Briefing Paper

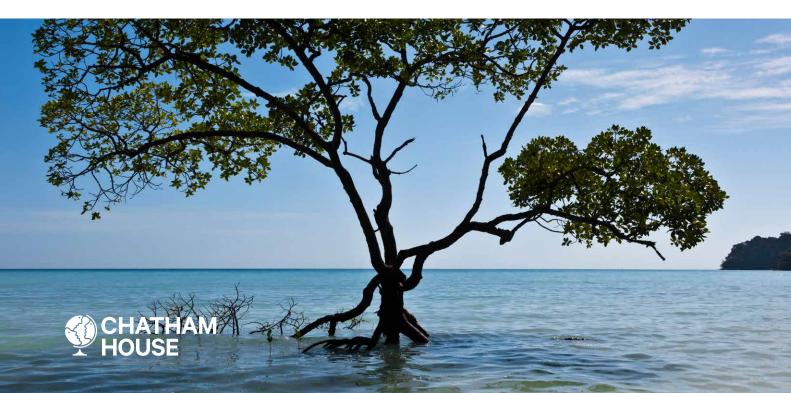
Energy, Environment and Resources Programme March 2021

Kick-starting the green recovery in 2021

An arc of engagement for sustainability

Summary

- In what is a vital year in the fight against climate change, 2021 presents an opportunity for a green recovery. It heralds summits of all three Rio Conventions, the G20 and G7 summits, President Biden's Earth Day summit, China's rollout of its 14th Five-Year Plan, the operationalization of the European Green Deal, and more.
- Yet fragmentation across multiple, globalized systems means that stresses and shocks risk cascading negative effects, creating vicious cycles. The pandemic has been a vivid example, but climate change presents similar risks.
- Just as failure to act within one system can obstruct action within others, positive interplays can be created by coordinating multiple levers for change between systems: generating a 'virtuous cycle', in which action towards a policy goal strengthens the likely achievement of other goals, rather than creating trade-offs.
- Realizing a green recovery in 2021 requires multilateral organizations and governments to exercise greater leadership and to pursue a shared vision for global coordination – known as the 'arc of engagement'.
- The circular economy and nature-based solutions are two models that offer additional benefits in terms of a synergetic, virtuous cycle approach.
- This paper presents a timeline to help policymakers, campaigners, planners, and diplomats coordinate across silos and maximize the 'super year' potential of 2021.



Sam Geall

Introduction

In a critical year for climate change and environmental diplomacy, the outlook for international cooperation towards sustainability is still uncertain. The COVID-19 pandemic continues to disrupt the timeline for global events in 2021. Moreover, given that global problems – from ocean conservation to wildlife extinction, and from tax havens to debt relief – require global solutions, the pandemic has illustrated vividly how international cooperation, action and ambition can be stymied by competition, suspicion, and protectionism, and how costly the results of these failures can be. It is evident that when individual nations hoard crucial medical supplies, decline to share public health information internationally, or fail to adopt effective measures on cross-border travel and quarantine, global efforts to exit the pandemic – or, at least, to better manage its consequences – are harmed.

From tensions between China and the US, to the reshaping of global supply chains, COVID-19 may prove to be one of a number of turning points for globalization and the changing map of global power.

While the election of a US president with a greater commitment to multilateralism is an encouraging signal, the geopolitical competition that has accompanied today's changing balance and geographical distribution of economic power, from West to East, presents a challenge to post-war international rules and institutions. While the pandemic is not the cause of this competition, it has acted as an accelerant. From tensions between China and the US, to the reshaping of global supply chains, COVID-19 may prove to be one of a number of turning points for globalization and the changing map of global power. Fragmentation and dynamic disequilibrium across multiple, globalized systems means that stresses and shocks risk cascading negative effects. The pandemic is just one example: climate change in one region, for instance, may cause water scarcity and affect agricultural production, causing food insecurity in another region, thereby bringing about social and political instability.

However, just as failure to act within one system can obstruct action within others, creating vicious cycles, positive interplays can also be created by coordinating multiple levers for change between systems, thereby generating a virtuous cycle of positive effects, in which action towards a policy goal strengthens the likely achievement of other goals, rather than creating trade-offs. Yet achieving this – and realizing a green recovery and a 'super year' for the environment in 2021, with positive outcomes across a number of environmental negotiations, notably including the 15th Conference of the Parties to the Convention on Biological Diversity (CBD COP15) in Kunming, China, and the 26th Session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP26) in Glasgow, UK – will mean that the UN, multilateral organizations and governments will need to exercise greater leadership and realize far more effective global coordination across sectors. As tempting as it might be to downplay the significance of multilateral or multi-sectoral approaches – in favour of unilateralism, 'silver bullet' approaches or transformative social change, to the exclusion of coordinated global efforts – the further fragmentation of the world order threatens peace and sustainability, and leadership in multilateral forums is a necessary dimension of achieving sustainability in 2021.

The purpose of this short briefing paper is to present a dynamic timeline that will help policymakers, campaigners, planners and diplomats to understand the complexities at play in environmental policy, and to coordinate across 'silos' with maximum effectiveness, paying attention to the particular sequence of events and narratives that may emerge, in order to maximize the 'super year' potential of 2021. To create virtuous cycles that protect nature, climate and health, policymakers must build a green recovery through the COPs of the three UN-led Rio Conventions,¹ as well as the G20 and G7 summits, and the many other multilateral summits, report launches and political events scheduled – and yet to be scheduled – to convene this year, as detailed in the timeline. As the latter will attempt to highlight, this process will require not only agility and the capability to respond iteratively to feedback, but also attention to an overall narrative 'arc of engagement', in which linkages between processes bind together and intensify the coordination required for a resilient and green recovery that links cross-cutting themes in protecting nature, climate and health.

Putting such emphasis on narrative momentum does not imply idealism: taking the necessary action, of course, requires more than visions and ideals at any specific level. Progress will need to be fought for, harnessed and enforced at multiple levels: by citizens' movements and social mobilization; by governments, policymakers and political parties; by diplomats and actors in international institutions. The underlying political economy, geopolitics and technological regimes are just some of the fundamental conditions that will shape the deployment of any such visions. Focusing attention on the timeline, however, helps to highlight the strategic visions and entry points that exist – at the UN, in other multilateral forums, in and between economic and regional blocs, among nation states, and among actors in global value chains – all of which may contribute to expanding opportunities for productive cooperation on sustainability in this critical year.

