

CHINA'S BASIC POSITION ON CLIMATE CHANGE

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Climate change is a global problem faced by all mankind, and it is the common responsibility of all mankind to protect the atmosphere, control carbon dioxide emissions and prevent climate warming. Countries around the world are not only formulating policies and guidelines to address and adapt to climate change at home but are also actively seeking international cooperation to unite the efforts of all countries to tackle global climate change. China is an important participant in the global climate change governance system. Through a review of China's attitude, policies and practices on climate change, we will clarify China's basic position and actions on climate change.

1. China's Perception of Global Climate Change

Global climate change poses a serious challenge to human society and civilization, requiring common measures and actions by the human community to actively address it. As the world's largest developing country, China has long been concerned about climate change, implemented a series of strategies, measures and actions to address climate change, and actively participated in global climate governance to take more solid steps in addressing climate change.

1.1 Facts on global climate change

Global climate change is a statistically significant change in the average state of the climate or a change in climate that lasts for a longer period of time (typically 30 years or more) on a global scale. Around the 1970s, Climatologists discovered the greenhouse effect produced by greenhouse gases which would potentially make the world experience an abnormal change. Since then, greenhouse gases and global climate change became an important research direction.

In November 1988, the World Meteorological Organization and the United Nations Environment Programme established the Intergovernmental Panel on Climate Change (IPCC) to assess the latest developments in global climate change, its impacts and mitigation adaptation, and to provide scientific conclusions for decision-makers. The IPCC's Fifth Assessment Report¹ states that the fact that the climate system is warming is indisputable and there is a growing consensus that “the increase in greenhouse gas emissions from human activities is the main

¹ Climate Change 2013: The Physical Science Basis (Summary for Policymakers, SPM)

cause of climate change”. Article 1 of the UNFCCC² also clearly states that “direct or indirect human activities” are the cause of global climate change.

Annual average global greenhouse gas emissions for 2010-2019 are at the highest level in human history, but the rate of growth has slowed. The latest IPCC report in 2022 highlights that limiting global warming to 1.5°C will be impossible without immediate and deep reduction of emissions in all sectors. The report discusses the causes, impacts and responses to climate change, saying that 40% of the world's population is already most at risk from climate change-related disasters. The global climate change scenario is more severe than expected, with climate change-related impacts already at the highest end of the range of historical model projections. While the focus is on analysis at the global and regional levels, many of the changes discussed in the report are relevant to China³, which says: “If greenhouse gas emissions can't be reduced, the planet's heat and humidity will be almost more than mankind could bear, and China will be one of the regions most affected”. “Sea level rise and floods will also threaten China's agriculture, infrastructure and people's lives”.

In the context of global warming, surface temperatures in China have been on a significant upward trend for the past 100 years, rising at a rate of $1.56 \pm 0.2^{\circ}\text{C}$ (/100 years), significantly higher than the global average land warming level ($1^{\circ}\text{C}/100$ years).⁴ However, the report is also positive that timely human action can mitigate global climate change, and therefore an immediate action is urgent, both in terms of global climate governance and China's response to climate change.

1.2 International cooperation on climate change in which China is involved

Climate governance is an important issue on a global scale, and China is actively involved in it, whether it is in international conferences on climate change, climate ambition summits, or regional cooperation. As the world's largest developing country, China has overcome its own economic and social difficulties to implement a series of strategies, measures and actions to address climate change, and has achieved positive results in participating in global climate governance and addressing climate change.

1.2.1 International conferences and international conventions

Since the 1990s, international treaties such as *the United Nations Framework Convention on Climate Change* and *the Kyoto Protocol* have been concluded in the national community. The UNFCCC was adopted on May 9, 1992, and has been in force for China since March 21, 1994. The Convention sets out the ultimate goal of addressing climate change,⁵ the basic principles of international

² Article 1 of the United Nations Framework Convention on Climate Change: Climate change resulting from direct or indirect human activity that alters the composition of the Earth's atmosphere, in addition to natural variability of the climate observed over a similar period of time.

³ IPCC Sixth Assessment Report Impacts, Adaptation and Vulnerability

⁴ See China carbon emission trading network <http://www.tanpaifang.com/tanguwen/2022/0124/82020.html>

⁵ Article 2 of the Convention states: "The ultimate objective of this Convention and any legal instrument that may

cooperation to address climate change,⁶ and specifies that developed countries should take the lead in reducing emissions and provide financial and technical support to developing countries.⁷

Five years later, the Third Conference of UNFCCC was held in Kyoto, Japan, and *the Kyoto Protocol*, a supplement to the UNFCCC, was the first to limit greenhouse gas emissions in the form of international regulations, establishing a cap-and-trade system and setting national caps on greenhouse gas emissions for high-income countries that ratify the Protocol, with the goal of “to stabilise the level of greenhouse gases in the atmosphere at an appropriate level and thereby prevent drastic climate change from causing harm to humans”.

The Kyoto Protocol establishes three flexible mechanisms for reducing emissions, namely the International Emissions Trading Mechanism (ETI), the Joint Implementation Mechanism (JI) and the Clean Development Mechanism (CDM). Among them, CDM is an emission reduction mechanism between developed and developing countries, which mainly involves developed countries providing additional funds or technology to developing countries to help implement greenhouse gas emission reduction.

China participated in the international carbon trading system through the CDM mechanism in 2005, with its main counterparty coming from the EU. However, since 2013 the EU carbon trading system no longer accepts emission reduction credits generated by CDM projects, which directly led to the end of CDM project development in China.⁸ In June 2015, prior to the Paris Climate Conference, China formally submitted its Nationally Determined Contribution target to the UN⁹ and also included action on climate change in its 13th Five-Year Plan.

