

CLIMATE SECURITY: SWOT ANALYSIS UK

specific challenges facing UK attempts to integrate climate considerations into national security policy

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A. Strengths

The UK is potentially in a good place geographically to literally ‘weather’ the climate shock and transition of the coming decades (until the Atlantic Meridional Overturning Circulation (AMOC) changes and then all climate forecasts would need to be revised – a scenario that needs further forecasting data and analysis). However, the UK’s geographically favourable location and its high wealth and central financial sector, and associated capacity for resilience will continue to attract migration.

B Weaknesses - conceptual and procedural

1. **Systems dynamics blind spots.** Climate change is only one of nine planetary boundaries. Although ‘climate change’ is used as a short-hand catch-all for many of the planetary boundary breaches, and is a necessary primary focus as the fastest most achievable measure to address planetary breaches, the Net Zero focus on decarbonization risks overlooking runaway overlapping catalytic and exponential

developments both in each of the other planetary breaches and on the primary focus of Net Zero. Specific physical threats are in Section D. In summary, blind spots include:

a. **Grey rhino non-abiotic multiplier threats** – media and political attention is fixed on abiotic threats (climate disasters); there is not enough attention at political, commercial, or societal level on biotic (living species) threats such as air borne pathogens, algal blooms affecting



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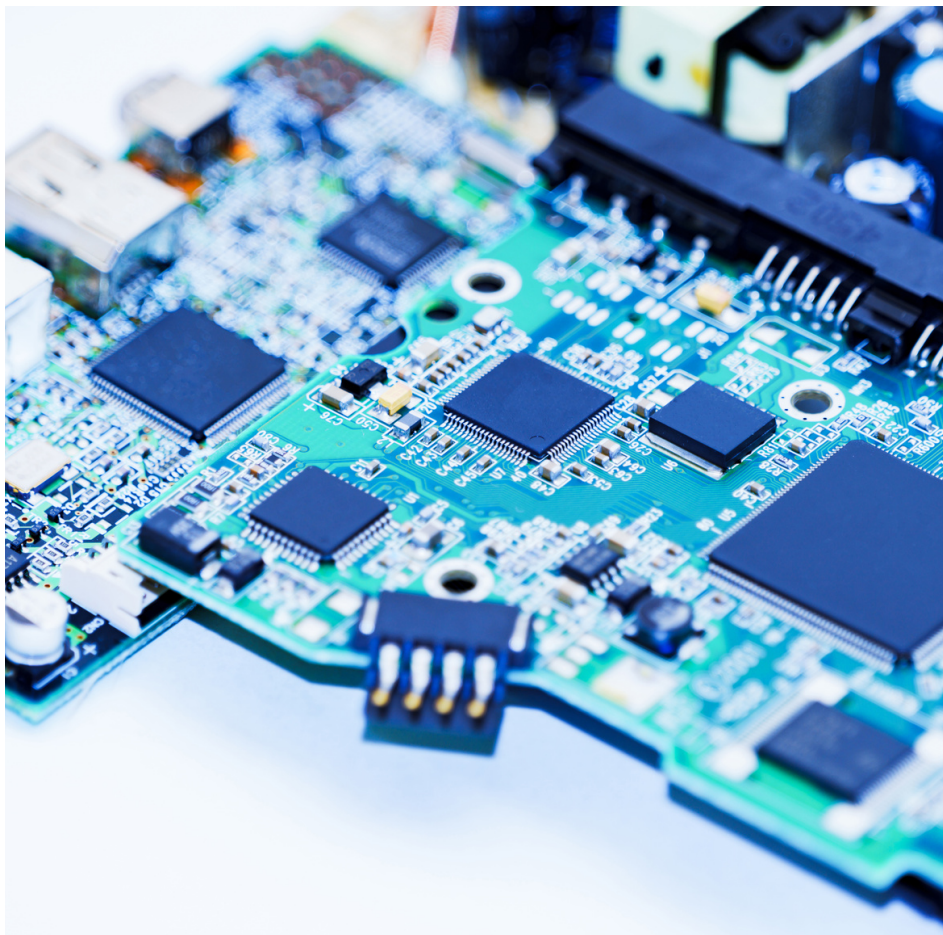
ocean health and traditional sea stocks, fungal growths on crops) under changed abiotic conditions (drought, floods, erratic seasons).