Key processes and events scheduled for 2021 include: the roll-outs of the European Green Deal (EGD) and China's 14th Five-Year Plan, covering 2021–25; the major conferences of the three UN-led Rio Conventions (the UNFCCC COP26 and the COP15s of the CBD and the UN Convention to Combat Desertification), and other multilateral meetings, such as the G20 and G7, the UN Food Systems Summit, and several report launches by the Intergovernmental Panel on Climate Change (IPCC). Throughout the year, there will be concerted efforts to achieve a green economic recovery that avoids 'locking in' an environmentally destructive rebound, or deepening inequality; the Spring Meetings of the World Bank and the IMF, as well as US President Biden's Earth Day Summit may play a role here. Furthermore, additional benefits in terms of a synergetic, virtuous cycle approach

¹ In addition to the CBD COP15 in Kunming and the UNFCCC COP26 in Glasgow, the third Rio Convention will be the COP15 of the UN Convention to Combat Desertification (UNCCD) – the location is yet to be announced. The UN environmental conventions were established after the 1992 Earth Summit.

might be gained from linkages in the policy and technical concepts that should be applied in implementing these visions, such as the models of the circular economy and of nature-based solutions (NBS). The virtuous cycle is presented here as both the medium and the message: the term suggests both a mechanism for building positive engagement, and a model for a better systemic outcome that values nature, climate, health and equity.

The below timeline should help governments and institutions to visualize how the COVID-19 recovery in 2021 may prove a critical moment for the renewal of dynamic coordination, international cooperation and holistic thinking around building healthy, low-carbon development models. In 2018, the Egyptian Ministry of Environment published its proposals for coordination between the three Rio Conventions, the UN's 2030 Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction, as the 'Egyptian Initiative for a coherent approach for addressing biodiversity loss, climate change, and land and ecosystem degradation'.² The document calls for a 'virtuous cycle [...] wherein urgent and deep emission reductions allow for climate change to be limited to 1.5 degrees [...reducing] impacts on biodiversity allowing it to improve resilience of ecosystems, which in turn would improve mitigation of climate change.'³ The initiative proposes that countries target actions such as reducing deforestation, restoring degraded ecosystems and promoting the sustainable management of croplands and pastures.⁴

As well as co-hosting COP26 in 2021, the UK and Italy will also host, respectively, the G7 and G20 summit meetings. Since the host countries can play a role in setting the meeting agendas, both summits can serve as opportunities for leaders and finance ministers to emphasize the virtuous cycle approach to protecting climate and biodiversity during the post-virus economic recovery and beyond, and to advocate the particular importance of NBS.

The G20 is of particular significance: it represents the world's largest economies and carbon emitters, including China, which will host the CBD COP in 2021, and the G20 Rome summit can be expected to focus on the global recovery from COVID-19. A proposal by F20 Foundations, Campaign for Nature and SEE Foundation has set out how NBS could become central for the G20: by reaffirming 'the principle [...] that the conservation of the most carbon-dense and biodiversityrich natural ecosystems is a key priority for a raising climate change ambition in the UNFCCC framework, establishing a strong Post-2020 Biodiversity Framework under the CBD, and reducing risks of future zoonotic pandemics';⁵ by standing 'above the negotiating "silos" of the UNFCCC and CBD' and sending 'a strong political message for cooperation [...] and [the] scaling of NBS';⁶ and by committing 'to a green [...] economic recovery'⁷ from COVID-19.

² Convention on Biological Diversity (2018), 'Egyptian Initiative for a Coherent Approach for Addressing Biodiversity Loss, Climate Change, and Land and Ecosystem Degradation', CBD COP14, 17–29 November 2018, https://www.cbd.int/doc/c/f0c4/e7c4/d3f574418b051b944b0578dc/cop-14-inf-47-en.pdf.
3 Ibid., p. 3.

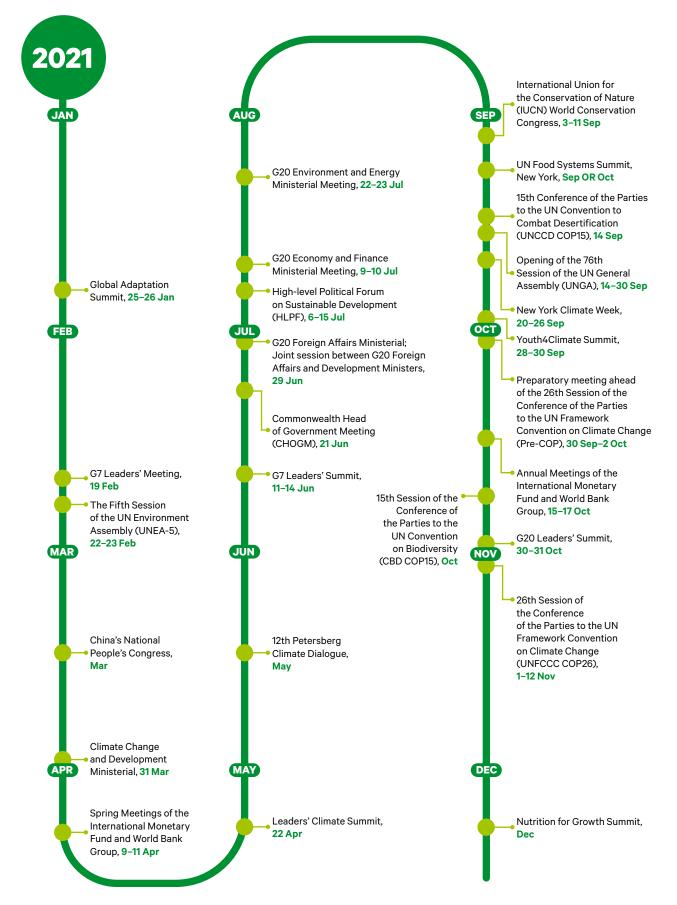
⁴ Ibid., p. 6.

