



E3G

## What does the Security Community need from a Global Climate Regime?

**E3G Briefing<sup>1</sup>, Nick Mabey<sup>2</sup>, November 2009**

*The impacts from climate change on instability and security are already being felt from the Sahel to the Arctic. Even under the most optimistic global greenhouse gas abatement scenarios impacts will continue to worsen for forty years. Without efforts to limit global temperature rises well below 2°C there is a high risk of catastrophic climatic changes in all regions resulting in large-scale instability and conflict.*

*The security community needs to help build a strong, effective and sustainable climate regime which sharply reduces the risk of an unmanageable security environment, and helps manage the unavoidable consequences of climate change.*

### **There is a growing consensus on climate security challenges...**

Security analysis carried out in most major countries generally agrees that climate change will be an important security threat multiplier in the short to medium term. Climate change will impact on a broad range of security issues from state instability to border conflicts and energy and food security. Peaceful management of even moderate climatic changes will require immediate investment in increased resilience in national and international governance systems. Humanitarian, development, diplomatic, security and military agencies are already beginning to respond to these trends through enhanced risk assessment, developing new scenarios to drive capability and contingency planning, and carrying out assessments of facility and equipment resilience to a changed climate.

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<sup>1</sup> E3G is an independent non-profit organisation with a mission to accelerate the transition to sustainable development; see [www.e3g.org](http://www.e3g.org). This briefing is based on a series of workshops and interviews in Europe and the US with experts inside and outside governments. Responsibility for the views in this briefing remains with the author.

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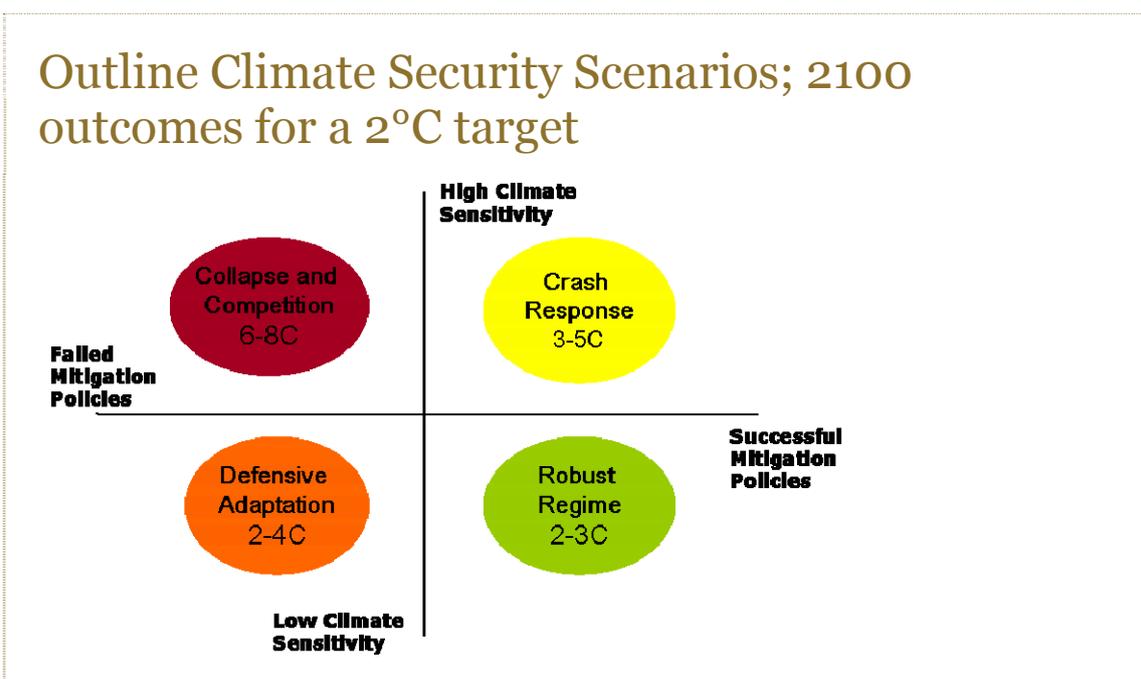
**... But it is mostly based on medium impact scenarios**

Current security assessments are mainly based on mid-range scenarios developed by the International Panel on Climate Change. While useful they do not cover the full range of future climate change risks and do not reflect the most recent research. Therefore, they are not a sound basis for security planning; failing to consider worst-case scenarios is as dangerous for climate change as it is for terrorist attacks.