The Paris Climate Conference in December adopted *the Paris Agreement*, the most important milestone in the global climate governance process, which clearly sets out the goal of keeping the global average temperature increase to within 2°C and striving to keep it within 1.5°C. Since then, we have entered a period of “autonomous emission reductions.” All countries have agreed to a commitment to reduce emissions and work together to adapt to climate change, and to progressively strengthen their commitments.

China is a strong supporter of global environmental governance and an active practitioner of the implementation of *the Paris Agreement*. Back to September 2020, President Xi Jinping

be adopted by the Conference of the Parties is: to stabilize atmospheric greenhouse gas concentrations at a level that prevents dangerous anthropogenic interference with the climate system. This level shall be achieved within a time frame sufficient to enable ecosystems to be sustainable”.

⁶ The main principles include the principle of “common but differentiated responsibilities”, the principle of equity, the principle of respective capabilities and the principle of sustainable development.

⁷ Annex I country Parties to the Convention (developed countries and countries with economies in transition) shall take the lead in reducing emissions. Annex II countries (developed countries) should provide financial resources and technology to developing countries to help them address climate change.

⁸ As the EU carbon market entered its third phase in 2013, the largest seller of carbon credits in this Kyoto announced that it would no longer accept new CERs issued by non-poorest countries, which directly led to the complete end of CDM project development in China.

⁹ The new measures for China to implement the achievements and new goals of national independent contribution “CO₂ emissions will peak around 2030 and aim to reach the peak as soon as possible, CO₂ emissions per unit of GDP will drop by 60-65% compared to 2005, the share of non-fossil energy in primary energy consumption will reach around 20%, and forest stock will increase by around 4.5 billion cubic metres compared to 2005.”

announced at the 75th UN General Assembly general debate that “China will increase its autonomous national contribution, adopt stronger policies and measures, and strive to peak CO₂ emissions by 2030 and work towards achieving carbon neutrality by 2060”. This is the first time China has made clear to the world the time point for achieving peak carbon and carbon neutrality, making the largest commitment to date regarding the reduction of global warming expectations for all countries, and the first to promote a concerted global effort towards compliance.

In December 2020, on the occasion of the 5th anniversary of *the Paris Agreement* and the Climate Ambition Summit, China updated its emission reduction targets¹⁰ and announced a series of new initiatives for autonomous national contributions. These solemn commitments reflect China's determination to fulfill its emission reduction obligations and demonstrate China's role as a great power in promoting the building of a community of human destiny, and China has truly become a “participant, contributor and leader” in the construction of global ecological civilization. After proposing the “double carbon” target, China stressed that it would integrate carbon peaking and carbon neutrality into the overall layout of ecological civilization construction.

The Glasgow Climate Conference, held in the UK in 2021, adopted the *Glasgow Climate Convention*, which reached a consensus on core issues such as methane commitments, the abandonment of coal and green transport, and discussed the rules of the international “carbon market”, covering issues such as how to implement carbon trading and carbon credits in each country, and filling in the last piece of the puzzle left by *the Paris Agreement*: how to reduce carbon emissions through international cooperation.

The original intent of Article 6 of *the Paris Agreement* was that countries that have difficulty or high costs in reducing their greenhouse gas emissions could purchase carbon credits from countries that have already reduced their emissions by more than the amount they have committed. Article 6, if implemented, would fully address the problem of emissions trading across borders, which would provide countries with the mechanism for one international trading platform, even if domestic mechanisms differ.

In the meantime, the *Glasgow Climate Convention* has agreed on market and non-market rules for carbon trading, potentially freeing up trillions of dollars for forest protection, renewable energy facilities and other projects to combat climate change. The core of the agreement is to “measures to ensure that carbon credits are not double-counted under each country's emissions targets”. And to ensure that old credits do not enter the market, carbon credits issued before 2013 will not be allowed to be carried forward.

¹⁰ At the Climate Ambition Summit, President Xi Jinping further announced that by 2030, China's carbon dioxide emissions per unit of GDP will drop by more than 65% compared to 2005, the share of non-fossil energy in primary energy consumption will reach about 25%, forest stock will increase by 6 billion cubic metres compared to 2005, and the total installed capacity of wind and solar power will reach more than 1.2 billion kilowatts.

1.2.2 Regional cooperation and agreements

1.2.2.1 South-South cooperation on climate change

In addition to participation in global conferences and governance initiatives on climate change, regional cooperation on climate change is one of the key initiatives for China to actively address climate change.

South-South climate cooperation is an important platform for China and most developing countries to jointly promote global climate governance. At the opening ceremony of the Paris Climate Conference, Chinese President Xi Jinping announced the establishment of the China South-South Climate Cooperation Fund to help developing countries improve their financing capacity.¹¹

Since 2011, the NDRC has been implementing South-South cooperation through free gifts of energy-saving and low-carbon products and climate change workshops with the support of the central budget. By the end of 2015, NDRC had signed 22 memorandums of understanding with 20 developing countries to provide materials to address climate change.¹² In 2016, China launched the "Ten Hundred Thousand" project¹³ to continue promoting international cooperation in areas such as clean energy, disaster prevention and mitigation, ecological protection, climate-resilient agriculture, and the construction of low-carbon smart cities. International cooperation.

