

# Knowledge and Understanding of Ecological Civilization: A Chinese Perspective

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## Abstract

The idea of a socialist ecological civilization with Chinese characteristics is based on the latest provisions of Marxist theory applied to China's current ecological environment. Responsible attitude contributes to the continuing formation of people's awareness of the need for ecological protection, which in turn leads to the expansion of ecological practical activities; this shows that the idea of socialist ecological civilization with Chinese characteristics has very high theoretical and practical value. China's ecological civilization has created an advanced national development strategy and now it is gradually putting it into practice. China is actively transforming its economic development mode, reducing energy and material consumption, limiting obsolete production capacity, insisting on collaborative innovation, and promoting sustainable economic development. Under the guidance of Xi Jinping's ecological civilization thought, the society is consciously striving to respect and protect nature. In this paper, the authors analyze China's Ecological Civilization from the historical point of view, explain the conceptual framework of China's Ecological Civilization Thoughts and describe the primary steps of China's ecological civilization development.

## Keywords

China, ecological civilization, ecological thoughts, green development, ecologically oriented governance.

**JEL:** F53, F64, O11.

## 1. Introduction

Ecological civilization is a new stage in the development of humanity, it is a more complex, progressive and advanced form of human civilization that has emerged in the course of societal development. The invention of the coal-powered steam engine opened the way to the modern industrial revolution, and the invention and widespread application of electricity promoted large-scale industrial production. Industrial civilization, however, has brought about a global ecological crisis, which has caused a high degree of tension in the relationship between man and nature. German atmospheric chemist and Nobel laureate Paul Kruger pointed out that industrial civilization had created the "anthropocene" and caused fundamental changes in the relationship between man and nature. General Secretary Xi Jinping pointed out: "Ecological civilization is a significant achievement of human social progress. Humankind has experienced primitive civilization, agricultural civilization, and industrial civilization. Ecological civilization is the product of the development of industrial civilization to a particular stage, and it is a new requirement for the harmonious development of man and nature. The rise of ecological civilization is the inevitable result of developing and transforming productivity in modern society.

China has been active in green economy research since 1972, when Premier Zhou sent delegates to attend a Stockholm' environmental conference. In 1973, Beijing first held a national meeting on environmental protection. Earlier in the 80s, the PRC formed the National Bureau of Environmental Protection. In 1989, the law on environmental protection was adopted (Costanza & Liu, 2014). Currently, China is an ardent supporter of the UN ideas related to environmental initiatives and sustainable development, which are very consonant with the Chinese political mottos – Chinese Dreams.

In 2007, the 17<sup>th</sup> Communist Party of China's (further – CPC) Congress for the first time proposed the grand ambition of "building ecological civilization". In 2012, the 18th National Congress announced the "comprehensive implementation of the five-in-one overall layout of economic, political, cultural, social, and ecological civilization construction". In 2017, the 19th National Congress emphasized that "building an ecological civilization is a millennium plan for the sustainable development of China". In 2018, the first session of the 13th National People's Congress passed a proposal to write "Ecological Civilization" into the Constitution, and so the content of the Constitution was changed to "promote the coordinated development of material civilization, political civilization, spiritual civilization, social civilization, and ecological civilization, and build China into a prosperous, strong, democratic, civilized, harmonious and beautiful socialist modern power". The ecological civilization development strategy has gained an unprecedented position in Chinese history.

In Xi Jinping's Economic Thought and Theory series, the content of ecological civilization construction is explained specifically as the harmonious symbiosis between man and nature, governance and protection of grass and sand in mountains, forests, fields, lakes, and rivers, which will result in building a beautiful China. To attain

this goal, it will be necessary to control and prevent water pollution and develop the country's energy system.

In its efforts to build ecological civilization, China adheres to green production methods and lifestyles. In 2016, the Chinese government announced the "Outline of the Thirteenth Five-Year Plan for National Economic and Social Development", which put forward the concepts of innovation, coordination, greenness, openness and sharing of the "Five Major developments"; it regards green agenda as an important direction of China's development and focus of our aspirations in the "13th Five-Year Plan" and beyond.