**High likelihood that “worst case” scenario undermines global security...**

If global abatement efforts underperform, or the sensitivity of climate systems to greenhouse gas emissions is at the higher end of current estimates, then impacts will be far greater and critical climate “tipping points” – such as the breakdown of the Indian Monsoon - are likely to be passed by 2030.

These “worst case scenarios” are not low probability, but largely inevitable under current momentum economic behaviour. As atmospheric concentrations increase there is little uncertainty over whether extreme impacts will occur, only when they will happen. Unless current emission trajectories change the livelihoods of billions of people will be destroyed and major economic damage will impact all countries.



The grid above presents four scenarios looking at different combinations of uncertainty over climate sensitivity (the response level of the climate system to a particular level of greenhouse gas concentrations) and the success of global mitigation policies. The scenarios illustrate the 2100 outcome assuming the current “consensus” scientific target of aiming for a 50:50 chance of achieving 2°C in 2100 (450ppm CO<sub>2</sub> eqv). The temperatures given are global averages, but fragile regions such as Africa will experience rises at least 50% higher. An average global temperature rise of 4°C would make subsistence agriculture unviable in many regions of the world, and have very large economic impacts in industrialised regions<sup>3</sup>.

Even the most optimistic scenario for successful mitigation sees critical limits exceeded under a high climate sensitivity scenario (“Crash Response”). The high level of international cooperation implied by this scenario suggests that there would be coordinated action to both lower emissions and deal with climate change impacts. This is not true in the scenarios where climate mitigation policies – and hence global cooperation – fails and countries fall back on defensive adaptation in the low climate sensitivity case, or aggressive competition for resources in the high sensitivity case.

It is highly unlikely that the current relatively benign global security environment – with largely open trade, travel, investment and declining conflict and poverty levels – would be maintained under the pressures of a high climate sensitivity and low cooperation environment; whatever security interventions are undertaken.

### **...giving security actors a strong stake in a successful climate regime**

Given the security consequences of failing to limit global emissions the security community has a strong and legitimate interest in promoting an effective and sustainable global climate change regime.

While the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol remains the capstone of the global climate regime, a mature regime will also require strong action at other levels. For example, nuclear proliferation agreements need to be strengthened to mitigate negative security impacts of any major increase in global nuclear power build. International and

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<sup>3</sup> See <http://www.metoffice.gov.uk/climatechange/news/latest/tackling-temps.html>

regional cooperation will be needed to ensure resource management treaties on maritime boundaries, fisheries and international rivers are resilient to climate change.

### **The security community can help by “stress testing” the climate regime...**

Unlike other international security regimes on arms control and WMD proliferation, the climate regime has not been subjected to rigorous outside scrutiny over the risk of achieving its goals. While some attention has been paid to the risks of extreme climate scenarios, little consideration has been given to the potential for failure of mitigation policies or possible conditions for the failure of the UN regime itself.

The security community needs to have a climate regime with a high probability of success, or it will need to include extreme scenarios of 5-6 C warming in its forward planning scenarios. Managing these impacts would imply significant changes to current security spending priorities. With its history of systematic “risk management” of serious threats the security community is also well-placed to help “stress test” the international climate regime to analyse whether it is resilient to future environmental, political, policy and technical risks.

A risk management approach implies examining each of the uncertainties around climate change to see where risk of large and irreversible impacts lie, how these risks can be monitored, what is the current strategy to lower these risks, and what is the contingency plan to respond in the event that the “worst case” scenario occurs.

