

# THE CONSTRUCTION OF TRANSACTION RULES FOR ENERGY PROPERTY RIGHTS TRANSFER IN THE CONTEXT OF CHINA'S UNIFIED NATIONAL MARKET

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## I. INTRODUCTION

Against the backdrop of profound transformations in the global energy landscape, China, as the world's largest energy producer and consumer, faces multiple challenges, including energy security, energy transition, and sustainable development. To address these challenges, the Chinese government has formulated a strategic plan to build a unified national energy market and create a new framework for the energy sector. Article 42 of the *Energy Law of the People's Republic of China* (hereinafter referred to as the Energy Law) explicitly requires the building of a unified national energy trading market and the improvement of transaction mechanisms and rules. On July 1, 2025, General Secretary *Xi Jinping* presided over the sixth meeting of the Central Commission for Financial and Economic Affairs, which highlighted the 'unified market infrastructure system' as a foundational requirement for 'deepening the construction of a unified national market'.<sup>1</sup> In October 2025, the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China identified 'building a robust domestic market' as a key task for economic and social development during the 15th Five-Year Plan period, emphasizing the need to 'resolutely eliminate bottlenecks and obstacles hindering the development of a unified national market'.<sup>2</sup> It is evident that, with the deepening of the construction of China's unified national market, the market-oriented reform of the energy sector has become a critical driving force to promote high-quality economic development, with the improvement of transaction rules serving as the core focus of these reforms.

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- 1 THE STATE COUNCIL INFORMATION OFFICE, XI JINPING PRESIDES OVER THE SIXTH MEETING OF THE CENTRAL COMMISSION FOR FINANCIAL AND ECONOMIC AFFAIRS, at [http://www.scio.gov.cn/ttbd/xjp/202507/t20250701\\_919441.html](http://www.scio.gov.cn/ttbd/xjp/202507/t20250701_919441.html) (Last visited on November 20, 2025).
- 2 THE CENTRAL PEOPLE'S GOVERNMENT, COMMUNIQUE OF THE FOURTH PLENARY SESSION OF THE 20TH CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF CHINA, at [https://www.gov.cn/yaowen/liebiao/202510/content\\_7045444.htm](https://www.gov.cn/yaowen/liebiao/202510/content_7045444.htm) (Last visited on November 20, 2025).

In recent years, China's market-oriented reform of energy resources has been steadily advancing, with the continuous expansion of the market scale. For example, to advance the reform of the operational mechanism for oil and natural gas pipeline networks, China has introduced a series of policy documents aimed at facilitating fair access to pipeline facilities and promoting fair competition in oil and gas pipeline networks, which has achieved initial results.<sup>3</sup> As another example, under the policy guidance of building a unified national electricity market, from 2016 to 2024, the volume of electricity traded in the national market grew from 1.1 trillion kWh to 6.2 trillion kWh.<sup>4</sup> In 2025, China's electricity market continued to expand steadily, with 2.95 trillion kWh of electricity traded in the market in the first half of the year, representing a year-on-year increase of 4.8%.<sup>5</sup> However, despite the progress achieved in China's energy market development, some issues have emerged in practice. For instance, the lack of unified market transaction rules and procedures poses challenges to efficient cross-regional coordination. Also, as the transaction rules for functional energy property rights (such as pollutant emission rights) are still evolving, market activities remain relatively limited. Therefore, it is necessary to construct a unified and sound set of transaction rules for the energy market to break down regional and industrial barriers, thereby promoting the free flow and efficient allocation of energy resources nationwide. This will not only improve the overall efficiency of the energy market and reduce the transaction costs, but also provide strong institutional support for the transformation, upgrading, and green and low-carbon development of the energy industry.

The key to advancing the market-oriented reform of energy resources lies in restoring the commodity nature of energy, establishing a mechanism whereby energy prices are determined mainly by the market, and constructing an effectively competitive market structure. Only through the effective, open, and transparent transfer of energy property rights among different entities in a free market can resources be efficiently allocated. Moreover, the transfer system for energy property rights is the core

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3 Cao Fan, *Independence of Pipeline Network: Research on the Legal Mechanism of the Market-Oriented Reform on Natural Gas Pipeline Network in China*, 2 Jinan Journal (Philosophy & Social Sciences) 109, 109-110 (2022).