b. **Multiple trigger events** – Artificial intelligence (AI) modelling for earth systems predictability is needed to overlay and analyse multiple triggers including probability yardsticks for worst case, most likely and best case scenarios, e.g. what if massive flooding in Florida overwhelms and collapses the insurance industry, whilst major droughts affect semiconductor production in Taiwan, South American wildfires affect livestock food production, algal blooms and sea parasites affect sea food production, and illegal unreported unregulated fishing (IUUF) clashes with gas drilling off Mozambique.

c. **Exponential drivers** – climate science to date has largely been in siloes – there is an urgent need to understand what the interaction of parts of our rapidly shifting environment are having on each other – e.g. how equilibrium warming and committed warming are affected by rapid aerosol decline; or how sunlight on greying permafrost that no longer has snow is melting faster than expected. These need to be understood long before the completion of IPCC AR7.

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d. **Fundamental paradigms** – Several studies have identified that at the heart of our current economic architecture an anachronism (namely the 'universally attractive' but flawed benchmark of GDP) drives perverse behaviours in unsustainable growth. This will need to be tackled head on if we are to address suicidal planetary growth. UK has a respected leading position in the global financial architecture and should not squander the opportunity that this affords



to lead and accompany the UN in its unenviable task to address this anachronism in the coming 12 months through the Summit for the Future on the UN Common Agenda, and specifically Policy Brief 4 (GDP) and 6 (international financial architecture).

e. **Precautionary principle** – US Climate Special Envoy John Kerry has already highlighted the liability risk of not enacting state responsibility under the precautionary principle of governance, paragraph 14] "If we don't respond adequately, I think we will see an undermining of the common principles around which we have organised our defence and security communities. They will be undermined in ways that will challenge why it is that we have not implemented the precautionary principle of governance, which is that when you see a threat coming and know that there are things that are existential, responsible people are supposed to respond. In much of the world today, there is not an adequate response to the cause, which we understand to be the emissions that come from the burning of fossil fuel in an unabated fashion. The challenge is how we reduce that."

f. **Leverage points** - including by comparative advantage, to ensure we collectively make structural adjustments in our economic system, based on evidence rather than first principles, so that we do not repeat or continue to exacerbate unsustainable economies.

g. **Co-benefits** – there are considerable co-benefits to be had in combining certain solutions and in hastening certain transitions; including:

- co-benefits of natural carbon sequestration by regenerating biodiversity services which also provide distributed economic livelihoods and health returns to communities, thus lowering public health costs and lowering associated contributions to crime and social aggravations; as well as providing greater soil, flood and food resilience through regenerative agriculture, and less supply chain dependence on inputs (eg fertilizers or feedstock) from other countries.
- co-benefits of distributed renewable electricity production by lowering cost, providing regional economic

regeneration, providing feedback tariffs to occupants /owners or cheap / no cost energy to households and businesses, lowering entry costs for new business using energy inputs; providing resilience to smart grid energy provision; reducing air pollution and associated chronic diseases and health costs.

h. Maladaptations. Certain 'solutions'—usually single issue 'silver bullet' solutions—create false positives. They may appear to solve the purported problem, but have few or no distributive co-benefits and can in fact perpetuate structural anachronisms or create greater downstream negatives. The cost of carbon capture and sequestration (CCS) for example needs to be carefully weighed against the cost and co-benefits of alternative natural solutions. CCS can also perpetuate a system of supply dependencies and profit aggregation that has been part of the anachronism underlying wealth inequality.

