



UN Policy Dialogue Series Summary Note

Acting on COVID-posed challenges: Accelerating the Transition to a Low-carbon Economy

UN Framework for the Immediate Socio-Economic Response to COVID-19 in China
April 2021

1. Introduction

COVID-19 poses a serious challenge to the 2030 Agenda and the Sustainable Development Goals (SDGs) to end poverty, reduce inequality and protect the planet. Against this background, the United Nations (UN) system in China has initiated a series of policy dialogues around key topics of national importance, to explore opportunities and implications of the “new stage for China's development”¹, the Government's target of “common prosperity”, sustainable development and SDG achievement. These dialogues also aim to share relevant experiences and lessons.

Third in the series, the Policy Dialogue “Acting on COVID-posed challenges: Accelerating the Transition to a Low-carbon Economy” was co-organized by the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP) and held on 12 January 2021. The Dialogue aimed to discuss with Chinese partners how to seize the opportunity provided by COVID-19 to accelerate green development in China and foster worldwide coordinated action.

The COVID-19 pandemic is a reminder of the grave consequences of transgressing environmental boundaries, calling for a whole-of-government and whole-of-society effort to achieve a low-carbon transition. China is taking key steps, in line with the SDGs and its national priority of moving from a high-growth to a high-quality development model. The game changing pledge made by President Xi in September 2020 that China would peak its emissions by 2030, and become carbon neutral by 2060 is a momentous objective with significant ramifications for future economic and social policies in China – and beyond.

The dialogue invited government officials, private sector representatives, and experts to provide their views. To host these diverse perspectives, this dialogue was structured into three distinct but interrelated sessions, focusing on the most important trends and issues in the current context while also shedding light on future dynamics.

The first session was dedicated to green technology development as it serves as one of the powerful engines for global economic recovery and SDGs attainment. This session explored key trends and solutions in boosting green technology innovation and international cooperation in China's energy sector. The second session focused on green finance, which serves as a lifeline for low-carbon transition. The third session was dedicated to biodiversity and nature-based solutions (NBS). COVID-19 has shown how human health is intimately connected with our relationship to nature. As the world seeks to build back better from the current crisis, it is critical to preserve biodiversity and invest in nature-based solutions.

2. Green development in China and globally while responding to COVID-19

2.1. Opening remarks

Opening the policy dialogue, Ms. Amakobe Sande, UN Interim Resident Coordinator in China, noted that **China's experience with the pandemic was unique**. China was the first country to be severely affected by it, but also the first country where the recovery started remarkably early. As a consequence, the focus of the UN family in China soon shifted from immediate response to a recovery that not only builds back, but “builds back better”.

¹ *China's President Xi Jinping, 4 November 2020, http://en.qsttheory.cn/2020-11/05/c_561010.htm*

In this context, **green development is a particularly vital topic**. At the current rate, trends in global temperature are set to rise to 3°C and more without urgent and immediate actions. The United Nations is calling to build a Global Coalition for Carbon Neutrality by 2050, while targeting a reduction of global emissions by 45% by 2030. Equally important are **biodiversity protection and nature-based solutions**. The United Nations is hopeful that the UN Biodiversity Conference in Kunming later this year will be a turning point and a new milestone in biodiversity global governance.

DDG Sun Zhen, Deputy Director General of the Department of Climate Change of China's Ministry of Ecology and Environment (MEE) stressed that the new climate action goals announced by President Xi demonstrate China's firm determination to actively respond to climate change and take a green and low-carbon development path. In a context of unilateralism and protectionism, all parties must firmly support multilateralism, fully and accurately understand and implement the Paris agreement.

Ms. Beate Trankmann, UNDP Resident Representative in China, highlighted **a few policy recommendations for consideration focusing on the energy sector**, key for accelerating the transformation towards a green economy and sustainable recovery. First, it is important to re-set the relative price of renewables and fossil fuels by eliminating fossil fuel subsidies and using taxes to disincentivize emissions. This will be critical to guide producers, consumers and investors to avoid high-carbon choices. Second, it is crucial to move away from investing in high-carbon technologies, which are set to become stranded assets, as energy from renewables continues to become cheaper compared to fossil fuels, thanks to rapidly improving and increasingly competitive generation, storage and transmission options. Third, investments in renewable energy (RE) should be further increased to create more and better paying jobs.

Mr. Tu Ruihe, Head of UNEP China Office, also emphasized several recommendations. First, China may consider developing **a specific law on climate change**. Second, attention may to be paid to stronger collective and coordinated efforts and policies among various government departments. Third, attention should also be devoted to awareness and capacity gaps, as well as differences in low-carbon transition stages, between provinces and within provinces, particularly in the west.

Last but not least, Mr. Tu and Ms. Trankmann both stressed that, to achieve a global low-carbon development path, it will also be important to **avoid the relocation of emissions through financing coal power plants in other countries**. Low carbon and green development policies, green technologies and the best practices should be extended to China's overseas investments, such as investments in Belt and Road partner countries.

