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On 13 November 2023, the All-Party Parliamentary Group for Climate & Security held its Autumn Dinner in the House of Commons. Attended by parliamentarians, military and crown servants, and representatives from think tanks, corporate, and charitable sectors, the event was hosted by the Rt Hon Philip Dunne MP (Chair of the APPG), Professor Tim Clack (Director of CCIP), and Ms Louise Selisny (APPG Secretariat Coordinator). The opening remarks by the three event speakers, Dr Rebecca Harding (Senior Fellow of the British Foreign Policy Group), Mr Kevin Bourne (Advisory Board Member for Vyzrd), and Professor Mat Paterson (University of Manchester). These have been lightly edited. The Q&A session and subsequent discussions are not reported as they were subject to the Chatham House Rule.

FINANCE, FUTURES, & FAIRNESS

CLIMATE CHANGE & ECONOMIC SECURITY

Speakers: Dr Rebecca Harding, Mr Kevin Bourne, and Prof Mat Paterson

Dr Rebecca Harding opened discussions by setting out the problem. Namely, that despite substantial resources are being directed towards addressing sustainability by public organisations, across industry, and banks (amounting to \$18.4 trillion in 2022 Sustainable AUM according to PwC). However:

- we are unlikely to hit the Paris Agreement targets of 1.5 degrees celsius of warming;
- climate migration and displacement is set to rise dramatically (in 2022 32.6m people around the world were displaced because of climate disasters - 70% of migration from the Horn of Africa alone); and
- climate change is creating socio-economic instability with implications for defence and security around the world.

Dr Harding highlighted trade as a major emitter, with 30% of global CO2 emissions are in international trade, 3% of global CO2 emissions are in shipping alone, and 80% of global CO2 emissions are in a company's supply chain. However, the World Trade Organization (WTO) suggests that trade is also the key to unlocking sustainable and peaceful growth globally.

Unpicking this paradox, Dr Harding went on to suggest that movements towards global climate security will not be successful unless the banks who manage the trade finance that enables global trade are included within response discussions. She argued that sustainable trade is a key part of trade and supply chain resilience, and highlighted how globally only \$1 in every \$5 in international trade is associated with positive contribution to SDGs Matched HS codes to SDGs (equating to \$17tn in trade finance globally).



In short, the global trade banks have the potential to unlock around \$17tn in funding through their trade finance functions. This would be leveraged through trade finance, letters of credit, and working capital. If we can measure what is going through ports, between companies and in trade finance transactions, then we can ascertain where sanctions are being breached, what distance is being travelled, and the carbon footprint of the product as well. Essentially, trade links national security and climate security through measurement.

Dr Harding explained the importance of banks in terms of national security. She demonstrated how banks are central to sanctions and export controls, terrorism, financial crime, and increasingly mitigation against sustainability risks. This, in turn, impacts supply chain resilience, including the relationship to climate and sustainability.

Moving on to specifics, Dr Harding pointed to the capacity for China to restrict trade in critical minerals. She also suggested that a lack of consistency as regards international standards was an issue across banking. Looking at how this situation could be improved, Dr Harding highlighted EU regulatory “super powers” and Basel frameworks being utilized in order to integrate sustainability as well as specific UK green task force and supply chain acts that are pending.

However, Dr Harding also examined why relying increased regulation could be problematic. For example, regulations are designed to prevent systemic financial risk, not ‘existential’, planetary or societal risk. This means they model the capital risks of the past and the near-term future against orthodox financial models.

As such, regulators argue, they cannot regulate for the causes of climate change and therefore do not attempt to de-risk the long-term transition finance that we need to address the challenge. This near-term approach, creates a regulatory paradox: by imposing regulations to address the systemic risks of climate change, they actually make climate change more likely - yet the regulators ask for reporting on climate mitigation and transition measures.

In terms of policy focus, Dr Harding considered the ‘so what’, this dissonance creates in trade and supply chains, namely that it:

- widens the trade finance gap;
- dis-incentivises long term transition;
- creates a risk of green-hushing;
- excludes the ‘social’ aspects of SDGs which militate against transition in emerging economies critical to our supply chains;
- creates disparate reporting and strategic practice in financial institutions; and
- means banks can’t price to incentivise the transition.

If policy is to be effective it has to work with the banks to address this issue and it needs to be global because supply chains are global.

Ending with the implications for the UK’s reputation, Dr Harding suggested that the UK has the opportunity to take a lead on harmonizing regulatory and reporting standards because of the City and dominance of trade finance in the City.

