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### **Conference Summary**

# Climate and security trade-offs:

## Transatlantic industrial and trade policies in the green transition

In Partnership with the Center on Global Energy Policy at Columbia University SIPA

7-9 November 2024

### **Conference Summary**

#### **EXECUTIVE SUMMARY**

Held two days after the 2024 US presidential election and three days before COP29 in Baku, this Ditchley conference, organised in intellectual partnership with Columbia University's Center on Global Energy Policy, clarified a series of pressing political and policy decisions that are now inevitable.

What are the trade-offs as climate change and the gathering momentum of the energy transition interact with global strategic competition and geopolitics? These debates are new. Even two years ago, trade and economic security were not part of the climate change conversation and climate change action was not really part of geopolitical analysis.

The result of the election threw the conversation into sharper focus. Would a Trump administration ride both an inexorable rise of renewable energy together with a harder turn towards US self-reliance on shale oil production and increased competition with China? What might this mean for Europe, for the UK, and for emerging economies? Would 'security' be pursued through a search for self-sufficiency and national independence, or was a better answer greater cooperation between countries on trade, clean energy technology supply chains and integrated markets? Discussions explored what a combination of these policies might look like and how they would fit with shifting geopolitical alignments, in a world turning away from neoliberal economics.

Inevitably, there was no consensus on the answers, nor a sense that we fully understood the questions. Nonetheless, we could see opportunities for the energy transition, still in its infancy, to drive trade and to create new markets open to emerging economies, making interconnection rather than isolation the way to support national resilience. These new supply chain connections would have to be built pragmatically and quickly. This is not the time, with President Donald Trump in the White House, and there isn't the time for a gradual reinvention of multilateralism and a new trade architecture. Alongside reporting of the US election were the news headlines about the deadly consequences and public anger over flooding in Valencia in Spain. Responses to climate change and mitigation are becoming ever more urgent.

Our discussions tried to clarify definitions of security to help develop effective policy responses. Traditional national security objectives require actions to deal with the threat of dual use technologies. Economic security has a focus on reducing risky economic dependencies, with national industrial policies, now back in fashion, and trade policy the tools. Climate security requires both mitigating the risks of extreme weather events and increasing national resilience to the impacts (which affect governance, as well as military and strategic capabilities).

We focused on the economic and geopolitical dimensions of climate security, where the dominant issue is how to respond to China. Having steadfastly pursued national industrial policies for the last 15 years, China now dominates the global supply of green energy technology. Should our response be to be more like China in adopting industrial policy to develop our own supply chains? Or should we accept pragmatically that we missed that boat on some technologies, for example solar, and look to compete through developing new clean energy technologies? Do we really want to compete with China on centralised industrial planning? Or are more free market solutions a better bet for democracies? If we want to pursue industrial strategies, then we will need greatly to improve state

capacity to do so. We should focus on unblocking bottlenecks, kickstarting new industries and underpinning long-term growth rather than trying to pick winning companies – as one participant quipped, governments can be very bad at picking winners and losers are very good at finding government support.

In the US, strategic competition with China is a primary national and bipartisan objective which trade and economic policies must serve. In response to the way China has taken advantage of the global trading system, and in pursuing its own national interest, the US is trying to de-risk its supply chains – a trend likely to be reinforced under President Trump. The framing on geopolitics was stark – is the question one of finding stability or of winning? Is the future one of co-existing with China in a stable system, or a zero-sum definition of winning? On stability, there are also challenges to come from supply side shocks, immigration and the finance system. A world that is three degrees warmer is likely to be more inherently unstable, both in terms of the natural world and geopolitics. More work is needed on the knock-on political effects of a heating planet.

The UK, the EU, and economies around the world are caught in the middle. The UK is still attached to multilateral trade rules and is, to a degree, dependent on China. The EU and China have their own deep economic interdependencies. For all countries, negotiating these geopolitical relationships was always going to be a challenge, but now with a second Trump presidency on the horizon the pressures may be even greater. Who will champion the arguments that more trade not less can strengthen the diversity of supply; that integrated markets can support aspects of 'security'; and that both can help drive the goals of the global energy transition? Will we see innovative combinations of national industrial policies with new kinds of international collaboration?

