

Options for legislative pathways to achieve the "dual carbon" goal

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Abstract: At present, a number of countries and regions around the world have adopted climate change legislation or legislative amendments to provide legal safeguards for the realization of carbon neutrality. Long-term, sustained and deep emissions reduction is an inevitable trend for China's future development, which requires a good top-level design and the establishment of a long-term mechanism to address climate change through the rule of law. At present, China has not yet formulated a special law to deal with climate change, and the realization of the "dual-carbon" goal is not guaranteed by the rule of law. According to the overall process of realizing the goal of "dual-carbon" in China, this paper analyzes the current status of "dual-carbon" legislation in China, and explores the legislative path suitable for China's "dual-carbon" strategy, combining the theory of public trust and the theory of social interest protection.

1. History of "dual carbon"

"Double carbon" is short for carbon peak and carbon neutral. In the natural sciences, peak carbon refers to a defined point in time before which carbon dioxide emissions from human activities rise year after year. When this point in time is reached, carbon dioxide emissions reach a maximum peak and then stop growing. Carbon neutral refers to the total amount of carbon dioxide or greenhouse gas emissions, to achieve positive and negative offset, to achieve relative "zero emissions". In the field of environmental law, carbon peaking refers to a point in time when human direct or indirect carbon dioxide emissions reach a peak. Carbon neutral means that the total amount of carbon dioxide or greenhouse gas emissions directly or indirectly generated by human beings can be absorbed directly or indirectly by human activities.

In 1992, the United Nations General Assembly adopted *the United Nations Framework Convention on Climate Change*, and comprehensive control of carbon dioxide emissions became an international consensus.

The concept of "carbon neutrality" was first introduced in 1997 by Future Forests of London (later renamed Carbon Neutral).^[1]The company helps customers calculate the amount of carbon dioxide they produce over the course of a year and absorbs the carbon dioxide they emit by planting a certain number of trees for consumers for a fee.

In 1997, the third Conference of the Parties to *the United Nations Framework Convention on Climate Change* adopted *the Kyoto Protocol* to curb global warming by reducing greenhouse gas

emissions in developed countries, with the goal of stabilizing the level of greenhouse gases in the atmosphere at an appropriate level and thereby preventing drastic climate change from harming humankind.^[2]

In 1999, the Climate Neutral Network was founded in Oregon, United States, and is considered to be the first carbon-neutral non-profit organization. It aims to call on commercial companies to save money and become environmentally sustainable through carbon neutrality.^[3]

In 2000, Shaklee Corporation of California, United States, became the first United States company to be certified as climate-neutral, with zero pollution from global warming. The company utilizes a variety of investments and offsets for a wide range of activities, including tree planting, solar energy use, and methane capture from abandoned mines and production processes.^[4]

In 2006, *the New Oxford American Dictionary* announced the word of the year as "carbon neutral", and in 2007, *the New Oxford English Dictionary* officially included the term.^[5]

In 2015, at the 21st United Nations Climate Change Conference, 178 parties from around the world co-signed *the Paris Agreement*, a climate change agreement. The agreement stipulates that parties should rapidly reach a global maximum in greenhouse gas emissions, while recognizing that it will take more time for developing countries to achieve peak carbon emissions. Carbon neutrality is then to be achieved on an equal footing in the second half of the century.^[6]

In 2019, more than 60 countries committed to carbon neutral targets at the UN Climate Action Summit.^[7]

In September 2020, China proposed to strive to peak carbon dioxide emissions by 2030 and work towards achieving carbon neutrality by 2060, and in September 2020, China announced that it would continue to work towards achieving carbon neutrality.^[8]

2. Status of China's "dual-carbon" legislation

Achieving carbon peak and carbon neutrality is the goal and key point of China's action to address climate change.^[9] Currently, there are no relevant laws that aim to achieve carbon peaking and carbon neutrality, and they exist mainly in laws and regulations related to climate change.

At the national level, the Constitution, as the fundamental law of China, does not directly provide for laws related to addressing climate change. However, the fundamental national tasks of implementing the new development concept, promoting the development of ecological civilization and building a beautiful China, as stipulated in the preamble to the Constitution, can provide an indirect basis for the realization of the carbon neutral goal of carbon peaking. Provisions on legal responsibility for protecting the environment also exist in other laws. For example, *the Environmental Protection Law* stipulates that all units and individuals have the obligation to protect the environment, and the legal responsibility of local governments, enterprises and institutions, and other producers and operators. *The Law on Prevention and Control of Air Pollution* stipulates the legal responsibilities and obligations of relevant rights holders, but carbon dioxide cannot be equated with air pollutants, nor can it be directly applied in defining and pursuing legal responsibilities in the process of realizing the "double-carbon" goal. In the *Forest Law* and *Grassland Law*, although the content of carbon sinks has been proposed, the relevant legal provisions on carbon sinks have not been explicitly increased, and their regulatory function is limited.