⁵ Barber, C. V., Petersen, R., Young, V., Mackey, B. and Kormos, C. (2020), *The Nexus Report: Nature Based Solutions to the Biodiversity and Climate Crisis*, F20 Foundations, Campaign for Nature and SEE Foundation.
6 Ibid.

⁷ Ibid.

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Figure 1. The arc of engagement in 2021



5 Chatham House

Similarly, the 2021 Spring Meetings of the World Bank and IMF should aim to combine a focus on recovery and debt relief for poor countries with a resilient outcome that can prioritize climate, nature and health. Reports from the IPCC, the first of which is under the AR6 assessment cycle and scheduled for release in April 2021, may also help to galvanize public and policymaker attention and focus it on the need for renewed climate action. The UN also plans to host a special Food Systems Summit in 2021, with a focus on delivering healthy food sustainably;⁸ these themes will be reprised at the Nutrition for Growth (N4G) Summit, scheduled to be hosted by the Japanese government in December; and the UN Strategic Planning Network will attempt to coordinate engagement across multiple sectors, with attention to interlinkages and common approaches. Underpinning these key events are overarching policies and frameworks, including the UN Sustainable Development Goals (SDGs), the EGD, China's 14th Five-Year Plan, the NDCs, net zero and other decarbonization and biodiversity targets.

International cooperation beyond the pandemic

The UN-led climate talks will be hosted for the first time by the UK (in Glasgow) in 2021. They represent the first opportunity since the signing of the 2015 UNFCCC Paris Agreement for countries to ratchet up the commitments in their NDCs. According to the UN Environment Programme (UNEP), the 'emissions gap' between where emissions are heading on current trajectories, and where they need to be to reach the 'Paris goal' defined at COP21, in 2015, of 1.5°C above pre-industrial levels – is vast, and growing.⁹ As matters stand, the world is due to heat up by 2.7-3.1°C by the end of the 21st century.10 Countries need to increase by five times - their existing commitments to reduce the production of greenhouse gases (GHGs). Currently, one of the COP26 co-hosts, the UK, has committed to reducing its economy-wide GHG emissions by at least 68 per cent, compared to 1990 levels, by 2030; the EU - which includes Italy, the second co-host - has pledged 'at least 55 per cent' net reduction below 1990 levels. Following the US's re-entry into the Paris Agreement under President Biden, the country is expected to commit to reducing its emissions by 45–50 per cent below 2005 levels by 2030. Yet the pledging of such climate mitigation commitments, particularly where they impact on areas like land use, cannot be considered to the exclusion of the broader systemic implications or trade-offs.

Fortunately, UNFCCC COP26 is one in an aligned series of events that could create synergies, rather than problematic knock-on effects. In particular, the UN Convention on Biological Diversity (CBD) COP15 summit will mark the end of the 10-year period covered by the Aichi biodiversity targets set in 2010, and should herald the start of a new, post-2020 global biodiversity framework. Both the UNFCCC COP26 and CBD COP15 conferences had initially been planned

⁸ United Nations (2019), 'Secretary-General's message on World Food Day', 16 October 2019, https://www.un.org/sg/en/content/sg/statement/2019-10-16/secretary-generals-message-world-food-dayscroll-down-for-french-version.

⁹ United Nations Environment Programme (2019), 'Cut global emissions by 7.6 percent every year for next decade to meet 1.5°C Paris target – UN report', Press release, 26 November 2019, https://www.unenvironment.org/news-and-stories/press-release/cut-global-emissions-76-percent-every-year-next-decade-meet-15degc.
10 Climate Action Tracker (2021), 'Temperatures', https://climateactiontracker.org/global/temperatures.

to take place in 2020, it being hoped by many in government and international institutions that the two summits would intersect to create a 'super year for the environment', with international cooperation unlocking greater global ambition *vis-à-vis* the overarching SDGs. However, the impacts of the COVID-19 pandemic were grave and myriad, including the postponement of these COPs and the cancellation of other international environmental negotiations and government meetings.

The pandemic has also had impacts on domestic policymaking across the world, including delays to critical elements of the sequencing around environmental negotiations, such as the submission of NDCs. Profound negative impacts on supply and demand in the global economy have led to calls for environmental regulation to be reduced or abandoned. The federal bailout of industries affected by the pandemic in the US, for example, has included concessions to oil, gas and coal companies to the tune of nearly \$100 billion.¹¹ Rising geopolitical tensions related to the fallout of COVID-19 saw a negative effect on the prospects for international cooperation – including the further deterioration of the US–China relationship, once a linchpin of climate cooperation – and attacks on international institutions and scientific advice.

Yet the global recovery effort, whether represented through stimulus packages, bailouts, strategic funding or targeted policy reforms, presents a critical moment to renew calls for dynamic coordination, international cooperation and holistic thinking around how healthy, low-carbon development models and innovation can be prioritized. It is more important than ever to identify positive examples at domestic, regional and international levels that might strengthen such an approach. In Europe, the EGD – an ambitious, integrated set of green industrial, digital and circular economy frameworks – has become central to post-COVID-19 plans, and has been described by European Commission President Ursula von der Leyen as 'our motor for the recovery'.¹²

While much of the focus of coverage and policymaking around the EGD has been internal, its official communication promises to 'develop a stronger "green deal diplomacy" focused on convincing and supporting others to take on their share of promoting more sustainable development'.¹³ This commitment enhances the EGD's particular importance as one of the potential pillars of re-engaged international coordination with respect to the recovery – particularly with the US and China, the world's two largest GHG emitters. The EU–US–China geopolitical triangle will continue to be complex and fraught, particularly at leadership level, but joint coordination around solutions could reinvigorate the arc of engagement.

¹¹ Ross, L., Zibel, A., Wagner, D. and Kuveke, C. (2020), *Big Oil's \$100 Billion Bender: How The U.S. Government Provided a Safety Net for the Flagging Fossil Fuel Industry*, https://bailout.cdn.prismic.io/bailout/1b1e1458-bbff-49bc-a636-f6cbd47a88af_Big+Oils+Billion+Dollar+Bender.pdf.