According to the information released at the regular press conference of the Ministry of Foreign Affairs of China on November 3, 2021, China has allocated a total of RMB 1.2 billion for South-South cooperation on climate change, signed 41 cooperation documents with 36 developing countries, built low-carbon demonstration zones with Laos, Cambodia and Seychelles, and carried out 38 climate change mitigation and adaptation projects with more than 30 developing countries, including Ethiopia, Pakistan, Samoa, Chile, Cuba and Egypt. While at the same time, China has actively carried out capacity building training, holding a total of 45 training courses on South-South cooperation in addressing climate change in China, and training about 2,000 officials and technicians in the field of climate change for more than 120 developing countries.¹⁴

Since 2021, China has taken many new initiatives in the South-South cooperation in addressing climate change. China has issued *the Declaration on China-Africa Cooperation on Combating*

¹¹ Xi Jinping. Working Together to Build a Win-Win, Fair and Reasonable Climate Change Governance Mechanism[N]. The People's Daily, Dec,1st,2015.

¹² See the website of the development and Reform Commission Positive Progress in Tackling Climate Change South-South Cooperation' 28 January 2016.

¹³ Refers to the strengthening of South-South cooperation on climate change. China's cooperation project to carry out 10 low-carbon demonstration zones, 100 mitigation and adaptation projects and 1,000 training places to address climate change in developing countries, launched in 2016, an initiative announced by President Xi Jinping at the Paris Climate Change Conference in November 2015.

¹⁴ Li Yan. The history and effectiveness of China's South-South cooperation in addressing climate change[J]. World Environment, 2020,(06):77-78.

Climate Change, launched the China-Africa Three-Year Action Plan on Climate Change, and established the China-Pacific Island Countries Centre for South-South Cooperation on Climate Change to provide "Chinese solutions" to help other developing countries actively address climate change. At the same time, China is also carrying out South-South cooperation under the UN framework, including with the FAO, UNDP and UNEP.

1.2.2.2 Bilateral or multilateral cooperation on climate change

In addition to climate change cooperation with developing countries, China has also signed bilateral or multilateral cooperation agreements with some countries on addressing climate change. China has signed working arrangements, memoranda, and other cooperation agreements on climate change cooperation with New Zealand, the Australian government, Italy, the United Kingdom, Costa Rica, India and other countries.

China and India recall the Agreement on Cooperation on Addressing Climate Change between the Government of the Republic of India and the Government of the People's Republic of China signed in 2009. The Two Sides establish Partnership to Address Climate Change, strengthen exchanges and cooperation in mitigation, adaptation and capacity building, and establish the China-India Working Group on Climate Change, which holds annual meetings in China and India on a rotating basis to discuss major issues in international negotiations on climate change, as well as to discuss the development of domestic policy measures to address climate change.

As the world's largest developing country, China advocates adhering to the principle of common but differentiated responsibilities and doing its utmost to help developing countries improve their capacity to cope with climate change. Meanwhile, China encourages developed countries to show greater ambition and action, fulfill commitments to provide financial and technical support to developing countries, and effectively help them accelerate their green and low-carbon transition. China has made cooperation in the field of ecological civilization a key element of the "Belt and Road Initiative" and launched a series of green action initiatives. China's efforts to promote international cooperation have continuously injected positive energy into the construction of a fair and reasonable global environmental governance system with win-win cooperation.

2. China's Policy Proposals to Address Global Climate Change

China has been concerned about global climate change since 1979, when it attended the first World Climate Conference. In 1992, when China joined the UNFCCC, it formally established a comprehensive climate change policy system to address climate change¹⁵. In recent years, China has implemented the new development concept, placed climate change in a more prominent

¹⁵ Bo fan, Zhuang Guiyang. Evolution and phased characteristics of China's climate change policy [J]. Yuejiang academic journal, 2018, 10(06), 14-24+133-134.

position in national governance, continuously increased the rate of reduction of carbon emission intensity and strengthened the target of independent contribution, and made the utmost effort to improve its response to climate change, promote a comprehensive green transformation of economic and social development, and build a modernization in which people and nature live in harmony.

2.1 Integrated Policy Responses to Climate Change

The Chinese government attaches great importance to the issue of addressing climate change. As early as 2007, the State Council set up a national leading group on climate change and issued the first policy document to comprehensively address climate change—*National Climate Changes Program*, which clearly states that "by 2020, energy consumption per unit of GDP will be reduced by about 20 percent compared to 2005, and CO₂ emissions will be reduced accordingly. By 2020, China will reduce energy consumption per unit of GDP by about 20 percent compared to 2005 and reduce CO₂ emissions accordingly."

The outline of the 12th Five-Year Plan sets the target of reducing CO₂ emissions per unit of GDP by 17%, with energy consumption and carbon emissions intensity both listed as binding targets for development. In 2008, the NDRC of China established the Department of Climate Change, which is responsible for policy formulation, international negotiations, capacity building and carbon market construction. It is worth noting that the 18th National Congress of the Communist Party of China (CPC), held in 2012, incorporated the "construction of ecological civilization" into the overall layout of the socialist, and the concept of green development was fully implemented in China's economic and social development. In 2014, China issued its first national plan to address climate change, *the National Climate Change Plan (2014-2020)*, which is an important part of China's ecological civilization.

Responding to Climate Change: China's Policies and Actions in 2021 is the second white paper since 2011 that China has issued the first paper on China's response to climate change at the national level, putting forward a new concept of China's response to climate change¹⁶ and a more ambitious vision. It is worth noting that prior to the release of the White Paper, China officially stated that "China will take about 30 years to achieve carbon neutrality from peak carbon emissions. and complete the reduction of the world's highest carbon emission intensity". A series of policies have been intensively implemented, and the "1+N"¹⁷ policy system is being

¹⁶ China has taken addressing climate change as an important tool for promoting ecological civilization and achieving high-quality development. Based on China's inherent requirement to achieve sustainable development and its responsibility to promote the building of a community of human destiny, China has developed a new concept for addressing climate change and contributed to global climate governance with Chinese wisdom.

