



China's 14th Five-Year Plan in the context of COVID-19: Rescue, recovery and sustainable growth for China and the world

Nicholas Stern and Chunping Xie

Policy insight

September 2020

The Grantham Research Institute on Climate Change and the Environment was established in 2008 at the London School of Economics and Political Science. The Institute brings together international expertise on economics, as well as finance, geography, the environment, international development and political economy to establish a world-leading centre for policy-relevant research, teaching and training in climate change and the environment. It is funded by the Grantham Foundation for the Protection of the Environment, which also funds the Grantham Institute – Climate Change and the Environment at Imperial College London. www.lse.ac.uk/GranthamInstitute

Energy Foundation China is a professional grant-making charitable organisation registered in California, United States. It started working in China in 1999 and is dedicated to China's sustainable energy development. The foundation's China representative office is registered with the Beijing Municipal Public Security Bureau and supervised by the National Development and Reform Commission of China. Its vision is to achieve prosperity and a safe climate through sustainable energy. www.efchina.org/Front-Page-en

About the authors

Nicholas Stern is IG Patel Professor for Economics and Government, and Chair of the Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.

Chunping Xie is a Policy Fellow at the Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.

Acknowledgements

The authors are grateful for helpful discussions with Cameron Hepburn, Ye Qi and Dimitri Zenghelis, and for valuable comments from Sha Fu, Bob Ward and Ji Zou. Georgina Kyriacou copyedited the report.

Authors' declaration

Nicholas Stern and Chunping Xie declare financial support from the Energy Foundation China, the London School of Economics and Political Science and the Grantham Research Institute on Climate Change and the Environment for the submitted work. The authors declare no other relationships or activities that could appear to have influenced the submitted work. All of the views expressed in this work are those of the authors and are independent of the funding institutions.

This report was first published in September 2020 © The authors, 2020. Permissions requests should be directed to the Grantham Research Institute.

This report is intended to inform decision-makers in the public, private and third sectors. It has been reviewed by internal and external referees before publication.

Suggested citation: Stern N, Xie C (2020) *China's 14th Five-Year Plan in the context of COVID-19: Rescue, recovery and sustainable growth for China and the world*. London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science

Contents

1. Introduction	1
2. The risks of a global depression and the critical need for a sustainable recovery	1
3. China's leadership in the global context	2
Lessons from history	2
Five elements of collaboration and leadership	3
4. Key action areas for China's 14th Five-Year Plan after COVID-19	4
Action Area 1: Energy transition and the role of renewables	4
Action Area 2: Geographical rebalancing and the new urbanisation	6
Action Area 3: Investment in technology infrastructure	7
Action Area 4: Local public finances and sub-national own-source revenues	7
Action Area 5: Strengthening of the Chinese governance model to deliver strong, sustainable and inclusive growth	8
5. China and the world at a crucial point in history	9
References	10

1. Introduction

There is a critical need for a path out of the global economic crisis caused by COVID-19 that is focused on investment in the sustainable economies and activities of the future. As China creates its next 14th Five-Year Plan, for the years 2021–25, its actions in the aftermath of the pandemic are critical to how the world moves forward.

In this paper we begin by briefly noting the lessons from history about recoveries from wars and pandemics. We then comment on key elements of collaboration and leadership that are of special importance now, before setting out a number of action areas for enabling China's 14th Plan to embody high-quality development and strong, sustainable, resilient and inclusive growth.

2. The risks of a global depression and the critical need for a sustainable recovery

The COVID-19 pandemic has created an unprecedented threat to both public health and the global economy. The world economy is now at severe risk with the clear prospect of a strong contraction this year. Projections for 2020 from the International Monetary Fund (IMF) in its *World Economic Outlook* June 2020 update suggest an economic shock that would far exceed that which occurred during the 2008–10 financial crisis, and the worst recession since the 1930s (IMF, 2020a).

This is a truly global problem: the virus and the necessary lockdowns have affected the vast majority of countries. We are seeing large-scale loss of confidence, lack of liquidity, unemployment, and supply-side disruption. Output and employment, particularly jobs in the informal sector, are being deeply damaged. Strong, collective efforts are urgently needed, to protect lives, support the global economy and ensure the resilience of the financial system.

Without strong action, the depression could be long-lasting, posing great danger to social fabrics and political systems around the world. The next few months will be decisive for the world, and coordinated action across countries is required to manage the risk and consequences of this unprecedented crisis.

