# Chris Huhne MP: The geopolitics of climate change

# (speech to Future Maritime Operations Conference at the Royal United Services Institute)

**Introduction**

Thank you all for coming along today, to listen the second in a series of three speeches.

Last week, I talked about the economics of climate change. Next week, I will look the science of climate change, and the international negotiations.

Today, I want to focus on the geopolitics. Not what causes climate change, or how we might stop it; but what it will mean for our world, and our way of life, if we do not stop temperature rising. In this speech, I will look at the effects of global climate change on food, water, health and security.

**Understanding the risk**

For many people, climate change remains an indistinct threat. It is seen as something that is far-off - and far away. We hear something about polar bears, and long-term temperature trends, and subconsciously discount the threat. Like car crashes or alcoholism, it does not happen to us.

Wrongly, we conclude that if we stop using plastic bags and unplug our phone chargers we’ll be fine.

This kind of thinking is seductive. No wonder; the illusion is a comforting one. It suits the vested interests and their lobbyists who seek to turn doubt into profit. The sceptics who enlist uncertainty in the fight against the scientific consensus.

But indulging this thinking paints us into a dangerous corner.

As a people, we have at best a surface understanding of climate risk. The reality is that the risk is much deeper.

Climate change is a systemic threat. With luck, the UK may well escape the worst physical impacts. But in a connected world, we will be exposed to the global consequences. And they are both alarming and shocking.

**The scenario**

A changing climate will imperil food, water, and energy security. It will affect human health, trade flows, and political stability.

And the resulting pressures will check development, undo progress, and strain international relations.

These risks will not be neatly divided. Different countries will face different challenges. Political solutions will become harder to broker; conflicts more likely. A world where climate change goes unanswered will be more unstable, more unequal, and more violent.

The knock-on effects will not stop at our borders. Climate change will affect our way of life - and the way we order our society. It threatens to rip out the foundations on which our security rests.

Today, I will look at each of those foundations in turn, beginning with the most basic of all: food.

The picture I will paint presupposes two things: that population growth remains steady, and that high carbon emissions result in dangerous climate change - both of which are likely if we do not tackle carbon emissions globally by 2020.

In such a scenario, the coming decades will bring higher temperatures, rising seas, droughts, heat waves, floods, and variable rainfall. Each of these changes will affect our ability to grow the crops we need.

**Food**

Demand for food is predicted to grow by 70% by 2050 [1]. For developed economies, this will mean higher prices; for agrarian economies in the developing world, it could be catastrophic.

Changing temperatures will alter crop distributions - and crop yields. Consider maize. It’s critical to sub-Saharan Africa; it provides more than half the daily calories in Lesotho, Malawi and Zambia. [2]

A recent study of African maize found that each day above 30°C reduced the final yield by 1%. If temperatures were to rise by just one degree - a rise so small you could barely feel it - then 65% of maize-growing areas in Africa would be less productive. [3]

Changing rainfall affects the ability to grow staple crops. Some 96% of all cultivated land in sub-Saharan Africa is rain-fed; the severe drought in the Horn of Africa shows the fragility of these lands when rains fail. Ten million people are facing a severe food crisis.

Desertification will accelerate as temperatures rise and rainfall changes. Two billion people in developing countries, most of them below the poverty line, rely on drylands, which support half the world’s livestock. [4] When life is balanced so precariously, further land degradation can be catastrophic.

Climate change will mean natural disasters will become more frequent, and more intense - damaging harvests. The 2003 European heatwave caused a record loss of 36% crop yield for corn in Italy; and the floods in Pakistan destroyed half a million tonnes of wheat.

According to the World Food Programme, over the past decade, hurricanes have caused an average loss of cultivated land of 10% in the coastal states of Mexico. [5]

These myriad pressures on production not only affect subsistence farmers; they also push up prices. Last year, cereal prices rose by 71%. That has a direct effect on us in developed countries. It also edges vulnerable people ever closer to malnutrition. According to the UN Development Programme, the impacts of climate change could push another 600 million people into malnutrition by 2080. [6]

The impacts will not be equitably distributed. Mozambique has been projected to lose more than a quarter of its agricultural productive capacity, while North America gains at least 3 percent. [7]