Participants were disappointed at the insufficient sense of urgency about an existential climate crisis that is on its way. Investment in China is slowing and so China might not continue the momentum in the reduction in the price of green technology that it has driven to date. As yet, there is no major industrial power or network of powers that could take its place. Is there any hope for a redesign of allied industrial strategy including trade systems? Can there be a serious offer to the Global South to support African entrepreneurs and investment? Will India come through as a major industrial producer? Can the US and Europe re-industrialise quickly enough to make a difference? Can the world navigate geopolitics to deal with climate change?

It was not all gloom though. There was optimism that whatever energy policies President Trump pursued, the transition to renewable technologies that was underway in the US would continue as it is embedded in companies' strategy, even if the ESG banner was no longer in vogue. President Trump has also allowed himself some environmental and Inflation Reduction Act wriggle room with his focus on "clean air and clean water."

#### CONTEXT AND WHY THIS WAS IMPORTANT

#### A shift in trade and a shift in climate priorities

Two shifts were crucial to the framing of the conference. First was the acceptance that the previous global trade system, with frictionless free trade as its north star, is no longer a system that is functional and must either be reformed or abandoned. For those present from the UK, US and Europe there was an acceptance that trade is a tool that is subordinate to other national objectives: strategic competition with China, industrial policy, and – with President Joe Biden's innovation – action on climate.

The second is an acknowledgement that climate change is now fundamentally part of the story of economic security and trade. This development provides opportunities, as well as areas of contradiction and tension.

#### President Trump's second administration

The day before this conference commenced, former President Trump was re-elected to a second term. This, to the surprise of few, was a mainstay of conversations throughout the conference. However, there was also a sense that the above shifts were enduring, and President Trump's second term was likely to be a continuation of at least some of these deeper trends and tensions over emerging technology between the US and China. There was however some debate on the expected effect of the new administration on climate objectives. One participant highlighted that there was no dip in the deployment of clean energy technologies in President Trump's first term, and that the direction of travel in the development of US green investment had already been set. Participants also highlighted that although anti-climate rhetoric may be ramped up and new oil and gas licences granted, US interest in maintaining the price of oil and gas, as the world's largest gas exporter, would act as a brake on President Trump's 'Drill baby drill' agenda.

#### PEOPLE

This conference convened a transatlantic group, with American participants forming the main constituency, alongside British, French, Spanish, Danish, Japanese, South African and Canadian representation. Participants were selected to represent diverse professional backgrounds, bringing together those with climate expertise alongside the private sector, trade and national security experts.

#### **FULL REPORT**

**Objectives** 

#### **Geopolitics or Climate?**

Despite constituting a starting point for discussion, the question of overarching objective was the primary subject of disagreement. Participants did not reach a clear consensus on whether "winning" at geopolitics or finding the fastest solution to climate change should be the primary policy objective. Perhaps geopolitics and climate impacts are now so intertwined that these objectives can no longer be easily disentangled. The next ten years was described as a 'dangerous decade' in which war would derail any chance of meeting our climate ambitions, so a 'double deterrence' strategy was seen to be critical to deter both the threat of war and a climate catastrophe. There are three connected drivers: the impacts of climate change on populations; the impact of climate change on geopolitical risk (especially in the context of south-north climate migration and east-west fragmentation) and thirdly, a new economic intersection of renewable technology and geopolitics.

#### What is the geopolitical risk and how does it shift our objectives?

Participants were concerned that policy responses that don't exhibit clarity over objectives would not function well. Three distinct risks apply in the context of green technology: national security risks in the traditional sense, prominent in China's dominance of critical mineral supply chains, due to their dual use in both defence and renewable industries. This risk was also seen in the remote access and potential for espionage by data collected by green technologies connected to the Internet of Things, although not unique to renewable technologies. Additionally, it was thought that even if Russia or China had the ability to remotely shut off our domestic solar panels or wind turbines, our deterrence is currently effective enough to prevent this from happening. For example, Russia has had the ability to cause colossal cyber damage, but it hasn't.

The second risks is that of strategic dependency on a single supplier, which is a threat again not unique to renewable technologies. However, these dependencies are seen to be particularly risky,

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as they are connected to critical infrastructure and the supplier leaves us uniquely vulnerable. The perception of this risk varies, with China seen by some as a rational player looking to improve its economic outlook, and as actively adversarial by others.