Recommendation: scale up access to and inclusion of whole-systems scientists and practitioners. Engineers are typically systems oriented, but professional systems researchers are also increasing. Inclusion of climate security systems dynamics professionals in national security analysis would allow security policies to incorporate precautionary principles of governance upstream of potential conflict triggers.

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2. Policy framework limitations - (see 'Advancing the policy spectrum' section of chapter 14, Clack et al eds).

a. Just transition. The just transition might apply more to poorer developing countries, but without recognition, collaboration and leadership by richer developed nations, the ability of poorer nations to manage their own resilience, adaptation, and regeneration is extremely limited under the current economic and financial architecture. Climate litigation is growing steadily year on year and will continue until a just transition negates the grievances leading to litigation. The Earth Commission is the most comprehensive systemic approach to date to manage an orderly transition in a climate threatened world.

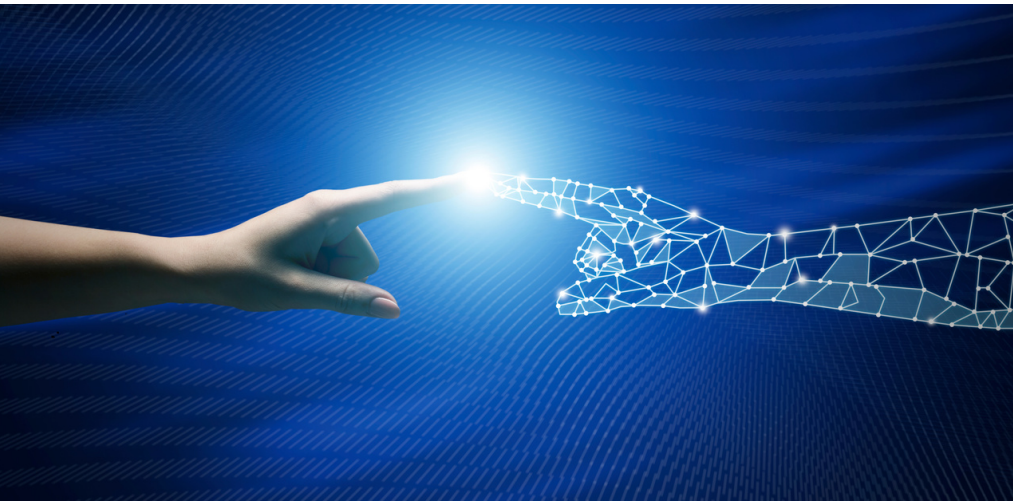
Recommendation: The more countries can coalesce around an orderly transition the lower risks will be to security, stability and prosperity. There is plenty of room yet for

leadership to convene and encourage the G20 in particular around a just and safe transition through science based targets.

b. Regeneration. To date, climate-aware policies predominantly focus on mitigation, adaptation and resilience. These are largely response options but are not geared towards re-building an economic system that can regenerate a sustainable economy, without which security will continuously face challenges of supply disruption, resource scarcity and conflict.

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Recommendation: Policy measures should accelerate the transition to a circular economy, policies that properly price externalities in a system of regenerative capitalism and phase out subsidizing degenerative practices.



3. **Broadening intelligence analysis** into climate/ecological security is in its infancy. The UK MOD Department for Climate Change and Sustainability (CCS) has limited capacity officially assigned to climate security which is insufficient to get involved in all tactical to strategic decision making. What expertise there is across Government is dispersed, incoherent, and largely unknown to decision makers and planners. The Human Security component of Outreach Group (within the Security Force Assistance Brigade) and Specialist Group Military Intelligence (SGMI) are very small. There is little applied understanding by most intelligence officers, staff officers or planners of the weaponization of climate change, ecological breakdown, and their second and third order consequences, such as:

a. **Russian plans** to control Ukrainian lithium deposits in the 'Ukrainian Shield' area of Ukraine (particularly rich in the Donbas). Russia's invasion of Ukraine is not unrelated to the trigger of advancing EU negotiations to partner with Ukraine on critical minerals;

b. **Israeli-Palestinian struggle over gas reserves** control contributing to repeated conflict cycles; conflict acceleration from EU gas transition and contract awards.

c. **Kakhova Reservoir drainage** affecting the ability to cool the Zaphorizhia nuclear power plant but also degrading Ukraine's wheat harvests and exports, consequently affecting world grain prices, civil unrest, forced migration, trafficking, organised crime and private military and security companies' services and dependencies.