2.2 Pathways towards a carbon neutral China by 2060

Key note speech by Professor He Jiankun, Chairman of Academic Committee, Institute for Climate Change and Sustainable Development, Tsinghua University..

With the new carbon neutrality target, China re-affirmed its commitment to achieving the long-term decarbonization pathway under the 1.5°C scenario. The 14th Five-Year Plan will be vital to know the related key targets and measures.

To achieve the CO₂ emission peak before 2030, Prof. He suggested that **optimizing the industrial structure and energy mix would be the first step**. This would help achieve an early peak in coal consumption. By 2030, the carbon intensity of China's Gross Domestic Product (GDP) should fall by more than 65% from the 2005 level. Non-fossil energy should account for approximately 25% of primary energy consumption, and the installed capacity of wind and solar power should all exceed 1.2 terawatts. In this way, future increases in energy demand can mostly be met by increased supply of non-fossil energy.

Other necessary measures to help achieve the CO₂ peak before 2030 include i) improving the carbon market and covering a wider range of industries, particularly energy-intensive ones; ii) establish a Measurement Reporting and Verification (MRV) system and limit the emission of non-CO₂ greenhouse gases (GHGs); iii) promote energy saving, technology upgrading, limit the expansion of energy-intensive industries' capacity (i.e., heavy chemical), and eliminate outdated industrial capacity.

Table 1. Objectives for China to peak CO2 emissions by 2030

	2020	2030 (stated target)
Carbon intensity of GDP decrease compared to 2005 level	48.1%	Over 65%
Installed capacity of wind and solar power (terawatt)	0.5	1.2
Non-fossil energy share (renewable and nuclear) in primary energy consumption	16%	25%
Non-fossil energy share (renewable and nuclear) in power generation	32%	50%

For long-term low carbon transition after 2030, China also **needs to prepare relevant technology, infrastructure, institutional mechanism and policies**. Under the 1.5 °C scenario, primary energy consumption will drop to around 5 billion tons coal equivalent (tce) by 2050. The share of coal in primary energy consumption will be smaller than 5%, and non-fossil energy will account for more than 85% (see Figure 1 and Table 2). From 2020 to 2050, needed investment in energy transformation is estimated to reach 2 to 2.5 per cent of GDP every year.

Figure 1. Projected primary energy consumption in China (2005-2050)

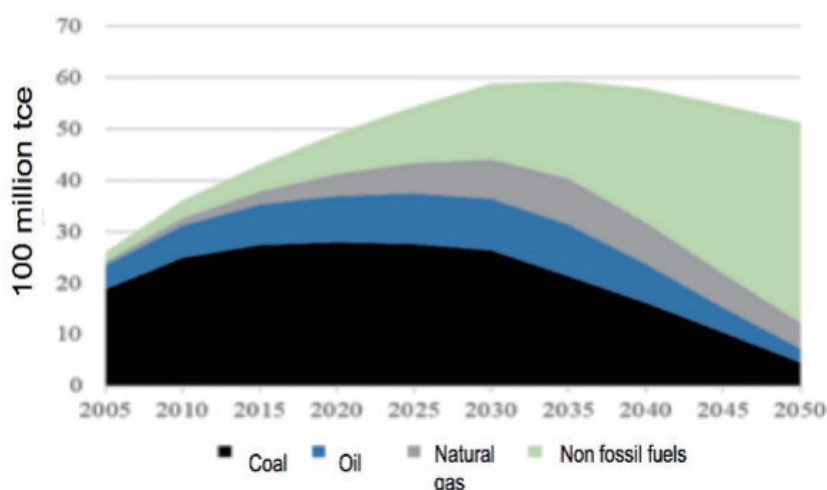


Table 2. Long-term pathway for China to mitigate climate change to 1.5°C

1.5°C scenario	2020	2050 (estimated target)
CO2 emissions in energy consumption (billion tCO2e)	10.03	1.47
Share of coal in primary energy consumption	57%	Smaller than 5%
Non-fossil energy (renewables and nuclear) in primary energy consumption	16%	85%
Share of electricity in primary energy consumption	45%	85%

2 Figures for non-fossil energy share in primary energy consumption and power generation are from Prof. He Jiankun's presentation.

3 Carbon intensity of GDP, installed capacity for wind and solar power as well as non-fossil energy share in primary energy consumption are targets indicated by President Xi Jinping during the 12 December 2020 Climate Ambition Summit. The target of non-fossil energy share in power generation has been stated in the "Energy Production and Consumption Revolution Strategy (2016-2030)" released on 25 April 2017 by the National Development Reform Commission (NDRC) and National Energy Administration (NEA).