The third risk is one of economic security, both in the sense of the strategic importance of maintaining an industrial manufacturing base to secure supply chains, and in protecting manufacturing jobs for local populations. The objective of policy should clearly reflect which of these three risks is being addressed.

However, some participants were also concerned with a likely inability to prevent spillovers in outcome of policy. A policy intended to strictly address the economic security concern of over dependence in the EV sector for example, might also have implications for geopolitics. Policy should not be made or deployed in silos (although in practice it often is with unintended consequences).

#### Is our geopolitical objective to win, or to maintain stability?

Participants discussed if the objective of geopolitical dominance over China was one of stability or a zero-sum definition of winning.<sup>1</sup> In policy terms, there was subsequent disagreement over the pursuit of the "mutually assured destruction of economic interdependence" or security in independence, and the trade fragmentation that would follow. Participants questioned what this fragmentation would mean: losing partnership with China where partnership is logical, lack of international cooperation more broadly, and attempts to nearshore or onshore in economically illogical ways were all raised as potential outcomes and clear losses for advancing climate action. Fundamentally, this distinction hinged on participants' risk perception of China.

<u>Risks</u>

#### The national security risk: China - strengths, weaknesses and ambitions

China's overwhelming dominance in the renewables sector, and the West's historic costly blindness to this fact, was recognised by all. China's 15 year-long concerted industrial policy has not only led to a dominance in the market, but a level of technological superiority that would take time for the West to catch up to. It is no longer a case of Western innovation and Chinese IP theft, but genuine technological superiority and procedural speed. Some 77% of the 57 designated critical materials is controlled, in at least one stage of the value chain, by either Russia or China, granting them the ability to deny supply for both defence and the climate transition. Not only is the US competing for critical mineral resources, but also for clean energy technologies, with China currently controlling the supply chain for 84% of solar cells, 77% of battery cells and 91% of electrolyte solutions. A series of bottlenecks also help to maintain Chinese dominance. For example, China alone has the capacity to build new installation vessels for offshore wind, and this can take up to five years to secure. China's dominance of raw materials, manufactured goods and infrastructure for deployment creates a significant challenge, or, as some participants argued, an opportunity.

However, despite its dominance, there were also questions about the durability of the Chinese market. China is relying on its net exports for growth, and these green technology exports require ongoing government subsidy and often perform poorly. Out of 139 EV producers in China, just 19 are profitable, and there are few profitable suppliers of solar cells. How vulnerable is China's dominance in the face of a more precarious Chinese economy? Participants argued that while it may be tempting to benefit from the glut of cheap Chinese technology, China cannot continue to subsidise at this level (in turn presenting another level of vulnerability of over-dependence), especially as we are only 15% of the way through a global energy transition according to the IEA. Western economies will have to manage a way out of over reliance.

<sup>1</sup> Reflecting debates around Matt Pottinger and Mike Gallagher's article in Foreign Affairs 30 May 2024.

Responses to both the strength and weakness of the Chinese position depended on the participants' perception of Chinese ambition. Here, there was a broad spectrum. Some participants argued that China's ambition extends beyond energy dominance to broader geopolitical and economic leadership, and that green energy strategy represents both a domestic transformation and a bid for strategic leverage in global markets. While others argued that China was simply following a logic of economic development and that increasing economic power was an inevitable byproduct. With one participant forecasting a Chinese invasion of Taiwan as early as 2028, the anticipated consequences of this positioning could come sooner than predicted.

#### Policy responses

#### **Middle Powers**

The policy responses available will depend both on the position of government and national objectives. It was thought that the UK, the EU and other democratic, capitalist countries will be caught in the middle. This is already the case: the US is applying increasingly stringent criteria with punitive taxes on EU companies who sail Chinese vessels and want to dock in US ports. If EU companies have projects in the US, they cannot use Chinese controlled components anywhere else in their EU-based operations. Middle powers are still attached to and benefit from multilateral trade rules and are still dependent on China – particularly for our decarbonisation goals.