At the local level, legal norms related to the realization of the goal of carbon neutrality mainly include local laws and regulations and local government regulations. For example, *the Tianjin Carbon Peak Neutrality Promotion Regulations* is the first provincial-level local regulation in China that directly aims to achieve carbon peak and carbon neutrality, and it specifies the basic management system required to achieve the "double carbon" goal, as well as relevant policies and measures to reduce carbon emissions and increase carbon absorption, and specifies incentives and legal liabilities

in a special chapter. It also specifies incentives and legal liabilities through a special chapter, indicating the direction of action and providing rule of law protection for Tianjin to realize the "dual-carbon" goal. *The Interim Measures for the Administration of Carbon Emission Right Trading in Fujian Province*, taking into account the actual situation of the province, clearly stipulates the scope of application of carbon emission right trading, management responsibilities, management of carbon emission quotas, and legal liabilities of participants in the carbon emission right trading market, so as to establish a market mechanism for controlling greenhouse gas emissions. *The Measures for Addressing Climate Change in Qinghai Province* clearly states that the relevant departments of the people's governments at the county level and above shall, within their respective scope of responsibilities, actively carry out work related to addressing climate change, and encourage the public to choose consumption habits and living patterns that help to mitigate climate change and to take the initiative in assuming the obligations of energy conservation and ecological environmental protection. In general, however, the relatively low level of local legislation has made it impossible to effectively monitor all types of subjects, leading to poor implementation.

In summary, the provisions of various individual laws, local regulations and rules on the legal acts of carbon neutrality have their own focuses, but in general they are fragmented and unable to provide systematic rule of law safeguards for the realization of the goal of carbon neutrality. Responding to climate change is a systematic project, and despite the controversy over the legislative model, it has become a consensus to establish a scientific and complete legal system for responding to climate change and to systematically promote the realization of the goal of carbon neutrality.

3. Rationale for "dual-carbon" legislation

3.1 Public Trust Theory

The "public thought" in Roman law is the origin of the public trust theory, and later developed by the common law system, gradually shifted from the commercial field to the field of environmental protection. 1970 Prof. Joseph L. Sax introduced the concept of public trust theory into the study of environmental protection, thus creating the environmental public trust theory system.^[10]

Natural environmental resources are typical public goods, and the lack of effective regulation can easily lead to a "tragedy of the commons". The theory of public trust emphasizes the legal duties of the government, which is obliged to protect the trustees of public rights. Citizens can entrust the management of their common property to the government, at this time the relationship between citizens and the government belongs to the relationship between the principal and the trustee, the government should manage and protect these properties to ensure the effective use of the property, and thus maximize the public interest. Responding to climate change is a global public problem, atmospheric resources have the property of public goods, and any subject on the earth can emit carbon dioxide into the atmosphere without any constraints. However, the amount of greenhouse gases that the atmospheric environment can accommodate is limited in a particular period and region, and once the critical value is exceeded, the changes in the climate system will be irreversible, thus seriously affecting the survival of human society. Overcoming the "tragedy of the commons" requires the management of public resources that cannot be measured in terms of price, which requires the government to actively and appropriately manage and regulate natural environmental resources for the benefit of the public. The destruction of climate resources and the environment is a public issue, as there is a conflict of fundamental values such as freedom and security.^[11] The right to emit carbon has a public attribute, and all citizens enjoy the right to emit carbon. The government is jointly entrusted by all citizens to ensure the scientific allocation of atmospheric resources by rationally allocating carbon emission rights through legislation. The theory of public trust is the basis of citizens' environmental rights. Citizens are the owners of natural resources, and they supervise and restrict the

government's behavior in disposing of natural resources. The state should also fulfill its environmental protection obligations in accordance with the law, and by formulating and improving legal norms on carbon emissions and carbon trading, thereby limiting greenhouse gas emissions, safeguarding the public interest and realizing sustainable economic development.