In the rescue period, the top priorities have been to tackle the public health emergency and prevent the resurgence of COVID-19; to protect the most vulnerable, particularly in relation to health and employment; to give strong support to the banking system and supply of finance to ensure that liquidity issues do not destroy viable firms; and to foster confidence necessary for both private consumption and investment, by setting clear paths and strategies for growth and linking short-term actions and medium-term expectations. Forceful stimulatory fiscal and monetary policies need to be in place, including deficit financing through both borrowing and money creation. In the aftermath of this rescue period, responding too rapidly to the spiralling public debt associated with the costs of COVID-19 and necessary lockdowns with overly tight fiscal policies would choke off recovery and risk plunging economies into larger and deeper recession.

The recovery should mark the beginnings of a global transformation to strong, sustainable, inclusive and resilient economic development and growth, if we are to overcome poverty, make progress on the Sustainable Development Goals (SDGs) and manage the immense risks of climate change. The dangers from unmanaged climate change are likely still bigger and longer lasting than those posed by COVID-19, and it is therefore wise to choose a path out of the depression focused on investment in the sustainable economies and activities of the future, not

only in physical capital, but also in human and natural capital. The short-term stimulus should support economic recovery and avoid high-carbon investments. Investment in traditional industries and infrastructure, which would ramp up fossil-fuel consumption, could lock in decades of polluting, high-carbon and less productive development. The consequences for the world would be devastating.

In some parts of Europe, the United States and China, there is resistance, usually associated with vested interests, to a sustainable recovery, and a temptation to go backwards.¹ But we have seen how dangerous and fragile the old economic model is. Not only does it cause severe damage to the climate and biodiversity: it also makes pandemics more likely, through its transformation of interactions between and among wild animals, domestic animals and humans. Further, the old economic model was accompanied by many stresses of insecurity and inequity.

We must be very clear on the necessity of not going back. We should protect and enhance natural capital to reduce the risk of both future climate change and of global health threats, including pandemics. We must be wary of opportunistic attempts to reinstate dirty industries for the articulated purpose of economic recovery; such policies are routes to insecurity and decline.

3. China's leadership in the global context

This is a key moment for the future of the world. There are clear lessons from history about recoveries after wars or pandemics. Collaboration, openness and sound economic policies can generate a strong recovery and build a better world. China's role in the world is now of a magnitude that makes its actions critical to how the world moves forward. There are five key elements or dimensions of collaboration and leadership that are of special importance now. These are: openness and internationalism; addressing debt; aggregate demand; climate and sustainability; and health. We comment very briefly on each of these, but we begin by noting the lessons of history.

Lessons from history

After the First World War, there was both short-sightedness on debt and unemployment, and an inability to manage demobilisation in Europe (and beyond). Public policy in response to the Spanish influenza pandemic was weak. This was an example of bad economic management and narrow nationalism which led to darkness, destruction and war. After the Second World War, however, many countries of the world invested in reconstruction, avoided unemployment, created social security systems, and worked together to build new international financial, investment and trading systems, and the United Nations and other institutions including the World Health Organization (WHO). This delivered major economic and social progress and led to growth, prosperity, better health and poverty reduction.

In China, after the trauma of the cultural revolution, Deng Xiaoping and the Communist Party of China built a new vision for the country's development and its relationship with the world. This created a remarkable period of growth and poverty reduction in China.

¹ See discussions on global and China's agenda of green and low carbon development, e.g. webinar: <https://www.efchina.org/News-zh/EF-China-News-zh/news-efchina-20200529-zh>. For an overview on the world's green recovery plans, see Evans and Gabbatiss (2020).

Five elements of collaboration and leadership

i) Openness and internationalism

Looking forward, short-sightedness and narrow nationalism in coming years could lead to disorderly debt defaults and economic collapse across the world, as well as environmental and climate crises. *China and Europe* could and should draw from the lessons of history and work together to bring back growth and set the world on a new and sustainable path. They can show *internationalism and help the developing nations*. This collaboration is of fundamental importance for both China and Europe, and can demonstrate the strength of the international community when it acts together.

ii) Addressing debt

Many emerging markets and developing countries of the world are in very deep trouble with debt as a result of the unforeseen COVID-19 crisis. In addition to weak health and social security systems, they face sharp falls in remittances, severe capital flight and falling commodity prices. There is a great need for the lenders (public and private) from all creditor countries, including China, to provide debt cancellation and to suspend debt payments from some developing countries – particularly in Africa, which is about to be hit very hard economically – but also in many other regions. Attempts to enforce payment of unpayable debts will lead to disorderly defaults and subsequent disruption, a downward spiral hitting all involved.

