



Climate change isn't a stand-alone issue – on the contrary, it will affect almost every other international issue over decades to come. This paper sets out just a few examples of these linkages.

## Energy security

Oil prices have risen rapidly since the turn of the millennium as demand (especially from emerging economies) has soared – in May 2008 the price of oil hit \$135 per barrel, as compared to the 1990s, when they fluctuated between \$14 and \$19 per barrel. Already, increasing energy security concerns are leading to more intense competition for existing supplies. To meet these rapidly increasing levels of global demand, the International Energy Agency estimates that some \$22,000 billion of investment will be needed in energy supply infrastructure over the next 30 years – a little under half of gross world product in 2006.

Climate change and energy security might seem well-aligned given that both seem to point towards a global retreat from fossil fuel dependence. In practice, though, there is no guarantee that they will align: there is a real risk, for instance, that energy security concerns could lead some countries to rely instead on more plentiful coal reserves (which can, with additional processing, be used to power road transport fleets, albeit at greater cost to the climate). The issue of biofuels has also emerged as an illustration of the complex link between climate and energy policy: while some biofuels can be an effective way of reducing emissions, many forms (such as using corn to produce ethanol) are not – and can also have the effect of reducing global food security.

## Food prices

The UN Food and Agriculture Organization's food price index in December 2007 was almost 37 per cent higher than for December 2006, as compared to an increase of only 13 per cent between December 2005 and December 2006. Among the drivers of rising prices are rising demand, more use of crops for biofuels and – in the longer term – tighter supply due to 'scarcity issues' such as energy security, climate change, and competition for land.

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But it is climate change that may become the biggest long-term driver of global food insecurity. While higher average temperatures will have variable short-term impacts on agricultural yields in different parts of the world (broadly negative in tropical zones, broadly positive in temperate zones), the longer-term outlook is likely to be more uniformly negative; extreme weather events and changes in precipitation will also contribute to this trend. The 2007 Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) found that 'climate change alone is estimated to increase the number of undernourished people to between 40 million and 170 million', and a 2007 study by the Center for Global Development found that developing countries would suffer an average 10 to 25 per cent decline in agricultural productivity by the 2080s.

## Water scarcity

Global demand for fresh water has tripled in the last 50 years. As population grows and as per capita consumption levels rise, less is available per person. Already, half a billion people live in countries chronically short of water; by 2050, this is likely to rise to more than 4 billion. Water scarcity is being exacerbated in particular by unsustainable depletion of groundwater stocks, where nearly all of the world's available fresh water is stored: in many countries – Israel, Saudi Arabia, Pakistan, India and China, as well as the US – the amount withdrawn from these aquifers is greater than the annual rate of recharge.

Climate change will heavily exacerbate water scarcity. The findings of the IPCC's 2007 Assessment Report forecast a 'likely' increase in the extent of drought-affected areas and a 'very likely' increase in flood risk from heavy precipitation, as well as a

projected decline in water availability in regions supplied by meltwater from major mountain ranges (where over a sixth of the world's population currently lives).

## Conflict risk

Climate change will also increase the risk of violent conflict, placing additional strain on the UN humanitarian and peacekeeping system at a time when it is already overstretched. A recent International Alert report ('A Climate of Conflict') found that in 46 countries – home to 2.7 billion people – 'the effects of climate change interacting with economic, social and political problems will create a high risk of violent conflict'.

But on the positive side, International Alert also argues that 'peacebuilding and adaptation are effectively the same kind of activity'. In both sorts of activity, we find the same emphasis on dialogue and social engagement, and the same need for inclusiveness and transparency from governments. The same need for integration across issues also applies to conflict early-warning systems, which need to evolve to allow conflict prevention efforts to respond more quickly to weather variability and extreme weather events.

## Trade

The trade agenda is another international issue with extensive links to climate change. One dimension of the issue relates to the need to eliminate environmentally damaging subsidies, especially to fossil fuel projects. But trade reform also has a central role to play in assisting the roll-out of clean technologies. Tariff reform can reduce the barriers to international trade in renewable energy, energy efficiency technologies and so on – a crucial prerequisite for the technology transfer needed to help developing countries reduce their emissions.

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Another area of trade where work will be needed is in intellectual property regimes. Some developed countries are reluctant to transfer clean technology to developing countries without firm guarantees of patent protection, especially since many developing country intellectual property regimes are already weak. On the other hand, we may see the emergence of developing country pressure to be able to manufacture some clean technologies under licence in their own countries, in a manner similar to the manufacture of 'generic' drugs for fighting HIV and other illnesses.

## Development

Perhaps most fundamentally of all, climate change is closely linked with international development. Many aid donors are coming to see climate change as one of the toughest obstacles to meeting the Millennium Development Goals. The effects of a changing climate will hit poor people and poor countries hardest despite the fact that they have contributed least to the problem.

The twin challenges of helping developing countries to adapt to climate change, while bringing them into a global deal on reducing emissions on fair and equitable terms, will be two of the most important international challenges of the 21st century.



The UN Association of the UK is Britain's leading independent policy authority on the UN and a membership organisation which campaigns for a strong, credible and effective United Nations.

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