3.2 Social Interest Security Theory

The central contradiction of Western capitalism lies in the existential conflict between the socialization of production and the capitalist private ownership of the means of production. After World War I, the fundamental contradiction of capitalism deepened and the market structure shifted from a free competitive market to a monopoly market, which further catalyzed the economic and social crises in Western capitalist countries. Pound points out that in a crowded world, whose resources have been fully utilized, a system that promotes maximum individual autonomy causes far more conflict than it resolves, thus increasing the internal conflict in society.^[12] Western countries began to enact all kinds of legislation to intervene in social life in an attempt to alleviate "social internal conflict". According to Pound, at this time the law had already entered the stage of socialization, and there were no new continents in the world for people to explore; natural resources had already been explored and utilized.^[13] Thus, the purpose of law is transformed into "the greatest possible overall satisfaction of human needs at the least possible cost".^[14] This is in line with our vision of preserving our home planet, on which mankind depends for its survival, through the realization of the "dual-carbon" goal.

Against the backdrop of the utilitarian era, Yellin proposed the "interest theory". Yellin regarded interests as the requests, demands or wishes of people, and believed that for a well-organized society to survive, the law must satisfy people's requests, demands or wishes.^[15] Pound developed this on the basis of Yellin's conception of interests, believing that the primary role of law is to recognize all kinds of social interests, then to determine the limits and scope of the recognized interests, and finally to protect the interests within this scope through law. The role of law is to recognize, determine, realize and safeguard various interests. Pound classified interests into personal, social and public interests, proposed the functional concept of usage to replace the logical concept, and advocated that "usefulness is truth".

On the one hand, in the case of environmental law, it is the social interest that is defended. At the heart of Pound's legal thought is the theory of the social interest, and Pound believed that "justice, the end of law".^[16] Pound regarded justice as a personal virtue or a reasonable and fair satisfaction of human needs or requirements,^[17] and the root of whether justice can be manifested lies in whether it can safeguard the interests of society. The interests protected by environmental law are the foundation for the survival and development of human civilization, and concern the general needs of all social subjects. Therefore, in order to realize the goal of "double carbon" and improve the rule of law guarantee for "double carbon", the scope of specific interests for the protection of social natural resources and the protection of public health should be clarified in the legislation, so as to provide reasonable and fair rule of law guarantee for the needs of human beings for a better life.

On the other hand, the control of greenhouse gas emissions and the realization of the "dual-carbon" goal require the goal of "harmonization" of social interests. In Pound's view, various interests are contradictory, and therefore the law can only protect the interests of the prioritized value order. Pound also emphasized that the law should try to meet the needs of society, and that the law should try to safeguard all social interests and maintain balance and coordination among them. In the process of promoting the realization of carbon peak and carbon neutral goals and visions, it is inevitable that the interests of multi-sectoral and multi-industry subjects will be touched. Conflicts and coordination of interests, prevention and resolution of disputes, exercise and protection of rights, fulfillment of

obligations and assumption of responsibilities all require the full play of legal regulation. When individual pollution of the environment and destruction of ecological resources conflicts with the overall interests of building an ecological civilization, priority should be given to the protection of the overall social public interests. Therefore, the choice of legislative paths should be oriented towards the realization of the "dual-carbon" goal and the formation of a complete system of legal norms aimed at safeguarding the overall interests of ecological civilization and realizing the beautiful vision of harmonious coexistence between human beings and nature.

4. Path options for "dual-carbon" legislation

4.1 Choice of model of legislative form

4.1.1 Model of unitary legislation

Separate law is a legal provision enacted separately, which refers to the legal provisions enacted separately for a specific act or a specific matter, a specific region or a specific subject, and this legislative model is mainly adopted in the general case law of the common law system. The model of separate legislation has the advantages of short legislative cycle, strong pertinence, etc., which can respond to the environmental problems in a timely and efficient manner, and overcomes the shortcomings of the traditional legislative model such as not easy to modify, not strong operability, etc. However, this legislative model also has the advantages of legal stability, which is not easy to change. However, this legislative model also has the disadvantages of poor legal stability, lack of uniformity, and vulnerability to frequent and repeated legislation.