¹² Simon, F. (2020), 'Green Deal will be 'our motor for the recovery', von der Leyen says', *Euractiv*, 29 April 2020, https://www.euractiv.com/section/energy-environment/news/green-deal-will-be-our-motor-for-the-recovery-von-der-leyen-says.

¹³ European Commission (2020), 'Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on the European Green Deal', COM/2019/640 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2019:640:FIN.

Opportunities for the arc of engagement

This year, 2021, sees a unique opportunity to create a more resilient, sustainable and co-operative global society, and to demonstrate the importance of the interconnectedness of societies and sectors, to accelerate change and reduce the impact of disruption. However, careful attention will need to be paid to sequencing and narrative, and it is hoped that this paper can help to provide useful tools for this purpose by means of the included timeline. Narrative momentum across a range of processes and sectors, which finds synergies between systems and across silos, is also required.

Box 1. The European Green Deal and the circular economy

The EGD, which aims to achieve carbon neutrality for the EU by 2050, is a key pillar of the EU budget, and particularly the European Commission's post-pandemic recovery plan. An intricate and comprehensive policy package first launched in December 2019, the EGD comprises a wide range of legal and policy measures addressing climate, nature and health. The most prominent of these are:

- green industrial policies;
- a Europe-wide digitization strategy;
- financing mechanisms and investment programmes (particularly to help bring about a 'just transition' in the continent's fossil-fuel dependent economies); and
- a potential carbon border adjustment tax to prevent 'carbon leakage', where companies relocate to avoid higher costs imposed by more stringent regulations.

The border adjustment tax may draw particular attention from global economies, but there are other reasons why the EGD could take on international importance. The deal commits to fostering greater international ambition, and elements like the European Commission's Circular Economy Action Plan, published in March 2020, might form the basis for international engagement with economies like China, particularly in light of the recent EU–China Comprehensive Agreement on Investment. Responding in part to China's 2018 ban on foreign waste shipments, the action plan aims to reduce waste and grow the EU market for secondary raw materials by introducing requirements for recycled content in products and creating end-of-waste criteria for certain waste streams.

With the EU and China being the two economies most committed to the creation of the circular economy (China has written the circular economy into law), European ambition may encourage China to raise its standards further. The action plan proposes to build a 'Global Circular Economy Alliance' to underpin such partnerships, which could build on an existing platform, the EU–China joint Memorandum of Understanding on Circular Economy Cooperation,¹⁴ and help the two economies to play a leading role internationally.¹⁵

¹⁴ European Commission (2018), 'Memorandum of Understanding on Circular Economy Cooperation', https://ec.europa.eu/environment/circular-economy/pdf/circular_economy_MoU_EN.pdf.
15 Schröder, P. (2020), 'What does the EU circular economy plan mean for China?', *China Dialogue*, 16 March 2020, https://chinadialogue.net/en/business/11912-what-does-the-eu-circular-economy-plan-mean-for-china.

Synergies for the arc of engagement

A renewed arc of engagement should include EU-China cooperation. Since the CBD COP15 and COP26 both fall in 2021, the same year as the UK G7 Presidency and the hosting of the G20 by Italy (a co-host of COP26), a virtuous cycle could be created through cooperation around nature, the circular economy and climate. Alignment between the China-hosted CBD and European-hosted COP26 could help to underpin an arc of engagement towards a resilient recovery. Promising avenues for cooperation should include EU-China collaboration on product standards, supply chain transparency and resilience, and trade in the circular economy, as well as NBS and conservation financing. Similarly, avoiding trade-offs in the encouragement of NBS, for example, is vitally important. In a resolution on avoiding deforestation, the European Parliament recommended that recognizing the EGD means that the Commission should 'better and regularly assess the impact of existing trade and investment agreements on deforestation, forest and ecosystem degradation, land grabbing and human rights and ensure that more ambitious binding and enforceable provisions on forest and ecosystem protection, biodiversity, on ending land grabbing and sustainable forestry are included in the trade and sustainable development chapters of all free trade and investment agreements'.¹⁶

Meanwhile, the trajectory of China's post-pandemic recovery is at an inflection point. Expectations for an ambitious low-carbon transition pathway in the 14th Five-Year Plan were raised by President Xi Jinping's announcement at the UN General Assembly in September 2020 that China aims to submit an enhanced NDC, peak its emissions before 2030, and become carbon-neutral by 2060. Its outlined NDC confirmed this particular vision, but its vision in the 14th Five-Year Plan has yet to be set out in detail. Ahead of the scheduled COP26 UN climate conference, these announcements suggest the role China can play in international coordination around a green recovery.

Box 2. China's 14th Five-Year Plan and eco innovation

President Xi Jinping's announcement at the UN General Assembly in September 2020 that China aims to become carbon-neutral by 2060, either by eliminating CO_2 emissions entirely or balancing them with carbon removal, was bold, unilateral, and may have caught even Chinese bureaucrats by surprise.¹⁷ Beijing had already targeted peaking Chinese emissions in 2030, but had not previously set a deadline for reaching net zero. If achieved, the target significantly shifts long-term projections of global temperature rise. Climate Action Tracker found that this commitment alone lowered global warming projections by $0.2-0.3^{\circ}C$ – the largest single change it has recorded.¹⁸

¹⁶ European Parliament (2020), 'Motion for a European Parliament Resolution with recommendations to the Commission on an EU legal framework to halt and reverse EU-driven global deforestation', https://www.europarl.europa.eu/doceo/document/A-9-2020-0179_EN.html.

¹⁷ Rudd, K. (2020), 'The new geopolitics of China's climate leadership', *China Dialogue*, 11 December 2020, https://chinadialogue.net/en/climate/the-new-geopolitics-of-chinas-climate-leadership.
18 Climate Action Tracker (2021), 'China', https://climateactiontracker.org/countries/china.

Xi's announcement came soon after Beijing had acknowledged (though by no means for the first time) China's vulnerability to climate change, noting that temperatures in China are rising faster than the global average. Flooding is already an annual hazard, and in the summer of 2020 rivers reached their highest levels since 1961, causing almost RMB 180 billion (\$26 billion¹⁹) of damage, which is some 15.5 per cent above the annual average toll in the last five years.²⁰ Over the past decade, China has used aggressive low-carbon industrial policy – in its Five-Year Plans and longer-term strategies – to position itself as the leading global supplier of clean technologies, such as solar photovoltaic panels and wind turbines; strengthened its energy security through electrification and decarbonization; and used the shift away from polluting and energy-intensive industries to move the economy 'up the value chain' towards innovation and services.