However, this is not an easy path. She stated that emerging economies feel that they are having ESG values imposed on them because of the net zero/environmental perspective – that is, that there is the perception of a ‘values-based’ rather than a ‘rules based’ form of globalization. This may be most problematic across African nations particularly. Dr Harding concluded that new ways of thinking about data collation were needed in order to address these multidimensional challenges.

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Kevin Bourne began his address with his memory of being on the trading floor of HSBC in September 2008. He recalled watching the substantial destruction in economic value and wondering if the UK would ever recover, and how long recovery would take. Mr Bourne went on to highlight how recovery was underpinned by increased, and often complex, regulatory intervention that balanced risk and return.

Moving on to underscore the larger scale and complexity of today’s climate challenges, Mr Bourne defined Climate Change as a, ‘Threat Multiplier’ in both the short term and long term. Indeed, the risk of climate change, rather than climate change itself is already responsible for driving actions by some hostile actors. These actions are often ‘sub-threshold’ and focused on gaining economic advantage versus the UK. This includes the targeted theft of green IP and the weaponisation of ESG reporting.

This threat multiplication effect is the rapidly developing concept of Location Value at Risk and the impact of LVAR™ is already being calculated by an increasing number of financial institutions at the behest of regulators and/or their institutional counterparts.

These institutions are increasingly required to profile Climate Risks to their loan books and capital commitments - from Suppliers to their own Operations and onwards to their Clients.

At the moment, this analysis is predominately based on physical risk over time across multiple chronic, but not extreme, climatological events. The challenges with physical risk modelling centres on the uncertainty of attribution - weather is 10 days, climate is 10 years – Mr Bourne highlighted this gap as a major issue. Mr Bourne also highlighted challenges with Global Mean Surface Temperatures [GmST] calculations for Chronic risks when you include land / sea and night / day adjustments.

Mr Bourne also discussed how climate risk also includes liability and transition risk as well as physical risk and how a composite of these metrics, across the end-to-end enterprise of a country or a company, will increasingly change the calculation of value impacted by location. To model these emerging physical risks, a range of new calculation engines are being provided by an increasing number of climate data companies. At least 25 of these companies are already able to calculate physical climate impairment on a future looking basis to the end of the century.

A much smaller group of climate technology companies are now also beginning to model the total economic impairment of a company over time, using increasingly complex definitions of risk, including physical, liability, and transition inputs, as well as other detailed fundamental, economic, ESG and emissions focused data attributes. Mr Bourne argued that the creation of such composite calculations of corporate impairment being an important future driver of a company's value.

Mr Bourne highlighted a number of key issues disrupting our economic system:

- the use and scale of forward-looking scenarios in risk management & pricing;
- the arrival of tools that calculate composite value impairment across different asset classes; and
- the constant addition of new regulatory obligations in both markets & industry.

From a climate and security perspective, Mr Bourne considered the need to understand what second order impacts might occur from this rapidly expanding technology and regulatory thrust, particularly when Location is a key determinate. If capital is increasingly priced differently (by location) it will have in-country societal impacts.

Mr Bourne also highlighted the need to account for the Cost of Capital or the predicted change in Value of companies & countries – as an example, pointing to people in the UK being unable to insure their homes. Climate migration was also listed as a concern within the framework of climate impacted and impaired economy.

Ending by underscoring the good news of how even in 2008 there were still buyers for bank stocks and mean reversion did occur; Mr Bourne introduced caveat whereby climate risk mean reversion will be over centuries not decades – and how what this will do to the stability of nations and economic growth remains to be seen.



Professor Mat Paterson broadened the discussion out from the specifics of trade and finance to thinking about the economic security issues raised by climate change. Prof Paterson began with an illustration of being at a cross roads, facing an increasingly stark choice.

On the one hand, and in terms of the central economic security issue, is that if global emissions remain on the current path, then we do face an existential risk. We are currently on track for around 2.7°C of overall warming by 2100, if all the commitments in the Paris Agreement are implemented, which look including increasingly doubtful, particularly within in the UK context. Upper estimates of more like 3.5°C, according to the last IPCC reports.

This temperature increase takes us beyond where feedback mechanisms in the climate system will initiate. This is also where IPCC scenarios predict dramatic collapses in various social systems are also likely. Perhaps most obvious is in food systems. Overall, we can say that the likelihood that anything like the current form of global or national economy surviving that outcome is minimal at best. So, failure to decarbonise globally, and to decarbonise rapidly, is probably the single biggest economic security issue the world faces. In short, any of the specific economic security issues we face need to be understood in this larger context.