Who should lead a negotiation in favour of interdependence and multilateralism? The US, under either administration, would not seek leadership, and while both the EU and China would be interested in taking on a leadership role, neither were trusted to do so. The US, with its new administration, may itself be a barrier to integration. It was hoped that either President Trump's tariff regime was an 'escalate to deescalate strategy', or that, with the world being so interdependent already, tariffs wouldn't find real purchase. However, it was feared that may not be the case. The EU also faces a difficult political situation: with the French and German governments both facing domestic political pressure, an unusual burden of leadership is falling to the European Commission, but the Commission does not have authority to speak on many aspects of security. The EU was frustrated at the US, with the IRA sucking away investment from an already floundering economy. Allowing China to lead these negotiations exposes parties to the risks outlined above. With all the major players disqualified, could India, which arguably has the most to lose from an East-West fracture, potentially play a role? Other middle powers, including the UK, Australia, New Zealand, Canada, Japan or Singapore were also considered. Could a grouping of middle powers get buy-in from developing countries that depend on an interdependent trade system? Brazil, Mexico, Kenya, etc would all lose out from a fragmented world. It was also thought that the developing economies in which China has invested could leverage their relationship to ensure continued Chinese engagement.

#### **Developing Economies**

Developing economies were seen to be frustrated with the existing multilateral financial system. Despite benefits from an integrated global economy, it was thought a turn towards a Chinese-dominated axis would not be surprising, despite lack of investment that goes beyond 'assembly sites' into these economies. Frustration with the global economy was thought to be rooted in refusal to compensate developing economies for the costs of carbon intensive sectors and continued blocking of investment into fossil fuel projects (despite continued domestic investment), in addition to massive debt overhang. A three-tiered obligations agreement was suggested. Low-income countries should have no exclusions on the ability to have a gas-rich transition, where economic growth should be the priority. Those in the middle should not be pressured to move from coal to renewables without solving the problem of intermittency and scaled storage (though the lack of this ability was later challenged). The final tier, consisting of high-income countries, should be showcasing

technological improvements, and once their efficacy has been proven, implementing them elsewhere.

#### **Industrial strategy**

Even with a commitment to maintain an integrated global economy, there was consensus that industrial strategies had to be designed to manage China's monopolistic dominance of the technologies critical for the green transition. Several aspects to this industrial strategy were seen to be crucial.

<u>As part of a broader package:</u> Industrial strategy was seen also to require countering strategic market manipulations and economic coercion, domestic import standards based on environmental and labour values, cohesion with allies, strategic stockpiling and building redundant infrastructure that could be spun up as needed.

<u>Bigger yard, lower fence: maintaining industrial competency:</u> Participants argued that competing with China's manufacturing sector dominance was not necessarily the goal. What was more important, was to identify the sectors that required some level of competency to be maintained, both in terms of skills and manufacturing capacity. This would allow a 'scaling up' if a supply shock were to hit. This was seen to be in addition to a 'small yard, high fence' strategy. One attendee reiterated an idea to have blacklists and whitelists about what to take back, and to set sector-by-sector goals for percentages of supply chains to reclaim. However, there was no consensus over where competency was strong. Successes of scaled-up manufacturing were identified, for example Tesla, Space X, fracking, LNG, and the semi-conductor industry, but these were seen to be exceptions, not the norm.

<u>Politically deliverable industrial strategy:</u> As well as serving international policy, domestic politics also had to be considered. Participants outlined six considerations to identify an industrial strategy that maintained political buy-in for a green transition: size of the future domestic market, size of the future global market, ability to leverage legacy skills, promotion of supply chain resilience among friends and allies, impact on decarbonisation plan, and provision of jobs that will improve support for the transition. Industrial strategy has to deliver for economically deprived regions and for the green transition.

<u>Public/private sector partnerships:</u> Participants agreed that public/private partnerships had not reached their potential. Governments were seen to lack detailed industrial knowledge and structures for communication. Partnerships were required to be long term, beyond single political cycles, and open about their complexity. It seemed there were many questions and ample work to be done on how governments should absorb, share and communicate risks. Should governments focus on regulatory systems, sectors, individual 'champions', or bottlenecks? How can companies better empathise with the restrictions of government? Relationships in the UK between the public and private sector, despite recent efforts, were seen to be lacking.