4 INTERNATIONAL ELECTRIC POWER NETWORK, CHINA'S MARKET-BASED TRANSACTION ELECTRICITY VOLUME EXCEEDED 6 TRILLION KILOWATT-HOURS IN 2024, at <https://power.in-en.com/html/power-2461335.shtml> (Last visited on November 20, 2025).

5 NATIONAL ENERGY ADMINISTRATION, TRANSCRIPT OF THE PRESS CONFERENCE FOR THE THIRD QUARTER OF 2025 BY THE NATIONAL ENERGY ADMINISTRATION, at <https://www.nea.gov.cn/20250731/83ffa46373ec42dd99e0e3271028c151/c.html> (Last visited on November 20, 2025).

component of rights circulation. Establishing a unified and comprehensive legal system for rights transfer is a prerequisite for building a nationwide unified energy market.<sup>6</sup> However, in China's current legal framework, the systems and regulations regarding the transfer of energy property rights still require further improvement. From the perspective of the legislative process, the transfer of energy property rights in China has undergone a process from restriction to gradual liberalization, and from fragmented regulation to unified legislation. Generally speaking, energy property rights can be categorized into productive energy property rights and functional energy property rights. In terms of productive energy property rights, based on the natural stages of the energy production process, they can be further classified into the exploration rights of energy resources (e.g., mining exploration rights), the exploitation rights of energy resources (e.g., mining rights), and the conversion rights of energy resources (e.g., power generation rights). For example, the mining rights system, which includes the exploration rights and the mining rights, is the earliest energy property rights system established in China. Article 5 of the *Mineral Resources Law of the People's Republic of China* recognizes the proprietary nature of the mining rights. Furthermore, article 27 allows the transfer of mining rights. In contrast, the functional energy property rights have a broader scope, with pollutant emission rights serving as a typical example, which is designed to control the externalities arising from the energy production process. The pollutant discharge license system was formally established in article 21 of the *Water Pollution Prevention and Control Law of the People's Republic of China* and further refined through the *Regulation on the Administration of Permitting of Pollutant Discharges* issued by the State Council.

On January 1, 2025, the Energy Law came into force. As the first unified legislation in the energy industry, it clarifies the goal of building the energy market system at the legislative level, proposing to 'construct an energy market system featuring diversified market participants, unification and openness, orderly competition, and effective regulation'. However, the legal provisions regarding the transfer of energy property remain relatively general, which may limit their practical applicability in specific scenarios. Thus, it is necessary to conduct in-depth research on the energy property rights transfer to provide more comprehensive theoretical support for improving the energy legal system and regulating the energy market. At the

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6 Li Lei & Fan Yingying, *Thoughts on Accelerating the Construction of China's National Unified Energy Market Under the New Situation*, 9 Sino-Global Energy 1, 1-2 (2023).

theoretical level, the study of the transfer rules of energy property rights also provides suitable practical cases for interdisciplinary research across law, economics, environmental science, and other fields. This contributes to further improving the system of energy law studies and promoting the integration and development of interdisciplinary theories. Therefore, this article focuses on the construction of transaction rules for energy property rights transfer in the context of China's unified national market. Based on a clarification of the nature of energy property rights transfer, this article explores three key dimensions: basic principles, transaction conditions, and transaction processes, in order to provide a reference for promoting the construction of China's unified energy market and the healthy and sustainable development of the energy industry.

## II. THE CONCEPT AND NATURE OF ENERGY PROPERTY RIGHTS TRANSFER

As mentioned above, constructing transaction rules for energy property rights transfer is not only an important measure to facilitate the efficient allocation of energy resources, but also a fundamental guarantee for deepening the market-oriented reform of energy resources. Against this backdrop, it is necessary to define the concept and legal nature of energy property rights transfer, so as to lay the theoretical foundation for the subsequent construction of the transaction rules.

