

Chapter 12

A Greener Future

Christopher Gleadle

To create a future that is mutually ‘greener’, healthier, and more inclusive, there are many factors to be balanced in the EU’s relationship with China. For, all actors’ actions are interdependent and unless all nations focus on the same goals in a trusted, standardised, and coordinated manner, then what continues is no more than business as usual.

The EU and China – a matter of balance but it’s complicated

China has become the world’s second-largest economy. As a result, it has lifted nearly a billion people out of poverty. But this progress has been built upon a boom in energy from coal and has contributed to make China the world’s largest emitter of CO₂. Furthermore, according to new international research, China placed 38.4 gigawatts (GW) of new coal-fired power capacity into operation in 2020 (three times the amount built elsewhere around the world) and has 247 GW of coal power under development.

Because of China’s economic growth, it has become a major production source for products to the EU. It follows, that to repair the excesses of human activity on the climate, environment, and biodiversity – to ‘green’ the EU economy - there must be veracity in accounting for the impact of supply chains of which China is a major part.

Duly China does have an interest in pursuing a more sustainable and efficient path as the effects of climate change on Chinese agriculture, water, and food security as well as air and land pollution create tensions within the Chinese population, as well as with neighbours of, for example, Southeast Asia.

Accordingly, Xi Jinping posited “ecological civilisation” as a Chinese characteristic. He has stated that the Chinese government aims to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060. Yet, China will do so with an emphasis on retaining high levels of economic growth and employment.

And, in the pursuit of a transition to clean energy upon which the European Green Deal is reliant, minerals, such as rare earths, for that energy transition, finds China as a major supplier of such minerals. This suggests China to have a strategic point of leverage. Also, an EU clean energy transition could see the EU becoming more independent and energy secure within its own borders. As a result, this could see a fall in energy requirements from outside of the EU, which may see global energy prices falling. As a result, since China is a large importer of energy, falling international energy prices could make running the Chinese economy cheaper and thus more competitive.

Furthermore, China has dominated the rare earth market with subsidies to producers that kept prices very low for potential competitors to enter the rare earth market. But this policy came at a cost since it caused unpopular environmental damage within those parts of China that processed these minerals.

However, since China is a major part of EU supply chains, the imposition of a Carbon Border Adjustment Mechanism (CBAM), due to be introduced by 2023, could mean Chinese carbon-intensive

products losing comparative price advantage. This would encourage EU industry to source from other, 'greener' partners. Thus, pressure could be seen to be applied on China to commit to a more ambitious climate change and sustainability agenda. In contrast, COVID-19 has seen EU companies exploring greater localisation of their value chains and production processes, which would entail production specifically for the Chinese market within China.

Furthermore, CBAM could reduce opportunities for export-led development from China. For example, The Bank of Finland has estimated that, based on emissions embodied in EU-China trade and carbon border tax, a CBAM of US\$28 per tonne of CO₂ on imports is equivalent to an average import tariff of 2 percent. As the carbon price increases, so would the effective tariff. Add IMF estimates of a carbon price of around US\$75 per tonne of CO₂ will be needed to restrain climate warming to 2 degrees, then the effective CBAM tariff would be around 6 percent.

Notwithstanding, commitments related to sustainability, including to effectively implement the Paris Agreement on climate change fit neatly within China's own agenda. For, environmental threats have become a top concern in Beijing, partly because they have sparked discontent among the country's citizens. Thus, China has set itself a target of becoming carbon neutral by 2060, launched an emissions trading system and under new guidelines from the Ministry of Ecology and Environment made climate action part of local government performance evaluation – adding pressure on provincial and regional leaders to take the issue seriously.

But, while China may be able to meet its obligations under the Paris Agreement, local leaders are under constant pressure to deliver on pre-determined economic growth targets, which count more towards their personal evaluation than adhering to environmental standards. Consequently, the self-interest of local leaders could see the lowering of environmental standards unless they grasp the critical systems thinking to understand that economic growth, employment and tackling the multiple issues related to climate change are not mutually exclusive. Thus, systemically act upon climate mitigation, remediation, and adaptation to help meet economic and job creation targets essential to local leaders.