4 Figure for 2019. Source: http://www.gov.cn/xinwen/2020-09/27/content_5547713.htm

5 NEA data.

6 Figures and estimated targets are those used by Pr. He Jiankun in his presentation.

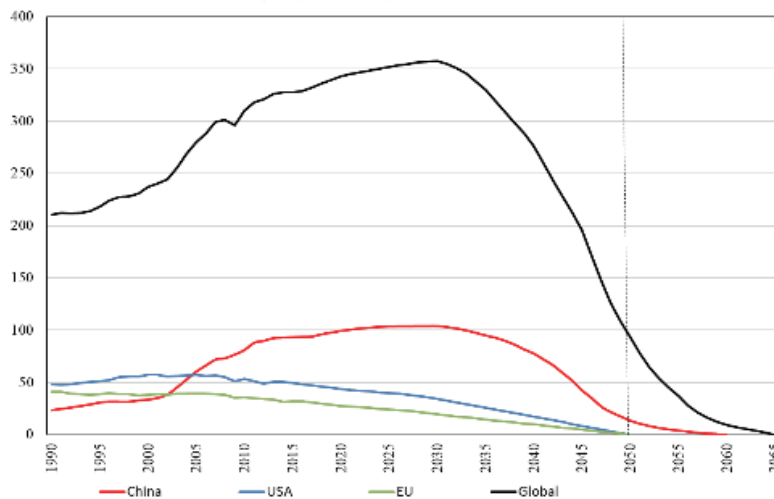
7 Ibid.

To achieve net zero CO₂ emissions, Prof. He particularly emphasized the role of Carbon Capture and Storage (CCS), Bioenergy Carbon Capture and Storage (BECCS), as well as agricultural and forestry carbon sinks.

In parallel, it is recommended to i) build a green industrial system and promote decarbonization through digitalization and re-electrification; ii) establish a clean, low-carbon, efficient and safe energy production and consumption system, and form a zero-carbon energy system with renewable energy as the main component; iii) promote the research and development (R&D) and industrialization of deep decarbonization technologies. For example, hydrogen energy, energy storage, smart grid, zero carbon steelmaking, zero carbon chemical industry, CCS and BECCS, and Carbon Dioxide Removal (CDR); iv) promote institutional reforms, carbon pricing mechanisms and carbon markets, and create a favourable institutional, policy and market environment for long-term low-carbon transition.

Unlike developed countries that have entered the post-industrialization stage with their energy demands having reached the peaks, China is now in a stage of quite rapid economic and social development with its energy demand rising. Therefore, **it is even more challenging for China to achieve carbon neutrality before 2060** than developed countries' carbon neutrality by 2050.

Figure 2: Global and major countries' net carbon emissions pathways (t CO₂e)



2.3 The role of renewable energy development in achieving China's low-carbon transition

Key note speech by Professor Li Junfeng, Chairman of academic committee, National Centre for Climate Change Strategy and International Cooperation.

The development of renewable energy has been **a long-term national strategy for China** and it is now playing a key role in achieving the country's low-carbon transition. China has seen a great leap from 2005 to 2019, with the share of non-hydro renewable energy in total electricity generation rising from nearly 0 in 2005 to over 10% in 2019 and its installed capacity reaching around 0.5.

The development of renewable energy in China also benefitted from international development cooperation. UNDP China, for example, launched a project that advanced its commercialization process in the 1990s. Bilateral collaborations with Denmark, Germany, Japan and the U.S. have also greatly contributed to its development.

For renewable energy to play the significant role in the transition to a low-carbon economy that the carbon neutrality pledge implies, **two challenges need to be overcome.** First is land supply, as both solar and wind energy require large amount of land. In China, the government has set a "red line" for ecological conservation thus limiting the land use. For example, in Inner Mongolia, nearly 50% of the land is marked as ECR (Ecological Conservation Redline) and cannot be used for energy production. Second is the trade-off between long-distance transmission versus on-site power generation, which requires institutional solutions.

To conclude, Prof. Li noted that given the challenges posed by the carbon neutrality goal, promotion of renewable energy is not sufficient, but **reduction of energy consumption**, including through improvements in energy efficiency, is also necessary. Prof. Li pointed out that China could learn from the European Union's experience in reducing power consumption. For example, Germany has announced to cut per capita energy consumption by half by 2050.

3. Green technology for green development: key trends of China's clean energy development after COVID-19 and beyond

The first panel session focused on green technology in the context of the COVID-19 recovery with a specific focus on clean energy development. The panel was moderated by Balazs Horvath, UNDP Regional Bureau for Asia and the Pacific (RBAP) Senior Economic Advisor.

Panellists for the session included:

- Dr. Li Xiaojiang, Team Leader of the Special Policy Study on Major Green Technology Innovation and Implementation Mechanisms at the China Council for International Cooperation on Environment and Development (CCICED);
- Mr. Hu Fan, Vice Board Chairman of Guangdong Power Grid Co. Ltd. of China Southern Power Grid;
- Dr. Fang Li, Director of World Resources Institute China;
- Dr. Lv Xuedu, Lead Climate Change Specialist at the Asian Development Bank;
- Dr. Wang Weiquan, Deputy Secretary General of the Chinese Renewable Energy Industries Association (CREIA).

3.1 Green technological transformation in China: a comprehensive perspective

China's green transformation will rely on four policy axes: i) shifting to a sustainability mindset for the whole society; ii) creating and implementing an enabling policy and legislative environment; iii) adopting holistic solutions in order to promote green development and realizing carbon emission peaking and carbon neutrality; and iv) strengthening institutional and individual capacity building.