### *A. The Concept of Energy Property Rights Transfer*

The transfer of energy property rights is the process through which a transferor assigns energy property rights to a transferee, who then acquires energy property rights. A comprehensive understanding of this concept entails the following key elements.

Firstly, in terms of the transaction parties, the transfer of energy property rights must occur between qualified parties. The production process of energy is characterized by a high degree of specialization and scale, thus imposing high qualification requirements on the parties involved in the process. In other words, the market for the transfer of energy property rights is not entirely open; China has set a threshold for market entry through legislation. Both the transferor and transferee must meet specific qualifications to enter the market. It is important to note that the transfer of energy property rights does not include the process of acquiring energy property rights from the

government by qualified parties. The reason is that the government (the state) is not the legal subject of energy property rights. On the one hand, with respect to productive energy, the state holds the ownership of energy resources, and essentially, the productive energy property rights arise from the state's transfer of usufructuary entitlements within its ownership. If the energy property rights are attributed to the state, it would inevitably lead to confusion and elimination of rights. Therefore, the state cannot be deemed the legal subject that owns productive energy property rights. On the other hand, the functional energy property rights (e.g., pollutant emission rights) arise from the functional processes related to energy production and are created by the government through administrative licensing. From the perspective of the licensee, the acquisition of functional energy property rights constitutes original acquisition, which falls beyond the scope of this article.

Secondly, the object of energy property rights transfer is the rights themselves. Energy property rights refer to the framework rights enjoyed by qualified civil subjects in the process of exploration, development, and utilization of energy resources, as well as in functional processes of production. Energy property rights are characterized by scarcity, utility, and disposability. The term 'framework rights' indicates that the interests protected by such rights have open boundaries and diverse content, and therefore can only be described in a general framework.<sup>7</sup> Given the complex and varied legal relationships involved in the energy production process, the concept of framework rights is introduced to define energy property rights. The property rights based on these relationships exhibit certain internal differences in both nature and content, making it difficult to categorize them within existing specific doctrinal systems. However, the energy industry is of great significance to the normal functioning of modern society and holds an important position in China's economic transformation and industrial restructuring. Thus, there is an urgent need for unified regulation of energy property rights. Functionally, framework rights are highly consistent with the energy property rights. A framework right is like a 'large basket' that can encompass a wide range of rights and even legal interests, providing them with legal protection.

Notably, the energy property rights system is not intended to include all legal relationships related to energy within its regulatory scope. For

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7 CAO CHANGWEI, RESEARCH ON THE ILLEGALITY IN TORT LAW, at 99 (China University of Political Science and Law Press, 2017).

example, the legal relationships involved in the processes of distribution, transportation, and use of energy products are relatively simple, and the entities involved are primarily private parties, which should fall within the scope of traditional civil law. However, the regulatory focus of the energy property rights system lies in the process of energy production and the various functional rights associated with it. Given the great importance of energy for socio-economic development, countries around the world impose relatively strict regulations on the energy industry. This is reflected in specific legal systems, where administrative authorities participate in all stages of energy production in various ways, endowing the legal relationships of energy production with distinct public-law attributes. However, it should be noted that these attributes do not justify confining the energy production process within the scope of administrative law regulation. In most cases, the administrative authorities are not parties to the legal relationships involved in energy property rights transfer. When administrative authorities participate in such a transfer, their actions mostly follow the principles of autonomy of will and compensation of equal value, thereby imbuing the transfer with private-law characteristics. Therefore, it is evident that the legal relationships arising from the energy production process have characteristics of both public and private law.

### *B. The Nature of Energy Property Rights Transfer*

Legally, the transfer of energy property rights is a process of changing the parties involved, whereby the transferee acquires the energy property rights from the transferor by giving valuable consideration. To correctly comprehend the legal nature of energy property rights transfer, it is essential to clarify the legal nature of energy property rights. As mentioned above, energy property rights are categorized into productive and functional energy property rights. Furthermore, productive energy property rights are subdivided into the exploration rights, the exploitation rights, and the conversion rights of energy resources. Specifically, the exploration rights and the exploitation rights can be considered as limited property rights arising from the transfer of ownership rights over energy resources. Therefore, the transferee acquires the relevant rights derivatively through the transfer of energy property rights. However, the conversion rights of energy resources and the functional energy property rights are different. In nature, they are both exemptions from administrative prohibitions, meaning that for certain administrative or social reasons, the law grants