Also, current EU-China tensions see the EU-China Comprehensive Agreement on Investment (CAI) under strain. For example, The EU Commission has said that efforts to ratify the investment deal have been in effect suspended after tit-for-tat sanctions were imposed over China's treatment of its Uyghur population. Valdis Dombrovskis (commission's executive VP) has said that the current state of relations between Brussels and Beijing was "not conducive" for the ratification of the deal.

However, China's leaders surely feel confident that EU businesses will continue to invest in China having been encouraged by companies such as Volkswagen (largest brand in China by sales) to invest about €15 billion with three local joint ventures to build 15 different full-electric or plug-in hybrid models in China by 2025. Further encouragement may be gained from results of surveys on future investment plans, such as that conducted by the German Chamber of Commerce in China, which showed that 72 percent of companies are planning to increase investment in 2021 and that 96 percent have no plans to leave the Chinese market. Such insight bolsters notions that China does want to work with the EU. It wants to improve commercial relations, and that China does want EU companies to take part in its future development.

Moreover, at the 26th Conference of the Parties in Glasgow, November 2021, China will be in the spotlight in terms of specifying how it will bring its carbon emissions to a peak before 2030 and

then reduce them. To achieve trusted carbon neutrality, the measures will have to be significant, start immediately, be carbon negative, and proven with transparent data trails for ensuring the veracity of reporting.

Raw material security will decrease dependence on China

The former Chinese leader Deng Xiaoping said in 1992 “the Middle East has oil; China has rare earths.”

If China were to restrict exports of rare earths it would be worth remembering when in 2010, China did just that. Rare earth prices soared as the market panicked. Stockpiling took place. Then prices fell when the bubble burst. Within the EU the security of the supply chain and volatility of the price became concerns, which contributed to a growing amount of research on the fields of supply and price since the level of volatility experienced has highly negative consequences. Hence, on a positive note, many industries discovered they could do without rare earths, such as an electric motor that relies upon induction rather than magnets.

And, for the EU, securing access to critical raw materials can be achieved through several measures such as supply diversification, increased recycling volumes, substitution of critical materials and seeking a more systemised, holistic, balanced and sustainably viable transition pathway. For example, some raw materials have a high recycling potential, yet recycling rates remain generally low. This suggests the EU has an opportunity to create greater raw material security via increased investment into research and development for the integration of current and proven technologies where feedback loops can become dominant to create system optimisation and thus accelerate emissions and waste reduction. As a result, EU industry would reduce virgin material input, reduce impact as well as supply and price volatility, increase value chain security and performance, as well as generate recoverable and added value of waste through creating a secondary symbiotic marketplace.

However, rare earth elements do play an important part in the manufacturing of items that energise the global economy such as electric vehicles, wind turbines, smart phones, ceramics/glass, and one day, potentially, the spherical tokamak.

Accordingly, since China holds the single largest share of the world’s known reserves of rare earths, China has a disproportionate share of mining production. Yet, it is interesting to note that, in the past, China has produced 98 percent of the world’s raw rare earths, while in 2020, Chinese mines produced 110,000 tonnes of rare earths, which is approximately 55 percent of total global mining as other countries have raised production to lessen reliance on China to meet rising demand. But this does not mean Chinese funding is not behind rare earth extraction in other countries such as the state-owned China Great Wall Industry Corporation (CGWIC) funding approximately eighty percent of the Longonjo mine in Angola.

However, while the extraction of ores is the upstream part of the supply chain, processed minerals form the chain’s midstream, while downstream uses the midstream products to manufacture goods such as magnets.

Such is the dominance of China in the rare earths supply chain, concentrates are still sent to China for processing since there are few downstream rare earth refining plants of scale outside of China. Exceptions are being planned, such as in the UK, which initially will focus on raw materials extracted from Longonjo. However, China did produce 85 percent of the world’s rare earths refined products in

2020. And imports of rare earths to China are forecast to grow to 80,000 tonnes per year by 2030, up from an estimated 60,000 tonnes in 2021. Furthermore, China not only dominates the supply of rare earths but also demand, with currently 70 percent of global production consumed within the Chinese domestic market.