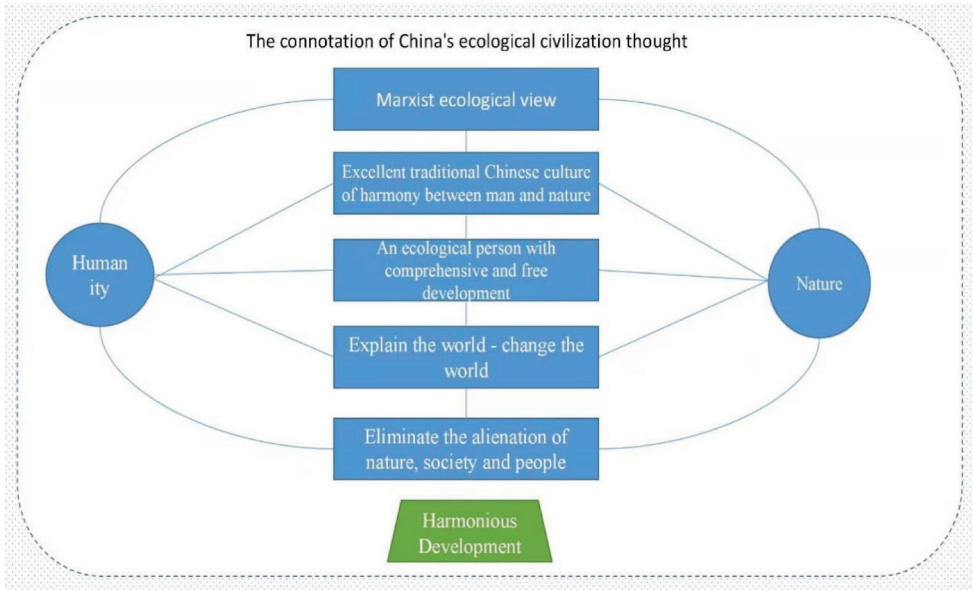
As an essential component of the "Five-Sphere Integrated Plan" for developing socialism with Chinese characteristics, the construction of ecological civilization has penetrated all aspects of socialist modernization in China. Ecological civilization is a concept that was developed with the help of the Communist Party of China, particularly by Yue Pan, the former deputy director of China's State Environmental Protection Agency (Hansen et al., 2018). As early as 2003, in a keynote speech delivered at the first forum of "Greening of China," Pan brought up the concept of "ecological industrial civilization" (Pan, 2003). The concept was articulated as a green version of industrial civilization, an alternative mode of economic development to address ecological crises generated by the traditional way of industrialization. At that time, the meaning of the concept remained vague and unspecified. In 2006, Pan (Pan, 2006) published a journal article entitled "On socialist ecological civilization" in *Green Leaf*, an influential journal on environmental issues in China. In this article, drawing upon a systematic review of socialist theory, particularly eco-socialism, Pan introduced the concept of "socialist ecological civilization." According to Pan, "Ecological civilization refers to the sum of material and spiritual achievements obtained by human beings following the principle of the harmonious development of humanity, nature and society. It refers to a cultural and ethical morphology with the fundamental purposes of harmonious coexistence, a virtuous circle, all-round development, and sustainable prosperity between man and nature, man and man, man and society."

This initial article published by Pan laid the foundation for the ideological and political framing of ecological civilization. Many concepts and ideas proposed by Pan were later integrated into the official narratives of ecological civilization of the Chinese government (MOEAE, 2010), (MONR, 2018) and eventually endorsed by Xi Jinping (QS Theory, 2020).

The connotation of China Ecological Civilization Thoughts see in **Figure 1**.

From the economic perspective, China has made remarkable progress, yet, environmental concerns represent risks to the country's long-term prosperity. The associated relationship between green investment, natural resources, green technology innovation, and economic growth has important environmental implications. Thus, Hongwei Zhang and co-authors investigated the effect of green investment, natural resources, green technology innovation, and economic growth on China's ecological footprint using the NARDL approach to analyze the data from 2000 to 2018. The findings demonstrate that green investment, natural resources, green

technology investment, and economic development have a significant positive short- and long-term effect on the ecological footprint (Zhang et al., 2022).



**Figure 1.** The connotation of China Ecological Civilization Thoughts.

Honegger with co-authors showed that the necessary process of carbon dioxide reduction cannot be achieved without active policy interventions in the areas of ecological protection and environmental governance (Jiang et al., 2020).