<u>Investment in infrastructure:</u> Understanding how we build and finance the expansion of the electric grid was seen to be crucial, as were the local content requirements for the components. Overall, participants argued that we have been 'free riding' on an infrastructure subsidy from our grandparents' generation, and upgrades were necessary.

<u>National specialisms</u>: Participants discussed the possibility of prioritising national specialisms in the context of transatlantic or allied industrial strategies. Do Western economies have advantages in sectors such as aviation, or other sectors where tight regulation is crucial and well developed?

#### Trade

Policy options for reducing global fragmentation were discussed. Reform of the trade system could be a key driver in increasing cooperation. Under the Villars framework, the World Trade Organisation (WTO) could be reformed to reinforce, not undermine, commitments to climate change, put forward sustainability standards that are not unilaterally asserted, promote a revised approach to subsidies which puts sustainability at its centre, and a recognition that countries come from different starting points. It was thought that it was easier to fix the WTO than start an institution from scratch.

The EU's Carbon Border Adjustment Mechanism (CBAM) also sparked debate. While it effectively addresses carbon leakage, critics highlighted its disproportionate impact on developing economies. For South Africa, where 20% of exports are bound for the EU, and 10% of these are exposed to the tariff (a figure that could grow if the scope were to be expanded to include indirect emissions), participants were genuinely concerned about effects on export markets. Procedural concerns were also raised, with CBAM seen as inconsistent with WTO principles and disregarding the varying pace of global energy transitions. Fundamentally, however, it was agreed that the EU CBAM was here to stay, no matter the risks to economic fragmentation, and it was already having a significant impact on China's manufacturing practices.

CBAMs also present a further risk. Given their vulnerability to CBAMs and the West's responsibility for historic emissions, why would India, or an equivalent economy, not create a CBAM based on historic emissions? How could we prevent steps such as these that could create a spiral of economic fragmentation?

#### **Contradiction**

As the conference discussed long-term plans to diversify green technology supply chains, clean-up efforts were taking place in Valencia, Castilla La-Mancha and Andalusia following flooding that caused the deaths of 226 people, making it one of the deadliest natural disasters in Spanish history. This is but one example of the impacts of climate change, and the mud pelted at the king and queen of Spain in the aftermath of this flooding point to the effects on populations and how quickly such catastrophes can lead to challenges to governing authority. Climate is an acute and existential threat, yet our plans are being laid over five-to-ten-year horizons.

For the middle portion of the conference, participants split into three working groups to discuss these issues in more detail. The groups considered the geopolitical risk, existing trade mechanisms and industrial strategies in the context of private sector investment.

#### Managing geopolitical risk in strategic competition over green technology and trade

On geopolitics, three dilemmas were considered: a dilemma between winning at all costs and stability; where to draw the line between interdependence and independence; and how to balance domestic and international policy. A main point of debate was the prioritisation of either climate policy or geopolitical security, but this was determined to be a false dichotomy. One participant predicted a bifurcated world, with those who can cope (those in the developed world with stable governments that can coordinate adaptation), and those who cannot. Those who cannot cope have no choice but to migrate, and the developed world will deploy ever harsher measures – "guns and walls" - to secure borders. If we accept the inevitability of climate change, this is the future we must face. Economic and geostrategic policies have to pursue a non-bifurcated world. However, trade-offs are inevitable. We are not willing to trade a liberal world order and economic sovereignty for a solution to climate change, nor are we willing to bankrupt ourselves in the process.

Participants discussed potential policy responses. There were thought to be lessons from Russia's 2022 invasion of Ukraine on the balance between independence and interdependence. In the 30 years prior to the invasion, Germany benefited hugely from cheap Russian gas and managed the shock of invasion well. The lesson for adoption of Chinese renewable technologies, therefore, would be to 'let it roll', alongside building in insurance, in the form of strategic stockpiling or building redundant infrastructure that could be scaled up. It was noted that LNG terminals took just 200 days to build in the aftermath of Russia's invasion, in comparison to the expected multi-year timelines. It was thought that we have tended to rely on crisis to act, but while the crisis is chronic rather than acute, we should build up our 'insurance'.