Biodiversity

Biodiversity is essential for the maintenance of planetary and human health, yet the interdependent drivers of biodiversity loss and spatial variation in their impacts need greater understanding.

For example, the planetary distribution of threatened and declining species (biodiversity loss) is subject to multiple stressors, with climate and human activities being a fundamental cause of that stress. Accordingly, there has been a large spatial variation in the distribution of threatened species over China's provinces. With increasing urbanisation and industrialisation, the expansion of construction and worsening pollution has led to habitat retreat or degradation. Consequently, high numbers of amphibians, mammals, and reptiles are threatened as we see the biodiversity of Gansu, Guangdong, Hainan, and Shaanxi provinces being severely reduced.

Biodiversity loss disrupts many ecosystem processes, such as community structure and interactions, and can cause ecosystem malfunctioning, that ranges from reduced biomass productivity to weakening ecosystem resilience. This is because the interdependent nature of the earth's ecosystems creates feedback loops for zero waste systems. Thus, biodiversity loss degrades ecosystem health and the well-being of the human species. It follows, biodiversity loss is relevant to achieving the UN Sustainable Development Goals. This suggests that SDGs, far from existing in 17 silos, performance in meeting the goals is subject to performance of feedback loops. Action on one affects the many.

“intrinsic value of biological diversity, as well as the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its critical role in maintaining ecosystems that provide essential services, which are critical foundations for sustainable development and human well-being”. Para 197, Rio+20

The EU and China have committed to international agreements such as the Convention on Biological Diversity (CBD) to reduce biodiversity loss. But targets in these agreements prove difficult to achieve due to lack of practical systemic implementation.

For example, of the multiple stressors to biodiversity loss, climate change receives greatest attention since it can change the composition, structure, and function of ecosystems as well as reshape the distribution of biodiversity. However, because many species and ecosystems are subject to multiple interdependent threats, it follows that climate change impacts on biodiversity will change in relation to other threats in any location over time. For instance, the Chinese Paddlefish, also known as Chinese Swordfish, is a reportedly extinct species of fish that was native to the Yangtze and Yellow River basins in China. On top of overfishing, a main cause of decline was the construction of the Gezhouba and Three Gorges dams that blocked spawning migration and thus caused the Paddlefish population to fragment.

China has many threatened species and biodiversity conservation priority areas are set out in the China Biodiversity Conservation Strategy and Action Plan (2011–2030). However, the acceleration of environmental change brings challenges to biodiversity conservation since regional variations such as

climate, population, pace of economic development, or topography differ from one province to another. Thus, provinces need to integrate biodiversity protection and social development into a holistic sustainably viable plan. But creating balance between economic development and biodiversity is challenging for policy makers since priorities, targets, and skewed self-interest of decision makers' clash. To set up an achievable biodiversity conservation plan the target setting for biodiversity conservation must be incorporated into regional sustainable development plans. This would provide insight to reconciling the relationship between multiple stressors and biodiversity over time. Accordingly, this would help set the 2030 global biodiversity target in the 15th meeting of Conference of Parties (COP15) to the CBD – to be held in Kunming, Yunnan Province, China, October 2021 (online) and face to face, April/May 2022.

Currently there is no coordinated integrated and holistic policy mechanism to halt the decline of biodiversity loss at the speed and depth needed.

Accordingly, to rapidly advance EU-China and international action to deliver the necessary and rapid decline of emissions as well as reverse the multiple stressors upon the biosphere there is a logic to uniting the COPs of Climate Change and Biodiversity into a more meaningful and integrated single conference.