individual permits when generally prohibiting a specific behavior, and such permits take the form of rights. As mentioned above, the conversion rights of energy resources and the functional energy property rights are created by legal acts between qualified entities and administrative authorities. Consequently, the manner in which the holders of such energy property rights acquire their rights is considered original acquisition. However, if the right holder transfers the acquired energy property rights in the secondary market, the transferee may obtain the relevant rights through derivative acquisition.

From an economic perspective, the transfer of energy property rights between equal entities is also referred to as the secondary market for the transactions of energy property rights. The term 'secondary market' originates from the financial industry, referring to the market where investors trade securities that have already been issued.<sup>8</sup> Applying this concept to describe the transaction of the established energy property rights between equal entities is appropriate. According to *Samuelson's* theory, the demander of production factors determines the quantity of input by the marginal output per unit of input, thereby achieving the lowest average cost.<sup>9</sup> This principle applies to all competitive markets. Thus, a freely flowing secondary market is particularly important for optimizing resource allocation and achieving the highest production efficiency. The regulated development of the secondary market for energy property rights transactions requires an institutional system as a safeguard.

### III. THE FUNDAMENTAL PRINCIPLES FOR ENERGY PROPERTY RIGHTS TRANSFER

Clarifying the fundamental principles of energy property rights transfer is a prerequisite for constructing sound and reasonable rules. Only energy property rights transfer rules built on clear principles can ensure the healthy development of the energy market and achieve a balance among economic, social, and environmental benefits. This article argues that the transfer system of energy property rights should be guided by the following three principles.

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8 FAN JIAN & WANG JIANWEN, *SECURITIES LAW (THIRD EDITION)*, at 12 (Law Press · China, 2020).

9 PAUL A. SAMUELSON & WILLIAM D. NORDHAUS, *ECONOMICS (19TH EDITION)*, at 215-216 (The Commercial Press, 2017).

### *A. Integrating Private Rights Protection with Public Power Supervision*

The transfer of energy property rights involves not only the legitimate rights and interests of private subjects, but also national energy security, market order, and social public interests. Therefore, in the process of energy transactions, it is essential to safeguard the property rights of market participants, ensuring that their legitimate property rights are fully protected, while also preventing market failures, monopolistic practices, and the disorderly depletion of public resources through government regulation and supervision.

On the one hand, the transaction of energy property rights is a manifestation of the commodification of energy and environmental resources, as well as a fundamental requirement of the private-law nature of energy property rights. Although the definition and protection of property rights do not directly increase the quantity or improve the quality of goods, they can enhance the flow of wealth in market transactions. Accordingly, the energy property rights legally owned by market participants are protected by law, and market participants are entitled to trade such rights and obtain benefits in accordance with the law. Only when the energy property rights are recognized and effectively protected by law will the market participants invest, trade, and operate with confidence, thereby promoting the healthy development of the energy market.

On the other hand, energy property rights closely relate to national energy security and the country's economic lifeline, representing a form of private rights imbued with public-power characteristics. To safeguard national energy security, the supervision of public power is indispensable in the process of energy property rights transfer. From the perspective of rights, the state holds ownership of energy resources and entrusts the right to exploit and utilize them to energy participants through a fiduciary relationship. Consequently, the state has the authority to supervise and regulate the transfer of energy property rights. From the perspective of market regulation, government supervision plays a crucial role in maintaining stable transaction order and ensuring the smooth conduct of transactions by establishing energy property rights registration and declaration systems, formulating transaction rules, and conducting necessary approval and supervision of transactions involving national interests.

Overall, the transaction and circulation of energy property rights reflect the attributes of private law.<sup>10</sup> However, since the process inevitably

<sup>10</sup> Qin Tianbao, *Legal Nature and Institutional Design of the Right to Carbon Emission from a Dualist Theory*, 2 *Journal of Comparative Law* 122, 127 (2023).

involves public interests, a certain degree of public authority intervention is necessary. Hence, the transfer of energy property rights should adhere to the principle of integrating private rights protection with public power supervision. By strengthening the synergy between government regulation and market self-regulation, a more stable, efficient, and sustainable energy trading system can be established.