¹⁷ The "Views on Carbon Neutrality" is a systematic plan and overall plan, covering the top level design of the two phases of carbon peaking and carbon neutrality. It plays an overarching role in the carbon neutral policy system and is the "1" of the "1+N".

The "Action Plan to Achieve Carbon Peaks by 2030" is the first policy document in the "N". Relevant departments and units will develop their own implementation plans for achieving carbon peaks in energy, industry, urban and rural construction, transport, agriculture and rural areas, as well as in specific sectors, and each region will also

accelerated.

Those programmatic documents guide the implementation of China's dual carbon targets and provide systematic and comprehensive policy guidance and support for complementary measures in various industries and fields, proposing for the first time that "the proportion of non-fossil energy consumption will reach over 80% by 2060". Based on China's development stage and the actual national situation, China puts forward five main objectives, including building a green, low-carbon and circular economic system, improving energy efficiency, increasing the proportion of non-fossil energy consumption, reducing the level of carbon dioxide emissions and enhancing the carbon sink capacity of the ecosystem. It also specifies the timeline for China to achieve carbon neutrality by 2030 and 2060. Not only is a 30-year target set, but also an annual target is set, forming a rigid constraint.

Since the 14th Five-Year Plan, low-carbon development and adaptation to climate change have been further strengthened. *China's 14th Five-Year Plan and Vision 2035* outline the binding target of reducing carbon dioxide emissions per unit of GDP by 18 percent in 2025 compared to 2020. All provinces have made addressing climate change an important part of their 14th Five-Year Plan, specifying specific targets and work tasks. Once included in this system of public commitments, there is consistency in action. China has launched low-carbon pilot projects in 10 provinces and 77 cities, the results of which will also be implemented.

2.2 Targeted Policies to Address Climate Change

As we all know, the massive emission of greenhouse gases is the main culprit of global warming, so the first task to tackle climate change is to control and reduce greenhouse gas emissions. From the perspective of possible policy instruments adopted by governments, the first is direct control, including restricting the use of fossil fuels and greenhouse gas emissions, and limiting deforestation; the second is the use of market instruments, including taxes and fees, building a carbon emissions trading market, providing subsidies and development assistance; and the third is encouraging the development of various advanced power generation technologies and other visionary energy technologies for the 21st century.

2.2.1 Dual Control of Energy Consumption and Energy Reform

To effectively reduce greenhouse gas emissions, we need to start at the source where they are produced. Emissions from the burning of fossil fuels are the most important source of greenhouse gas production, thus changing the structure of energy use is the first step in reducing greenhouse gas emissions. China has proposed a double control of energy consumption, both in terms of volume and intensity. The concept of "double control of energy consumption" itself was first proposed in 2015; the *"Programme for Improving the Double Control of Energy Consumption*

develop its own action plan for achieving carbon peaks in accordance with the requirements of the plan.

Intensity and Total Amount" calls for improving the double control of energy consumption and actively promoting the application of new energy; the "13th Five-Year Plan" implements the "double control" action on total energy consumption and intensity, clearly requiring that energy consumption per unit of GDP be reduced by 15% by 2020 compared to 2015, and that total energy consumption be controlled to within 5 billion tons of standard coal; The "14th Five-Year Plan" further proposes to improve the dual control of total energy consumption and intensity, focusing on controlling fossil energy consumption, and reducing energy consumption and carbon emissions per unit of GDP by 13.5% and 18% respectively by 2025 compared to 2020. The State Council has broken down the national "double control" target to each region and made comprehensive arrangements for the "double control" work.

In addition to the dual control of existing energy use, it is more important to change the energy consumption system. As the world's largest energy consumer and producer, China is at the same time actively promoting the development of a global energy green transition. The State Council issued *the Strategic Action Plan for Energy Development (2014-2020)*, which proposes to deepen the reform of the energy system and create a good institutional environment for the establishment of a modern energy system and to guarantee national energy security. In 2021, it was stressed that coal power projects will be strictly controlled, and that the growth of coal consumption will be strictly controlled during the 14th Five-Year Plan period and gradually reduced during the 15th Five-Year Plan period.

In September of the same year, China's leaders announced to the world at the 76th General Debate of the UN General Assembly that China would strongly support the green and low-carbon development of energy in developing countries and would not build any new coal power projects outside China. *The 14th Five-Year Plan for a Modern Energy System* specifies that by 2025, the annual comprehensive domestic energy production capacity will reach more than 4.6 billion tonnes of standard coal, and the proportion of non-fossil energy consumption will increase to around 20%. Looking ahead to 2035, decisive progress will be made in the development of high-quality energy, and a modern energy system will be basically built, with its core being "clean, low-carbon, safe and efficient".

2.2.2 Carbon Emissions Trading Market Construction

Carbon trading refers to the trading of carbon dioxide emission rights as a commodity for companies to trade. Companies that have difficulty reducing emissions can buy carbon credits from companies that can easily reduce emissions, with the aim of controlling the total amount of carbon emissions. Carbon trading requires the government to set a target for the total amount of carbon emissions over a period of time and then divide the total amount into a number of specific credits, which are allocated to companies in the carbon market that need to reduce their emissions by ways like free allocation.

China has been conducting regional pilot carbon markets in Beijing, Shanghai and

Shenzhen since 2011, and has established a nationwide carbon emissions trading market since 16 July 2021. The first batch of 2,225 enterprises to be included in the carbon emissions trading system are all thermal power generation enterprises with a combined annual energy consumption of 10,000 tonnes of standard coal or more, basically covering the vast majority of thermal power generation enterprises in China and covering about 4.5 billion tonnes of carbon dioxide emissions.