Today, China's climate policies are at a turning point: after a reshuffle in 2018, the Ministry of Ecology and Environment took over responsibility for climate change policymaking from the National Development and Reform Commission, China's top economic planning agency. The ministry now has new leadership, in the form of Communist Party Secretary Sun Jinlong and Minister Huang Runqiu.²¹ Most importantly, the 14th Five-Year Plan has been drafted and will be released at the National People's Congress in March 2021. Those themes that have been officially acknowledged also have echoes of the European Green Deal:

- 'New industrialization, IT application, urbanization, and agricultural modernization [...]';
- 'Eco-friendly ways of work and life will be advanced to cover all areas of society. Carbon emissions will steadily decline after reaching a peak, and there will be a fundamental improvement in the environment [...]';

An uptick in proposed coal-fired power capacity in 2020 and the fiscal stimulus to counter the effects of the COVID-19 pandemic sent mixed messages.²³ Public statements and documents emphasized ecology and investment in 'new infrastructure', such as 5G, ultra-high-voltage grid transmission, intercity rail and electric-vehicle charging stations.²⁴ But the 'Six Protections' the government aims to achieve in the recovery – protecting employment, basic livelihoods, market players, food and

¹⁹ Using an average annual exchange rate in 2020 of RMB6.96:US\$1, drawn from Bank of England daily rates. **20** Wu, Y. (2020), 'Reporting on floods through a climate lens', *China Dialogue*, 16 September 2020, https://chinadialogue.net/en/climate/climate-change-china-floods-reporting-strategy.

²¹ Geall, S. (2020), 'China's Climate Commitments and Energy Ambitions Beyond COVID-19', Oxford Energy Forum, 123: pp. 67–70, https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/07/OEF123.pdf.
22 Xinhua (2020), 'CPC unveils proposals for formulating 14th five-year plan, long-range goals', China Daily, 3 November 2020, https://www.chinadaily.com.cn/a/202011/03/WS5fa12d39a31024ad0ba82d9a_11.html.
23 Geall, S. (2020), 'China still needs to curb King Coal', Financial Times, 6 July 2020, https://www.ft.com/content/a8c082b4-5ac9-4446-bd4f-756bad11f765.

²⁴ Geall (2020), 'China's Climate Commitments and Energy Ambitions Beyond COVID-19'.

energy security, supply chain stability and grass-roots operations – have no obvious connection with decarbonization.²⁵ One study found that Beijing's stimulus did not target construction and heavy industry, but neither was it a Chinese 'Green New Deal'.²⁶

Yet Xi's 2060 announcement, China's intended NDC and the 14th Five-Year Plan may change this. It appears that economic planners and environmental policymakers are working quickly to incorporate net zero targets into planning. Shortly after Xi's announcement at the UN, the Ministry of Ecology and Environment held a press conference noting China's successes thus far in reducing CO₂ intensity and in developing a pilot carbon market. Officials suggested the 14th Five-Year Plan targets would be consistent with Xi's 2060 target. Shortly afterwards, Tsinghua University researchers grouped around Xie Zhenhua, China's climate envoy, set out a roadmap to 2060. It suggests that energy-saving and emissions-reduction targets in the 14th Five-Year Plan should include:

- a 20 per cent share of non-fossil fuels in primary energy consumption by 2025 (from 15.3 per cent in 2019);
- an annual CO₂ emissions cap of under 10.5 billion tonnes (emissions are estimated at 10.3 billion tonnes in 2020); and
- much tougher, enhanced decarbonization measures after 2030, to bring China into line with the 1.5°C Paris Agreement target.²⁷

Synergies for the arc of engagement

The 14th Five-Year Plan will also need to reflect China's NDC and 2060 target. Digitization, clean technology innovation and the circular economy, as well as NBS and linkages between climate, biodiversity protection and health in the green recovery, offer prospects for international coordination. This would be an appealing message for China to advance on the world stage, at a time when its international reputation has been dented by events surrounding the original outbreak of COVID-19 and its more aggressive diplomatic posture. In coordination with Europe, the US (following its official return to the Paris Agreement in February 2021), the UN and its Belt and Road partners, China could play that role – and it would help enormously if it can adopt a 14th Five-Year Plan that reflects sustainability targets.

²⁵ Duckett, J., Snape, H., Wang, H. and Li, Y. (2020), 'China's new coronavirus recovery strategy explained', *The Conversation*, 23 May 2020, https://theconversation.com/chinas-new-coronavirus-recovery-strategy-explained-139178.

²⁶ Gosens, J. and Jotzo, F. (2020), 'China's post-COVID-19 stimulus: No Green New Deal in sight', *Environmental Innovation and Societal Transitions*, 36.

²⁷ Ma, T. (2020), 'Researchers unveil roadmap for a carbon neutral China by 2060', *China Dialogue*, 13 October 2020, https://chinadialogue.net/en/climate/researchers-unveil-roadmap-for-a-carbon-neutral-china-by-2060.

Such a focus would fit with Xi's vision of 'ecological civilization', which has become a prominent phrase in leadership pronouncements.²⁸ Less certain to date has been the importance China attaches to the CBD COP15 conference it will host in Kunming: now tentatively scheduled for October 2021, the event possibly faces another postponement. While a soft-power win for the Communist Party can be achieved by theming a major UN conference around the concept of 'ecological civilization', it is not certain how much ambition China envisions for the conference and the post-2020 global biodiversity framework it will determine.