### *B. Harmonizing Economic Benefits with Environmental Protection*

Energy exploitation and utilization are not only linked to economic growth but also profoundly affect the ecological environment and sustainable development of society. If the transfer of energy property rights focuses solely on economic benefits while neglecting environmental protection, it may lead to problems such as excessive resource depletion, ecological degradation, and climate change. Therefore, the transfer of energy property rights should adhere to the principle of balancing economic benefits with environmental protection. While promoting the development of the energy industry, ecological sustainability should also be taken into account to maximize the comprehensive value of the economic, social, and environmental benefits.

One of the objectives of the energy property rights transfer system is to facilitate the circulation of energy property rights in a free secondary market, thereby optimizing the economic benefits of energy transactions. The clarification of property rights and the market-based transaction of energy resources can help improve the efficiency of resource utilization and promote fair competition among energy enterprises. For example, the carbon emissions trading system and renewable energy quota system promoted by China in recent years both realize the efficient allocation of resources through utilizing property rights transaction mechanisms, fostering fair competition and long-term stable development in the energy market.

However, the exploitation and utilization of mineral energy resources inevitably involve the use of the external environment, so the transfer of energy property rights is unavoidably accompanied by negative impacts on the environment. From the perspective of innovative and green-oriented development, the design of the energy property rights transfer system should comply with legal provisions on environmental protection, aiming to reduce the negative externalities of energy transactions. Take the pollutant emission rights as an example. According to the requirements of environmental protection, the transfer of pollutant emission rights must not lead to the deterioration of regional environmental quality. The 'total quantity control'

theory is generally applied, which sets a cap on the total emissions within a specific region, ensuring that the actual pollutant emissions within the region remain below the mandated target. At the same time, the principle of environmental protection requires the active establishment of green energy transactions, such as green electricity, green certificates, and carbon trading, to develop a market mechanism conducive to the production and consumption of renewable energy.

### *C. The Principles of Openness, Fairness, and Justice*

During energy trading, the principles of openness, fairness, and justice should be followed to develop a fair, transparent, efficient, and sustainable market for the transfer of energy property rights.

The principle of openness requires the trading procedures and regulations of energy property rights transfer to be transparent and open, ensuring that relevant information is accessible to all market players in an equal manner. There is a serious problem of information asymmetry in the energy market. Unless it is alleviated through information disclosure, it is far too simple to trigger market turmoil. Therefore, this information shall be accessible provided that it does not infringe on national security and commercial secrets in relation to the transfer of energy property rights, including the origin and contents of energy property rights, the qualification and identity of the subjects involved, and the time and conditions of the transfer. For example, the *Basic Rules for Electricity Market Registration* issued by the National Energy Administration in September 2024 explicitly provides that the registration and access of market participants shall be open, transparent, standardized, and uniform.

The principle of fairness requires that energy property rights transfer must ensure fair competition in the market and prevent monopolistic and unfair practices. The energy market is inherently characterized by industrial monopoly and resource scarcity. If the energy property rights transfer is inequitable, it may lead to resources being concentrated in the hands of a few enterprises or individuals, giving rise to market monopolies and suppressing industry competition. Accordingly, the principle of fairness calls for ensuring that all qualified market participants have an equal chance to participate, while also preventing rent-seeking through the abuse of power and market monopoly. The *Notice of the National Energy Administration on Further Regulating Matters Related to Trading Behavior in the Electricity Market*, issued on November 8, 2024, emphasizes that all business entities shall maintain a just and balanced order in the electricity market, and shall

not abuse market dominance to manipulate prices, or engage in practices such as collusive pricing, price inflation, and other acts that disrupt market order.