Participants also considered a 'blue', as opposed to a 'green' approach, in light of President Trump's re-election: building gas into the green transition, with the option of CCUS in mind. However, whether these investments are a transitionary crutch or an impediment to a greener economy was contested, especially as infrastructure for gas, although costly, competes with rising investments in renewables.

Other energy sources were also considered. Despite its potential for consistent, low-carbon energy, nuclear power faces bureaucratic delays, high upfront costs, and public scepticism (primarily in Austria and Germany) that have kept nuclear out of major green agendas. China's rapid nuclear expansion contrasts sharply with Western inertia, especially in the deployment of small modular reactors, highlighting a lost capacity to deliver large-scale nuclear projects quickly.

The challenge of scaling a skilled workforce for the energy transition was also considered. While Western countries have leading universities, a reluctance to open borders to international talent amid geopolitical concerns and rising domestic pressures stalls progress. Post-Brexit Britain, dependent on international students, faces a crossroads between allowing this talent to flourish and restricting key sectors to mitigate foreign influence. As competition grows, a proactive approach to "friendshoring" and fostering partnerships could provide critical labour for the transition, but national policies often remain reactive to domestic political pressures on immigration.

#### **Climate and trade mechanisms**

Participants began their discussion of the ways trade might further the energy transition and action on climate change by acknowledging the case for WTO reform. The current application of a rigid definition of 'consensus rules' that enable vetoes slows progress. However, it was also recognised that informal and plurilateral approaches outside the WTO framework that were subsequently incorporated has been an enduring feature of the WTO process, providing space for new policy. Notable agreements, like the Agreement on Climate Change, Trade, and Sustainability (ACCTS), demonstrate how smaller groups can create impact. The challenge remains in leveraging these pathways to make meaningful reforms within the broader trade system, ensuring that climatefocused measures integrate seamlessly into WTO frameworks, with COP a potential space for this discussion.

Surprisingly for some, a US version of CBAM was thought to be a possibility and there was speculation that, over time, the various CBAMs in operation could eventually align. At present, the EU's CBAM was seen by US participants as too unilateral and too rigid, especially in relation to the 'unfair' impact of compliance criteria on developing nations. A US version might be structured on a performance-based approach, which would not use CBAM language but could be more likely framed as a "Foreign Polluters Fee," with a focus on outcomes rather than pricing. Despite differences, collaboration between the US and EU was thought possible and could even help push global efforts and incentives for greater interoperability between the 75 different CBAM mechanisms currently in place around the world, covering around 24% of global emissions. A move towards better interoperability or rough

compatibility means work on standards, subsidies and border issues. Developing nations could turn their structural advantages, such as lower greenhouse gas emissions or abundant renewable resources, into competitive strengths. For instance, African solar power, seen as 'super abundant', holds potential for hydrogen production, illustrating how tailored support could help emerging markets integrate into global markets. For example, the EU could provide an option to buy credits or pay the CBAM charge.

Effective data management was seen as a means to enhance trade systems that also support climate goals. It was suggested that existing data systems, like those used for customs controls, could be adapted for environmental reporting and supply chain tracking. Innovations such as third-party data collection and auditing companies, which aim to take the burden of emissions reporting from companies, already exist. The hope was that over time a more unified and interoperable system for carbon accounting – spanning corporate disclosures, carbon credits, and supply chains – could align trade with climate objectives and integrate developing markets.

There was debate about the risks of a fragmented global trade system, driven by geopolitical competition or protectionist policies, and increased isolationism, driven by an East-West divide, rather than a North-South split. There were risks: US withdrawal from the WTO could lead to its eventual collapse. However, even without the WTO, some argued that trade and commerce would persist through existing trade mechanisms, and it was thought that China would accept WTO reform and recognise their disproportionate advantage over recent years. Overall, the view was that a retreat to protectionism and domestic production would harm global efforts to address climate breakdown. Security was not seen to be synonymous with independence; instead, greater trade drives diversification and resilience, effectively more trade not less.

Finally, there was a discussion of the risks of global concentrations of economic and technical power, which are not tolerated in domestic markets as they pose risks not only for green technologies but across all sectors, including cybersecurity. Could there be an international equivalent of the UK's Competition and Markets Authority?

