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Cross-Cultural Ecological Governance and Global Climate Regeneration Path Analysis

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Abstract

Under the guidance the ecological civilization thought, China's legal system for addressing climate change is constantly improving, and ecological technology innovation is widely used in energy transition and ecological restoration. The integration ancient Confucian and Taoist thoughts of "the unity of heaven and man" and "the victory of heaven and man" with modern ecological civilization has formed a system of sustainable development with Chinese characteristics. Culture is the core of national spirit and the source of creativity. Culture is the original driving force for human progress and the force for economic and social development. Cross-cultural ecological governance requires all countries to establish the concept of harmonious coexistence between man and nature in the process of modernization traditional culture, and to promote the integration of ecological culture and economy. The core concept of climate regeneration is to restore the Earth's original self-healing ability, and play its function of absorbing carbon dioxide and regulating temperature by protecting and restoring various ecosystems such as forests, oceans, and wetlands, so as to achieve the goals of stability and ecological security. Climate-energy diplomacy promotes the construction of an ecological community of destiny.

Keywords

Cross-Cultural Ecological Governance, Energy Transition, Climate-Energy Diplomacy

1. Introduction

Sustainable development refers to the development that meets the needs of the present without compromising the ability of future generations to meet their needs.

In order to "make history", people must be able to live. The contemporary world culture is facing a transformation from the pursuit of a single economic value to creation, and the natural ecological environment is the "natural productivity of labor". Human virtues are inseparable from the nourishment of nature, and the natural world can cultivate "good" human nature. The philosophy of survival ecology is a philosophical theory and epistemology about human survival and development, and the possibility of human liberation, essentially belongs to the category of social sciences. The present era has shown various signs of transition from industrial society to risk society. In 1986, Germanologist Ulrich Beck, on the basis of reflecting on modernization, made a new interpretation of the great changes in society from the perspective of "risk", and declared human beings are living on the "volcano of civilization" (Ulrich, 1992). Human beings are increasingly aware that they are in a "world risk society"; when facing the attribution of global environmental risks the national alliance often shows "organized irresponsibility" (Organized Irresponsibility). The relationship between man and nature has undergone three basic forms: "rever", "conquest" and "friendship".

The global response to climate change has made positive progress under the dual drive of policy incentives and technological innovation. In, the 29th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP29) held at the end of 202 has reached a series of important action plans, which has provided new impetus for global climate governance. The parties unanimously agreed to jointly promote the construction of the global carbon and carbon pricing, and reached a new collective quantitative target for climate financing. The realization of global climate goals still faces many challenges. The extreme weather events, sea rise, and ecosystem degradation brought about by climate change will cause greater shocks to global economic development. There is still room for improvement in the speed of greenhouse gas emission reduction Countries around the world also need to continue to increase investment in low-carbon technology innovation and green energy, and strengthen international cooperation to ensure a common response to climate change.

Since the 1990s, the global climate governance landscape has undergone a transformation from a "North-South divide" to a "single-track" model and then to the current stage where global southern countries are the main driving force. The rise of the "Global South" concept comprehensively reflects the demands of today's developing countries in the world's political and economic fields. The global climate governance actively promoted by the "Global South" is bound to contain more implications than traditional environmental issues, that is, to link climate governance with productivity innovation and deeply integrate it with the transformation of economic and social development models, thus opening up a green modernization path. In 2025, the 30th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP30) will be held in Belém, in the Amazon rainforest region of Brazil. How to implement specific actions for global climate goals, how to ensure that countries fulfill their emission

reduction commitments, how to solve financial and technological obstacles, and how to increase support for developing countries will be the issues to be addressed in the process of making global climate governance more practical and effective.

2. Cross-Cultural Global Ecological Governance

Cross-cultural global ecological governance is a complex and urgent issue, involving values, interest coordination and international cooperation under different cultural backgrounds. The following is an analysis from the core challenges, practical paths and future directions:

2.1. Core Challenges: Cultural Differences and Governance Conflicts

- Value Differences: Western industrialized countries tend to favor technocentrism (such as carbon capture technology), while indigenous cultures emphasize a symbiotic relationship with nature (such as the Andean belief in "Mother Earth"). The concept of "harmony between man and nature" in East Asian Confucian culture is in tension with the goal-oriented environmentalism of the West.
- Conflicts in Interest Distribution: Developed countries demand uniform global emission reduction standards, while developing countries emphasize historical responsibility and the right to fair development (for instance, India's per capita carbon emissions are only one-tenth of those in the United States). In the Arctic resource development dispute, Russia, Nordic countries, and indigenous peoples have conflicts due to economic demands and cultural survival rights.
- Institutional Compatibility Dilemmas: The EU's "Green Deal" is difficult to directly align with the forest burning agricultural policies of African countries based on survival needs. The environmental investment principles in the Islamic financial system (such as the prohibition of high-pollution industries) need to be coordinated with the rules of Western capital markets.