Many methods (such as input-output analysis, life cycle analysis, and ecological footprint) have been applied to evaluate the construction of ecological civilization. However, the comprehensive weighted index method is still the most widely used evaluation method (Chen et al, 2020; Zhang et al., 2017). Existing studies are predominantly quantitative assessments at the provincial and municipal-level (Dong et al., 2020; Wu et al., 2021).

Green development focuses on environmental issues, emphasizing the development of environmentally friendly industries, reducing energy and material consumption, protecting and restoring the ecological environment, and reconciling economic and social development with nature; low-carbon development focuses on climate issues and emphasizes the need to reduce greenhouse gas emissions as much as possible. It is a sustainable development model characterized by low energy consumption, low pollution and low emissions.

China’s energy development should adhere to “scientific, green and low-carbon”. The term “green” refers to the realization of environmentally friendly energy development and utilization, and “low-carbon” refers to a significant reduction in the intensity of greenhouse gas emissions and control over the growth of greenhouse

gas emissions. There are differences in the concepts of green and low-carbon, but the content and direction are highly consistent and synergies are observed. Under the new development situation, the qualities of being green and low-carbon are the inherent requirements of economic transformation and development; they have become the fundamental way to ease and eliminate the increasingly severe resource and environmental constraints. It is of great significance to build a well-off society and achieve sustainable development. The Central Government takes into account the actual situation in every province, it actively explores specific ways to transform the economy of the cities, ameliorate the systems of energy production and consumption and improve public governance methods. The primary goal in this case is to strive to improve the quality of urban development and achieve the goals of green and low-carbon development.

Currently, an increasingly prominent phenomenon is that the international political and economic order dominated by some western developed capitalist countries and the social and cultural concepts on which they depend are obstacles to the realization of global ecological environmental protection, governance and sustainable development. Multilateral cooperation with institutional platforms is still the primary practical way to promote the construction of global ecological civilization. As a result, the structure of ecological civilization in contemporary China and its international spread play an increasingly important role in restructuring the global environmental governance system. If we are to build a rich global ecological civilization, we will need changes in the meaning of policy propositions or discourse expressions, which not only represent the interests and contributions of developing countries, but also indicate the ecological trend of human civilization.

## 2. Marxism ideas

In implementing ecological civilization in China today, ecological civilization is regarded as a new and revolutionary mode of civilization. Ecological civilization has a stage of "the great modern socialism" development, which does not sacrifice people and the planet for profit like capitalism. Compared with the capitalist-led concept of sustainable development, the goal of ecological civilization is the sustainable development of human beings, with more emphasis on the well-being of people rather than economic interests.

Marx's "Trinity" concept, "Nature's Universal Metabolism," recognizes that humans and human societies are parts of nature. "Social metabolism" refers to how humans interact with and transform nature through production. The "metabolic cracks" indicate that alienated social metabolism is designed to exploit nature as a means of exploiting humans and capital accumulation, which is bound to cause an ecological crisis. Sustainable human development, the essence of ecological civilization, is possible in a society in which no one owns the Earth, neither individually nor as the sum of all human beings and nations in the world; we are just good stewards of our family, obliged to use the earth well and, as the "humanity", keep and protect it through

the chain of generations. People's relationship with the Earth is the most fundamental physical relationship. Production, consumption and social processes all arise from this material relationship. However, it is the nations' relationship with the Earth that must come first, as it forms the basis of existence and the development of life itself (Rogers & Shoemaker, 1971).

According to the Marxist theory, the most fundamental relationship of human society is that between man and nature: human beings rely on nature to survive, they live in the interaction with things produced by nature, so we should conform to its laws. The lessons of history tell us that we should not only consume but invest, and can't only care about development without consistent regard for the protection of our natural environment. Human beings ought to only follow the laws of nature and actively protect the environment (Rogers, 1988).

### 3. Socialist Ecological Civilization Thought with Chinese Characteristics

At the beginning of the modern history of China, there was a shortage of materials and production facilities waiting to be rebuilt. The Chinese people urgently needed to improve their living and production environment. However, because of the long-term wars and manufactured destruction, natural environments have become almost unbearable, and natural disasters have occurred frequently. To effectively resolve this severe problem, our people gradually realized that we should take advantage of nature to transform nature while taking into account the work of ecological governance. Mao Zedong once warned that if we do not have a deep understanding of the natural world, the nature will make us suffer.