It is important to look at green technologies' transformative potential and to define the social, economic, and environmental viability of such technologies. The effectiveness and promotability of green technologies should be determined by its full life-cycle environmental carbon emissions and cost-benefit analysis. Green technologies are critical for ensuring projects in China meet low carbon standards with lower costs. Developing standards and methodology to assess the life-cycle carbon emission for technologies and projects is crucial for governments to make informed decisions.

Four systematic actions could boost green technologies and help scale them up in the market. First, a clear strategic plan and a sound legal system is needed to guide and ensure the direction of green and low-carbon development. Second, institutional mechanisms at the government level should provide continuous policy support. Third, market mechanisms can be improved to allow more companies to participate and increase their willingness to develop and produce green technology. Fourth, it is important to establish mechanisms to encourage the public and society to actively engage in the low-carbon transition.

3.2. Energy generation, grid, and storage: three areas to boost low-carbon transition

Fossil fuel-powered electricity and heat production are the most significant contributors to carbon emissions and represent a decisive area in the fight against climate change. Energy consumption has to shift from being dominated by fossil fuels to renewables.

- **Wind and solar energy** are key to attaining carbon neutrality. In China, wind and solar power installed capacity has to reach more than 1.2 terawatts for achieving carbon peak in 2030. Efforts to achieve carbon neutrality in 2060 require wind and solar energy to account for about 52% of total primary energy demand.

- In addition to wind and solar energy, biomass energy stands as an energy with potential, particularly for rural areas. China has a large amount of municipal solid waste, agricultural and forestry waste, animal manure and sewage, all of which can be used as raw material for biomass energy. The development of **biomass energy** also has social and environmental benefits such as new job opportunities in rural areas, and positive impact on farmers' income.

There are two prominent challenges for the power grid in the development and utilization of renewable energy in China: (i) the unbalanced distribution of resource endowments and energy demand. Hydropower resources are concentrated in the southwestern region of China, and wind and solar resources in the north of China, far from the energy demand centres in the eastern and coastal areas; (ii) the volatility of renewable energies, which poses important challenges to the grid's power absorption, generation and stable operation.

One of the solutions to address the unbalanced geographical distribution of resources is to promote **regional interconnection**. For example, China Southern Power Grid has been promoting the construction of a "West-to-East electricity transmission" channel project, which aims at ensuring the priority dispatch of clean energy under the premise of maintaining the safety of the power grid, and enhancing the ability to absorb renewable energy from the western region. Many transmission channels have been established to date and the China Southern Power Grid's non-fossil fuel energy share has reached 53%.⁸

To address the issue of renewable energy's volatility, grid safety and risk identification, prevention and control capabilities are to be further strengthened. To reach safe and stable operations of the power grid, it is necessary to accelerate the application of safety technology research, strengthen demand-side response and coordinated control, use advanced metering, further develop the aggregation of energy storage utilities, electric vehicles and distributed power supply. These will improve the level of interaction between the power grid and users, realize peak-shaving and valley-filling to alleviate the pressure of peak load on the grid, and adjust to the volatility of variable renewable energy.

New energy storage solutions are crucial for the renewable energy transition, but they need to be part of a holistic approach. Pumped storage has the advantages of cost and scale in the short run, but it is likely to be restricted by resources and geographical conditions. Electrochemical storage, however, is expected to increase proportionately in the long run. For example, **hydrogen storage** is an ideal carrier of energy because of its high energy potential, wide application field and long period storage. In the future, hydrogen produced with zero or low carbon footprints can serve as an alternative to raw material or fuel for transportation, industry and construction, while effectively reducing the use of fossil energy. Energy storage technology could further increase the proportion of low-carbon electricity in the energy mix while tackling some of the problems in the development of renewable energy such as instability. However, it is not a silver bullet to all problems in renewable energy development, such as land supply problems and grid access problems. Thus, a comprehensive approach must be adopted.

3.3. A cross-sector approach for low-carbon transition

Beyond energy, **other sectors are also highly relevant to China's low carbon transition:**

- **The transportation sector.** China needs to improve the coupling of electric vehicles with the grid. In the future, technological breakthroughs together with the use of green finance can turn electric vehicles into mobile energy storage devices. Enabled by new technology

⁸ http://www.gd.xinhuanet.com/newscenter/2020-06/01/c_1126059267.htm

such as blockchain, an intelligent electric vehicle charging system would allow a fair allocation of cost and benefits among the land leasing agent, equipment builders, as well as power grid companies and power generation companies, which will ultimately improve its economic viability. China could also continue improving its cycling road system, optimizing the efficiency of electric bicycles, and providing society with cheap and convenient charging facilities while optimizing traffic demand management.

