

# Minister for the Armed Forces IISS climate change speech

May I begin by thanking Dr Giegrich and Anja Richter for inviting me to speak today. The International Institute for Strategic Studies (IISS) has an excellent reputation worldwide for innovative thinking and excellent research, so I hope I can do it justice.

Although I should caution that towards the end of my speech, I'll get into some of the territory that is steering me towards my brief is less about the procurement and more 'so what' and what are the operational impacts of climate change. So, I hope you'll forgive me if I spend the first half of my speech actually more focused on what climate change means for what we ask Armed Forces to do, rather than how we equip them and decarbonise them.

We are all well acquainted with Dr Giegrich and the IISS's work, particularly on this agenda. I know Dr Giegrich will recollect running a forum for us with internal and external experts to help develop our own strategy on these issues.

I think the recent publication of our Integrated Review marked a significant milestone in our approach to climate change. In it, we recognised that it is not simply an aggravator of existing threats but a geo-strategic threat in itself. A view that is echoed by the World Economic Forum's Global Risks Report which ranks 'climate action failure' as humanity's biggest danger.

So, it goes without saying, that defence departments the world over can better protect their citizens by being both more resilient and more sustainable.

Today I want to reflect more deeply on the nature of this complex, multi-faceted subject and provide greater insight into our thinking. Like so many other areas of Government policy, there are no easy answers here, but I know we can all agree that a shared understanding of the danger is the first step towards finding a solution.

It seems to me that geographically, the dangers of climate change can be subdivided into three distinct areas. First, I'm going to talk about some of the ways that climate change will, or is already, impacting on the environment we operate in and where threats will emerge.

Secondly, I'm going to talk about how this change may lead to increased competition for some scarce resources – with the risks of conflict that entails.

And thirdly, I'm going to talk about how the MoD is adapting our approach – reducing the contribution we make to climate change, making our forces more resilient and helping out our allies and partners.

So, let me begin with those areas where climate change is already having a

marked impact, starting with the High North and the opening up of a northern sea route between the Pacific and the Atlantic.

According to a report by the International Institute for Applied Systems Analysis, current trends show that when the Arctic is fully open, there will be a potential reduction in travel times and fossil fuel costs of more than 40 per cent to maritime shipping. Elsewhere, Oxford University's Future of Arctic Enterprise report states that the Arctic seabed contains about 13 per cent of the world's remaining undiscovered oil, 30 per cent of the undiscovered natural gas and 20 per cent of the undiscovered natural gas liquids.

Now, I'm an enthusiastic 'green', and I wouldn't want anybody to think that I am somehow celebrating the opening up of a Northern Sea Route with the opportunities that brings for fossil fuel extraction. In fact, quite the reverse – I wish that this was not a threat that we had to face.

But my job is to work out what we need to do to keep the UK safe and it is a sad reality that the High North could become a potential flashpoint as a result of climate change.

That poses many questions for us. How do we ensure the High North remains a free passage to be enjoyed by all nations, not just those that happen to have a coastline along that route? And how do we work with NATO and our European allies to maintain peace, security and the international laws of the sea in that part of the world?

Moving away from the Arctic, another key geo-strategic challenge caused by climate change is desertification. In May I had the opportunity to visit countries along the Sahel, including Mali and further along in the lake-Chad Basin, both Nigeria and Cameroon. I saw first-hand the desert's increasing encroachment upon the land, where already scarce natural resources are gradually being swallowed up.

In such places climate change is an aggravator, an exacerbator, of instability. Weak governments have only a tenuous hold on the reins of power, life is hard for many, and a lack of hope can lead some to turn to extremism. And, as desertification gathers pace, more and more people are displaced, creating new mass migration challenges.

Desertification is moving along the lines of longitude, often amplifying regional disputes in areas like eastern Africa where there is an increasingly desperate struggle to access clean water and food. For example, talks are continuing to break down between Egypt, Ethiopia and Sudan regarding the Grand Ethiopian Renaissance Dam due to concerns over the equitable allocation of the Nile's precious waters. As water scarcity worsens these tensions could well increase, underlining the importance of climate-aware stabilisation efforts.