(1) **Build a water conservancy.** Given the poor management of territories along large rivers and frequent floods, CCP recognizes that water conservation is the critical factor to agricultural development. Mao Zedong had repeatedly emphasized that the Huanhe River must be ameliorated, the Yellow River must be managed well, and the Haihe River problem must be wholly eradicated (Xie, 2019).

(2) **Plant trees adaptation.** The water resources are seriously drained, the situation is exacerbated by the perennial wind and sand storms. CCP realizes the importance of planting trees and protecting water and soil. In "Consulting Agriculture Opinions", Chairman Mao emphasized: "China must implement green governance within 12 years, to eliminate wasteland and barren hills, in all possible places, in all houses, villages, roads, and waters, trees should be planted according to specifications" (Li, 2019).

(3) **Safety production.** As the country was in dire need of large-scale construction and its population very poor, Mao Zedong advocated total and lasting economic savings.

(4) **Family planning.** Mao Zedong pointed out that the population of China is the largest in the world, so it is even more necessary to promote birth control and have a planned birth.



(5) **Patriotic Hygiene Movement.** People live in the seriously polluted environment, infectious diseases frequently occur. That is why, CCP launched a massive patriotic hygiene campaign towards healthy living,

Education, environmental governance and other methods and approaches make up a fundamental national policy of China announced at the Second National Environmental Protection Conference. In the 1990s, Jiang Zemin repeatedly proposed that China must take the realization of sustainable development as a significant strategy. If China wants to achieve sustainable development, the country must deal with economic development and population, analyze the relationship between the environment and resources. Jiang Zemin proposed to handle economic development and human social life correctly. The relationship between the people, resources and environment is the requirement of sustainable development (Li, 2019), Jiang Zemin advocates not only dealing with the current development situation, but also bringing up and educating the future generations for the sake of creating better conditions for future national development.

After entering a New Era, it is proposed to achieve success in tackling the arduous task of prevention and control of environmental pollution. Xi Jinping put forward the idea about the need to meet the people's expectation of a good ecological environment trend, and to create new growth points in it. He emphasized that China must encourage the society to build a new form of green, low-carbon and environmentally friendly development.

Xi Jinping pointed out at the 2018 National Ecological Environmental Protection Conference and the 2018 National Propaganda and Ideological Work Conference: "It is necessary to strengthen the CPC's leadership in the construction of ecological civilization". "It is necessary to strengthen the CCP overall leadership in propaganda and ideological work, to ensure the clear-cut adherence to the Party's management of propaganda and the party's management of ideology".

The authors emphasize several strategies for building an ecological civilization with Chinese characteristics:

(1) Implement a combination of protection and development of farmlands. We need to avoid severe soil erosion caused by excessive deforestation. It is necessary to focus on the development of the local tourism industry, on the planting of fruit tree, and processing of agricultural product. It is necessary to promote tree planting and afforestation, improve the green coverage rate, consolidate the structure of river dams, clean up river garbage.

(2) Encourage the use of new energy sources. Air pollution is caused by vehicle exhaust emissions. To solve the pollution problem, China should vigorously promote the broad application of new energy vehicles. People who buy new energy vehicles are given specific preferential policies to motivate people to buy. It is necessary to optimize the internal industrial structure of the enterprise, encourage the rational transformation of the enterprise, improve the products, develop the urban greening industry, enhance people's environmental awareness and jointly build Eco China.

(3) Raise people's awareness of the need for the conscious protection of the ecological environment. The government should also exert its influence to create public opinion about environmental protection, to improve citizens' environmental awareness, encourage people to participate in the organization of environmental protection and all together actively build a better living environment (Zuo, 2019).

#### **4. The theoretical value of Xi Jinping's ecological civilization thought**

Xi Jinping Thought on Ecological Civilization increasingly shows the comprehensive character of Marxism, and the fundamental idea of constructing an ecological civilization in the New Era. This thought profoundly answered the major theoretical and practical questions of why it was vital to build such civilization, what kind of ecological civilization to build, and how to create ecological civilization; it profoundly revealed the law of development of human civilization, enriched and developed the Marxist view of nature and productivity theory, and deepened the party's governing philosophy and governing methods that further expand the destiny of mankind.