- **Cities and the construction sector** also play an important role in reducing carbon emissions. There is a large gap in per capita carbon emissions in urban and rural areas. Moreover, during China's urbanization process, the construction of new urban areas formed by “massive demolition” has been and still is a major source of carbon emissions. Cities, communities and production parks are the critical battlefield for China's carbon neutrality ambition. Using existing resources to renovate old urban areas and buildings rather than expand and construct new buildings will greatly reduce urban carbon emissions. Effective policy measures should not only contribute to economic growth targets, but also lower the energy costs for residents and enterprises. For example, government subsidies and tax-free incentive policies for green buildings development can effectively promote the implementation of energy-saving and emission-reduction projects and attract enterprises to invest in technology innovation. At the technological level, relevant policies can be introduced to encourage industries to adopt a more low-carbon spatial structure. Strict management of high-rise and super-high-rise residential buildings will also help reduce emissions, given that they emit 15% higher than normal buildings.

- **Food production** is also a major contributor to GHGs. With extremely scarce arable land, food production and food security are also important areas for sustainable development. Improvements in agriculture and food production can reduce its energy and water consumption, but also improve spatial efficiency while supporting low-carbon transformation.

3.4 A global perspective on green energy and technology

China has learnt from international experience to accelerate its own decarbonization. Looking back, China's early renewable energy development was supported by many international projects, both financially and technologically. In a similar way, the development of China's renewable energy sector can provide useful lessons for developing countries on a similar path.

China is now leading in wind and photovoltaic energies in the short term, but its edge in renewable energy may change in the long run. First, although China ranks first in the world in terms of installed capacity of wind power and photovoltaics, it still benefits from other countries' experiences in some key technologies: on offshore wind power technology from Denmark and the United Kingdom; or on smart grid and integration of high proportion of renewable energy from Germany and some Nordic countries. Second, in addition to wind power and photovoltaics, hydrogen will play a disruptive role in the field of renewable energy in the near future. Third, more than 140 countries are actively engaging in renewable energy development. As the renewable energy market will turn global and highly competitive, China will face challenges to maintain its leading position.

Coordinated efforts amongst countries are needed. China could leverage its current advantages and know-how along the entire renewable energy industry chain and contribute to South-South cooperation initiatives to support partner countries in achieving their Nationally Determined Contributions (NDCs) goals. The application of **South-South cooperation funds could be more inclusive**, not only involving governments, but also encouraging NGOs and qualified companies to join in. Another promising area for international cooperation is sharing China's experience in combining energy and poverty alleviation targets, e.g., building home solar systems and small off-grid photovoltaic power plants. These are particularly relevant for areas not covered by the grid or remote areas in developing countries.

4. Green finance in China and beyond: prospects for closing gaps in sustainable finance in the post-COVID-19 era

Moderated by Dr. Wang Yao, Director General of the International Institute of Green Finance at the Central University of Finance and Economics (CUFE), the second panel session addressed green finance's challenges and opportunities both in China and globally.

Panellists included:

- Mr. Liu Yong, Special researcher of the Counsellors' Office of the State Council of the PRC (COSC);
- Mr. Wang Huijun, Executive Vice President of China Beijing Environment Exchange (CBEE);
- Mr. Ge Xingan, President of Shenzhen Emission Exchange;
- Ms. Yuki Yasui, Asia Pacific Region Co-ordination Manager, UNEP Finance Initiative;
- Ms. Chen Yaqin, Division Chief of Green Finance Department at China Industrial Bank (CIB).

4.1. Green finance, COVID-19 and carbon neutrality

Green finance innovation and development are essential to effectively support economic recovery and growth in the post-epidemic era. The shocks caused by COVID-19 have led to a global socioeconomic restructuring, highlighting the urgent need to tackle climate change and environmental degradation, creating **unprecedented opportunities for green finance**.

Green finance reform pilots can play an important role in helping realize the goals of carbon emissions peak by 2030 and carbon neutrality by 2060. The pilots are not just about institutional construction, but also include capacity building, market fostering, and awareness raising. All these proactively boost national green development.

For green finance to effectively support the carbon neutrality pledge, five aspects are important:

- To establish national harmonized, clear and enforceable green finance standards which also largely align with international standards.
- To construct a database to help solve information asymmetry problems in green finance markets.
- To innovate and promote green finance products. A green retrofit and improvement of traditional financial products are needed.
- To improve incentive mechanisms. Both central and local governments can strengthen incentive policies to fix market malfunctions.
- To deepen international cooperation on all the above four aspects.

In post-COVID era and beyond, fintech has a huge potential in boosting green production and society. Fintech will be increasingly needed in dealing with green consumption, green architecture, waste disposal, infrastructure supply, logistics and storage, as well as for risk management. Companies such as China Industrial Bank (CIB) are using fintech tools to collect data about environmental risk management and ratings of enterprises. Fintech will also be used to bridge the gaps between traditional and emerging financial institutions and facilitate data sharing. **Some pilots in the sector are already integrating the objective of carbon neutrality by 2060.** Last but not least, fintech can be used to measure emissions and implement the national carbon market that was officially launched in February 2021 (see following section).