The balance between powerful states with money and poor states with land is changing. In 2008, the United Arab Emirates bought 324,000 hectares of farmland in Pakistan; China bought 100,000 hectares in Zimbabwe; South Korea has acquired more than a million hectares in Sudan, Mongolia, Indonesia, and Argentina.[8]

As the Secretary General of NATO said, food scarcity ‘like all the effects of climate change… will hit hardest on the people and countries least able financially and organisationally to cope’ . [9]

In such countries, people are acutely sensitive to cost of living increases. Volatile prices fuel instability. In 2008, cereal prices hit a 30-year peak. Riots broke out from Bangladesh to Egypt. Food inflation contributed to riots and revolutions in North Africa this year.

Even in more resilient countries, supply shocks and price increases will hit the poorest hardest. Like many other countries, the UK imports around 40% of its food. We are dependent on healthy markets to keep our population fed. When prices rise - as they did in 2008 and 2010, following extreme weather events - poorer households end up spending more of their income on food.

**Water**

Closely related to food is water. Climate change is changing the dynamics of water supply; while population change is driving demand.

We are using more water than ever before. When I was born in 1954, the world’s population was 2.7 billion. Now it is 6.9 billion. [10] This growth is extraordinary. We are close to the point at which more human beings will be alive than have ever lived before. And water use is growing twice as quickly as population. [11] The chair of the World Economic Forum’s water security council put it well:

“Take one world already being exhausted by 6 billion people. Find the ingredients to feed another 2 billion people. Add demand for more food, more animal feed and more fuel. Use only the same amount of water the planet has had since creation… Stir very carefully.” [12]

In just fifteen years’ time, 1.8 billion people will live in countries or regions suffering absolute water scarcity: that means not enough clean, accessible water to support lives and livelihoods. [13] A quarter of India’s harvest could be threatened by loss of groundwater.

Tensions over water will threaten internal security. Water politics in the Jordan river basin aggravate Arab-Israeli conflicts. Most alarming is the coming conflict over water between China and India. Together, they represent 36% of the earth’s population. [14] And their major rivers - the Indus, Ganges, Yangtze and Yellow - rise on the Himalayan plateau, and are fed by glaciers. The timing and speed of glacial melt is uncertain, but the direction of travel is not.

Globally, the pattern is a familiar one. Changing climatic conditions and rising populations are putting further stress on unsustainable supplies. Multiplying existing pressures on resources, and creating new ones. And effects that hit hardest in the poorest countries.

**Health**

Let us now turn to health. Vulnerable people will bear the brunt of climate change. It will be the elderly, the young, and the poor who face the greatest risk.

Changing climatic conditions will have a direct effect on health. Many populations are unprepared to deal with rising temperatures and more severe, more frequent heatwaves. The 2003 European heatwave caused 35,000 excess deaths; and over 14,000 in France alone. [15] And in England and Wales more than 2,000 excess deaths were attributed to the heatwave. [16]

The secondary effects are just as lethal. Water problems - floods, droughts, and contamination - increase the risk of disease. Almost 90% of diarrhoeal disease - which kills more than 2 million people a year, often in the poorest parts of the world - is attributable to lack of access to safe water and sanitation. [17]

Climate change will also change the distribution of disease. The World Health Organisation is unequivocal:

‘Some of the largest disease burdens are climate sensitive… undernutrition kills 3.5 million, diarrhoea kills 2.2 million, Malaria kills 900,000, extreme weather events kill 60,000. The WHO estimates that the climate change that has occurred since the 1970s already kills over 140,000 per year.’ [18]

Climate change will affect food, water and health. It will hit the poorest hardest, and the most fragile first.

This is as true of nations as it is of people. The poor are less resilient. They have fewer savings. They find it harder to cope with life’s setbacks, and climate change is multiplying the risk of those setbacks.

**Security**

If we do not tackle climate change, what will this Hobbesian vision mean for our security? The military perspective is instructive. Defence planners do not put much store by sceptics: their job is to identify, understand and prepare for threats.

We cannot be 100% sure that our enemies will attack our country; but we do not hesitate to prepare for the eventuality. The same principle applies to climate change, which a report published by the Ministry of Defence has identified as one of the four critical issues that will affect everyone on the planet over the next 30 years. [19]

Around the world, a military consensus is emerging. Climate change is a ‘threat multiplier’. It will make unstable states more unstable. Poor nations poorer. Inequality more pronounced, and conflict more likely. And the areas of most geopolitical risk are also most at risk of climate change.