In 2021, the Chinese Academy of Social Sciences announced the establishment of the Center of Research of Xi Jinping Thoughts on Ecological Civilization. With the CPC approval, Xi Jinping Thought Research Center for Ecological Civilization was established in the Ministry of Ecology and Environment. Establishing a unique think tank for Xi Jinping's ecological civilization thought marks the overall depth and breadth of the research on Xi Jinping's ecological civilization thought, which is conducive to deeper policy interpretation, academic study and international dissemination. The comprehensive characteristics of this project demonstrate its overall theoretical appeal for the comprehensive green transformation of the economy, politics, culture and society. Xi Jinping's ecological civilization thought involves green development, accelerated construction of a high-quality economic system, adhering to the people-centered development thought, the Chinese-style modernization path, the new form of human civilization, and the construction of harmonious coexistence between man and nature (Zhang, 2014; Liao & Tang, 2013).

The crucial research directions of relevant ministries and research institutions contribute to the wide dissemination, continuous spread and vigorous application of Xi Jinping's thoughts on ecological civilization. Nowadays, China's has made tremendous efforts to analyze climate change and to promote the construction of Ecological Civilization with a win-win global environmental governance system. "Environmental justice" has become a strong motto of creating the system of the ecological civilization (Lu, 2012; Liu & Lin, 2013).

In the historical process of promoting the Sinicization of Marxism, it has paramount theoretical and practical significance.



Xi Jinping's ecological civilization thoughts have emerged based on the inheriting the Marxist ecological philosophy and dialectical thinking; they promote the integration of Marxist ecological thinking with China's social reality. Marxism is the spiritual banner guiding the revolutionary movement, socialist construction and reform, and it is a scientific truth. Xi Jinping emphasized at the conference commemorating the 200th anniversary of Marx's birth: "To learn Marx, we must learn and practice the Marxist thought on the relationship between humanity and nature (Xie, 2019)". Human beings and nature, in the scientific discourse of Marxism, are a dialectically unified organic whole, which inspires us to seek the harmony and unity of man and nature on the basis of respecting the law, and to explore the best mode of coexistence between man and nature. Xi Jinping's thoughts on ecological civilization are based on the recognition of the objectivity of the material world and the dialectical relationship between man and nature, adapting to new historical characteristics, and putting forward concepts such as "man and nature are a community of life" and "man and nature coexist in harmony", deepening the understanding of the law of natural development, which adds new theoretical wisdom to the Marxist view of ecological nature. The profound historical concept, according to which "ecological prosperity leads to the prosperity of civilization, and ecological decline leads to the decline of civilization", has taken the construction of ecological civilization to an unprecedented historical height. The important thought "lucid waters and lush mountains are invaluable assets" has further innovated and developed the Marxist view of "natural productivity" deepening the understanding of natural resources. To a large extent, it can be converted into economic benefits, so as to draw the conclusion that "protecting the environment is protecting productivity", which also provides a theoretical foundation for protecting the natural ecological environment. Based on the Marxist ecological concept, and adapting to the conditions and practical needs of a different era, the CPC leaders take part in ongoing explorations achieving genuine breakthroughs in ecological governance and environmental protection.

The use of rules and regulations to improve the legal system for building ecological civilization is based on Deng Xiaoping's experience in governing the country with legal thinking. The assertion that "to protect the ecological environment is to protect the productive forces, and to improve the ecological environment is to develop the productive forces" is based on Jiang Zemin's judgment that "the essence of protecting the environment is in protecting the productive forces". Deng Xiaoping clearly stated that the essence of socialism is to "liberate productive forces, develop productive forces, eliminate exploitation, eliminate polarization, and finally achieve common prosperity (Li, 2019)." This scientific overview clarifies the essence of socialism and capitalism. The direct purpose of socialist development is to meet the needs of all the people, and the driving force is to liberate and develop productive forces, and ultimately achieve the goal of shared prosperity.

The Fifth Plenary Session of the 19th Central Committee of the Communist Party of China clearly stated that it is necessary to make more obvious and substantive

progress in the common prosperity of all the people as an important goal by 2035, and try to make the “green cake” bigger and better. A good ecological environment is the most inclusive well-being of the people. Focusing on the essential requirement of socialism to achieve common prosperity, we must first meet the people’s growing needs for a better life, including the need for green hills and clean waters.