2.2. Practical Approaches: Innovation in Multilateral Synergistic Mechanisms

- Cultural Translation Governance Framework: The UN IPBES (Biodiversity Platform) introduces a "diverse cognitive system of nature's contributions," integrating scientific data with indigenous ecological knowledge such as the Maori "Mauri" (life energy). In the joint management of the Lancang-Mekong River Basin, the Buddhist concept of "coexistence" is incorporated into the cross-border water resource allocation algorithm.
- Construction of a Hierarchical Responsibility System: The Paris Agreement's "Nationally Determined Contributions" (NDC) mechanism allows Brazil to retain the right to develop the rainforest economy while providing for international financial transfers for ecological compensation. The Pacific Islands

Climate Alliance demands global compensation for cultural losses due to rising sea levels, such as the disappearance of languages and sacred sites.

- Technology-Culture Coupling Solutions: Amazon rainforest monitoring combines satellite remote sensing with oral boundary markers from indigenous tribes, and a data sovereignty sharing agreement has reduced deforestation rates by 37%. The NEOM project in Saudi Arabia integrates Bedouin nomadic culture into the design of a zero-carbon city driven by hydrogen energy.

2.3. Future Directions: Reconstructing the Global Ecological Civilization Paradigm

- Cognitive Revolution: From Anthropocentrism to Ecological Wisdom. Promote the legislative experience of Ecuador's "Rights of Nature" in its constitution, and establish a cross-cultural natural ethics charter. Incorporate cultural diversity variables into digital twin Earth models, such as the dynamic impact of Khmer rice farming patterns on carbon sinks.
- Organizational Innovation: Grid-based Participation of Multiple Actors. Modelled after the Antarctic Treaty System, establish a "Global Commons Cultural Council" to grant veto power to polar groups such as the Inuit in Arctic governance. Blockchain DAO organizations enable direct dividends for indigenous communities from carbon credit trading in the Congo Basin.
- Educational Transformation: Cultivating Planetary Boundary Citizens. Harvard University's "Ecological Civilization Dialogue Project" trains cross-cultural environmental negotiation experts, requiring students to master at least two indigenous ecological knowledge systems. Virtual ecological communities in the metaverse simulate decision-making models of different cultures in response to climate disasters, enhancing global risk empathy.

Cultural diversity as a governance resource. Global ecological governance should not pursue a single solution but rather transform cultural differences into innovative forces. As demonstrated by the dialogue between China's "ecological civilization" and Africa's "Ubuntu" (philosophy of mutual dependence), only when the Inuit's knowledge of sea ice, Indian farmers' water-saving wisdom, and European industrial decarbonization technologies form an "ecological knowledge federation" can a sustainable future for "one Earth" truly be achieved. The integration of ecological culture and economy, and the construction of a civilized low-carbon form: low-carbon cities, low-carbon lifestyles, low-carbon economies, and low-carbon societies. The creation of green living has been widely carried out. Extensive creation actions such as green offices, green families, green schools, green communities, green travel, green shopping malls, and green buildings have been launched, promoting the concept of green living to all aspects of clothing, food, housing, transportation, travel, and consumption.