4.2 Carbon market and green finance pilots: case studies of Beijing and Shenzhen

Carbon markets will be key to making the low-carbon transition successful⁹ Considering the launch of a national

⁹ This paragraph comes from a point made in the previous session on Green Technology.

carbon market for China in 2021 for the power sector, carbon **offset markets facilitate emission trading flow** and will contribute positively to reducing climate mitigation costs. Smooth operation of the markets requires foreseeable policy, strengthening carbon price signals, efficient quality control as well as clear validity prospects for carbon offsets. Strong policy signals will be necessary to enhance the confidence of investors.

Beijing's carbon market has helped Beijing to lower its energy consumption and carbon emission per unit of GDP by 22.5% and 28.2% respectively from 2013 to 2018. China Beijing Green Exchange has also worked on other local pilots outside Beijing to develop pollution trading, and energy use permits.

In addition, some pioneering practices of the China Beijing Green Exchange, especially its collaboration with companies in building **green production and green lifestyle platforms, can be promoted and applied nationally.**

In the case of Beijing and Shenzhen,¹⁰ cutting-edge technologies including Internet of Things, big data, and blockchain, have been included to encourage the participation of car owners to create carbon accounts to track their emissions reduction. This allows the exploration of effective mechanisms in engaging the public to adopt green transportation methods. Potentially, the innovative low-carbon incentive mechanisms can provide food for thought for other sectors.

Shenzhen, one of the five national pilot zones to promote green finance in China, has just passed the *Shenzhen Special Economic Zone Green Finance Regulations* in 2020, the first regulation to govern local green finance development. It prioritizes “tackling climate change” as a primary area supported by green finance, but also includes facilitating **economic activities in ecosystem and biodiversity protection.** It makes key breakthroughs by stipulating compulsory environmental information disclosure by major local financial institutions; adding green investment evaluation procedures for financiers besides environmental impact assessments to better control environmental risks; setting requirement on establishing green investment management system, including setting strategic plan and organization structure to ensure implementation. It not only regulates behaviour related to green finance but also provides incentives for implementation support, including human resources and capital support.

4.3 Green finance at the global level and the need for harmonizing standards

Cooperation with international organizations like the UN and with international financial institutions is necessary and important to boost sustainable finance and green development. Mutual learning and joint exploration are critical, since it is difficult to balance the right to development and environmental sustainability. There are many examples of successful cooperation:

- China Development Bank (CDB) is working closely with UNDP to boost green development. For instance, the joint publication *Harmonizing Investment and Financing Standards towards Sustainable Development along the Belt and Road*¹¹ has proved very influential to help drive sustainable development and the attainment of the SDGs through the creation and effective implementation of harmonized best-practice standards that can guide investment and financing in the context of the Belt and Road Initiative (BRI). Channeling overseas investments towards renewable energy and energy efficiency sectors is very crucial and needs to be fully considered by Chinese policy makers and financial institutions.¹²
- The Karot hydropower project in Pakistan was financed by an international consortium consisting of CDB, the Export-Import Bank of China, and the Silk Road Fund together with the International Finance Corporation (IFC), whose influence was important. The

¹⁰ This paragraph introduces activities developed by China Beijing Green Exchange in both Beijing and Shenzhen.

¹¹ <https://www.cn.undp.org/content/china/en/home/library/south-south-cooperation/harmonizing-investment-and-financing-standards-.html>

¹² This last sentence comes from a point made in the previous session on Green Technology.

construction was deliberately structured and arranged to avoid negative environmental impacts, including noises and other potential threats to birds.

- UNEP Finance Initiative has developed **three voluntary principles** on sustainable finance. They stimulate member institutions' alignment with national and global goals, and the use of a new set of concepts, impacts and target setting. Three of these principles are the Principle for Responsible Investment (PRI), the Principle for Sustainable Insurance (PSI) and the Principles for Responsible Banking (PRB).

International stakeholders in sustainable finance have interests to cooperate together. First, this is due to the emergence of the need for new forms of sustainability expertise such as forward-looking climate scenarios or environmental impact analyses by banks. These are better conducted when institutions mutualize knowledge and resources to increase speed and reduce costs of developing such scenarios and analyses. Second, banks' own sustainability efforts are boosted by their competitors' success. If competitors are successful in sustainability, it is easier for the bank to get internal buy-in to also enter the market.

If we are to achieve the SDGs and the Paris Agreement, sustainable markets need to grow much more and become mainstream. Sustainable finance is the strongest in China and in the European Union. The successful G20 summit in China in 2016 and the establishment of the network of the Central Bankers and Supervisors for Greening the Financial System (NGFS) in 2017 accelerated international cooperation on sustainable finance.