The harmonious coexistence of human beings and nature is an inherent requirement for achieving common prosperity. While promoting the continuous improvement of people’s living standards, we must not destroy the earth home on which we depend for survival. We must abandon the wrong thinking of pollution first and governance later. This profoundly reflects a deepening understanding of the nature of socialism. By the end of 2020, China had achieved its first centenary goal and is now vigorously moving towards the grand goal of socialist modernization. Xi Jinping emphasized that the modernization to be realized was a modernization in which humanity and nature should coexist in harmony, in which all the people should be prosperous. Common prosperity not only represents the prosperity of material living standards, but also includes the prosperity of ecological public goods and public services, that is, the common prosperity of economy and ecology. The construction of ecological civilization is the driving force for the realization of common prosperity, and the realization of comprehensive, coordinated and sustainable development is inseparable from the establishment of a circular and low-carbon economic system, the continuous improvement of the quality of the ecological environment, and the conservation and improvement of resources. Clear waters and lush mountains are invaluable assets in themselves, and ecology is a kind of economic wealth. The construction of ecological civilization is conducive to promoting the early realization of the goal of common prosperity (Steblyanskaya et al., 2021).

The practical value of Xi Jinping’s ecological civilization thoughts can be clearly seen in the following policies: (1) Promoting the modernization of the ecological environment governance system and governance capacity; (2) Boosting the construction of a “new” “beautiful” China and taking it to a new level; (3) Explaining China’s position for global ecological protection and restoration.

The beauty of an ecological economy, green cycle, and low carbon economy is the precondition for building a beautiful China. The guiding principle of prioritizing the natural restoration runs through all aspects of economic and social construction. All of the above have laid a solid foundation for realizing the vision of a beautiful China. During the “14th Five-Year Plan” period, China’s ecological civilization construction focuses on promoting carbon reduction, comprehensive green transformation of the economy and society, harmonious coexistence of man and nature. Under the guidance of Xi Jinping’s thought on ecological civilization, China’s ecological civilization construction has achieved historic and pivotal changes, and the construction of a beautiful China has taken solid steps. Primary steps for Ecological Civilization Development in China see in Table 1.

**Table 1.** Primary steps for China ecological civilization development

Plan	Period	Primary steps for China ecological civilization development
17th National Congress of the Communist Party of China	October 15-October 21, 2007	The unresolved issue for achieving the goal of a moderately prosperous society in every respect is that "our economic growth is driven by excessive resource and environmental costs." Therefore, we must build an ecological civilization and develop a culture of conservation, mainly forming an energy and resource-saving and environmentally friendly industry structure, a new environmentally-oriented growth model and a way of consumption.
3rd plenary meeting of the 17th Central Committee of the CPSU	October 9-October 12, 2008	Established a number of important issues related to promoting the reform and development of rural areas: (1) develop conservation agriculture and ecological agriculture in line with the requirements of building an ecological civilization; (2) improve the compensation system for improving the agricultural ecological environment.
18th National Congress of the Communist Party of China	November 8-November 14, 2012	We must adopt a comprehensive plan to promote the balanced promotion of «economic construction, political construction, cultural construction, social construction and ecological civilization construction», which is collectively called «Five in One».
3rd Plenary Meeting of the 18th Central Committee	November.9-November12, 2013	A comprehensive system should be established, including the most stringent rules for protecting the ecological system, the environmental damage compensation system, the bio-environmental damage liability system. The main idea is to protect the environment with the help of the system.
Meeting of the 13th Five-Year Plan	2016-2020	Ecosystems and the environment: (1) Accelerate the development of functional zones; (2) Promote economical and intensive resource use; (3) Step up comprehensive environmental governance; (4) Intensify ecological conservation and restoration; (5) Respond to global climate change; (6) Improve mechanisms for ensuring ecological security; (7) Develop green and environmentally friendly industries.
19th National Congress of the Communist Party of China	October 18-October 24, 2017	Building an ecological civilization is the goal of the millennium sustainable development of the Chinese nation. Accelerate the reform of the ecological civilization development system and build a beautiful (better) China: (1) promote green development; (2) addressing important environmental issues; (3) strengthening the protection of ecosystems; (4) reforming the environmental regulation system.
2nd Plenary Meeting of the 19th Central Committee	January 19, 2018	The proposal of the Central Committee of the Communist Party of China to amend the part of the Constitution: «ecological civilization» was written into the Constitution, which was adopted in March 2018.