The meeting of G20 Finance Ministers and Central Bank Governors in April 2020 agreed a debt service suspension programme for the poorest countries that are currently in debt to the IMF and the World Bank. Under this programme, the beneficiaries, including all countries eligible for support from the International Development Association (IDA), and all least-developed countries as defined by the United Nations, receive grants to service their debts, in order to release resources for medical and other emergency efforts. All bilateral official creditors will participate in this initiative, consistent with their national laws and internal procedures. Private creditors are encouraged to participate in the initiative on comparable terms. This is surely a positive step but not nearly on a scale necessary to avoid severe disruptions and downturns.

China has played a major and constructive role in investment across the world. In the current global context, China could act positively in a multilateral response to debt, and could deepen its relationship with the Paris Club. The response should be systemic and transparent, and could greatly improve governance in the future for all involved. This would have a substantial and positive effect on China's standing in the world. In particular, it would strengthen cooperation with African countries, which is of great significance to China's long-run development agenda and the Belt and Road Initiative, as well as for progress in the world on the SDGs.

iii) Aggregate demand

The world will not emerge strongly and quickly enough from the global recession unless China plays a very strong role through its consumption and investment demand. *China's role in world demand is fundamental*. During the financial crisis of 2008–10, China's soaring demand boosted growth worldwide and drove a global economic recovery. In contrast to recovery from previous crises, China will likely increase demand through a balanced combination of consumption and investment rather than a focus centred strongly and narrowly on infrastructure. A recent study of ours set out key areas where investments are necessary, in physical, human, natural and social capital, as plans for investment should take centre stage in China's 14th Five-Year Plan (Stern et al., 2020);² these plans are being made in the midst of the COVID-19 crisis.

iv) Climate and sustainability

China and the European Union can intensify cooperation on their strategic development plans (for example, China's 14th Five-Year Plan and the European Green Deal), to boost resilience and

² For the Chinese version, see: <https://www.efchina.org/Reports-zh/report-20200602-zh>

build a strong recovery with sustainability at its heart, and a focus on climate change and biodiversity. *Sustainable investments can be fast, labour-intensive, and embody big economic multipliers*: all are important for driving recovery in output and employment. A much more sustainable, inclusive and resilient economy means better energy systems and cities, stronger public transport, protection of natural habitats, and so on. These issues have been emphasised in the European Green Deal and should also be central to China's 14th Five-Year Plan. They are consistent with the ideas around eco-civilisation that China has been proposing.

As China leads the world out of the COVID-19 crisis, it has a great opportunity. China can show how recovery measures can also accelerate the transition to the inevitable low-carbon economy. China is already at the forefront of the development of new low-carbon technologies and it has a great deal to gain by being in the vanguard of the new global growth story, driven by the stimulus of higher investment in renewables and energy efficiency. China's domestic commitment to environmental protection and ecological conservation (or ecological civilisation) was recently re-emphasised, along with poverty reduction, during President Xi's visit to Shaanxi Province in April 2020. If China goes back towards the old polluting and wasteful practices of the past, it would send a very harmful signal to other countries. Both China and the rest of the world would be deeply damaged for the foreseeable future. *The commitment of the world to tackling climate change will depend on what China does in the coming months and years*. This influence is even greater than is implied by China's size: it comes also from its technologies, strategies and leadership in coming out of the COVID-19 crisis.

This decade, 2020–2030, is of fundamental importance to human history. If we lock in dirty and high-carbon capital, we will head for profound and irreversible damage to our climate. China's 14th and 15th Five-Year Plans will shape the future of the world.

v) Health

China has already shown leadership on public health in response to COVID-19, including around facilities, testing and treatments. International collaboration will be crucial, including on vaccines, as COVID-19 spreads around the world and there are dangers of second waves. Strong and constructive leadership by China could have a powerful and positive influence on other countries and could create great benefits for both China and the world as a whole. This is a decisive moment in history.