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Adelphi's Climate Diplomacy Factbook and the regional security studies conducted by the International Military Centre for Climate and Security (IMCCS), and in due course potentially the NATO Climate and Security Centre of Excellence (CASCOE) are a good start but are not sufficient and not specific to UK security interests.

Recommendation: Government and intelligence agencies need an educational overhaul/upskilling on global climate and ecological security and the systemic intersectionalities with traditional economic and human security. At minimum there needs to be much better understanding of where to find such expertise inside and outside Defence. Ideally a dedicated environmental security team needs to generate 12 month to 12 year scenarios (see next point). The Climate Change Risk Assessment (CCRA) should include a national security tearline, and should be produced more frequently every three years rather than every five (CCRA3 was published in January 2022).

4. **Intermediate forecast gapping** urgently needs to bridge between a 10 day meteorological weather forecast and a 10+ year IPCC climate horizon scan. Global Strategic Trends (GST) for example have underestimated the time horizon, scale, severity, intersectionalities and the exponentiality of overlapping blind spots of what's coming. Nor does GST give actionable recommendations on prevention. Such forecasting needs to be applied now: sea level rise will affect almost all of the UK Defence designated Global Hubs—such as Oman, and the sea port lines of communication serving them — faster than expected. Sea water ingress into diminishing water tables will affect fresh water supplies sooner than sea level will have a significant impact.

5. **Decision support tools** are needed now to assist upskilling analysis and harnessing understanding already in place, e.g.

a. **Commanders' Critical Information Requirements** need to be defined together with subject matter experts to understand triggers, indicators and warnings for weaponisation, and where our own vulnerabilities are being held at risk by adversaries.

b. **The Met Office Climate Security office** can assist with understanding of in year vulnerabilities that weaponization of ecological vulnerabilities combined with worsening climate and weather patterns (eg worsening drought already in UK and mainland Europe).

c. **The EN-Roads simulator** can provide in-depth free scenario planning and development in over 30 policy areas and supply lines on hundreds of factors like energy prices, temperature, air quality, and sea level rise.

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6. **Gender and diversity of perspective.** To prepare for the rapidly increasing climate insecurity needs of the next few years and decade, Government will also need to access not just the received knowledge of traditional scientists and security professionals, but will need to include people who are much more polyvalent. Accessing knowledge on such intersectionalities will need to include many more women, multi-ethnicities, younger generations and people whose lives are actually seriously affected already by climate impacts, the consequences of ecological breakdown, and exacerbated inequities which contribute to crime and extremism. Those with greater diversity of perspective will also need to be encouraged and given the necessary tools, materials, access to decision makers and critical audiences. Work is being done on climate and gender, typically on communities in developing countries, but there are crossovers into UK societies, such as heat domes affecting predominantly older female demographics, pregnant women, those with chronic disease, as well as upping the likelihood of anger and violence.

C. Opportunities

1. Climate security leadership up for grabs.

Former Prime Minister Boris Johnson was the first P5 country premier to raise the international discussion on climate security to the UN Security Council in 2021, helping to establish it as a serious security issue. Climate security has been raised in the Security Council since, but a resolution has remained blocked by Russia and India. The UN Group of Friends on Climate and Security, hosted by Germany keeps the climate security current but further traction is needed, including on the dangers of weaponizing climate change. UK could play a convening role through the UN Group of Friends of Climate and Security. (Potential) partner countries are desperate for assistance in climate security challenges and expressed frustration at the Munich Security Conference, eg 'Francia Márquez, the vice-president of Colombia, said that her country wanted Europe's help tackling the fallout from climate change and protecting the Amazon rainforest. "We don't want to go on discussing who will be the winner or the loser of a war," she said. "We are all losers and, in the end, it is humankind that loses everything."