**Table 1.** Continued

Plan	Period	Primary steps for China ecological civilization development
3rd Plenary Meeting of the 19th Central Committee	February 26- February 28, 2018	Deepening the plan of party and state institutional reforms: streamlining the creation of state bodies and the distribution of functions, reforming the management system of natural resources and the ecological environment.
Meeting of the 13th National People's Congress	March 2018	State Council Institutional Reform Plan approved, responsibilities of the Ministry of Environmental Protection merged with the newly formed PRC Ministry of Ecology and Environmental Protection.
National Conference on Ecology and Environmental Protection	May 18-May 19, 2018	The primary idea is to resolutely fight against environmental pollution and promote the construction of ecological civilization to a higher level.
Chinese Academy of Social Sciences announced the establishment of the Xi Jinping Thought Research Center on Ecological Civilization	2021	Center is conducive to deeper policy interpretation, academic interpretation and international dissemination.

## 5. Carbon neutrality strategy for achieving Ecological Civilization goals

In 2020, the total global carbon emissions amounted to 31.98 billion tons, and China's total carbon emissions were 9.89 billion tons, accounting for 30.9% of the global total (BP). Between 1980 and 2000, global carbon dioxide emissions increased by 5.27 billion tons, of which those in developing countries (excluding China) increased by 1.50 billion tons, in China they increased by 1.89 billion tons, and in developed countries by 1.87 billion tons. Between 2000 and 2020, global carbon dioxide emissions increased by 8.32 billion tons, of which those in developing countries (excluding China) increased by 4.11 billion tons, in China they increased by 6.53 billion tons, and in developed countries they decreased by 2.32 billion tons. Although China's total emissions and increments are among the highest in the world, per capita emissions and per capita GDP are still lagging behind. In 2020, the world's per capita carbon emissions was 4.1 tons, and China's per capita carbon emissions was 7.4 tons, which is 1.8 times the world level (Wu et al., 2021).

Judging from the peak time of carbon emissions, the developed countries of France, Germany, and the United Kingdom reached their carbon peaks before 1990, and Canada, the United States, Brazil, Italy, Spain, and the United Kingdom reached their carbon peaks after 2000. Among them, the United States, Italy, Spain, and Japan peaked between 2000 and 2010, and Brazil peaked in 2014 and then decreased significantly.

China's current (2020) total carbon emissions are 9.89 billion tons, which is expected to peak around 2030; there has been a small peak in history, in 2014. The United States' per capita energy consumption and per capita carbon emissions both appeared in 1973, significantly earlier than its carbon peak time. With the exception of the United States, the peak year of per capita carbon emissions in other countries is close to the peak year of total carbon emissions, indicating that the period of low population growth occurred before and after the peak of carbon. In 2020, China's per capita energy consumption was 3.5 tons of standard coal (Zhang et al., 2017).

The resolution of the Sixth Plenary Session of the 19th Central Committee pointed out that China actively participated in global environment and climate governance, and had made a solemn commitment to strive to achieve carbon peaking by 2030 and carbon neutrality by 2060, which reflects the responsibility of a major country. Achieving carbon peaking and carbon neutrality is an extensive and profound economic and social systemic change, related to the sustainable development of the Chinese nation and building a community with a shared future for the mankind. In March 2021, Xi Jinping presided over the ninth meeting of the Central Finance and Economics Committee, proposing that carbon peaking and carbon neutrality should be incorporated into the overall layout of ecological civilization construction, making it clear that during the "14th Five-Year Plan" period, China's ecological civilization construction would focus on carbon reduction. The strategic direction is to promote the synergy of pollution reduction and carbon reduction, enhance comprehensive green transformation of economic and social development, and achieve a critical stage in which the improvement of ecological environment quality will change from quantitative to qualitative. The whole country, localities and departments strengthen top-level design, consolidate the responsibilities of all parties, deepen reforms in energy and related fields, increase efforts to control the total amount of fossil energy, vigorously promote pollution reduction and carbon reduction in crucial industries, and actively build a clean, low-carbon and safe Efficient energy system (Steblyanskaya et al., 2018).