4. Key action areas for China's 14th Five-Year Plan after COVID-19

To achieve a Chinese version of eco-civilisation, high-quality development and strong, sustainable, resilient and inclusive growth, it is crucial that the 14th Plan embodies a Green New Deal, and tackles issues of public health, climate change, biodiversity and ecosystems, while also reinvigorating economic growth through technology, infrastructure, new urbanisation, and fiscal sustainability. It can establish China's leadership in the world economy and set an example to the world on sustainable recovery and transformational growth following the COVID-19 crisis; this is a decisive decade for the world. Major action areas are listed below.

Action area 1: Energy transition and the role of renewables

Specifying a target to peak greenhouse gas emissions during the 14th Plan (i.e. by 2025) could change the world's commitment to the environment and could contribute greatly to the success of both the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP15), due to take place in China in the second quarter of 2021, and the United

Nations Framework Convention on Climate Change conference, COP26, now scheduled for November 2021 in Glasgow, UK.

Cutting coal consumption and replacing it with cleaner energy sources, such as natural gas and renewables, has been a key part of China's energy strategy. China has committed to a greening of its major multi-country infrastructure and development project, the Belt and Road Initiative. *That means no more investment in coal-fired electricity.* It is too costly both economically and environmentally; it is unnecessary and bad for development. Therefore, it is worrying that China is still building more coal capacity, at home and abroad. It is deeply damaging to economies, societies, health and the environment and has no valid economic justification. During his inspection trip to Shanxi, the major coal-producing province, in May 2020, President Xi made a similar emphasis on green development and stressed the pressing need for energy transition in Shanxi, alongside a long-term strategy for development.

China should accelerate the transition to cleaner energy, with an aim to peak its coal consumption now. That means replacing coal with clean heating, reducing industrial coal consumption through restructuring and technological progress, and ending the construction of coal-fired plants while promoting renewable energy generation instead. Demand for electricity in China is still rising, especially from the service and residential sectors, which have more variable and unpredictable consumption compared with the industrial sector. But that does not necessarily mean that China has to build more coal-fired plants. Instead, China should focus on cleaner sources for meeting and managing increasing energy demand while promoting the clean energy transition.

Renewable energy is an important part of China's energy resource endowment and a feasible solution for ensuring energy supply security while also meeting environmental and climate performance targets. Many renewables have become *highly competitive economically*, with wind and solar PV becoming ever-cheaper, energy storage costs falling, and network management improving. These technical advances are likely to continue. A recent study by He et al. (2020) suggests that if the cost trends for renewables continue, 62 per cent of China's electricity could come from non-fossil sources by 2030, at a cost that is 11 per cent lower than would be achieved through the current business-as-usual approach.

Some may argue that China needs to build more new coal-fired plants to ensure power grid reliability and provide the necessary flexibility as renewables increase. This stance does not stand up to scrutiny as the increasing penetration by renewable energy is *technically and economically feasible* with a wide range of options rather than using more coal. There are lessons to be learned from the UK, where renewables accounted for 37 per cent of annual electricity generation in 2019 (Evans, 2020). Energy storage capacity in the UK is seeing massive growth, which contributes to the stability of the electricity system and ensures that power grids with high levels of renewables do not suffer from system balance problems.

Other sound economic and practical measures include *grid management* to balance demand and supply in a smarter way and to avoid the irrational prioritisation of coal-fired sources; *power sector reform, embodying market-oriented pricing* to increase efficiency and take advantage of the nearly-zero marginal generation cost from renewable sources; and innovative ancillary service market design to elicit investment in the operational capabilities needed for renewable integration. *Carbon taxation* could have a role to play too, in generating appropriate incentives and overcoming the market failure from greenhouse gas emissions, and can generate revenue which can be used to protect poorer households and finance the management of dislocation of workers; policies for retraining and reallocating coal workers are needed to ensure a 'just transition'. The jobs of the past are insecure jobs. Countries across the world, and their workers, would benefit from pursuing the employment opportunities of the 21st century, rather than those of the 20th century.

In addition, as more and more electric vehicles are being used, there will be huge capacity from car batteries and smart charging piles available to help create flexible balancing for electricity load variation in urban areas. Digitalisation is critical for the integration of intermittent renewables by enabling grids to better match energy demand at times when electricity supply from solar PV and wind is abundant, and to support demand response programmes in buildings, industry and transport. Investments in the development of digital transformation strategies will be important to promote the clean energy transition.