In the future, China will follow the principle of "one industry will be included when it is ripe", gradually covering the petrochemical, chemical, building materials, iron and steel, non-ferrous metals, paper and domestic civil aviation industries. At present, the national carbon market and the local carbon market are trading simultaneously, and emission control enterprises only need to participate in one place to talk about market trading.

2.2.3 Low Carbon Green Development

Global climate governance is essentially a process of promoting the transition to a low-carbon economy in countries around the world.¹⁸ China has been actively exploring a green and low-carbon development path that is in line with China's national conditions, increasing energy conservation and emission reduction, and firmly following a green and low-carbon development path.

From implementing collaborative governance to reduce pollution and carbon emissions, to accelerating the formation of a spatial pattern of green development; from establishing a sound economic system for green, low-carbon and circular development, to resolutely curbing the blind development of high energy-consuming and high-emission projects; from optimizing and adjusting the energy structure, to strengthening energy conservation and energy efficiency improvement; from effectively controlling greenhouse gas emissions in key industrial sectors, to establishing a national carbon emissions trading market. In recent years, with the joint efforts of the whole society, China has integrated the concept of green development into all aspects and the whole process of economic construction, and the synergistic effect of economic development and pollution reduction has become prominent.

In 2021, the Ministry of Ecology and Environment incorporated carbon emission impact assessment into the environmental impact assessment system, promotes pilot work on environmental assessment of high energy-consuming and high-emission construction projects, and connects the implementation of relevant regional and industry carbon peak action plans, clean energy substitution, clean transportation, and total coal consumption control. A policy document released in 2022 states that during the 14th Five-Year Plan period, a basic institutional framework for promoting green and low-carbon energy development will be established, and

¹⁸ Xiao Lanlan. Global Climate Governance in the context of carbon neutrality: China's ecological path to building a community with a shared future for mankind. *Journal of Fujian Normal University (PHILOSOPHY AND SOCIAL SCIENCES EDITION)*, 2022(02):33-42+169-170.

that by 2030, a complete basic system and policy system for green and low-carbon energy development will be basically established.¹⁹

Climate change is no longer simply a matter of environmental protection but has become an issue of human survival and development. China starts to change its coal-based energy structure and its highly polluting and energy-intensive industrial structure in order to manage the environment and respond to global climate change. At the same time, actively responding to climate change is also China's responsibility to participate in global governance and an urgent need to achieve sustainable development. As the world's largest developing country, China needs to actively promote the transformation of its economy and energy sources in order to contribute to global sustainable development.

3. China's Specific Measures to Address Global Climate Change

3.1 Legal initiatives to Address Climate Change

It is a common practice in the international community to use the rule of law to promote the achievement of carbon peaking and carbon neutrality, and China has also implemented a number of "dual carbon" policies one after another. However, the negative effects of the current comprehensive climate change law are: it does not reflect China's proactive approach to climate change; some principles, institutions, mechanisms and comprehensive systems to address climate change are not centrally provided for.²⁰

Existing laws do not effectively address climate change, and a large number of policies aimed at addressing climate change and promoting low-carbon development lack a legal basis.²¹ In 2011, the National Development and Reform Commission studied the formulation of a law on addressing climate change, but to no avail. When conditions to change are ready, a basic law on climate change with Chinese characteristics should be established to provide a more systematic, comprehensive and effective guarantee of the rule of law for the implementation of the "dual carbon" strategy.

In 2009, the Standing Committee of the 11th National People's Congress adopted *the Resolution of the Standing Committee of the National People's Congress on Actively Responding to Climate Change* at its 10th meeting, fully reflecting the requirement of "strengthening capacity building to respond to climate change and making new contributions to protect the global climate" as

¹⁹ The Opinions make it clear that during the 14th Five-Year Plan period, a more comprehensive policy, standard, market and regulatory system should be formed, and a mechanism for promoting green and low-carbon energy transformation led by the "double control" of energy consumption and the target system for non-fossil energy should be built. By 2030, a pattern of energy production and consumption will be formed in which non-fossil energy will not only basically meet the incremental energy demand but also replace the fossil energy stock on a large scale, and the energy security capacity will be comprehensively enhanced.

²⁰ Li Yanfang. On the establishment of China's legal system to deal with climate change[J]. Journal of China University of Political Science and Law, 2010,(06):78-91+159.

²¹ Shen Yuedong, "Judicial Checks and Balances in the Political Wrestling over Climate Change" Legal Science (Journal of Northwestern University of Political Science and Law), Vol. 6, 2014,32(06):32-41.

proposed in the report of the 17th Party Congress. This is the first time that the Chinese legislature has made a major decision on climate change, guiding the planning and implementation of China's response to climate change from the legal level.

The response to climate change revolves around the two main areas of mitigation and adaptation to climate change. These measures cover a wide range of sectors, such as agriculture, water resources, coastal zones, forests, land use, public health, energy, construction, transport, solid waste and waste disposal. From this perspective, China's existing effective policies and laws, such as *the Forestry Law*, *the Renewable Energy Law*, *the Energy Conservation Law* and the *Cleaner Production Promotion Law*, have formed a system of policies and laws to address climate change, with an overall focus on public law administrative regulation.