Now, given how many conflicts over the last century have been motivated by competition over access to oil and gas, there may be some who believe that the move away from fossil fuels and towards the electrification of heat and

transport in our economies, more generally, is good news because there is nothing left to fight over. Fingers crossed that will be the case, but the Defence Minister in me refuses to be so optimistic and I suspect that we will find something else that is just as scarce and strategic that we will have reason to compete over instead.

Moving on, I want to just consider food security. According to a research paper commissioned by the Development, Concepts and Doctrine Centre think tank, just eight crops provide 74.2 per cent of the calories eaten by people. Most of the crops are produced in just five main parts of the world. One can only imagine the impact on global stability were one of those key “bread baskets” to fail – from higher food prices to protests, riots and quite probably conflict.

Then there is the worldwide competition for mineral resources. Perhaps the thing that we will find to scrap over a new as we stop prioritising access to oil and gas.

Our 2018 Global Strategic Trends report found demand has been rising sharply over the last century. Between 1900 and 2010 global resource consumption grew from nine to 71 gigatons. Over the same period the amount of material used to sustain one individual showed a corresponding increase from 4.6 to 10.3 tons per person per year.

As the world’s population grows and becomes more prosperous, the demand for products made from mineral resources is also likely to rise.

Increasingly, modern society is dependent on new materials. According to Julieanna Powell-Turner, Professor of Environment Sustainability at Cranfield University, by 2017 scientists had identified approximately 300,000 materials compared with just 12 widely used a century ago.

I’m not about to sing the periodic table song, I am not even sure that I could, but there is indium for LCDs, hafnium for computer chips and power stations, rhodium for X-rays and so on and so forth.

We are already seeing hints of emerging ‘resource nationalism’ as governments of mineral-rich countries toughen legislation and tax reform to maximise profit and limit export of these rare earth minerals.

China, for example, controls the bulk of rare earth metals across the globe and is likely to increase its dominant position in the new energy industries as a consequence.

While more than half the world’s cobalt supply comes from the Democratic Republic of Congo. Cobalt is essential for rechargeable batteries, circuits and microchips. The chances are that the smartphone in your pocket or the tablet on your shelf relies on this “blue gold”. It can’t be healthy to have such an enormous reliance on one country to produce such a precious but indispensable resource.

Exponential demand for rare earths calls for greater cooperation between partners and competitors across the globe. In the coming century, we cannot

afford to repeat the mistakes that occurred over the struggle for oil in the last 100 years.

From a UK perspective, we must have a clear sense of exactly what our sovereign requirements for these sorts of precious metals are going to be and how we can ensure access to them.

Which brings me on to the broader point of how UK Defence can operate successfully within this changing landscape.

We know that as the department responsible for 50 per cent of UK central government emissions, we need to get our own house in order before anything else. Our new Climate Change and Sustainability Strategy, published in March in response to Lt Gen Richard Nugee's excellent review, will help us fight and win in ever more hostile environments. It will help us slash our emissions and it will help the UK meet its net zero emissions target by 2050.

I won't go into the fine details of that document although I can commend it keenly to you, but I will if you will indulge, share some highlights.

We're adapting our technology. One of the questions which has been raised in defence circles is whether or not we will need to sacrifice capabilities in the cause of green defence. We're clear we must protect our capabilities. But, we're also conscious that more unforgiving and hostile environments demand smarter approaches. They require innovation in design, different skills and a new set of expectations.

So, we've been working with the RAND organisation to look into the challenges Defence might face in future. It's found a number of issues that we needed to think more about – from the erosion of infrastructure to the risk to critical supplies like water on deployment. Separately, consultants KBR noted that Defence would need to get much better at using low emissions technologies, additive manufacturing and component recycling. But the shift towards greener tech also presents opportunities to sharpen our cutting edge.

That's why we're fitting Army vehicles with electric power systems that not only make them more sustainable but reduce noise and therefore increase stealth capability. That's why our fifth and final Offshore Patrol Vessel will be one of the most environmentally friendly ships to join the fleet thanks to a urea filter which reduces nitrogen oxide emissions from the diesel generators by around ninety per cent. And that's why we're updating our aviation fuel standards to allow sustainable fuels in the military with the potential to use algae, alcohol and household waste to power military aircraft. Indeed, the RAF has become an enthusiastic contributor to the department for transports jet zero programme.