For international cooperation to boost sustainable finance in the post-COVID era and beyond, the following measures would be key:

- Develop methodologies at the international level to concretely measure the contribution of green finance to society. Strengthen policies that encourage and reward businesses and financial institutions that contribute to sustainable development. Conducive actions by China and other sustainability leaders are crucial to support other countries where incentives still remain very weak.
- Increase international cooperation on developing national and sector-specific pathways to net-zero emissions by 2050 (2060 in the case of China). In addition to setting targets on climate change, targets for nature protection are also needed, such as on deforestation and loss of biodiversity.
- International cooperation and enhanced preparedness to mitigate transition risks and physical risks as climate risks for financial sector and for businesses mainly translate into these two types of risks. The Network of Central Banks and Supervisors for Greening the Financial System is stressing how climate change is a risk for the financial system, which should be taken seriously by financial institutions and regulators.
- Harmonizing international accounting standards, especially concerning climate risks.

5. Biodiversity and Nature-Based Solutions

The third session was devoted to biodiversity and Nature-based Solutions. The panel was moderated by Ms. Wang Qian, Programme Management Officer at UNEP China Office.

Panellists included:

-Mr. Liu Ning, Deputy Director General Level Officer of the Department of Nature and Ecology Conservation, Ministry

of Ecology and Environment, Deputy Executive Director of the Office of the Executive Committee for CBD COP 15 and Negotiator;

-Mr. Gao Xiang, Professor, and Director, Department of International Policy Research, National Center for Climate Change Strategy and International Cooperation (NCSC);

-Ms. Yang Xiu, Associate Researcher, and Director, Department of Research, Institute for Climate Change and Sustainable Development (ICCSA), Tsinghua University;

-Mr. Zhang Xiaoquan, Chief Science Officer, The Nature Conservancy (TNC);

-Ms. Zhang Linxiu, Director, United Nations Environment Programme – International Ecosystem Management Partnership (UNEP-IEMP);

-Ms. Li Nan, Director, CBD advocacy project, World Wildlife Fund (WWF);

-Mr. Mario Boccucci, Head, UN-REDD Programme Secretariat.

5.1. China's policy on biodiversity and Nature-based Solutions

As introduced by Mr. Liu Ning, China is actively developing ecosystem protection and restoration to address climate change and biodiversity loss. Two examples of recent national comprehensive and cross-sector policies include:

- **Ecological Conservation Redlines** (ECRs) define limits to human encroachment into ecologically sensitive and vulnerable areas and enforce strict conservation rules in order to guarantee national ecological security, effectively protect biodiversity and mitigate the impact of climate change. The zones demarcated by the ECRs have a combined area equal to about a quarter of China's total land area. The carbon sequestration of ECRs accounts for nearly 45% of the country's total.
- The **10-year fishing ban in key areas along the Yangtze River** represents a major move in fighting the country's depletion of biological resources and the degradation of biodiversity. Starting from 1 January 2021, the ban will be observed in 332 conservation areas in the Yangtze River basin, as well as on the natural waterways of large lakes connected to the Yangtze (Dongting and Poyang Lakes), and major tributaries of the basin.

In the future, Mr. Liu Ning noted that China will strengthen measures to address climate change and biodiversity loss, fully implement the concept of "ecological civilization" as well as "Three Lines and One List" approach (ECRs, environmental quality bottom lines, resource utilization upper limits, and environmental access negative list),¹³ promote environmental protection work when implementing territorial and spatial planning, improve natural reserve system, and strengthen the supervision of ecological protection and restoration. Mr. Liu Ning added that Chinese government were currently formulating the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035.

5.2. COVID-19 and NbS-related challenges

Severe global risks such as climate action failure, extreme weather, biodiversity loss, natural disasters, water crisis and human-made environmental disasters are threatening the achievement of the 2030 Agenda for Sustainable Development. At the global level, none of the 20 Aichi biodiversity targets listed by the Strategic Plan for Biodiversity 2011-2020 have been fully achieved, and only 6 targets have been partially achieved. Continuous biodiversity loss affects 80% of sustainable development goals relevant to poverty, food, health, water, climate, land, marine areas and cities.

In the meantime, the COVID-19 pandemic has triggered deep reflections on the relationship between man and nature. In this context, it is essential to adopt a comprehensive approach to address the planetary crisis, including green recovery from the COVID-19 pandemic.

¹³ http://english.mee.gov.cn/About_SEPA/leaders_of_mep/liganjie/Activities_lgj/201801/t20180125_430276.shtml

The **concept of Nature-based Solutions** (NBS) was promoted by the World Bank in 2008. In general, **NBS protect and restore the functions of natural ecosystems by advocating a harmonious coexistence between human and nature.** NBS have multiple benefits such as mitigating and adapting to climate change, protecting biodiversity and the sustainable development of human society and economy. However, there are not many existing studies that quantify these benefits which make it difficult to attract investment.

NBS are not new. There are many existing practices based on nature. Summarizing this work in the context of NbS will help promote actions and raise awareness. There has been a lot of work, including international practices such as REDD+, as well as domestic practices in China such as ECRs, afforestation, desertification control and ANT Forest Tree Planting. These practices have provided a good foundation for the enrichment and development of the NbS concept.

To implement NbS further and more efficiently, possible actions could include:

-**A nexus approach**, interlinking NbS with all SDGs, is needed. In particular, balancing food security with low-carbon agriculture has to be considered in a comprehensive NBS policy.