If the UK, as a global leader, does not regain the lead on global climate security, there are other countries such as India or the People's Republic of China who could take that lead and have much more equity, experience, and also sympathy from other countries.

2. **Climate economics and security leadership.** UK has a pole position as a leader in the financial sector, which it can use to convene and chart a way forward particularly among developed nations, but also among like-minded nations, or those of the Commonwealth, to

- understand the financial system implications of not acting on climate change (ie implementing the precautionary principle of governance)
- cohere around a common pathway of financial and economic reform
- catalyse regenerative capitalism
- lead on climate finance and a just transition based on science based targets.



3. **Security signalling.** The UK defence and security community has the gravitas to play a pivotal role in signaling the severity of climate security with external partners as well as setting demand and tone through its business contracts and standards, and by harnessing employee passion, expertise and advocacy.

a. **Mitigation and supply side decision points.** Globally, we need to better understand the possible very near term implications of the folding of the fossil fuel industry – ie at what point does it become economically unviable to continue with fossil fuel production, especially if subsidies are phased out accelerated by increasing climate disaster (as in Canada) or through climate litigation, or the debt trap of fossil fuel subsidies (as in Nigeria). How do we then transition major security platforms (especially in Defence) to hybrid or electric drivetrains?

b. **Defence engagement climate diplomacy.** How can UK defence engagement better showcase how Defence can be the partner of choice on climate security challenges, using existing expertise?

1) **Ecocide.** Provide more assistance to help Ukraine's President Zelensky with the 8th point of his Peace Plan by helping to evidence, investigate, and in due course prosecute Russia for ecocide.

2) **Loss & Damage.** Work with partner countries infrastructure and crisis management departments to plan and help build resilience for future climate impacts, through UK MODs own CIRAM process. Demonstrate how building such resilience will reduce the human and financial costs of climate disasters.

3) **Protection of the biosphere.** Reinforce success and expand on the model charted by Op CORDED to train anti-poaching, develop intelligence skills, and deliver regenerative security. Work also on interdiction of Illegal Unreported Unregulated Fishing (IUUF, as the US does through Op Jade Spear) to counter serious risk to ocean acidification, global seafood stocks, livelihoods and climate migration – use the recent USA-PRC entente on climate cooperation to further work in counter-IUUF. Work on restoration of coastal sea beds and ocean



farming as means for training diving skills, developing community links, and monitoring littoral areas.

D. Threats – supply, physical, transition, and liability risk.

A much better understanding of specific climate security risks and threats to the UK and its interests are needed beyond those of the 5-yearly CCRA. These risks are increasingly expressed as physical, transition, and liability risks. It is useful to divide these into four areas of the most acute risk areas, namely food security, energy security, water security and forced displacement.

1. **Food Security.** UK food security is exposed essentially to a supply risk in that UK does not independently produce enough of its own food, not least because of the amount of animal feed supplies imported. There may also be some transition risk in moving to regenerative agriculture if this is not properly supported. In addition to better mitigating UK's food security vulnerabilities due to climate change, UK could lead on an international Food Systems Stability Board (akin to the Financial Stability Board) to cohere the various but insufficient efforts to better feed the world sustainably.

2. **Energy Security.** These issues have become front and centre since Russia's invasion of Ukraine, but secondary and tertiary risks seem to be less well understood, such as the transition risks of exacerbating conflict when moving to new contracts with other countries, many of whom are in conflict prone areas of the world. Liability risk through litigation and environmental, sustainability and governance (ESG) ratings also arise with new contracts for fossil fuels, as well as exacerbating climate change.