#### Navigating industrial strategies and private sector investment

In the final working group, there was consensus around one attendee's list of the private sector's requirements from government. These were: remove bottlenecks, kickstarting, underpinning long-term operations, sharing risk, and having government as a strong partner. Government picking winners was not seen to be useful, but providing a meaningful and sustainable framework for co-operation based on these principles and supporting infrastructure and skills build-outs would be.

Some bottlenecks were seen to be so significant that they deserved categories in and of themselves. Reskilling and cutting red tape around FDI were seen to be simpler fixes. However, structural changes were needed also, with the Civil Service the main body in need of reform. Current incentive structures mean any significant decisions are passed up to ministers and therefore happen too slowly. The Civil Service also suffers from slow adaptation of technological advances and low risk appetites. Its execution capacity was also seen to be an issue. In this regard, the US Civil Service was seen to perform better. Participants acknowledged the corruption risk of a revolving door between private sector and Civil Service that exists in the US context but felt that this was 'tolerable' given the better outcomes. Attendees also felt that companies want protection from geopolitical volatility, but it was unclear how this would be achieved.

On the other side, there are three things the government wants from the private sector: stakeholder capitalism, clear priorities, and companies to engage in the public debate. These were all controversial. After some debate, it was agreed that this is just an unenforceable list of ideas.

Representatives of the private sector took issue with the notion that companies need to engage in the public debate, saying they needed guidance on how to engage. Specifically, they require support with navigating the politicisation of issues and protection from volatility. Businesses that are tied to China will be impacted if they are too vocal and it is unrealistic for the government to ask companies to stick their heads above the parapet. Some thought that the incoming US administration would prioritise profit over any of these suggestions, making the question of who will create this guidance irrelevant. Some pointed to the Danish model of trust-building councils as the "secret sauce" of working behind the scenes to get continuity between governments and opposition, although some felt that this was anti-democratic. Too much coordination could also run afoul of anti-trust legislation. Americans highlighted Operation Warp Speed as a positive example of striking this balance. Additionally, not everyone in the private sector has the capacity to liaise with government, with start-ups lacking capacity. The onus should therefore be on government to reach out.

Attendees were also concerned that there exists no international forum to discuss these issues. Most felt that the G7 or the G20 would be the most appropriate venue, given their work on divvying up supply chains. The pessimists in the room felt that this was futile anyway, as China is 'low balling the market element by element'. Even with coordination, this will be difficult to counter. Do QUAD/AUKUS have a potential climate/business/trade/industrial strategy role?

Conversely, others offered inspiring examples of public-private cooperation which had common features. These included: CFDs, Tesla, SpaceX, The Advance Reactor Administration Programme, Cornish Lithium, and Operation Warp Speed. The five common features to all of these are: offtake stabilisation, revenue certainty, derisking, liability shields and non-interference. Attendees also floated ideas of other things that could work, such as 'Critical Minerals Bonds' on the model of Green Bonds, and startups with IP as collateral (allowing startups to collateral their IP to run-up debt). In terms of failures, Americans pointed to the Department of Energy Loan Programs Office, plagued by policy uncertainty. This raises 'The Democracy Question' – if policies are contingent on government continuity, then they are flawed. Some attendees pushed back, arguing that partnership is a two-way street, and the private sector always shares the blame when this fails.

There are lessons to be learnt by contrasting success and failures. Why did the LPO fail, and the CHIPS Act succeed? The US was seen to be successful when there is national security risk involved, facilitating speed and cross-agency engagement. Where the NSC co-ordinates this in the US, Britain is siloed: the Foreign Office has one view, the Treasury has another, and the Cabinet Office is out of touch with government departments *and* the private sector.

The conference ended in recognising that, according to IEA estimates, the world is only 15% of the way through the energy transition. The choices made now will be embedded in the transition process from now on. What preparations must now be made for the eventuality that America is no longer the leader in this industry? Could this action once again serve as a rallying cry to step up. What is the risk to climate ambitions? How will China respond? Will China decide to step up and assert soft power on the climate front? The future of the green transition and its intersection with trade and geopolitics was seen to require far more interrogation in light of an increasingly fraught world.

This note reflects the writer's personal impressions of the conference. No participant is in any way committed to its content or expression.

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