These are very promising options, which offer returns that could be very big for China. There is convincing evidence that stimulus plans can deliver both economic and climate goals. Projects that cut greenhouse gas emissions as well as stimulate economic growth can deliver higher returns from government spending, in the short and long term, than more conventional stimulus spending (Hepburn et al., 2020). Many sustainable projects and programmes can be implemented quickly, are labour-intensive and create strong economic multipliers. This can foster a transition from a strong and sustainable recovery from COVID-19 into economic growth that is strong, sustainable, resilient and inclusive.

Action area 2: Geographical rebalancing and the new urbanisation

A clear sense of direction is required to support both strong short-term actions for rescuing the economy and sound medium-term measures. The economic recovery cannot be sustained without there being confidence in the future strategy. The transition to a healthier and greener economy offers the only credible and sustainable strategy.

The post-pandemic stimulus plans represent great opportunities to promote strong, dynamic and sustainable urban transitions. In China, this can be enhanced through a shift from the export-oriented mega 'hubs' to smaller, well-contained cities, which we call 'Clean, Compact and Connected cities' (CCCs), in the interior (Stern and Qi, 2020). In another recent paper, we suggest shifting activities from coastal metropolitan areas to CCCs, while also expanding already developed areas (Ahmad et al., 2020; also see Stern and Qi, 2020). CCCs can play a central role in promoting both employment generation, and a cleaner and healthier environment. Moderating or reversing the migratory trends towards the existing coastal metropolises requires investment in human and social capital and services, particularly to ensure that health and education are more evenly distributed within CCCs and across the country. The tremendous technological advances made by China through e-commerce, information technology and big data could also benefit the evolution of interior CCCs, persuading private firms to relocate closer to population centres and to bring supply chains nearer to where demand is generated. The provision of basic services to attract workers and households will be critical.

The focus on CCCs could also facilitate a more radical transformation of the existing metropolises. The important elements of that transformation will include measures to limit congestion by improving facilities for cycling and pedestrians, retrofitting buildings to make them more energy-efficient and climate-resilient, and enhanced opportunity and accountability, in more manageable county-size sub-jurisdictions, to enable delivery of services. Strong and sustainable growth can also be supported by the creation of high-tech innovation zones, with the development of IT infrastructure, highly skilled research centres and top-class universities and financial sectors, like the Yangtze River Delta and Greater Bay Area programmes.

Urban areas consume 80 per cent of energy worldwide, with buildings accounting for almost half of that energy (Qi et al., 2020). This means it is important to implement best practices in energy and resource conservation in new buildings. The careful planning of compact, connected and coordinated use of land in cities can unlock the power of urban areas to deliver clean economic development and avoid sprawl and the hollowing out of city centres. With many existing buildings in China's cities likely to be operational for decades to come, a priority area for investment therefore should be retrofits to improve energy efficiency in both electricity and heat.

Digital technologies should also be incorporated, such as smart displays for existing meters, and more flexible power systems in buildings.

Better urban design and development also means reducing energy use, water use and waste production through more renewables, recycling, and efficiency in public infrastructure. Congestion can be cut in cities and regional integration can be increased by investments in green mobility systems (e.g. electric vehicles), public transport and improvements in links between cities. Functionally and socially mixed neighbourhoods with accessible green spaces, comfortable, affordable, and climate-smart housing for all, and efficient public transport networks, could both protect natural capital and provide a basis for higher quality, stronger and more sustainable economic growth.

Action area 3: Investment in technology infrastructure

Lessons for this recovery can and should be learned from China's RMB ¥4 trillion stimulus plan to manage the impact of the global financial crisis in 2008, which included massive infrastructure and real estate investment and created a huge surplus of high-carbon capacity. The recovery from COVID-19 can and should follow a different route.

China's National Development and Reform Commission has recently produced its blueprint for the so-called new infrastructure development initiative, which could enable the new drivers of economic growth. This initiative focuses on three aspects: information-based infrastructure such as 5G base stations; converged infrastructure supported by the application of the internet, big data and artificial intelligence; and innovative infrastructure that supports scientific research, technology development and product development. Some new technologies, such as hydrogen electrolysis, offer potentially huge export opportunities for China. The implementation of digital technologies across economic and social sectors can improve energy efficiency and promote a sustainable transition through systems innovations.