The flipside of this stark choice however – rapidly transforming societies towards decarbonisation, net zero, etc will also generate massive economic disruption. Eliminating fossil fuels from our economy, transforming cement, steel, plastics manufacture, transforming the food system significantly away from meat-centred diets, will all be hugely disruptive. A recent example that highlights this is the UK's elimination of coal. Huge economic insecurity was created at the early stage of that process for those in the coal industry and those dependent on it – and that was one fossil fuel in one country.

Humanity has never attempted anything like this transition, or even anything close to such rapid transformational change across the entirety of the economic fabric. Those disruptions will be (indeed already are) felt in the daily lives of UK citizens - in transport, housing, cooking and eating – Prof Paterson highlighted current conflicts over heat pumps, ULEZ and Low Traffic Neighbourhoods (LTNs).

He went on to examine the impact on business activities - stranded assets – indeed whole sectors being eliminated by new: business models, investment needs, national economic policy models, and geopolitical relations. Paradoxically, nearly

everyone has a vested interest in not pursuing this transformation, and will find it, at best, distinctly uncomfortable. Finally, however fast we achieve this outcome (if we manage), this transformation will be occurring at the same time as intensifying climate impacts with their own economic security impacts and dilemmas, for example, the air con to deal with higher temperatures problem.

The second point Prof Paterson went on to make was that we need to think about whose economic security we are talking about, and the complexity of the economic security issues involve. A risk for investors in the city of London is very different to an economic risk for someone on low income in a poorly insulated terraced house in Worksop; and even more distinct from the experience of a farmer in Karnataka.

Prof Paterson suggested that the shift to renewable energy and electrification is key to net zero overall and that the pursuit of this can contribute to the UK's overall economic security. We know how to end up with a renewable-dominated electricity system (although there's still some investments to make in the grid to enable this), and benefit, particularly from how windy the UK is. The UK has a very impressive track record in this regard and, political pushback aside, the technical and policy needs would be readily achievable.



However, there are two significant downsides in economic security terms:

- First, transition may generate significant economic insecurity for a number of people in areas that some call 'sacrifice zones' – the sites of extraction for critical minerals necessary for solar, wind, and batteries. Intensified extraction impacts farmland, water sources, etc, thereby undermining economic security. It is important to note here that, on the transport side particularly, the more we can also transition to non-motorised transport, the less we generate inadvertent economic security issues for others.
- Second, transition also simultaneously makes the UK more vulnerable to the dynamics of supply chains in terms of producing the key technologies involved. Renewable energy (RE) transition supply chains are currently dominated by China. 75% of solar pV manufacturing, similar number for electric vehicles (EV) and grid storage batteries. There is also the need for backward integration to control over access to raw materials. Accelerating transition relies of cooperation with China, however, this creates additional economic security risks.

A related issue is within the UK itself. The pursuit of RE and electrification enhances not only the UK's energy security, but has also been widely identified as a source of new investment and employment, for example, Green Industrial Revolution, Green New Deals, etc. However, the same concepts have been identified by many as an economic threat – the costs of EVs and heat pumps have driven the backlash against net zero – in terms of employment, the GMB, for example, has been highly critical of the heat pump transition. There are ways to design policy that can integrate these economic security issues, but existing policy designs, focused on fiscal subsidies, fail to do this.

The third point made by Prof Paterson underscored the need to think about ongoing crises - COVID, inflation, Ukraine. These of course themselves generate considerable economic insecurity. There are three reasons to think about these issues in relation to climate action:

- They are useful analogies for the sorts of disruptions that might happen both as we decarbonise and as we experience intensifying climate impacts - disruption to supply chains – for example, oil and gas, Chinese manufacturing of all sorts, foodstuffs like grain and cooking oil). It's important to note both geopolitical and local impact – eg, the spike in bicycle thefts because of the collapse in new bike supply.
- We tend to think of crises as undermining environmental action, but there is much evidence to demonstrate that this has not been the case with these crises. Project Manchester/Melbourne/Toronto focused on this. Most countries have had landmark climate legislation or other major policy initiatives since COVID. Spending on climate-related activity has increased overall. The anomalies and contradictions, such as new oil and gas licences and LNG infrastructure are overshadowed by largely positive policy shifts. On the whole, the dominant narrative is that doing pro-climate action helps promote economic security - 'freedom fuels' in Germany being a good example.
- Policymakers and analysts (IPCC, CCC) tend to think about decarbonisation in smooth processes (5-year budgets, etc). But if we are to decarbonise in the next 30 years, we can expect perhaps six major crises in that period, apart from climate impacts themselves, – health / pandemic, financial crashes, major wars, etc. So, we should plan responses to such crises.

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