Valuing Ecosystems in China

In the late 1990s, China suffered a series of natural disasters that were exacerbated by changes in ecosystems that were brought on by resource extraction and degradation. For example, in 1997, water extraction for human use exacerbated drought along the Yellow River. This was followed in 1998, when the Yangtze flooded. The flooding was intensified due to deforestation upstream. The floods killed 3,600 people, inundated 5 million hectares of crop land, and is believed to have cost US\$36 billion. In 2000, results of overgrazing and desertification led to dust storms in northern China that covered Beijing seven times in one month. Costs were estimated at US\$2.2 billion.

Prompted by these disasters, in 2018, the PRC enshrined the concept of 'ecological civilisation' in its constitution, which emphasises the need for people to engage with nature in ways that allow people to live well and within the bounds of the biosphere. It is recognised that this requires sectoral reforms, spatial planning, technological innovation, ecosystem conservation and restoration and regulation. Additionally, there has been significant investment in cross-regional payments for ecosystem service schemes (PES), known in China as 'eco-compensation' programmes. The programme aimed to reduce soil erosion, deforestation, and flood risk by restoring forests and grasslands. Consequently, there is evidence that suggests the conversion of land through this payments programme has sequestered significant amounts of carbon, reduced soil erosion into the Yangtze and Yellow Rivers, and reduced flood risk.

Furthermore, in China, Gross Ecosystem Product (GEP) has been developed as a measure of the value of flows of ecosystem services since large-scale loss of natural capital and the consequent reduction in the flow of ecosystem services points to the urgent need for better metrics of ecological performance, and the systemic integration of this information into decision making. Therefore, just as GDP provides a useful summary of economic activity (consumption), GEP provides a helpful summary of the aggregate value of the contributions of nature to society. The development of GEP within China could provide a useful template to account for the value of natural capital worldwide.

Furthermore, China's National Ecosystem Assessment assessed the status and trends in terrestrial ecosystems, ecosystem quality and ecosystem services between 2000 and 2010. Seven ecosystem services were mapped for China's land area: food production, carbon sequestration, soil retention, sandstorm prevention, water retention, flood mitigation and provision of habitat for biodiversity. These services are supplied by China's ecosystems, which include forests, wetlands, croplands, and grasslands.

The European Green Deal and China

The European Green Deal sets out a plan with the aim to make Europe climate-neutral by 2050. This implies turning climate and environmental challenges into opportunities across all policy areas and sectors of the economy and making the transition just and inclusive.

However, to achieve a climate neutral economy not only requires the participation of industry, but it also requires a transformation of entire and all value chains, of which, China is a major part. And, while the two-dimensional 'circular economy' offers great potential, optimisation is held back since 'CE' still has waste streams and misbehaviour between functions over time thus misses feedback loops. Consequently, current 'green' pathways are too slow, inadequate, and unlikely to achieve the stated aims since they fail to deliver the precipitous decline in emissions needed today.

For example, errors in carbon accounting are a cause of concern since climate impact can be seriously under reported. For instance, stemming from the Kyoto Protocol of 1997 that defined wood, or biomass, as a renewable energy source equal to wind and solar, has led to the EU, along with the UK (biomass now accounts for 12% of energy generation), and others, committing to burning forest biomass to replace coal. But burning wood produces more emissions than coal per unit of electricity made. The EU Commission's own Joint Research Centre states: "burning forest biomass is not carbon neutral because burning emits carbon simultaneously, while forests need decades, if not centuries to regrow to offset emissions." Thus, trusted carbon-neutrality cannot happen from burning wood pellets if the emissions and reduction of biodiversity services are not accounted for from that deforestation.

And, if we are to avoid a temperature rise of 3 or 4 degrees, then within a few decades, all nations together will need to transform our civilisation from one that currently pumps out 40 billion tons of carbon dioxide into the atmosphere each year, to one that produces a net removal of tens of billions. Thus, current net-zero policies will not keep warming below 1.5 degrees since they offer protection for business as usual, and not the climate. We need large and sustained cuts to CO₂ emissions now! And the only way to achieve that is doing more with what we have and working together to integrate known and proven technologies (high-tech, low-tech and biotech).