4.1.2 Codified legislative model

The most important feature of codified legislation is that it is systematic and systematic. Codified legislation through the integration of fragmented legal norms, the formation of a logical, hierarchical legal system, the uniformity of the law is strong. When it comes to the "dual-carbon" goal, the "low-carbon emission reduction" should be the foundation for the unified classification and integration of existing laws and the timely formulation of specialized laws to address climate change.^[18]The formulation of a climate change code can be carried out in four aspects, namely, legislative purpose, structure of authority, main body of responsibility and linkage mechanism, and systematically standardize the legal principles, carbon emission reduction rules, and the content of the carbon sink system.^[19]Although the legislative model of codification has the advantages of being systematic, stable and avoiding repetitive legislation, the disadvantages of a long legislative cycle, lack of specificity in legislation, complexity of the legislative process and poor timeliness are also more obvious.

4.1.3 A legislative model that combines unity and division

Under the vision of realizing the "dual-carbon" goal in China, a combination of codified and classified legislation should be adopted, adopting a legislative model that combines unification and division. Based on a high-level law, combined with separate regulations, rules and bylaws, a complete system of legal norms centered on responding to climate change will eventually be formed. While ensuring that the content of the legal provisions is complete, the applicability, flexibility and operability of the law in implementation are also guaranteed.^[20]This model combines the basic law of the "dual-carbon" strategy with the relevant stand-alone law, combining the advantages of the two legislative models, combining legislative uniformity and flexibility, and steadily promoting the realization of the "dual-carbon" goal.

The choice of legislative model has an important impact on the implementation effect of the law. By comprehensively analyzing the characteristics of the three legislative models mentioned above, the author believes that the carbon neutral legislative model combining unification and division is more suitable for the needs of China's economic development and more in line with China's basic national conditions. At the initial stage of implementing the strategy of "dual-carbon" goal, China should follow the spirit of lenient legislation. The enactment of the "Law on Responding to Climate Change" as the basic law of the "dual-carbon" goal, and at the same time, according to the specific practice of the formulation of stand-alone laws and regulations, the two complement each other, and synergistically promote the improvement of the law of carbon peaking and carbon neutrality. The "dual-carbon" legislative model, which combines unity and separation, not only meets the requirement of comprehensively and systematically organizing the legal framework, but also provides comprehensive rule of law safeguards for various subjects, industries and types of carbon-neutral actions to achieve peak carbon emissions.

4.2 Choice of legislative content model

4.2.1 Policy-oriented legislative models

The response path to climate change risks depends largely on policy flexibility and scientific and technological progress.^[21] Compared with the traditional regulatory legislative model, the policy-based legislative model is more flexible and adaptable, and is able to meet the diversified rule of law needs of different subjects of interest. As the world's largest developing country, China is in a period of deepening industrialization and urbanization, and its energy demand will continue to grow in the future, which makes the task of carbon emission reduction arduous and burdensome.^[22] While China is committed to realizing the "dual-carbon" goal and actively fulfilling its international obligations, it should reserve a certain amount of room for growth for its low-carbon transformation, and should not use an overly stringent legal system to restrict the development of related industries and fields. At the initial stage of the carbon neutral strategy, the choice of legislative model should play a guiding and facilitating role, as well as a regulatory role. However, the disadvantages of the policy-based legislative model are also obvious. The policy-based legislative model lacks mandatory constraints due to its own uncertainty, which in turn leads to poor legal implementation.

4.2.2 Regulatory legislative model

The regulatory legislative model is rich in detail and highly operational, but it is not flexible and adaptable, making it difficult to adapt to the rapid development of the economy and the complex changes in environmental issues. At present, China's "dual-carbon" strategic plan is in the initial stage of development, and the relevant technical means and institutional provisions for realizing carbon peaking and carbon neutrality are still immature, making it difficult to formulate detailed and complete legal provisions. At this stage, under the current situation where carbon emissions pose a great risk to the risk of global climate change, the adoption of a regulatory legislative model that is too strict in pursuing legal responsibility for carbon pollution is not conducive to the development of a new path of green and low-carbon transformation in China.

Aristotle said, "Whether the purpose of the law can be realized or not is the basic criterion for measuring the effectiveness of its implementation."^[23] The author believes that, at this stage, China should adopt a policy-oriented legislative model. Nobel Prize-winning economist Nordhaus believes that mankind should formulate a moderate rather than radical carbon reduction agenda, and choose a low-carbon development path that is appropriate and sufficient to balance the pace of economic growth with the need for climate protection.^[24] Under the path of the policy-oriented legislative

model, the macro-guiding role of policy-oriented laws is brought into play, and the legislation and its implementation respond to new changes in a timely manner, so that the action plan for carbon peaking and carbon neutrality and the development issues can be implemented in legal documents at different levels.

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