The UK’s National Security Strategy concludes that climate change will be ‘a wide-ranging driver of insecurity… exacerbating existing weakness and tensions around the world’. [20] A Ministry of Defence report says that - and I quote - ‘Climate change will amplify existing social, political and resource stresses, shifting the tipping point at which conflict ignites, rather than directly causing it’.

The Pentagon’s Quadrennial Defence Review Report notes that climate change will ‘shape the operating environment, roles, and missions’ that the US military undertakes. And the National Intelligence Council concluded that ‘more than 30 U.S. military installations were already facing elevated levels of risk from rising sea levels’. [21]

When the Pentagon and Greenpeace are on the same page, you know things are getting serious.

Climate change causes several security problems.

First, competition over resources will grow fiercer. Rising demand for finite resources and pressures on trade routes will once again provoke conflicts.

Territorial change will create new disputes. In May, 400 academics concluded that ‘the Arctic is experiencing unprecedented warming due to man induced emissions of global greenhouse gases. Arctic snow and ice are melting much faster than expected.’ [22]

No wonder the Russian Ambassador to NATO said in an interview:

‘The twenty-first century will see a fight for resources, and Russia should not be defeated in this fight … NATO has sensed where the wind comes from. It comes from the North.’

Climate change will not only open up new resources. It will also open up new trade routes - and intensify the pressure on existing ones.

A World Trade Organisation report suggested that climate change could alter patterns of trade: countries which have favourable weather and stores of natural resources will emerge stronger. Newly-found Arctic resources, and newly-opened Arctic trade routes, will improve the trade advantage of countries like Russia and Greenland. [23]

Critical trade infrastructure is at risk from natural disasters, as we saw following the Japanese tsunami. A shortage of parts meant Toyota, Honda and Nissan were all forced to cut production in British factories.

So the first aspect of climate security is to do with trade and resource conflicts.
Natural disasters will also change our military priorities, as humanitarian crises become more frequent and more intense.

Low-lying river deltas, which are at risk from flooding due to rising sea levels brought about by climate change, are home to nearly 300 million people: the Nile, the Mekong, the Ganges and the Rhine are all examples. A fifth of the world’s population live in river basins more likely to be flooded. [24]

In weak and failing states, food and water stress will compound or cause internal security problems.

Picture a map of the world. Picture the areas we’re most concerned about; where poverty, instability, and conflict meet. Parts of the Middle East and North Africa. Pockets of sub-Saharan Africa. Delicate borders on the Asian subcontinent. Now picture the areas where climate change will strike hardest. The overlap is uncanny - and unnerving.

Climate change also threatens the security of our energy supplies.

All energy sources are vulnerable to interruption, but fossil fuel extraction chains are exposed. The 2004-2005 hurricane season - when Ivan, Katrina and Rita struck - destroyed 126 oil and gas platforms, and damaged another 183.

Climate sceptics regularly decry our reliance on rare-earth metals for wind turbine magnets. But the floods in Queensland stopped the coal production which fuels growth in Asia, forcing China and India to seek new imports.

A lot of our energy technologies rely on water: for cooling nuclear reactors to cleaning solar panels. During the European heatwaves in 2003, more than ten French nuclear reactors had to limit their output or shut down thanks to heat and water stress. And in Germany, the Unterweser nuclear power plant cut its power by 90%. [25]

Renewables are exposed to climate change, too. Hydropower needs water flow. Concentrated solar requires clear skies. And all energy technologies are dependent on trade in fuels and parts.

No wonder the UK military takes climate security seriously: we have our own Climate and Energy Security Envoy, Rear Admiral Neil Morisetti. And we work closely with the US Department of Defence on climate change and operational energy security. Germany, which has just taken over Presidency of the UN Security Council, is preparing to devote some of its valuable time to bringing climate back to the top of the global security agenda.

Climate change will amplify insecurity and accelerate instability. It will shape the geopolitics of the future and alter the balance of power between nations; not always as a cause, but always as a contributing factor. So what will that mean for our way of life?