-It is important to bring **forests solution** into the post-COVID green recovery agenda since forests are shields against the emergence of new pathogens. Forest Based Solutions are mature, job-creating and consolidated initiatives that could drive the whole NbS movement forward. As the largest interagency UN Programme on Forests and Climate, UN-REDD Programme has been fully involved in the NbS workstream.

-**Women empowerment** and building local capacity are keys for a successful NbS implementation.

-**Policy acceptance on the ground** needs to be improved. The potential impacts on gentrification and displacement of indigenous and poor communities should be considered upfront by policymakers, as well as designing livelihood options, such as eco-tourism.

-Carbon credits generated by well-planned NbS projects should only be considered appropriate offsets if they are aligned with a 1.5°C decarbonization trajectory as defined by the Science Based Targets initiative (SBTi)¹⁴ or another credible reference.

-NBS is not an actionable policy measure in itself. Also, it is not a new, independent response and its implementation rely on other policy instruments such as planning, taxation, and standards.

-NBS in non-forest ecosystems are not well represented. Specifically, actions and targets for nature-based mitigation generally refer to the management, restoration and protection of terrestrial forests, afforestation and agroforestry, while coastal and marine habitats are relatively less represented.

-A successful NbS intervention in one place cannot necessarily be directly transplanted to other contexts and regions. NbS results will be determined by the natural, cultural, socioeconomic and policy contexts in which they are applied.

5.3 Global actions for Nature-Based Solutions

Recent years have resulted in an unprecedented emergence of the nature agenda for sustainable development and climate. The Climate Action Summit (CAS) in September 2019, where NbS were featured as one of the workstreams was pivotal in raising political attention.

UN was pleased to collaborate with China on the NbS workstream, which resulted in the NBS Manifesto, a plan for action to unlock the potential of NbS for climate action. Through the CAS and other key events since then, including UN Biodiversity Summit in September 2020 and One Planet Summit, nature has been placed clearly in the minds of decision-makers from far beyond the environment sector as key for addressing the planetary crisis, including green recovery from the COVID-19 pandemic.

Dubbed the "Nature Year" by UN Secretary General Antonio Guterres, **2021 will be of fundamental importance to join the climate, forest, biodiversity, and food agendas under the umbrella of the SDGs.**

The new UN Decade on Ecosystem Restoration started from 2021 will offer unparalleled opportunity for job creation,

¹⁴ <https://sciencebasedtargets.org/resources/legacy/2020/03/Business-Ambition-for-1.5C-FAQ.pdf>

food security and addressing climate change. Led by UNEP and FAO, this global action aims to massively scale up the restoration of degraded and destroyed ecosystems as a proven measure to fight the climate crisis and enhance food security, water supply and biodiversity.

In this framework, the Conference of the Parties to the Convention on Biological Diversity (CBD COP15) taking place in Kunming (Yunnan) in 2021 will be a key global milestone. China and the UN expect to work hand in hand with all parties to promote an ambitious and pragmatic Global Biodiversity Framework (GBF) to enhance the synergy between biodiversity and climate governance.

There is an **increasing need for synergies among UN Rio Conventions**¹⁵ both in global negotiations and on the ground implementation. In this context, NBS can be a potential connecting point. Moreover, the post-2020 Global Biodiversity Framework (GBF) should develop strong and ambitious targets on NBS while revisions to NDCs are also needed.

Global cooperation needs to be strengthened to address the planetary crisis. South-South Cooperation has a crucial role to play. Some successful examples include:

- The Climate, Ecosystems and Livelihoods (CEL) programme led by UNEP-International Ecosystem Management Partnership (UNEP-IEMP) and supported by China and other developing countries. The CEL programme aims to assist developing countries in delivering the SDGs and climate targets while protecting the ecosystems and improving rural livelihoods. Under this framework in Nepal from 1985 to 2017, watershed and ecosystem resilience was enhanced and biodiversity increased. Moreover, household average income for participants was 2.1 to 2.6 times higher than for non-participants.
- Yunnan Tengchong CCB Reforestation. The project led by the Nature Conservancy (TNC) China is to restore 467.7 hectares of forest in Tengchong of Yunnan province, and became the world's first to receive gold certification by the international Climate, Community, and Biodiversity (CCB) standards scheme.
- ANT Forest Tree Planting and Protected Land in China and Coral reef insurance in Mexico. The Nature Conservancy (TNC) China has been instrumental in harnessing digital technologies by providing the science behind ANT Forest, a consumer engagement app launched in 2016 to encourage users to adopt low-carbon behavior by matching the resulting emission reduction with actual trees planted and high conservation value areas protected. It has attracted 550 million users. Another example from TNC is Coral reef insurance in Cancun, Mexico. It marked a significant milestone in TNC's work exploring using insurance to protect at-risk coastal ecosystems and the communities and economies that depend on them.

¹⁵ These include the United Nations Convention to Combat Desertification (UNCCD), the United Nations Convention on Biological Diversity (UNCBD) and the United Nations Framework Convention on Climate Change (UNFCCC).

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