Furthermore, verified decarbonisation of value chains must be just and fair and equip workers with new skills and help communities dependent on industries to manage the transition. A spherical economy (considers the application of feedback loops and holism) supports decision making in three-dimensions over time. As a result, decision makers will now understand the consequences of and between decisions to drive down emissions today. This will help modernise both the EU's and China's economies as well as draw benefit from the opportunities of an efficient, comparable, and authentic low-carbon, low-waste / zero-waste economy domestically and globally.

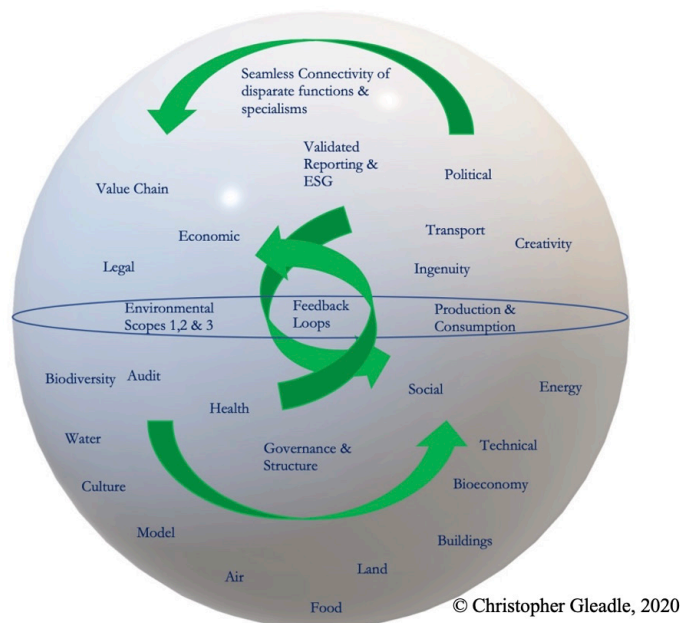
The current EU Green Deal action plan does include a 'sustainable products' policy that will ensure that products are designed to reduce environmental and social impacts throughout their life cycle,

based on comparable, and verifiable data. It will prioritise reducing and reusing materials before recycling them. Consequently, it will help foster a re-emergence of regenerative business models and set minimum requirements to prevent environmentally harmful products from being placed on the EU market. It will strengthen the extended producer responsibility as well as support consumers to choose, reusable, durable and repairable products. For example, it will introduce a 'right to repair' into EU consumer law aimed at halting built-in obsolescence of devices.

It follows, that to revisit and reimagine old and well proven business models based on renting and sharing goods and services will play a role to be sustainable, viable and affordable.

EU and China tackling impact

About half of total greenhouse gas emissions and more than 90 percent of biodiversity loss and water stress come from resource extraction and processing of materials, fuels, and food. The EU's industry, while accounting for 25 percent of GDP, accounts for 50 percent of the EU's greenhouse gas emissions. Industry remains too 'linear' - too wasteful. Thus, industry and finance misses huge value opportunities from not operating as a sphere economy that would change behaviour and action to one that mirrors the creation of planetary resources.



Sphere Economy applies a holistic three-dimensional systems perspective over time to decision making. This enables consideration of alternative ways to govern the provisioning of resources not only at points of activity but along and across value chains. Thus, issues of equity and valuation of capital – economic, human, and natural – are visualised to help temper protectionist reactions that are detrimental to that capital. Thus, reduce risk.

Sphere Economy leapfrogs the two-dimensional circular economy since it includes feedback loops within decision making in a manner similar to the abundance creating feedback loops of the Biosphere. By this action risk, waste, emissions, and impact are better understood and can be better audited for comparability.

Sphere Economy tackles multiple issues simultaneously accelerating action toward an equitable and authentic net-zero world. It implies making three dimensional decisions in a three-dimensional world.