But we're not just changing our technology. We're ensuring our forces are able to adjust to the shifting environments in which they are likely to find themselves. It means training our people to work effectively in disaster zones. Not least handling the challenge of crossing floodplains or, as we sometimes put it, 'wide wet gaps'. Above all, it means influencing the mindset of all the ranks of our military and all the members of our Whole

Force to regard protection of the environment and protection of the UK as one and the same thing.

We're also using modelling and expertise from elsewhere to build up our understanding of how climate change, security and other threats coalesce.

Significantly, the MOD now has a Climate Change Directorate in Head Office ensuring sustained senior leadership, while my Ministerial colleague Jeremy Quin has that as an important part of his portfolio.

So, we're putting our house in order but we are also acutely aware that some nations need help, not just to reduce their emissions but to deal with the fallout of climate disasters. We have already seen the devastating impact of more frequent extreme weather events around the world – whether it is intense drought, extended heat waves, catastrophic wildfires or devastating flooding.

There is a clear understanding that not only will climate impacts disregard borders but their effects will be unequal. As organisations like the IMCCS (International Military Council on Climate and Security) have pointed out in detail, regions such as the Sahel, Middle East or South Asia will be most severely affected.

According to the International Committee of the Red Cross's landmark report, 'When Rain turns to Dust', it is those countries enduring armed conflict that are disproportionately vulnerable to climate variability. And, as our very own Gen Richard Nugee pointed out, these communities are the ones least able to respond. The result is a vicious cycle in which war leads to environmental destruction which, in turn, leads to greater instability and further devastation of our natural resources.

That's why the UK is maintaining our commitment to disaster relief. We've already shown what we can do. Look at our response to Hurricane Dorian in the Caribbean back in 2019. After the category-9 cyclone tore through the Bahamas, we rapidly dispatched our specialist team of military medics to deliver food, water and clothing to thousands of displaced people.

But we know we're going to have to do more to train our forces to protect UK interests overseas whatever the situation. That means being prepared for more frequent, concurrent, extreme environmental emergencies. And it means having a greater awareness of the potential impact of climate change so that we can take pre-emptive measures.

Ultimately, dealing with the climate crisis is going to require global cooperation.

I'm sure we are all in agreement that none of us can address this threat alone. That's why we are actively supporting multinational and alliance-based approaches whether through the UN or through NATO.

Those alliances are key to our collaborative approach in addressing the implications of a heating planet. Climate change was a central theme of our recent NATO summit with allies agreeing on an action plan to significantly reduce greenhouse gas emissions from military activities while maintaining

personnel safety and operational effectiveness. During the summit, it was also agreed that we would have regular high-level climate and security dialogues.

The UK is a thought leader in this area. And we are proud to be so. But don't just take my word for it. At President Biden's Earth Day Climate Conference, US Defence Secretary Lloyd Austin said that UK Defence is "raising the bar" with our approach. Just last week our Secretary of State set up a climate change and sustainability working with our like-minded allies in the Northern Group of nations.

One thing we are clear about is the need for nations to achieve net zero by the middle of the century. Later this year we will host COP26, during which we will urge all countries to come forward with their long-term strategies for reaching ambitious zero emissions targets. By taking action together to reduce emissions and prevent the worst impacts of climate change, by pursuing options to build resilience and adaptability, we can mitigate risks to our national security at home and abroad. Over the next 30 years, extreme weather events are likely to have far-reaching consequences for nations across the world. Food and water demands will increase while competition for scarce resources will grow. Desertification and flooding will exacerbate migration and increase the likelihood of conflict.

These problems are multi-faceted and have no ready-made solutions. But this is not the first time that the global community has faced seemingly insurmountable problems. Just think back to the emergence of Covid-19 at the beginning of last year. That scale of collective global purpose is clearly what is needed to tackle climate change. Just as the UK has been at the forefront of the fight against a deadly disease, we are more committed than ever to addressing the clear and present danger of climate change. One of our primary aims, as set down in our Integrated Review and the Defence Command Paper that followed it, is to be a force for good in the world. It is impossible for me, or any of my Ministerial colleagues in the MOD, to see how we can be that force for good in the world, how we can tackle the threats that emerge as a consequence of climate change, and threats that are aggravated and accelerated by climate change if we don't first make a point of being on the right side of the argument, and leading in the decarbonisation of our Armed Forces with all the operational advantages that that brings.