectors
4. Advanced R&D Cooperation

1. From Supplier Relations to Consumer Cooperation: the slow end of zero-sum politics?

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- Rising importance of climate security will increase the strength of relationships between large energy consumers, and result in a relative decline in relationships with energy producers

- Countries' energy and climate security will become more dependent on the deployment and development of clean technology in large energy consumers, rather than access to reliable supplies of conventional fossil fuels.

- This re-alignment opens up space for new types of international cooperation covering technology, investment, international standards, energy markets and cooperative legal frameworks for managing relationships with key energy producers.

The Mechanics of Consumer Cooperation

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- To meet decarbonisation targets developed world will need to transfer €70-100bn per annum to industrialising countries from 2012.
- Mixture of carbon market transactions, grant and loans
- Chinese firms will decarbonise China but will need more know-how and expertise through liberalisation of foreign investment in low carbon sectors e.g. construction.
- Support for transfers will depend on commitments to act e.g. pricing reforms; governance reforms; meeting sectoral efficiency targets.
- Cooperation on decarbonisation will shift energy interests; EU helps deliver Russian gas exports to China?

2. Taming King Coal

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- Lifetime emissions of global coal power plants planned to 2030 make 2°C future impossible
- Carbon prices and local opposition driving switch to gas in US and EU; energy security concerns driving against this trend
- Without deployment carbon capture and storage technology as standard by 2020 will not to meet CO2 targets in 2030-50
- EU has 10-12 demonstration plants planned; EU-China CCS demonstration; US Futuregen moves to 6 demos?; Australia.

Need to massively increase international cooperation to drive CCS demonstration; move to mandatory CCS by 2020 – retrofit from 2010; new forms of IPR sharing and licensing.

3. Standards, Trade and Sectors

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- Acceleration of international efficiency standard cooperation- EU "Eco-design" directive setting dynamic standards for 18 high energy products. Joint car standards between EU, China and India?

- Low carbon free trade and investment agreements – including Low Carbon Economic Zones. For example, 2007 dispute over EU barriers on efficient light bulbs from China.

- Need to ensure transformation in energy intensive trade products (steel, aluminium etc). Pressure in US and EU to agree sectoral agreements with China etc to manage competitiveness and emissions – or resort to trade barriers.

Climate change will accelerate integration of energy equipment markets and efficient technology diffusion

4. Advanced R&D Cooperation

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- International energy R&D cooperation weak outside fusion
- Competitiveness fears of cooperation with developing countries. Of €1.2 billion FP6 projects with Chinese researchers only €35m went to Chinese researchers.
- Critical areas for collaboration:
  - Thin film solar
  - Advanced biofuels
  - Aviation (Airbus/Boeing) and Shipping
  - Smart distributed, high RE grids – India and EU
  - Adaptation technologies

Cooperation must be accompanied by tailored approach to IPR which recognises public investment and imperative of accelerated global diffusion

Increased Cooperation for Energy Security?

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- Can we cooperate on climate change while increasingly competing for fossil fuel access?

- Cooperative options for major consumers:
  - Greater cooperation on reserve transparency
  - Stability in suppliers – Africa, Central Asia – EITI plus
  - Managing lowering of fossil fuel demand in producing countries
  - Rules for respecting human rights and promoting sustainable development in communities near extractive sites

Accompany climate change agreements with major consumers agreement on traditional energy security issues?

Thank You!

More information at www.E3G.org