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Box 3. The UN Convention on Biological Diversity, and nature-based solutions

The CBD COP15 – the China-hosted UN negotiations over revised targets and the new international framework for nature restoration and conservation – are to be convened more than 10 years after the agreement in 2010 of the Aichi Targets, none of which have been fully met. The CBD negotiations, with a theme of 'Ecological Civilization: Building a Shared Future for All Life on Earth'²⁹ – have not had the same media or political profile as those on climate change, but are at least as important. A landmark report by scientists from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) stated that one million animal and plant species are facing extinction.³⁰ Furthermore, approximately \$44 trillion of economic value generation – equivalent to half the world's GDP – is moderately or highly dependent on nature.³¹

These concerns are reflected in Chinese President Xi Jinping's 'green is gold' maxim, which emphasizes that ecosystems must be properly valued. China's technological development, its investment in innovation and its financial capacity can make clear contributions to prioritizing biodiversity and playing a leadership role. Revised targets will need to relate to all five driving forces identified by the CBD as underpinning the decline in biodiversity: changes in land and sea use; the direct exploitation of organisms; climate change; pollution; and invasive species. Key areas

28 Geall, S. and Ely, A. (2018), 'Narratives and Pathways towards an Ecological Civilization in Contemporary China', *The China Quarterly*, 236: pp. 1175–96, doi: 10.1017/S0305741018001315.
29 United Nations (2020), 'COP15 of the UN Convention on Biological Diversity (postponed)', https://www.un.org/esa/forests/events/cop15-of-the-un-convention-on-biological-diversity.

³⁰ IPBES (2019), 'Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating", Media release, 6 May 2019, https://ipbes.net/news/Media-Release-Global-Assessment.

³¹ Usher, E. and Pretorius, C. (2020), 'The finance sector must go beyond business as usual to solve the biodiversity loss crisis', *Reuters Events*, 15 October 2020, https://www.reutersevents.com/sustainability/finance-sector-must-go-beyond-business-usual-solve-biodiversity-loss-crisis.

for negotiations on the road to Kunming include targets on protected areas; financing; and implementation mechanisms. The 15 per cent of land and 10 per cent of territorial waters currently covered by national parks and other protected areas across the planet as a whole are insufficient for arresting the crisis, and environmentalists advocate that at least 60 per cent of important sites should be protected by 2030, covering at least 30 per cent of land and sea areas.

Here, China's interest in the concept of 'ecological redlines' – the comprehensive land-use planning framework laid out by the Ministry of Natural Resources – is relevant. China's State Forestry and Grassland Administration, which resides within the ministry, has identified within its territory some 11,800 protected areas, totalling 1.728 million square kilometres – more than 18 per cent of China's land mass, and more than the 17 per cent targeted under Aichi. The talks will need to see a major boost in finance to achieve the ambition in the zero draft. Developing countries are seeking financial support from those in the Global North, and those discussions – as well as those around implementation mechanisms – may well make the difference in negotiations around a new framework, when it comes to the question of its effectiveness.

Treaty drafts also recognize the role of unsustainable consumption in biodiversity loss, saying that 'people everywhere' should moderate their consumption and lifestyles so that levels are sustainable by 2030. The extent to which the framework will target such 'indirect drivers', which also include population, trade and the extractive sectors, is an open question – but it is an area potentially for productive interplay with initiatives and platforms focused on circular economy, trade and international cooperation.³² For China, a major objective as host in Kunming will be a successful conference: something that could achieve international recognition of China's contribution and be positively associated with progress on the CBD goals. This is likely to mean targets that are achievable, as much as ambitious, rather than goals on which agreement might not be reached at the talks or which might come to be associated with widespread failure, as the Aichi targets have been.³³

Synergies for the arc of engagement

Raising climate ambition also requires stemming biodiversity loss. The latest version of the draft Post-2020 Global Biodiversity Framework, known as the '0.5 draft', recognizes the role of nature in mitigating climate change by proposing that NBS such as sequestering carbon in soils, trees and oceans provide some of the effort needed to achieve the goals of the Paris Agreement on climate.³⁴ China's focus on spatial planning efforts in conservation finds alignment here, and China is co-chair of the NBS track under the UNFCCC. A 'manifesto' produced by China and its co-chair New Zealand has set out its priorities on NBS, which include: increasing 'and mainstreaming NBS within national governance, climate action and climate policy-related instruments'; enhancing 'regional and international co-operation' around NBS; 'ensuring that financial

³² Early, C. (2020), 'Five takeaways from the UN's proposals to protect biodiversity', *China Dialogue*, 4 February 2020, https://chinadialogue.net/en/nature/11831-five-takeaways-from-the-un-s-proposals-to-protect-biodiversity-2.

³³ Kong, L. (2020), 'Can China take the lead in the UN biodiversity process?', *China Dialogue*, 17 September 2020, https://chinadialogue.net/en/nature/can-china-take-the-lead-in-the-un-biodiversity-process.
34 Convention on Biological Diversity (2020), 'Updated Zero Draft of the Post-2020 Global Biodiversity Framework', https://www.cbd.int/article/zero-draft-update-august-2020.

mechanisms are supported with appropriate regulations [...] including promotion and adoption of green supply chains'; and '[s]caling-up NBS for mitigation, resilience and adaptation in key areas', including forests, freshwater resources and agri-food systems.³⁵

This emphasis on synergies between COP15 and COP26, for example, in China's NDC to the UNFCCC, is reflected in high-level rhetoric. As the COVID-19 pandemic took hold in March 2020, UK Prime Minister Boris Johnson and President Xi Jinping noted in a telephone conversation that COP15 and COP26 are 'good opportunities for the two sides to promote international cooperation in health and epidemic prevention.'³⁶ In October 2020, this was re-emphasized by the Chinese ambassador to the UK, who said, reflecting the changed timeline: 'The year 2021 will be an important year for joint global response to climate change. China and the UK will host COP15 and COP26 respectively. These are not only important events in China–UK relations but also bear great significance to global cooperation and governance on climate change and environmental protection.'³⁷

It is still unknown what China's presidency of the CBD COP15 will mean in practice, beyond hosting the talks, particularly when it comes to potentially thornier questions about the shape of the post-2020 framework: questions of implementation mechanisms, rights and justice, indirect drivers, and finance. Nor is it yet clear what a practical proposal to link the CBD and UNFCCC processes might look like. One such practical proposal is to encourage the inclusion of NBS in NDCs under the UNFCCC and avoid commitments that may be harmful to biodiversity, by linking the timing of commitments made under both treaties, with a targeted and aligned ratcheting of plans and ambitions (through NDCs, in the climate process, and National Biodiversity Strategies and Action Plans – NBSAPs – or their equivalent in the next phase of the CBD), to avoid trade-offs and create co-benefits. Given China's interest in spatial planning and NBS, including biodiversity and land-use related measures in its NDC could be an important first step towards a coordinated approach on protecting climate, land- and seascapes.