With the improvement of the domestic environmental public interest litigation system and the rapid development of related judicial practice, climate justice has become an integral part of the climate change response governance system in recent years²² and a number of monographs have been published on climate justice.²³

In terms of judicial safeguards, the Supreme People's Court has issued several documents emphasizing the role of the judiciary in the process of addressing climate change. In a document issued by the Supreme People's Court in 2016, it is stipulated that "actively explore judicial response initiatives to climate change and promote the construction of a national climate change response governance system", it has listed a series of actions: to conduct trials and in-depth studies in accordance with the law; to conduct proper trials to promote the construction of carbon market; to apply properly to promote low-carbon development; to strengthen judicial protection of energy-saving industry and foster a mature and standardized contract energy management market; to conduct proper trials to encourage technological innovation of enterprises and promote the development and utilization of clean energy and new energy-saving technologies etc.

In 2017, the Supreme Court issued *the China Environmental Resources Trial (2016)*, which pointed out the strengthening of cases related to carbon emissions (carbon emissions trading; cases related to key carbon emissions industries such as electricity, cases related to key areas of carbon emissions such as industry and energy; cases of illegal emissions), cases related to energy conservation, cases related to green finance (green finance, trading of emission rights, energy use rights and water use rights) and biodiversity.

In 2020, the Supreme Court issued *the China Environmental Resources Trial (2019)*, which changed the previous practice of distinguishing environmental resources cases into criminal, civil and administrative cases according to three major trial areas, and divided environmental

²² Guo Dongmei. Research on the legal framework of China's response to climate change in the context of low-carbon economy [M]. Beijing: People's publishing house, 2019.

²³ Shen Hao Environmental justice and administration in the context of climate change [M]. Shanghai: Fudan University Press, 2018.

Also see Shen Yuedong. Research on US climate change litigation [M]. Beijing: China Environment publishing group, 2019.

resources cases into environmental pollution prevention and control cases, ecological protection cases, resource development and utilization cases, climate change response cases and ecological and environmental governance and service cases, etc. Five major types of cases. At the same time, it was pointed out that the trial of climate change mitigation cases should be strengthened.

The Supreme People's Court also issued *the Decision on Amending the Provisions on Civil Causes of Cases* in 2020, adding "100. disputes over carbon emission rights trading" and "101. disputes over carbon sink trading" as causes of contract disputes. According to the process of carbon emission trading, the relevant cases can be divided into disputes over the allocation of allowances, disputes over the trading of allowances and disputes over the settlement of allowances. The judicial practice of carbon emission trading disputes in China has the following characteristics: firstly, there are various types of civil disputes and a single manifestation of administrative disputes. Civil disputes are mainly contractual disputes, including liability for breach of contract and determination of the ownership of the subject rights, etc. Secondly, there are no disputes involving carbon emission quotas. The allocation of carbon emission quotas is a precursor to carbon emission trading, and China currently adopts the method of free allocation of quotas by the relevant departments, so there are no such disputes in judicial practice.

In October 2021, Supreme People's Court clearly states that "the economic, public and ecological attributes of carbon emission rights, carbon sinks, carbon derivatives and other carbon-related rights should be accurately grasped, and civil disputes involving the determination of rights, transactions, guarantees and enforcement should be properly handled according to law."²⁴ It also mentions carbon public interest litigation. As can be seen, disputes over transactions in the carbon market and the investigation and punishment of illegal acts such as the obligations of emission control units and enterprises are important links that affect the operation of the market and are urgently needed in judicial practice.

Climate change litigation has extraterritorial origins, and Australian scholar Jaqueline Peel defines the scope of climate change litigation as four types²⁵, namely litigation that has climate change as a central focus, litigation that explicitly raises the issue of climate change but is not its

²⁴ Helping to achieve the goal of carbon peaking and carbon neutrality. Accurately grasp the economic, public and ecological attributes of carbon-related rights such as carbon emission rights, carbon sinks and carbon derivatives, and properly handle civil disputes related to the determination of rights, transactions, guarantees and enforcement in accordance with the law. Support and supervise administrative authorities in investigating and dealing with illegal acts such as false or concealed reporting of greenhouse gas emissions by carbon emission units and refusal to fulfill greenhouse gas emission reporting obligations in accordance with the law. Hearing in accordance with the law cases involving carbon public interest litigation and compensation for ecological and environmental damage brought by state-mandated organs or organisations prescribed by law, and helping to form a clean, low-carbon, safe and efficient energy system with wind, solar, hydro, nuclear, gas, biomass and other renewable energy sources as the mainstay. The trial of cases involving energy restructuring in key regions such as Beijing, Tianjin, Hebei and surrounding areas, the Fenwei Plain and the Yangtze River Delta has been stepped up to strictly implement collaborative governance to reduce pollution and carbon. Hearing various cases involving the illegal production and use of controlled ozone-depleting substances and environmental pollution in accordance with the law, helping to reduce non-CO₂ greenhouse gas emissions and effectively respond to the global climate change crisis.

²⁵ Hari Osofsky and Jacqueline Peel. *Litigation's Regulatory Pathways and the Administrative State: Lessons from U.S. and Australian Climate Change Governance.*

central concern, litigation that has climate change as one of its motivations but does not explicitly raise issues related to climate change, and litigation that does not raise climate change-related lawsuits that do not raise climate change-related issues but have a clear impact on climate change mitigation and response.

In addition to the traditional public interest litigation for causing environmental pollution and ecological damage, there is also litigation in the area of climate change, which is also divided into civil public interest litigation and administrative public interest litigation for climate change. China has not yet seen any climate change litigation in the true sense of the word, but air pollution public interest litigation aimed at reducing air pollutant emissions has achieved many breakthroughs in the legal and judicial systems, and air pollution civil public interest litigation and administrative public interest litigation may provide pathways and rules for climate justice in China.²⁶ In the first instance, it was held that State Grid Gansu Power, as a power grid enterprise that purchases and sells electricity and deploys power supply, was not a power generation enterprise, and did not commit acts of environmental pollution or ecological damage; the second instance reversed the first instance ruling and ordered the Gansu Mining District People's Court to hear the case.