### **... and ensuring that critical elements are adequately addressed**

Initial risk management analysis of climate change<sup>4</sup> suggests the following areas should be prioritised by the security community to ensure issues of uncertainty, learning and thresholds are explicitly dealt with in the climate regime:

- > **Stronger Mitigation Goals:** The most critical security threats in most parts of the world are associated with runaway climate change and crossing

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<sup>4</sup> An outline presentation on the risk management exercise is available at <http://www.e3g.org/programmes/climate-articles/what-the-security-community-needs-from-copenhagen-washington-roundtable/>. A full analytical report will be produced in early 2010.

crucial climate tipping points. Dramatically lowering the possibility of exceeding 3-4°C – the broad threshold estimate for many climate change tipping points – would require a stronger global mitigation target than currently discussed. These give a 50% chance of staying below 2°C but a 30-40% chance of being in the 3-4°C range.

- > **Climate Regime Resilience:** there is significant potential for delivery failure in main planks of current global and national climate change policies; for example, preventing deforestation. High levels of additional cooperative investment in RD&D of low carbon energy technologies would hedge against many of the risks of mitigation failure. The climate regime needs to be resilient to under-delivery as breakdown would delay global action for a decade. Tensions inside the climate regime over country mitigation performance are best dealt with by a strong regime of reporting and transparency so problems can be identified early and countries facilitated back into compliance with their obligations. As in arms control the principle of “trust and verify” is a good foundation for regime sustainability.
- > **Contingency “Crash Mitigation” Programmes:** the most likely response to a higher estimates of climate sensitivity or a major impact event (e.g. major Antarctic sea melting) would be a rapid move to a “crash mitigation” programme, possibly including geoengineering. It is vital to have contingency plans for this including frameworks to control the deployment of geoengineering technologies and ensure safe build out of nuclear power if that is a major response option.
- > **Systematic monitoring of key climate tipping points:** currently there is little systematic monitoring of major climate system tipping points e.g. the North Atlantic Circulation. The IPCC system is too slow and patchy in coverage as it relies heavily on existing academic funding systems and is not driven by decision support needs. There is an urgent need for greater investment of at least \$1.2-4 billion pa to give policy makers early warning of dangerous climate scenarios<sup>5</sup>.
- > **Monitoring and modelling “perfect storm” climate impacts:** current climate change impacts research does not capture the most important near term risks for human and national security. By analysing individual impacts it often misses the compound impacts of climate change

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<sup>5</sup> See Global Climate Observing System, Provisional Cost estimates, UNFCCC SBSTA Submission, Nov 2009

on food supply, energy security, human and animal health and ecosystems, and how they interact in areas of fragile governance and resource mismanagement. There is a need for investment in dynamic risk modelling of “perfect storm” events – for example 2008 on fuel and food prices – to give early warning for humanitarian and preventive interventions.

- > **Increase resilience in international resource management regimes:** peaceful management of resource tensions thrown up by climate change will need stronger international management regimes in order to preserve a rule-based global order. These changes could include reframing resource sharing mechanisms, enhancing international arbitration and improving scientific cooperation. The time to strengthen regimes is now, when the impacts of climate change are still at relatively low levels. This will require actions across a wide range of international, regional and bilateral agreements. In some areas - e.g. transboundary water – international adaptation funding should be conditional on agreement to a climate resilient and equitable management regime.
- > **Improve cooperation on preventive and humanitarian intervention:** climate change will require a major increase in humanitarian and preventive missions by the international community and regional organisations. These will require better coordination, high levels of capability (e.g. civilian lift) and greater investment in preventative approaches to natural disasters. Currently only 5% of the EU humanitarian budget is spent on prevention. Collaborating counties (for example the EU and AU) should begin planning for responses to these high impact scenarios, developing regional scenarios based on a 3-4°C a planning assumption to drive the development of contingency plans and enhanced capability.

**These elements form a clear basis for different parts of the security community to engage constructively with the climate change negotiations and broader international management regimes in the coming years.**