It is evident that securing a recovery and exit strategy for the COVID-19 pandemic requires international cooperation. This applies equally to achieving sustainability in the recovery across all of the dimensions outlined in the SDGs, particularly nature, climate and health. As global infections stabilize or are reduced after the roll-out of vaccines, the pace of international negotiations will resume and likely accelerate. Getting the plans and objectives of these negotiations and meetings right, and making sure they benefit from synergies rather than create trade-offs, requires cooperation across 'silos' in particular environmental systems. Food is one

³⁵ United Nations Environment Programme (2019), 'The Nature-Based Solutions for Climate Manifesto', 14 August 2019, https://wedocs.unep.org/bitstream/handle/20.500.11822/29705/190825NBSManifesto. pdf?sequence=1&isAllowed=y.

³⁶ Ministry of Foreign Affairs of the People's Republic of China (2020), 'President Xi Jinping Speaks with UK Prime Minister Boris Johnson on the Phone', 24 March 2020, https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1760438.shtml.

³⁷ Embassy of the People's Republic of China in the United Kingdom of Great Britain and Northern Ireland (2020), 'Work Together to Tackle Climate Change and Make Our Planet a Better Home for All – Keynote Speech by H.E. Ambassador Liu Xiaoming at the APPCG Webinar on China–UK Cooperation on Tackling Climate Change', 15 October 2020, http://www.chinese-embassy.org.uk/eng/dshdjjh/t1824125.htm.

such paradigmatic system. Referring to the timeline, this can be explored through the 2021 Nutrition for Growth summit, which has three core commitments, of which the second is defined as: 'Building food systems that promote healthy diets and nutrition, ensure livelihoods of producers, and are climate-smart because we know that the food the world produces and consumes impacts both people and planet'.³⁸ The other themes focus on health and resilience.

Box 4. Finding virtuous cycles in the food system

The food system can serve as an example of how a dominant paradigm in globalization created a set of interlocking vicious cycles, or circles, termed the 'cheaper food paradigm'.³⁹ Investment in increasing agricultural productivity, coupled with increasing the competitiveness of markets, through the liberalization of trade, have long been the central pillars of food price reduction. Reducing food prices has two nominal public-goods outcomes: it increases the availability of and economic access to food, and therefore contributes to food security (locally and globally); by reducing necessary household expenditure, it frees up income for consumption growth in other goods and services, supporting other sectors, jobs and economic growth.

However, the drive towards productivity has also led to increases in the intensity and scale of land use, with consequences for soils, air and water quality, appropriation of water and biodiversity loss. The benefits of global markets, and maximizing comparative advantage, has led to the global concentration of food production into a small handful of commodity crops, grown in a few 'breadbasket' regions. Grain is also sufficiently cheap that it supports livestock, leading to a growth in the global herd. The availability of cheap calories, the lack of availability of expensive nutrients, and cheap meat have fuelled a global shift away from undernutrition, as the principal global cause of dietary ill-health, to over-consumption of calories. As prices decrease, more food is wasted. And, as per head availability of food, including meat, increases, the emissions from the food system, including deforestation to produce commodity and feed crops, increases, driving climate change.

Climate change has affected yields and their nutritional quality, creating further pressures to intensify in compensation, or extensify: to use more land to produce food. As emissions grow, reaching climate change mitigation goals requires an increasing need for land-based mitigation, including biomass production for biomass energy with carbon capture and storage (BECCS) technologies, and afforestation. By driving climate change, consumption growth increases competition for land and reduces the efficacy of agriculture. Meanwhile, habitat destruction and a warming climate both further increase the risks of pathogens travelling between animals and people.

Climate change, together with environmental degradation, has created ecological disruption, mixing wild animals and their pathogens in new ways and allowing pathogens to infect new hosts. Peri-urban expansion into ecosystems mixes farmed animals with wildlife in new ways. Furthermore, a larger herd, genetic monoculture

³⁸ Nutrition for Growth (2021), *Vision and Roadmap: August 2019*, https://nutritionforgrowth.org/wp-content/uploads/2019/12/Nutrition-for-Growth-2020-Vision-and-Roadmap.pdf.

³⁹ Benton, T. (2019), 'Using scenario analyses to address the future of food', *EFSA Journal*, 17(S1), https://efsa. onlinelibrary.wiley.com/doi/full/10.2903/j.efsa.2019.e170703.

and high densities of animals associated with intensified production have increased the risks of viral transmission among animals and to humans. The SARS-CoV-2 virus, which causes COVID-19, rightly claims attention today, but it should be noted that in 2019, African swine fever caused the death (from disease, or from culling) of one-quarter of the global population of domestic pigs.⁴⁰

The drive for economic growth and profit maximization in a globalized world has led to complex provisioning systems that connect the world across space and across sectors. Food provision in any country is not a simple function of local agriculture, but typically depends on land, water, input and food manufacture, transport and retail, supported by access to financial systems and IT infrastructure, such as GPS. Supply chains have become both longer and more reliant on the 'just-in-time' management approach. This has led to greater systemic fragility. The potential for a climate hazard or health crisis to lead to a risk cascade that amplifies the impact increases: a supply disruption leads to an exaggerated market response, fuelling poor policy interventions and further amplifying effects. Thus, in addition to the vicious cycles leading to escalating environmental impacts, the same drivers are undermining the resilience of the system.

In short, a focus on productivity growth to provide more food, more cheaply, creates positive, reinforcing feedbacks that end up amplifying negative outcomes. These are increasingly to the detriment of the public-good aims for which the food system was shaped.

Turning vicious into virtuous cycles

However, a sustainable, efficient, low-waste food system could stay within planetary boundaries and sustain the Earth's population, with greater equity and resilience (as embodied in the UN SDGs) in the face of increasing disruption to climate, health and natural systems. Particularly in low- and middle-income countries, a virtuous cycle approach could support growth and increase employment (SDG 1), as well as reducing pollution and waste (SDGs 6, 13, 14 and 15), helping countries to leapfrog straight to circular systems and institutions (SDGs 9 and 12), without following the traditional model of eliminating existing (often informal) circular systems – traditional cultures of repair and reuse – and then reintroducing them down the line.