3.2 Initiatives to Mitigate Climate Change

The measures taken to mitigate climate change follow two paths: reducing carbon emissions and increasing negative emissions. According to *the "China's Policies and Actions to Address Climate Change"* published in 2021, in order to effectively mitigate climate change, the measures taken by China firmly follow a green and low-carbon development path, increase greenhouse gas emission control efforts, and play the role of market mechanisms.

In terms of green and low-carbon development, China's main focus is on the synergistic management of pollution and carbon reduction, energy reform, dual control of energy consumption and the development of new energy sources. First of all, the theory of synergy in reducing pollution and carbon comes from the rich practice of international green low-carbon development. The Second and Third Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC) first put forward the concepts of "secondary benefits" and "Co-benefits"²⁷. According to the assessment of the National Climate Strategy Centre, the policies and actions implemented in China to address climate change since 2005 are equivalent to a cumulative energy saving of 2.21 billion tons of standard coal, which is equivalent to a reduction of about 11.92 million tons of Sulphur dioxide emissions and 11.3 million tons of nitrogen oxides emissions. 2021 In July, *the Work Plan for Synergistic Promotion of Carbon Emission Reduction in the Field of Environmental Impact Assessment and Emission Permit* was issued; 2022 In June, the Ministry of

²⁶ Zhao Yue. Research on the path of climate change litigation in China -- Empirical Analysis Based on 41 air pollution public interest litigation cases [J]. *Journal of Shandong University (PHILOSOPHY AND SOCIAL SCIENCES)*, 2019 (06): 26-35

²⁷ Chai Qimin and Xu Huaqing. China's new journey towards synergy in reducing pollution and carbon emissions. National Center for Strategic Research and International Cooperation on Climate Change, 2022.

Ecology and Environment, together with seven departments, issued a notice on the issuance of *the Implementation Plan for Synergistic Efforts to Reduce Pollution and Reduce Carbon*, proposing that "by 2025, the work pattern of synergistic efforts to reduce pollution and reduce carbon will be basically formed; structural optimization and adjustment and green low-carbon development in key regions and key areas will achieve obvious results; a number of replicable and replicable typical experiences will be formed; and the degree of synergistic efforts to reduce pollution and reduce carbon will be The degree of synergy in reducing pollution and carbon emissions will be effectively enhanced. By 2030, the synergistic ability of pollution reduction and carbon reduction will be significantly enhanced to help achieve the goal of carbon peak; significant results will be achieved in the synergistic promotion of carbon peak and air quality improvement in key areas of air pollution prevention and control; the level of synergistic management in the fields of water, soil, solid waste and other pollution prevention and control will be significantly improved".

Secondly, energy development follows the pace of global energy structural transformation towards high efficiency, cleanliness and diversification, and major countries around the world have coincidentally accelerated the pace of development towards a low-carbon or even "decarbonised" energy system. The State Council has issued a *Strategic Action Plan for Energy Development (2014-2020)*, which proposes to make the market play a decisive role in resource allocation and better play the role of the government and deepen the reform of the energy system. The implementation of the "double control" action on total energy consumption and intensity proposed at the Fifth Plenary Session of the 18th CPC Central Committee has been implemented for many years and has achieved certain results, with a cumulative reduction of 28.7% in China's energy consumption intensity from 2011 to 2020, but at the same time, research shows that²⁸, the policy of double control on energy consumption in China for the three years from 2018 to 2020. The implementation is unclear and there is no clear data on the actual energy saving and carbon reduction effects, therefore, it is necessary to promote the establishment and improvement of relevant systems at the legislative level, especially to implement the provisions of which key energy-using units disclose their energy consumption intensity and increase the degree of information disclosure, and to pay attention to the coordination with climate change related laws. 2021 The Central Economic Work Conference for the first time proposed to create conditions for the early realisation of energy consumption. The

²⁸ In 2021, Shanghai Qingyue conducted research in accordance with the Energy Conservation Law of the People's Republic of China, the Measures for the Administration of Energy Conservation in Key Energy-using Units (National Development and Reform Commission Order [2018] No. 15), the Notice of the National Development and Reform Commission on Matters Relating to the "Hundred Million" Action of Key Energy-using Units (NDRC Environmental Resources [2017] No. 1909), and the Notice of the General Office of the National Development and Reform Commission on Issuing the List of "Hundred" Key Energy-using Units (NDRC Environmental Resources [2017] No. 351). No. 1909), the Notice of the General Office of the National Development and Reform Commission on Releasing the List of "Hundred" Key Energy-using Units (NDRC Environmental Resources [2019] No. 351) and other laws and regulations and policies, it was found that in 2018, a total of nine provincial-level regions had made public the "Hundred and Thousand "In FY2019, there were 11 and 14 respectively; and in FY2020, there were 3 and 9 respectively.