“Sometimes it is not about things but the relationship between things”

An EU-China sustainably viable product policy (see: The 5 Essential Steps to Sustainable Viability) could reduce waste significantly as processes and technologies can emerge from systemic integration across value chains, in which waste and emissions can be avoided or transformed into valuable resources. In parallel, EU and Chinese companies could benefit from a robust and integrated single market for secondary symbiotic raw materials and by-products.

Consequently, for the EU Green Deal to work for everyone and be a point of leverage in the EU-China relations, a greater depth of critical systems thinking will give access to the strategic security question of the supply of sustainable raw materials necessary for clean technologies, digital, space and defence applications. A sphere economy approach will accelerate the diversification of supply from both primary and secondary sources to help accelerate a ‘green’ transition to happen.

We need industries - including SMEs - to take their role in this transition. An integrated industrial strategy will aim to enable EU businesses – big and small – to innovate and develop clean solutions while creating new markets.

Competition and Climate Change

It is natural that both China and The EU engage in a competitive struggle for market shares, resources, customers, and technological leadership. Systemic rivalry is revealed as a contrast between two differing ideologies: China’s authoritarian party-state led capitalism on one hand and the EU’s liberal-democratic market economy on the other. It follows, with China’s often aggressive ‘wolf warrior’ diplomatic behaviour we regularly see EU policymakers and diplomats pull climate change off the shelf when asked for examples of areas in which Europe and China remain partners.

The reality of the EU-China relationship is doggedly complicated. For robust climate action, only co-ordinated and harmonised EU-China action will help protect Europe from dangerous levels of climate change as it will China. It follows, the EU cannot safeguard its people from the worst impacts of climate change – extreme weather events, migration crises, and supply chain shocks, amongst others without action by China to address climate change in a similar manner. Conversely, the same truth holds for China, which has huge highly populated regions that are extremely vulnerable to the impact of climate change. Literally, we are all in this together. And there’s the opportunity.

What Beijing prioritises in the five-year plan from 2021 will shape global emissions for decades to come. And, as the EU’s own climate actions begin to reshape the European economy, new areas of competition with China will naturally emerge. Thus, climate action will increasingly intersect with questions of geopolitical and geo-economic interest. This suggests that climate policy and the broader complexity of the EU-China relations cannot be separated as the two are interdependent. Therefore, The EU and China will increasingly have to balance the growing competitive dimension with the need to co-ordinate to achieve ambitious climate protection.

Sustainably Viable Competition

The EU and China - with all other nations – face the same climate issues, and together must be clear for what constitutes credible, viable and just climate governance. To define clear benchmarks will help bring clarity to where nations meet, or not, such governance. This can help, for example, ensure that the EU does not legitimise climate inaction or human rights violations under the veil of cooperation. For surely, the only way to keep humanity safe is the immediate and sustained radical cuts to greenhouse gas emissions in a socially just way.

Managed in a sustainably viable manner competition can ignite a race to the top and drive innovation in both the development of new green technology and the integration of existing and proven technology that can drive down emissions today. To misunderstand the interdependence of bilateral cooperation and risk trade tensions could jeopardise robust climate action and risk failure to meet the aims of the Paris Agreement and EU carbon neutrality by 2050 on one hand and China attaining its goals of emissions peaking by 2030 and goal of carbon-neutrality by 2060.

The green energy sector, CBAM, innovation - and intellectual property - need to be tackled together since they are interdependent. Accordingly, coordinated climate planning would visualise the value of holistic EU-China action. It will require the two partners to break down siloes and build a unified literacy across the interdependent economic, trade, digital, connectivity, environmental and human rights communities.

And, if a steeper decarbonisation pathway for The EU requires a significant rise in carbon prices, which could, in turn, increase the risk of carbon leakage, The EU needs to address this risk head-on to ensure that, over the coming decade, EU businesses make the capital investments needed to shift towards cleaner, spherical production. The CBAM proposed by the European Commission would be a good step in both directions and facilitate discussions with China, and other nations, to present CBAM as a multilateral proposal.

Other measures would be to look at bridging fragmented specialisms and infill the knowledge gaps that will bring the diverse range of measures together as a whole. This could be a particular focus for the Horizon Europe research and innovation framework, which can provide financial support as well as foster international research to enhance Europe's position in the competition with China.