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3. **Water Security.** A lack of water may seem unlikely in the UK, but drought will affect crop production even in the UK, and flooding is already affecting food production. Sea level rise will make reclaimed East Anglian fens unliveable within several decades and prone to tidal surges unless natural coastal defences are re-instated in time. Drought and floods overseas will also affect food supplies, as well as items such as semi-conductors that rely on high water requirements.

4. Forced Displacement: “The impact of climate change on the world is likely to be vast. In addition to shocks to potential economic activity, there are not insignificant risks that certain parts of the world could become less hospitable or even uninhabitable, leading to much higher numbers of economic migrants or refugees in years to come... As a result, involuntary migration from the most vulnerable parts of the world could pick up sharply, significantly altering the spatial composition of the world’s population. Such scenarios could mean that parts of Africa see their populations shrink, whereas Europe doesn’t. The economic consequences are likely to be profound. Firstly, these scenarios imply changes to demographic assumptions that would alter potential growth rates for many economies around the world. Secondly, huge policy questions arise – from border to integration policies – as well as how best to tackle these challenges on an international scale.”

(HSBC [Climate Change and Migration](#) paper 25 May 2023)



E. Summary Conclusions

1. **Re-establish** climate security leadership on the UN Security Council agenda including [delivering courses of action](#).
2. **Lead** on adoption of climate justice and planning through the transition to the first regenerative and sustainable generation, following [targets guided by science](#).
3. **Address** the systemic underlying anachronism of our global economy – i.e. lean into the UN Common Agenda Summit for the Future 2024 particularly using the UK as a centre of financial prowess to address the revision of GDP in the National System of Accounting ([Policy Brief 4](#)) and a revision of the international financial architecture ([Policy Brief 6](#)).
4. **Occupy** the ultimate vital ground of strategic advantage through [regenerative security](#) – move from reactive response to proactive upstream regeneration, prevention and resilience – move to beneficial feedback loops to get ahead of degenerative risks.
5. **Communicate**, prepare and train – repeatedly. Communicating the desired end-state for others to be able to rally around and to lead people through difficult times will be essential to bring along those who are not yet very far on their own climate change awareness curve.

Additional References

- Bank of England, 2021, Climate change: possible macroeconomic implications, Quarterly Bulletin, Q4, 21 October 2023. <https://www.bankofengland.co.uk/quarterly-bulletin/2022/2022-q4/climate-change-possible-macroeconomic-implications> (accessed 11 December 2023).
- Met Office, Climate Change in the UK. <https://www.metoffice.gov.uk/weather/climate-change/climate-change-in-the-uk> (accessed 11 December 2023).
- Met Office, What is the Atlantic Meridional Overturning Circulation (AMOC)? <https://www.metoffice.gov.uk/weather/learn-about/weather/oceans/amoc> (accessed 11 December 2023).
- Purcell, Cormac et al, 2023. Earth Systems Predictability: How can AI advance planetary stewardship. Trillium Tech. https://static1.squarespace.com/static/612df5bd94220a5373aabc1f/656fcb5b8034273ccf6f239b/1701825414577/ESP_Vision_Spreads_Small.pdf (accessed 11 December 2023).
- Schoonover, Rod et al 2021. The Security Threat That Binds Us. The Council on Strategic Risks. <https://councilonstrategicrisks.org/the-security-threat-that-binds-us/> (accessed 11 December 2023).
- Security Council Report, 2021. The UN Security Council and Climate Change. https://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/climate_security_2021.pdf (accessed 11 December 2023).
- Stockholm Resilience Centre, 2023, Planetary Boundaries. <https://www.stockholmresilience.org/research/planetary-boundaries.html> (accessed 11 December 2023).
- United Nations Our Common Agenda Policy Briefs. <https://www.un.org/en/common-agenda/policy-briefs/> (accessed 11 December 2023).
- University of Notre Dame, Global Adaptation Index (ND-GAIN). <https://gain.nd.edu/our-work/country-index/rankings/> (accessed 11 December 2023).