2.4. Intercultural Communication (Cross-Cultural Communication)

Intercultural Communication (Cross-cultural communication) is a communication

activity between individuals, groups or organizations from different cultural backgrounds. It helps reduce cultural conflicts, increase the sharing of meanings, and promote communication, exchange, and understanding among different cultures. Communication is an important way to bridge human divisions and eliminate misunderstandings, but cultural differences and conflicts often hinder communication among different cultures. Therefore, seeking common symbols and universal themes in intercultural communication is an important communication strategy to promote intercultural exchange. Ecological documentaries have the advantages of visual symbols and environmental protection topics, which can help break through the barriers of intercultural communication. Choosing ecological themes with low "cultural discount", telling stories with international audio-visual language and cultivating the international market, highlighting "the mirror of human survival", are important strategies for the intercultural communication of ecological documentaries. The visualization of communication symbols and the universality of themes in ecological documentaries transcend cultural and ideological restrictions, break the closed state of culture, and achieve the sharing of ecological culture's meanings, promoting global environmental risk governance. The globalization of environmental risks and "organized irresponsibility" challenge the traditional risk governance model. Participatory visual communication that follows the ethics of risk responsibility promotes global ecological and environmental risk governance. In recent years, with the popularity of a series of documentaries such as "Balance", "The Yangtze River Again", "Wild China", (2008)* "The Song of the Forest", "Sharing the Same River", "Water Questions", "A Home Away from Home", and "Under the Dome", Chinese documentaries have made beneficial aesthetic attempts in exploring the core of Chinese values and universal aesthetic consensus (Chen, 2012).

Culture can be divided into three levels: material technology, institutional behavior, and spiritual concepts. Cultural integration is a process of mutual exchange and integration between heterogeneous cultures reflecting the commonality of different cultures. The goal of the "Belt and Road" initiative is to form a "community of interests, a community of destiny, a community of responsibility" that is "politically trustworthy, economically integrated, and culturally inclusive."

3. Theoretical Basis of Green Modernization

3.1. The Theory of Natural Value

Humans need to re-examine their own position in nature, build a culture of harmonious coexistence between man and nature, and embark on the road of sustainable development. The modern scientific and technological power mastered by mankind has the possibility of destroying the earth's ecosystem, paying attention to identifying engineering risks and adhering to environmental justice and engineering ethics.

Nature created everything in the world, and gave birth to human beings and all life. The economic value of natural resources is concerned by capital, but its moral

value and many values attract the attention of ecological philosophers. The value of life and nature is created by itself. This creation is historically carried out and constantly developed, and it is developing in the direction of continuous evolution and appreciation. For example, it goes through the following stages: chaotic natural value, crustal natural value, geological natural value, organic natural value, biological natural value, human natural value, artificial natural value, social natural value and so on. Natural value is objective and needs to be evaluated through human understanding. It is the unity of subjective and objective. Natural value has diversity, which can be evaluated in truth, aesthetics, morality and practice. Life and nature are valuable to people, including its commercial value (economic value) and non-commercial value (ecological value, cultural, philosophical, moral and religious value, aesthetic, leisure and tourism value, medicine and medical treatment value); Life and nature are not only valuable to people, this is its external value, and its existence itself is "good" and valuable, which is its internal value. Man's virtue cannot be separated from the nurturing of nature, which can edify "good" humanity.

Countries have different attitudes towards the "goodness" of science and technology. The government and society of China attach great importance to the "goodness" of science and technology, emphasize that scientific and technological achievements should benefit the broad masses of the people, and put forward the "Global Artificial Intelligence Governance Initiative" to jointly promote the healthy, orderly and safe development of global artificial intelligence and contribute China's wisdom and programs to solve global ethical problems in science and technology. Similarly, the European Union attaches great importance to the ethics and social impact of science and technology, and emphasizes that science and technology should be "good" through strict supervision and laws. However, the attitude of the United States towards "goodness" in science and technology is controversial. On the one hand, Some technology companies are aware of the ethical problems brought about by technological development and take self-restraint measures; On the other hand, some technology giants ignore ethics when pursuing commercial interests and technological leadership.

Natural resources exist as a factor of production, and its value carrier is ecological capital. The elements of ecological capital defined by the World Bank mainly include land, water, forest and mineral resources (oil and gas, coal, metal and non-metal minerals). In the process of modernization, we should pay attention to people's ecology, guide people to change their values, establish ecological values and ecological ethics awareness, enhance spiritual pursuit, reduce material pursuit, and innovate the ecological culture of harmonious development between man and nature, man and man, and man and society. Ecological ethics requires that modern human beings should be an ecological person with ecological morality and responsibility. The past, present and future of mankind are closely related to biology and the environment. To abandon anthropocentrism and maintain the balance of the ecosystem, everything in nature has inviolable moral rights.