China's economic recovery package should avoid investments in traditional infrastructure, such as coal-fired power plants and roads, and instead should focus on the technology of the 21st century. Tilting backwards would lead to stranded assets and stranded jobs.

Action area 4: Local public finances and sub-national own-source revenues

Local governments in China are struggling with the debt overhang from 2010, and were facing a debt spiral before the pandemic. Excessive borrowing has severely reduced the capacity of local governments to respond to the challenge of China's new urbanisation, rebalancing of population and the transition to a much cleaner economy. Strong fiscal measures and reforms are needed to ensure that the stimulus and investment packages in response to the pandemic can embody and incentivise sustainability in finances, and do not lock in existing and environmentally damaging production patterns.

The State Council should clarify the key responsibilities of different levels of government, including innovation zones, metropolitan areas and CCCs. At the same time, appropriate own-tax handles (utilising the State Taxation Administration) are critical for accountability, together with better defined financing for central objectives. There should be an improvement in the flow of information about where money is spent and the outcomes of public spending and investment design. The own-source taxes are important in facilitating access to private finance, borrowing and public-private partnerships.

The next stage of fiscal reforms should lay the foundation for future growth and stability in a similar fashion to the fiscal reforms of the early 1990s.

Action area 5: Strengthening of the Chinese governance model to deliver strong, sustainable and inclusive growth

Administrative reform *both regionally and across government* will be required to realise the new form of sustainable growth and development.

The COVID-19 pandemic has underscored problems of government capacity in *central and western regions* and of *regional disparities*. Over-dependence on the central government can inhibit crisis responses, but, at the same time, if some responsibilities are to be decentralised, some innovation and investment will be necessary to build the required capacity.

As part of necessary reform, clarity is critical on local spending assignments (e.g. basic preventive health care, COVID-19 testing, tracing and quarantine plus support) as well as on financing mechanisms and the management of associated risks and liabilities.

In recent years, in the eastern region of China, attention has been paid to shaping the business environment, and a series of preferential policies have been introduced to attract talent. There could be advantages in rolling this out quickly to other regions as well.

High-quality strategies for sustainable and resilient investment and innovation must be coherently managed *across the whole of government*. It does not make sense to separate environment and ecological issues from investment by line ministries. Environment and ecology must be integrated into all investment. That means there needs to be a special role for the National Development and Reform Commission and the Ministry of Finance, whose responsibilities cover the whole economy in ensuring coherence in investment strategies in relation to sustainable growth. If sustainability is embodied in all investments, it can really drive growth. It is a positive story and goes much further than simply objecting to damaging activities, however necessary that may be.

Action area 6: Encouraging positive behavioural changes after the COVID-19 pandemic

The COVID-19 crisis has generated creativity and the acceleration of change. Some of the positive behavioural changes should be encouraged, expanded and promoted after the pandemic. This includes: better use of urban space (e.g. staggering rush hours to reduce congestion); investments in public transport capacity to offer an attractive substitute for private cars and to avoid sprawl and the hollowing out of cities; reclaiming streets for pedestrians and cyclists; and reducing local air pollution. Such improvements in the quality of city life can increase well-being and enhance future growth by creating an attractive environment for high-skill workers.

The pandemic has helped to create markets for new technologies and to spawn new business models, such as remote offices, online education, unmanned automated services, and fresh food e-commerce. Particular attention should be paid to strengthening connected technologies and virtualisation through: high-speed broadband; technologies for virtual learning, healthcare and security; and improved residential energy efficiency to decrease the costs of working from home. A permanent shift in business travel patterns should also be anticipated. And we should not forget the sense of community and neighbourliness which has emerged strongly.

5. China and the world at a crucial point in history

The world risks falling into an extended depression as a result of the COVID-19 pandemic. The crisis is much deeper and more global than the financial crisis of 2008–10. Late summer going into autumn 2020 constitutes a critical point in world history, particularly for the stability of the world economy. The 2020s will be a decade of fundamental importance for the world, especially for the climate, environment and biodiversity. Indeed, in many aspects of our future the decade will be decisive. This will be a crucial test of internationalism for the world and for China.