At the same time, with the continuous heating up of the carbon neutralization "dual carbon" action, some localities and departments have misinterpreted the spirit and true intention of the central government, and blindly implemented "movement-style" carbon reduction. Given the political tasks that must be completed first in the country, there may be a big deviation, or too much force, restricting production and electricity in the name of "double carbon", willfully shutting down enterprises, causing tight supply in the coal and other bulk commodity markets, supply and demand imbalance, and undesirable economic impact.

In September 2021, the CPC Central Committee and the State Council issued the "Opinions on completely, accurately and comprehensively implementing the new development concept toward carbon neutrality". In December, the Central Economic Work Conference was held, which clearly stated that it is necessary to correctly understand and grasp the carbon peaking. The development concept, adhering to the system concept, assist in handling the relationship between development and emission reduction, overall and local, short-term and medium-to-long-term; by the principle

“establish first and then break”, one may prevent simple decomposition, but it is also essential to take the comprehensive green transformation of economic and social development as the guide, and deeply promoting energy revolution speed up the construction of an energy power. This all shows that carbon neutralization has become a significant strategy that must be considered strategically in the overall layout of China’s ecological civilization construction.

From a narrow perspective, peaking carbon neutrality is the inherent composition and inevitable requirement of the overall layout of ecological civilization construction. From a broad perspective, peaking carbon neutrality and ecological civilization construction is more like a pair of twin sisters. It is the touchstone to test the opponent’s effectiveness. Based on achieving the carbon neutralization goal of peaking carbon as scheduled, China will realize the presence of harmonious coexistence between man and nature. Modernization is the ecological civilization advocated by China, which fundamentally represents an essential symbol of the new form of human civilization development, and shows that ecological civilization is more robust and more vigorous than industrial civilization.

## 6. Conclusion

At the Fourth Plenary Session of the 19th Central Committee of the Communist Party of China in 2019, General Secretary Xi Jinping had given crucial instructions to organize and summarize new ideas, new judgments, and new measures in comprehensive analysis of the problem, which promoted the improvement of the ecological civilization system. It shows the CCP confidence and determination in ecological civilization and ecological environment construction. Therefore, improving the ecological civilization system is not only conducive to promoting the current socialist development in China. It is significant and contributes to solving the world’s ecological and environmental problems.

Xi Jinping’s ecological civilization thoughts are a systematic theory based on a correct grasp of the current situation in the domestic and international ecological environment. It is the latest theoretical innovation to promote the Sinicization of the Marxist ecological view continuously. At the same time, it encourages us to firmly grasp the root and soul of the Chinese nation, focus on drawing nutrients from the extensive and profound traditional culture, and achieve innovative development. Xi Jinping’s thought on ecological civilization closely follows the proposition of the times, conforms to the progress of human social civilization, and puts forward a series of original, forward-looking and strategic viewpoints through thinking about the relationship between people, nature and society, and actively responds to the people’s desire for beauty. The demand for ecological environment and high-quality ecological products has marked a scientific development path for China’s modernized construction to achieve the dual effects of economic development and environmental protection. From incorporating the construction of ecological civilization into the overall layout of the “five-in-one” construction, to incorporating “adherence to the



harmonious coexistence of man and nature” into the basic strategy of socialism with Chinese characteristics, the determination to build an ecological civilization is evident to all. Under the guidance of Xi Jinping’s thoughts on ecological civilization, China has achieved remarkable results in ecological protection and governance.

The quality of the ecological environment has been significantly improved, air quality has been improving year after year, and biodiversity conservation has achieved outstanding results. Xi Jinping Thoughts on Ecological Civilization is not only an action guide for the protection and restoration of ecological civilization, it also provides a Chinese model for the governance of global ecological and environmental issues, always showing the image of a responsible major country, taking the appropriate international responsibilities, and continuously serving the world as it contributes to ecological governance.

Xi Jinping’s thought on ecological civilization is an integral part of the thought on socialism with Chinese characteristics in the New Era, and has a critical theoretical position and guiding value. To promote the construction of a beautiful China and healthy China, we must always adhere to Xi Jinping’s thoughts on ecological civilization and create better ecological conditions for the realization of the Chinese dream with the continuous deepening of the ruling law of the party and the development of human civilization, with the continuous deepening of ecological civilization construction practice (Vasiev et al., 2021).

With the proper resolution of new problems and contradictions, Xi Jinping’s ecological civilization thought will keep pace with the times, continuously enrich its connotation, respond to more practical needs, and continue to guide China’s ecological civilization construction to a new stage.

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