shift from "double control" to "double control" of total carbon emissions and intensity breaks the constraints on the use of renewable energy under "double control" of energy consumption and is more in line with the transition from fossil energy to renewable energy. The liberalisation of the use of clean energy can achieve the policy direction of controlling fossil energy consumption, encourage and promote the rapid development of renewable energy, accelerate the transformation of the energy structure, and reach the target of "reaching a share of about 25% of non-fossil energy consumption by 2030" as proposed in the *"Action Plan for Reaching the Carbon Peak by 2030"* as soon as possible. The ultimate goal is to achieve the commitment of "reaching a share of over 80% of non-fossil energy consumption by 2060". To achieve a common vision of long-term global sustainable development and carbon neutrality, energy production and consumption must undergo a profound, leapfrogging transformation. China has increased its new energy technology equipment in large numbers, and according to data released by the National Energy Administration, from January to May 2022, the cumulative new installed capacity of photovoltaic was 23.71 GW, up 139.25% year-on-year; wind power was 10.82 GW, up 39% year-on-year. 30 May 2022 saw the introduction of *the Implementation Plan on Promoting the High Quality Development of New Energy in the New Era*, which proposes to achieve the goal of reaching a total installed capacity of more than 1.2 billion kilowatts of wind and solar power by 2030, and accelerate the construction of a clean, low-carbon, safe and efficient energy system from a technical level.

Finally, in terms of giving full play to the role of market mechanisms, China first mentioned the construction of a carbon emission trading market in September 2010, and in October 2011, the National Development and Reform Commission issued *the Notice on the Piloting of Carbon Emission Trading*, which officially launched the piloting of carbon emission trading in China, and the Notice established seven provinces and cities, namely Beijing, Tianjin, Shanghai, Chongqing, Hubei, Guangdong and Shenzhen, as pilot carbon emission trading areas. Since 2013, the construction of the carbon emission trading market has entered a substantive stage, with carbon markets in pilot regions being launched one after another; the Fujian carbon market was launched in 2016, and CCER (Chinese Certified Emission Reduction) trading was launched in Sichuan in December of the same year. After the opening of the national carbon market based on the power sector on 16 July 2021, China's carbon trading market has formed a general pattern of "one national carbon trading market + eight carbon trading pilot markets + one CCER trading market". In addition to the carbon trading market, China is also trading carbon sinks²⁹, which are derived from *the United Nations Framework Convention on Climate Change* (UNFCCC) and are used to offset the carbon reduction share of the country concerned through the effective

²⁹ Carbon trading refers to developed countries paying for carbon emission targets from developing countries, which is an effective way to achieve compensation for the ecological value of forests through market mechanisms. This type of trading is a way for some countries to reduce their emissions or absorb carbon dioxide and resell the excess carbon emission targets to countries that need them to offset the emission reduction tasks of these countries, not to actually pack the air and ship it abroad.

management of terrestrial ecosystems to increase their carbon sequestration potential³⁰ .

Common carbon sinks include forestry carbon sinks, agricultural carbon sinks, grassland carbon sinks, ocean carbon sinks, etc. The forest carbon sink market is an important trading product in China, but domestic carbon sink trading is only a supplement to carbon emission rights market trading, and its trading rules, trading scope and trading methods are currently dependent on the carbon emission rights trading market.

3.3 Climate Change Adaptation Initiatives

Hans-Otto Portner, Co-Chair of IPCC Working Group II, stressed that “climate change is a threat to human well-being and the health of the planet. Humankind sits in a big boat of shared destiny, no part of the planet is immune to the effects of climate change and the global response must be concerted, not missing fleeting opportunities.” Mitigation and adaptation are the two main components of the response to climate change, and the current greater emphasis on mitigation has somewhat diminished the importance of adaptation. Emission reduction of greenhouse gases will have an effect on the climate in 30 to 50 years, while adaptation is realistic and immediate, and needs to be done urgently, just like “distant water cannot put out a nearby fire”. While emission reduction is important, what we urgently need to improve is our disaster prevention and mitigation capacity in the context of increased disasters caused by extreme weather and climate events. Adaptation to climate change has great potential to deliver significant synergistic benefits for health and well-being, and to reduce the risk of displacement and violent conflict. ³¹Our initiatives to adapt to climate change, another important area in the response to climate change, are mainly focused on the areas of forecasting and the establishment of safeguard systems.

In terms of policy issuance, the concept of climate change adaptation was first introduced in *China's Agenda 21* promulgated in 1994; in 2007, *China's National Program for Addressing Climate Change* described in detail the various tasks of climate change adaptation in China; in 2010, *the Outline of the Twelfth Five-Year Plan for National Economic and Social Development of the People's Republic of China* included for the first time addressing climate change as a separate chapter, putting forward the requirement of enhancing the capacity to adapt to climate change; in 2013, *the National Strategy for Climate Change Adaptation* raised climate change adaptation to a national strategic level for the first time;³² *The National Strategy for Climate Change Adaptation 2035*, released in June 2022, focuses on strengthening overall guidance and communication and coordination, strengthening climate change impact observation and assessment, enhancing the capacity to adapt to climate change in key areas and key vulnerable regions. *The National Strategy for Climate*

³⁰ Fan Zhenlin, Song Meng, Liu Zhichao. Development of ecological carbon market to help achieve "carbon neutrality"[J]. *China Land and Resources Economy*, 2021, 34(12):11.

³¹ Yang Ye. Adaptation to climate change must focus on health co-benefits[N]. *China Meteorological News*, 2022-03-10(003).

³² Zhou Zeyu, Cao Ying. Analysis and reflection on the National Adaptation Strategy 2035[J]. *Environmental Protection*, 2022, 50(15):42-46.

Change Adaptation 2035 also highlights measures to adapt to climate change in four areas: climate change monitoring and early warning and risk management, delineating the two dimensions of natural ecosystems and economic and social systems, building a regional pattern of climate change adaptation at multiple levels, and focusing on mechanism building and sectoral coordination, with multi-disciplinary and multi-sectoral coordination to improve China's capacity to adapt to climate change.

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