The European Commission presented the European Green Deal on 11 December 2019, before the outbreak of the COVID-19 pandemic, providing a roadmap with actions for making the EU's economy sustainable and reaching climate-neutrality by 2050. This ambitious plan remains the core EU economic and political project, even with growing focus on responding to the pandemic. On 21 July 2020, the EU reached a deal on a recovery package and the European budget for 2021–2027, to counter the impact of the pandemic, and it will support investment in the green and digital transitions to ensure the EU builds back better and greener. This involves a €750 billion recovery instrument in the form of €390 billion in grants and €360 billion in loans, emphasising a sustainable, even, inclusive and fair recovery for all member countries, and recognising the importance of strengthening the role of development banks in unlocking investments and contributing to the EU's ambitions in fighting climate change and digitalising the EU's economy.

Some countries, such as France, were putting in place circular economy laws before the crisis; laws of this nature can be an important dimension of recovery packages. France has passed a total of €425 billion in fiscal measures, which will extend substantial support for environmentally relevant sectors (e.g. incentives to purchase greener vehicles and green investment support for the auto and aerospace sectors). Germany's resolve to push for a sustainable recovery and transformation was illustrated by the government's determination to stand up to vested interests in the auto industry and not to slip back into supporting the familiar diesel engines. Clarity and resolve of this kind will be necessary to effective policy and the strong signals that can drive innovation and investment. Germany has announced a €130 billion fiscal package to strengthen broad consumption and incentivise private and public investment, particularly in green and digital technologies, including a €50 billion future investment package aimed at reducing Germany's carbon footprint and promoting R&D, such as support for climate-friendly mobility; €7 billion funding for the national hydrogen strategy; and promotion of R&D especially on green and digital projects. The UK has announced a £3 billion green investment package as part of its coronavirus stimulus, which includes a £1 billion plan on improving the energy efficiency of public buildings and a £2 billion Green Homes Grant scheme to pay for energy improvements such as insulation for more than 600,000 homes. (See IMF, 2020b for more details of these and other countries' responses.)

Hesitation and inaction on sustainability could take the world to a climate catastrophe that would be both very destructive and long lasting. The world may revert towards the old dirty technologies of the 20th century. China's leadership in the COVID-19 recovery phase is crucial. Bringing forward the peak in China's greenhouse gas emissions to no later than 2025, and within the 14th Five-Year Plan, could change climate commitments across the world. China can lead the world across all these dimensions and establish itself as a true global leader for the 21st century.

References

- Ahmad E, Stern N, Xie C (2020) *From rescue to recovery: towards a post-pandemic sustainable transition for China*. Working paper, China Development Research Foundation. <https://cdrf.org.cn/jjh/pdf/towards%20a%20post-pandemic%20sustainable%20transition%20for%20China.pdf>
- Evans S (2020) Analysis: UK low-carbon electricity generation stalls in 2019. *Carbon Brief*, 7 January. <https://www.carbonbrief.org/analysis-uk-low-carbon-electricity-generation-stalls-in-2019>
- Evans S, Gabbatiss J (2020) Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions. *Carbon Brief*, 16 June. <https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions>.
- He G, Lin J, Sifuentes F, Liu X, Abhyankar N, Phadke A (2020) Rapid cost decrease of renewables and storage accelerates the decarbonization of China's power system. *Nature communications*, 11(1), 1-9.
- Hepburn C, O'Callaghan B, Stern N, Stiglitz J, Zenghelis D (2020) Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? *Oxford Review of Economic Policy*, 36.
- International Monetary Fund (IMF) (2020a) *World Economic Outlook Update, June 2020*. <https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020>
- International Monetary Fund (IMF) (2020b) *Policy Responses to COVID-19* [Policy tracker by country]. <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>
- Qi Y, Song Q, Zhao X, Qiu S, Lindsay T (2020) *China's New Urbanisation Opportunity: A Vision for the 14th Five-Year Plan*. London, UK, and Washington, DC: Coalition for Urban Transitions.
- Stern N, Qi Y (2020) Clean, compact, connected cities. *China Daily*, 23 July. <http://www.chinadaily.com.cn/a/202007/23/WS5f18da1fa31083481725b769.html>
- Stern N, Xie C, Zenghelis D (2020) *Strong, sustainable and inclusive growth in a new era for China—Paper 2: valuing and investing in physical, human, natural and social capital in the 14th Plan*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. <https://www.lse.ac.uk/granthaminstitute/publication/strong-sustainable-and-inclusive-growth-in-a-new-era-for-china-paper-2-valuing-and-investing-in-physical-human-natural-and-social-capital-in-the-14th-plan/>