Alongside fostering close cooperation on preserving and strengthening multilateral climate governance frameworks, these propositions could feed into discussions for relevant international standards-setting bodies.

For example, China's central bank has revealed that it is co-operating with the EU to converge green investment taxonomies. Yi Gang, the governor of the People's Bank of China, has said that, in co-ordination with global partners, the primary goal of the central bank over the next five years is to implement and standardise a green finance system. This came just days after the EU's Sustainable Finance Disclosure Regulation came into force for fund institutions operating or selling products in Europe. He further spoke about the need to move towards competitive neutrality. And even went so far to say that China should consider applying the principle of competitive neutrality to SOEs as part of a solution to solve "structural problems in the Chinese economy"

Currently, China's fund industry lags The EU's when it comes to developing a standardised framework for ESG (Environmental, Social and Governance) and green finance. For example, according to AMAC's (Asset Management Association of China) latest report (February 2021) only 40 per cent of 37 sampled retail fund companies reported that "green investing" has been incorporated into their strategic planning. However, ESG and green finance is progressing quickly as a framework for environmentally focused investment standards. Accordingly, it is likely to be one area where Chinese and EU authorities can most easily find common ground toward action for carbon neutrality.

It follows, that the EU should also look to enlarge the International Platform on Sustainable Finance (IPSF) to include new members, such as the US. Apart from helping to reduce the risk of fragmentation in standards, extended engagement with China and other leading actors could help support a robust sustainable finance agenda under the G20. Accordingly, the EU, in cooperation with the UK, as president of COP26, and with the Biden administration, could present a coordinated front on climate expectations of China.

Furthermore, an integrated Connectivity Strategy would build on the existing EU Asia Connectivity Strategy and widen its regional scope to include the Western Balkans and Africa. Chinese investment in the infrastructure and energy sectors is highly significant for these regions' capacity to manage a green transition. Therefore, from both a geopolitical and a climate perspective, it is in the EU's interest to provide help to these countries to compete. By adopting a holistic spherical sustainably viable approach that incorporates climate, digital, trade, finance, and diplomacy efforts, the EU could create a compelling alternative to other connectivity strategies.

Concurrently, China in its 14th Five Year Plan (FYP) sets an 18 percent reduction target for "CO2 intensity" and 13.5 percent reduction target for "energy intensity" from 2021 to 2025. And, for the first time, it also refers to China's longer-term climate goals within a five-year plan and introduces the idea of a "CO2 emissions cap"; although it does not go so far as to set one.

Additionally, the 14th Five Year Plan specifies that China should strive to increase the storage and production of oil and gas and accelerate the construction of a natural gas pipeline network. But given the need to tackle air pollution and cut CO2 intensity, and considering the government's focus on developing its rural areas, its No. 1 document for 2021 lists promoting natural gas to enter rural areas as part of the clean energy infrastructure project. In the current FYP, gas seems likely to benefit from its role as a transition fuel. Yet, longer-term, it could become unpopular as China looks to cut carbon emissions precipitously, and where the opportunities for integration between high-tech, low-tech and biotech will enable China's rural areas to address, multiple issues such as energy security, agricultural productivity, transport, soil, water, biodiversity, waste, and desertification, amongst others, in a carbon efficient manner.

Conclusion

There is much to be learned from each other. From that combined knowledge can come greater wisdom to tackle multiple planetary and social stressors - such as climate change, environmental degradation, air quality, land and land use change, biodiversity loss, water stress, energy security, food, and so on - simultaneously. To deliver climate justice.

But to grab this achievable goal, it will require The EU and China, with all international partners, to break the cycle of fear and greed upon which business as usual is based, and embrace trusted, holistic, harmonised, inclusive, and thus spherical sustainably viable action on innovation and policy

making. To do more with what we have and precipitously reduce emissions today and not at some vague point in the future that goes unmeasured without a robust and standardised environmental return on investment.