3.2. Deep Ecological Theory

The term "Deep Ecology" was first coined by Arne Naess, a Norwegian ecological philosopher. Ness first used the term "deep ecology" at a conference in Bucharest, Hungary in 1972. In 1973, he published a book entitled "The shallow and the deep, long-range ecological movement. A summary" (Naess, 1973). Nais believes that "deep ecology" is relative to "Shallow Ecology". "Shallow" and "deep" are used to refer to two positions or attitudes towards environmental problems. People who hold the position of shallow ecology do not see the intrinsic value of non-human life forms, and think that there are no problems in the existing civilized forms and consumer economic systems. In the face of ecological crisis, some necessary measures should be taken, but there is no need to think about ecological crisis from the philosophical or religious level, and there is no need to change the basic view of the relationship between man and nature. Man should make use of nature, although he needs to be cautious. Therefore, shallow ecology emphasizes saving natural resources, reducing air and water pollution, and adopting other policies to promote human health and welfare.

The position of deep ecology is completely different from that of deep ecology. The adjective "deep" is used to express a "method of inquiry", which means to break through the cognitive limitations of "shallow ecology" and not simply seek to repair the environmental problems faced, but to change the attitude of human beings towards the natural world from the ideological point of view. As Ness said, the essence of deep ecology is to ask deep-seated questions. For example, asking what kind of society is the best for maintaining a specific ecosystem is considered as a problem of value theory, politics and ethics (Bill & George, 2007). Deep ecology advocates a fundamental change in concepts, values and lifestyles. The basic premise of deep ecology is to believe in the intrinsic value of nature, criticize industrial materialism and technology, and emphasize the application of ecological principles in human moral evaluation and behavior. The core concepts of deep ecology include "biocentric equality" or "biospherical egalitarianism". Deep ecology believes that the living (and inanimate) world is composed of interrelated, interdependent and mutually constituted creatures. Everything in the biosphere, including all living things except human beings, belongs to this whole, has intrinsic value, and has equal rights to survive and develop. Based on the above ideas, Nais put forward the viewpoint of "Self-realization". The self in this biosphere is no longer the ego (ego) of isolated individuals in the traditional western sense, but a "deep and extensive ecological self". Nature is an "expanded self", and hurting nature means hurting yourself, thus affecting greater "self-realization". A. Leopold argue in "Earth Ethics" that human beings must re-establish their position in nature, and should not appear in nature as conquerors, but should be a kind citizen in the big family of nature.

3.3. Taoist View of Nature

Chinese regarded the universe as an organic whole composed of interdependent

parts. The concept of Tao has the following advantages. First of all, it advocates relativity rather than absoluteness. Secondly, it believes that the world is interpenetrating and interdependent. There is no dualism or strict division between yin and yang, but a constant flow symbolized by Indra's network. Therefore, the Taoist view of nature can correct the binary opposition between man and nature that has dominated the West for a long time. The monograph Earth's Insights written by J. Baird Callicott (1941-), a pioneer of American environmental ethics, is considered as one of the classic works of environmental ethics. Among them, he wrote: "Contemporary western environmental ethicists mainly draw lessons from Taoism in the process of exploring the eastern ideological tradition." (Baird, 1994) Generally speaking, Taoist thought is consistent with the deep ecological viewpoint in the following three aspects: First, human beings do not enjoy privileges in the natural world. Second, adhere to "doing nothing" and "conforming to nature", believe that nature can adjust itself, and believe that strong human intervention is unnecessary. Third, advocate simple life and have the least technology and material. Dong Zhongshu explained Confucius' egalitarianism: "Confucius said: You don't suffer from poverty but from inequality..... If you are rich, you will be arrogant, and if you are poor, you will be worried; Worry is a thief, arrogance is a violence, and this is also the love of everyone. The saints are born of chaos because of the affection of all people, so they control humanity and are poor, so that the rich can show their arrogance and the poor can keep fit without worrying. Taking this as a measure and adjusting it evenly is to live in peace with money, so it is easy to cure. "(Dong, BC 179-104). Confucius said that "all" is not average, but to adjust the income of all walks of life, so that the poor and the rich can "get their share", not too rich and too poor, in order to achieve social stability, which reflects the meaning of each.