**A more challenging world**

First, we must prepare for the political implications of climate change. What happens when island nations disappear? Dry countries become uninhabitable? The great Deltas waterlogged? Agrarian economies unproductive?

Climate migration is already happening; not short-term displacement following natural disasters, but long-term movements of people away from areas which are becoming less habitable. When ecosystems can no longer support people, they will move.

Faced with changing patterns of migration, the international community cannot simply pull down the shutters. We must have the political will and institutional readiness to cope with greater numbers of people fleeing environmental change.

If we fail to reach a binding global agreement to limit emissions, we will not only have to cope with dangerous climate change; we will also face an extraordinarily difficult set of international relations.

The developed world, the current high emitters: we will be the ones who poisoned the well. That will bring diplomatic and development headaches. What challenges will the post-climate change era bring?

Many countries will be tempted to raise their defences against fleeing people. Barriers that will undermine a liberal world order that has served Britain well.

Second, we will have to contribute more of our own capital to help others cope with - and insulate ourselves from - the worst of climate change.

The UK’s latitude, climate and economy mean that the changes will be less profound here than in sub-Saharan Africa or the Pacific.

But our climate will still change.

We know that climate change made the floods in autumn 2000 - which cost £3.5 billion, and flooded over 10,000 homes - two to three times more likely. We know that climate change made the heatwave in 2003 twice as likely. And we fear that in less than forty years’ time, the summer temperatures that wreaked havoc will be the norm.

Being prepared will mean increasing funding for security and disaster response. Refitting our health infrastructure to cope with a surge in heat related illnesses. Boosting our energy, food and trade security by diversifying our supplies. Changing our land use planning legislation to allow flexibility for farming and reinforce water security. Investing in resilience and adaptation, not just for critical national infrastructure, but across the whole economy.

And not just in Great Britain, either. 200,000 people live in the British Overseas Territories; many islands rely on fishing and tourism. What price relocation and resettlement, if British citizens should find their land disappearing, or their economies crumbling?

**Conclusion**

These are difficult questions. The way we choose to answer them will shape us as a society. Ours is a liberal democracy. We value the rights of the individual. We seek social justice at home, and we promote democratic values abroad. We have built institutions that reflect those values; yet climate change threatens them.

As we know from our own experiences in wartime, the worse the external pressures on our borders, the harder it is to hold to the values and freedoms that define us.

The international negotiations on climate change rest on the principle of ‘common but differentiated responsibility’. Not all countries have contributed to climate change; not all countries have the tools to fight it. But all share a common interest in preventing it.

The obverse is also true. When it comes to climate change, we face common but differentiated risks. Some countries will face more frequent, more extreme weather events; others will face agricultural meltdown, or economic problems.

Bear this inequality in mind when people talk about responsibility for climate change. Britain does not emit much of the world’s carbon dioxide; but nor are our people dying from its effects.

For many of the earth’s citizens, climate change is not a matter of debate: it is a matter of life and death. A world where climate change goes unchallenged will be a Hobbesian world, where life for far more people is ‘nasty, brutish, and short’.

Imagine a state on the brink of dissolution. Fresh water supplies, scant to begin with, are critically low. Crop yields are down. Failing harvests are the norm, not the exception. The country’s staple grain no longer grows well.

Unyielding poverty and inadequate sewerage mean disease tears through towns and cities. Outside the population centres, things are hardly better. Arable land is turning to dust, as the desert claims what was once fertile land.

Desperate people take desperate measures. Instability is now a national problem; soon it will be a regional one. Migrants surge outwards, searching for survival.

This is the nightmare scenario. Yet it is already tragically familiar. We have already seen civil wars compounded by water stress, in Darfur. Regional conflicts fuelled by resources in the Democratic Republic of Congo. Food prices prompting riots in Bangladesh.

Climate change is the force that threatens to unify and magnify these pressures. It will focus and concentrate existing tensions, fracturing states and destroying societies. So far, we have not done enough to stop it. We still have time to mobilise: but that time is rapidly running out. Doing nothing is not an option.

If we have the courage to commit to ambition, the nightmare scenario will be nothing but a bad dream. But no-one should doubt the reality of the nightmare if we do nothing.

Next week, I want to look at how climate science is giving us clearer indication of the deadline for action - and what the prospects are for the international negotiations.

Thank you very much.