A circular approach is a framing that contributes to creating virtuous cycles, by aiming to turn extractive, linear supply chains into circular ones, where waste is recycled as an input.⁴¹ In farming it would: aim to reduce agricultural inputs; employ regenerative models that prevent the leakage of natural resources (such as carbon, nitrogen, phosphorus and water) from the food system; and stimulate the reuse and recycling of resource losses. Where arable land is used to produce plants for human consumption (a circular approach would first prioritize this use of land), by-products include crop residues, co-products from industrial food processing, food losses, food waste and human excreta. A circular model aims to prevent human edible by-products, such as food losses and food waste in patterns of production and consumption (SDG 12).

⁴⁰ Van der Zee, B. (2019), 'Quarter of world's pig population 'to die due to African swine fever", *Guardian*, 31 October 2019, https://www.theguardian.com/world/2019/oct/31/quarter-of-worlds-pig-population-to-die-of-african-swine-fever.

⁴¹ Zanten, H. H. E., Van Ittersum, M. K. and De Boer, I. J. M. (2019), 'The role of farm animals in a circular food system', *Global Food Security*, 21: pp. 18–21, doi: 10.1016/j.gfs.2019.06.003.

When such options have been exhausted, the focus then shifts to recycling the remainder of those losses into the food system, together with by-products inedible for humans, in order to enrich the soil or fertilize crops. This focus on organic waste recovery can, in turn, improve sanitation and generate value and livelihoods, often for some of the poorest in society. By-products are also used to feed animals: pigs, poultry, farmed fish or insects can utilize by-products and convert them into valuable food and manure, supporting human health, environmental outcomes and agricultural livelihoods. Ruminants can create nutritional value from grasslands by converting grass products into milk, meat and manure.

In contrast to the cheaper food paradigm, a circular model sees the role of farm animals in the food system as converting by-products that humans cannot or do not want to eat into nutrient-dense products, such as meat, milk and eggs, and manure and ecosystem services. By converting these biomass streams, farm animals recycle nutrients within the food system that otherwise would have been lost in the process of food production. The rice-duck (and rice-duck-fish) system is one such circular agri-food model, a traditional technology in China, which also serves as an example of an NBS in terms of climate change, since it helps to reduce methane emissions from agriculture. In this model, ducks eat pests and weeds in rice paddies, meaning little or no pesticides or herbicides need be used. By paddling around the paddies, they help to stir up nutrients in the water, helping the rice plants grow stronger without the use of chemical fertilizer, while duck waste serves to add nutrients.

Such circular approaches create a greater diversity of outputs, which are better for community nutrition, public health and economic resilience. They thus help to support SDG 2 (Zero Hunger), SDG 3 (Good Health and Wellbeing), SDG 8 (Decent Work and Economic Growth) and SDG 10 (Reduced Inequalities), while minimizing deleterious impacts on clean water (SDGs 6 and 14), climate (SDG 13), and nature (SDG 15). SDG 12 (Responsible Consumption and Production) also includes the target of halving global food waste and food losses.

Recommendations: Creating a virtuous cycle in 2021

This paper has presented an explanatory timeline and supplementary materials that are intended to help governments, institutions, campaigners, diplomats and others to visualize how the COVID-19 recovery in 2021 might help to renew dynamic coordination, international cooperation and holistic thinking around building healthy, low-carbon development models.

Coordination across the three Rio Conventions and the 2030 Agenda for Sustainable Development will be difficult to achieve, and it is possible that such an agenda will be overwhelmed by the continuing fallout of the COVID-19 pandemic, the resultant international tensions, and efforts to secure an economic recovery. However, opportunities exist for leaders to emphasize the virtuous cycle approach to protecting climate, nature and health in the post-virus economic recovery (and beyond), and to build greater international cooperation and resilience in the process. Some of these concrete recommendations might include:

For the UN:

- Use the 'super year' potential of the three Rio Conventions summit meetings envisaged for 2021 (culminating in UNFCCC COP26, scheduled for November, and rounded off by the 50th anniversary in 2022 of the groundbreaking Stockholm Conference) to create virtuous cycles between climate, biodiversity and land use, as proposed in the Egyptian initiative;
- Establish formal coordination mechanisms between pledges under the UNFCCC and UN CBD, the NDCs and NBSAPS, respectively, to create synergies around land use and NBS, and avoid trade-offs, as promoted in the China and New Zealand NBS manifesto;
- Utilize the UN Strategic Planning Network to better coordinate across silos and create linkages between nature, climate and health.

For other multilateral bodies:

- Use the G20 and G7 summits to emphasize reforms to financing and bilateral and multilateral trade systems, to support a global circular economy transition; to advocate against any relaxation of environmental regulations in the name of post-virus stimulus and recovery; and to incorporate green conditionalities into any corporate bailouts;
- Call, at the G20 summit, for the inclusion of NBS and biodiversity principles into rules on lending and finance more broadly;
- Make EU–China cooperation, and renewed coordination across the US–EU–China triangle, under the Biden presidency, a venue for virtuous-cycle approaches to engagement across nature, climate and health; host strategic exchanges on how to stimulate NBS in the post-COVID-19 recovery;

 Ensure development institutions support NBS in low- and middle-income countries in coordination with resilient and inclusive economic recovery packages. Linking NBS to the SDGs can help to address nutrition, health and economic inclusion, and avoid vicious cycles through projects such as afforestation on agricultural land.

For governments:

- Enact ambitious climate NDCs, in line with Paris Agreement objectives, which include NBS and are linked proactively to submissions under the biodiversity convention (NBSAPS), to encourage synergies and avoid trade-offs;
- Include biodiversity, NBS and ocean conservation measures in national climate adaptation plans;
- Draw on the science, as presented by the IPCC's AR6 reports, to adopt ambitious net zero carbon neutrality pledges for 2050 at the latest;
- Coordinate strategic exchanges on how to stimulate the circular economy in the post-COVID-19 recovery.

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