3.4. Ecosystem Services

Ecosystem plays a decisive role in human survival and development. The formal research on ecosystem services or ecosystem services function began in 1970s. In 1977, Westman put forward the concept of "nature's services" and its value evaluation. Later, with the deepening of social concern about ecological protection, relevant research results came out one after another. In 1997, the service of nature-society's dependence on natur Daily ecosystem was published, and in the same year, the article "World Ecosystem Service and the Value of Natural Capital" was published by Constanza et al. So far, the research on the evaluation of ecosystem service value has become a hot issue in the field of ecological economics. Constanza and others collectively refer to the goods and services provided by ecosystems as ecosystem services. Carins believes that ecosystem services are ecosystem products and ecosystem functions that contribute to human survival and quality of life, and ecosystem services are the sum of direct or indirect benefits that human beings get from ecosystem functions.

Only a small part of ecosystem services can enter the market and be bought and

sold. Most ecosystem services are public products or quasi-public products, which cannot enter the market, but are realized in the form of long-term service flows. China's basic definition of eco-product value realization is ecosystem service, (Zhang, Feng, & Li, 2024) Ecological products are natural products such as fresh air, clean water and pleasant climate. Ecological products also include agricultural and forestry products, ecological design products, ecological label products, ecological supply services, adjustment services, support services and social services, which are jointly produced by human beings and nature. The goal of realizing the value of ecological products is to promote the sustainable development of economy and society, meet the needs of the people for a better life, and realize the harmonious coexistence between man and nature. Combine green innovative technology with ecological industry to develop low-carbon industries: low-carbon agriculture, industry, construction and transportation, and develop carbon trading market; Measures to promote climate regeneration: sustainable development, ecological technology, green financial mechanism, low-carbon technology, carbon-free technology, carbon reduction technology and carbon removal technology.

Ecology and environmental protection have become the universal civilized values of the whole society. The green economy takes the ecological values of altruism as the axis, and the system, economy and STS (Science, Technology and Society) are equally important, mutually promoting and not subordinate to each other, forming a symbiont, which cooperatively drives the nonlinear operation of the green economy (See **Figure 1**).

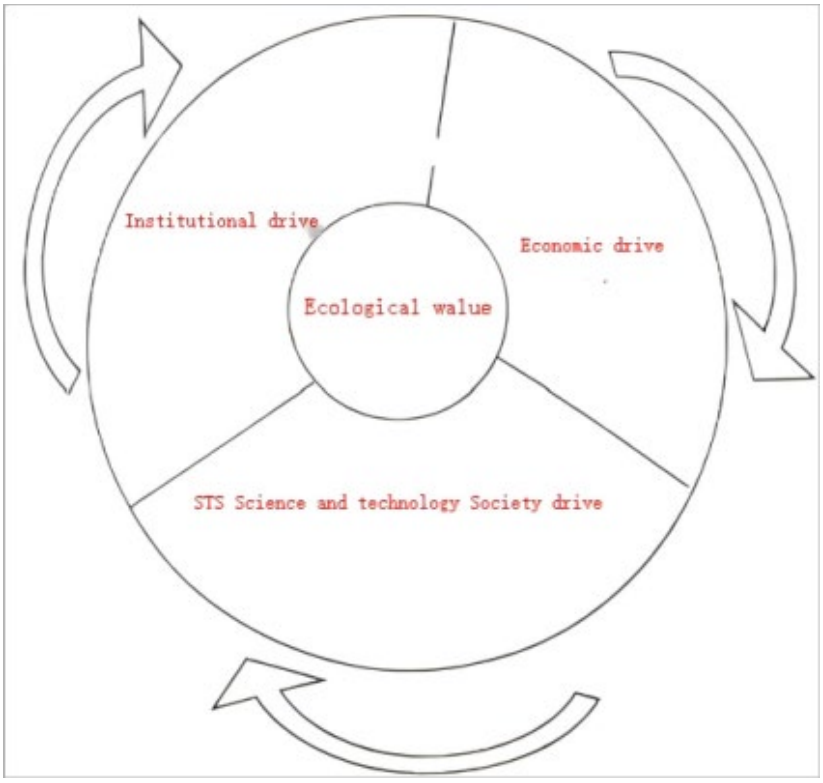

Figure 1. "Wheeled" driving model of green economy.

4. Energy Transformation

Under the scientific guidance of energy security strategy, China's energy consumption pattern has undergone major changes, energy conservation and consumption structure optimization have achieved remarkable results, and the friendliness between energy and ecological environment has improved significantly. The green development of energy has promoted the continuous decline of carbon emissions, effectively supporting the high-quality development of economy and society with low energy consumption and carbon emissions, and at the same time making important contributions to the construction of ecological civilization and providing important support for achieving the goal of "double carbon".

In 2020, the total utilization of renewable energy in China will reach 680 million tons of standard coal, accounting for 13.6% of the total primary energy consumption, which will make a positive contribution to China's solemn commitment to achieve 15% of non-fossil energy consumption in 2020, and promote energy structure adjustment and green low-carbon transformation. China's total energy consumption has been reasonably controlled. In 2023, the total energy consumption of China reached 5.72 billion tons of standard coal, an increase of 1.55 billion tons compared with the total energy consumption of 4.17 billion tons of standard coal in 2013, which provided an important energy guarantee for sustained and healthy economic development. Carbon emission control has achieved positive results. In 2020, the carbon dioxide emissions per unit GDP decreased by 18.8% compared with 2015 and by 48.4% compared with 2005, exceeding the 40%~45% greenhouse gas emission control target promised to the international community, and basically reversing the rapid growth of carbon dioxide emissions. It has the world's largest consumer market for new energy vehicles. In 2023, the production and sales of new energy vehicles in China reached 9.587 million and 9.495 million respectively, up by 35.8% and 37.9% respectively, ranking first in the world for nine consecutive years, accounting for more than 60% of the global total.

Establish and improve the legal system of green and low-carbon energy transformation, establish a unified, open and competitive modern energy market system, and improve the economic incentive policies for energy transformation. Improving energy and production efficiency has always been the core of climate governance. Under the current development mode of industrial civilization, carbon emission reduction mainly relies on technical means such as adjusting energy structure, implementing product substitution and industrial reengineering to improve end-use energy efficiency. This way of improving energy efficiency can only achieve carbon reduction and low carbon, and cannot achieve the net zero carbon goal of carbon neutrality (Zhang, Ji, & Pan, 2024) The global southern countries have risen in the era of pursuing environmental and climatic justice, and their development model can no longer replicate the early modernization road of the first-developing countries. Therefore, the new historical stage gives the countries in the south of the world a period of strategic opportunities to organically combine climate control with the innovation of economic and social development models.

Countries in the south of the world should make good use of the goal of carbon neutrality to promote the transformation and development of productive forces, fundamentally coordinate the deep integration of climate control and sustainable development, realize the alternative growth of productive forces from using "high carbon" fossil energy to adopting "zero carbon" renewable energy, and lead a new industrial technology revolution to some extent by carrying out a new round of social production transformation and consumption system reform, "just like the alternative development of industrial civilization to agricultural civilization in human society" and create a green modernization road.

Deepening green energy cooperation to help global energy sustainable development. China is the largest clean energy market in the world, and it is also an important force in the global clean energy development. In 2023, the global renewable energy installed capacity increased by 510 million kilowatts, of which China's contribution exceeded half. The wide application of renewable energy technology in China's market has promoted the decline of renewable energy costs worldwide and accelerated the global energy transformation process. According to the report of the International Renewable Energy Agency, in the past ten years, the average kilowatt-hour cost of global wind power and photovoltaic power generation projects has decreased by more than 60% and 80% respectively, which is largely attributed to China Innovation, China Manufacturing and China Project.

5. Climate-Energy Diplomacy

It will be more efficient and the best choice for human beings to form an ecological-climate destiny community and work together to restore the natural climate regulation ability of the earth itself than the ecological engineering that is fragmented. China adheres to the road of multilateralism, fully upholds the international system with the United Nations at the core, gives full play to the positive role of energy diplomacy, establishes a new pattern of "2 + 6 + N" energy international cooperation, and contributes China's plan to global energy governance.

- Establish a diplomatic mechanism for energy at home, China has built and operated two energy home diplomacy mechanisms.

The first is the "Belt and Road" energy partnership. During the second "Belt and Road" summit forum in April 2019, China and 29 countries jointly initiated the establishment of the "Belt and Road" energy partnership in Beijing. The Partnership has successively held important flagship activities such as the Belt and Road Energy Ministers' Meeting and the Belt and Road Energy Partnership Forum, and released many important cooperation documents such as the Principles and Practical Actions of the Belt and Road Energy Partnership and the Charter of the Belt and Road Energy Partnership, as well as the best practices of international energy cooperation. With the accession of Cuba, Morocco and Thailand, the number of member countries of the current partnership has reached 33. The "Belt and Road" energy partnership has been built into a new platform for high-quality cooperation with the largest number of member countries and the most pragmatic

results under the "Belt and Road" framework.

The second is the global clean energy partnership. China is making great efforts to promote the establishment of a global clean energy partnership, and has successfully held four international energy change forums, and successively issued the Suzhou Declaration, Suzhou Consensus,

Suzhou initiative and many other outcome documents. During the International Energy Change Forum in 2023, the International Energy Change Alliance was initiated, and a series of achievements such as the Global Clean Energy Partnership Initiative and the Blue Book of Energy Change Index were released, which further condensed the consensus on green transformation and development and promoted global energy transformation and sustainable development.

- Build a number of regional cooperation platforms. China actively carries out regional energy cooperation with ASEAN, Arab League, African Union, Central and Eastern Europe and Central Asia, and strives to build six regional cooperation platforms, including China-ASEAN Clean Energy Cooperation Center, China-Arab League Clean Energy Training Center, China-AU Energy Partnership, China-Central and Eastern European Countries Energy Project Dialogue and Cooperation Center, APEC Sustainable Energy Center and China-Central Asia Energy Development Partnership, which will inject strong energy into regional and global energy governance reform.

China plays a key role in energy issues under multilateral mechanisms such as the United Nations, G20, Asia-Pacific Economic Cooperation, BRICS and Shanghai Cooperation Organization, and the influence of global energy governance is gradually increasing. In 2016, under the impetus of China, the G-20 Hangzhou Summit jointly formulated action plans in the fields of energy accessibility, renewable energy and energy efficiency, so as to enhance the effectiveness of global energy governance. In 2022, China and six other SCO member States jointly issued the Statement of the Council of Heads of State of the SCO Member States on Maintaining International Energy Security, calling on all countries in the world to jointly build an open, transparent and efficient international energy market. In the same year, the National Energy Administration hosted the 7th BRICS Energy Ministers' Meeting, and reached broad consensus on further deepening BRICS energy cooperation, promoting green and low-carbon energy transformation, and deeply participating in global energy issues.

With the rapid iteration and export of new energy technologies, the global energy pattern is undergoing profound adjustment. China new energy enterprises are realizing a new round of globalization through product export, overseas production, technical iteration and localization cooperation, in which benefits and risks coexist. Strengthening geopolitics of resources. Rare earth, lithium, nickel, cobalt and other key minerals are no longer purely commercial issues, but the lifeblood resources of global technology and energy transformation. Major economies such as China, the United States and the European Union have begun to regard "resource sovereignty" as their core strategy, and 2025 may witness more

resource protectionist policies. For example, Indonesia's restrictions on the export of nickel ore and the establishment of the "Lithium Mine OPEC" alliance by South American countries are typical cases in which resource countries achieve greater international bargaining power by controlling resource exports. Mineral resources are not only the material basis of new energy and high-tech industries, but also the core of future industrial chain control. Mastering mineral resources means controlling the key nodes of the industrial chain, and this "resource-technology compound competition" will be one of the most important game fields in 2025. For China, although it has advantages in rare earth and other fields, its high dependence on foreign trade in lithium and nickel is a strategic shortcoming. In 2025, China needs to realize the initiative of resource security through technological upgrading (such as mineral recycling and alternative technologies) and global cooperation (such as deepening the "Belt and Road" resource cooperation).

6. Conclusion

The global green and low-carbon transformation will open a new era, and China will also be at the key stage of global renewable energy development.

Continue to play a leading role in promoting the further development of the global renewable energy market. With the continuous maturity of technology, the cost of renewable energy such as solar energy and wind energy is expected to be further reduced, the popularization speed of renewable energy will be accelerated, and more countries and regions around the world will accelerate the deployment of renewable energy facilities. In the process of rapid development of renewable energy, there are still many difficulties and challenges. For example, how to solve the intermittent problem of wind and solar power generation, how to improve the economic benefits of renewable energy, and how to realize the coordinated development of renewable energy and other forms of energy. China will continue to promote carbon reduction, pollution reduction, greening and growth, accelerate the overall green transformation of economic and social development, follow the objectives and principles of the United Nations Framework Convention on Climate Change and the Paris Agreement, and make sustained contributions to the global response to climate change.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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