The principle of justice requires that the procedures and principles governing the transfer of energy property rights should conform to the demands of justice and ensure the rationality and legitimacy of transactions. Justice is one of the most fundamental values and codes of conduct in human society. In December 2023, the 28th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change introduced the concept of a 'just energy transition'.<sup>11</sup> This principle of justice emphasizes the prevention of corruption and improper interference through strict processes and legal restrictions, ensuring that any form of improper behavior is restricted, thereby maintaining market fairness and social justice.

In summary, the principles of openness, fairness, and justice serve as the cornerstones for formulating the transaction rules for the energy property rights transfer. The implementation of these principles can help boost market confidence, stimulate market vitality, maintain market order, and safeguard the legitimate rights and interests of market participants, thus providing a strong institutional guarantee for the high-quality development of China's energy market and the building of a unified national market.

#### IV. TRANSACTION CONDITIONS FOR THE TRANSFER OF ENERGY PROPERTY RIGHTS

Reasonable and well-defined transaction conditions are not only the fundamental guarantee for the smooth transfer of energy property rights, but also the key to regulating energy transactions, maintaining market order, and promoting the healthy development of the energy industry. As previously discussed, the establishment of transaction conditions should be grounded in the legal attributes of energy property rights. As early as 2000, article 3(1) of the *Interim Provisions on the Administration of Mining Rights Transfer* stated that mining rights are subject to the legal norms applicable to immovable property. Therefore, the transfer system of energy property rights should refer to the provisions of the *Civil Code* on the transfer of real rights. Considering

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11 UNITED NATIONS CLIMATE CHANGE, ENSURING NO ONE IS LEFT BEHIND: FIRST HIGH-LEVEL MINISTERIAL ROUNDTABLE ON JUST TRANSITION, at <https://unfccc.int/news/ensuring-no-one-is-left-behind-first-high-level-ministerial-roundtable-on-just-transition> (Last visited on November 20, 2025).

the requirements for changes in real rights and the unique characteristics of energy property rights, this article posits that the conditions for the transfer of energy property rights are mainly reflected in the following aspects.

### *A. Qualification Requirements for Transferees*

The exploitation and utilization of energy resources are characterized by investment risks, operational complexity, and technical specialization. Consequently, in order to acquire energy property rights, transferees must possess corresponding qualifications. The qualification requirements fall into two categories: subject qualifications and professional qualifications. First, transferees must meet the requirements to qualify as eligible subjects of energy property rights, which means that they must satisfy the administrative requirements for holding relevant licenses. For instance, a transferee of mining rights must be a legal entity that meets the conditions for applying for or receiving exploration rights and mining rights. Second, transferees must possess relevant professional qualifications, which to a certain extent can be regarded as their capacity for operation, especially their practical ability to engage in the corresponding exploitation and utilization of energy resources. It is worth noting that, given the diversity of energy property rights, the law may impose special qualification requirements on the transferees depending on the specific characteristics of the transferred energy property rights. Therefore, transferees should not only meet the general qualifications required for energy property transactions but also satisfy any special requirements necessary for the exploitation and utilization of a particular type of energy property right.

### *B. Tradability of Rights*

When transferors and transferees enter into transactions, they need to consider the tradability of the transaction object. This requires that the energy property rights being transacted are not subject to transfer restrictions, and there is no dispute regarding their ownership.

Firstly, the transferred energy property rights must be transferable. Theoretically, energy property rights fall within the scope of property rights in civil law, and right holders have the freedom to dispose of their rights, which suggests that the energy property rights can be traded freely.<sup>12</sup>

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12 Zheng Jianing, *On the Institution of Energy Property Mortgage in China*, 11 Zhejiang Social Sciences 76, 77 (2013).

However, as energy property rights involve public interests and depend on specific external circumstances, their tradability should comply with relevant legal norms. In some cases, energy property rights may be restricted from transfer upon their creation. For example, in the case of exploration rights of wind energy, the government may stipulate in relevant bidding documents that the project cannot be subcontracted or further delegated. The reason is that such energy property rights are granted through bidding, and the administrative authorities can only examine the qualifications of applicants who bid directly. If the winning bidder transfers the rights to other parties, it may lead to circumvention of administrative oversight, as the authority would be unable to review the transferees' qualifications. Moreover, when granting energy property rights, administrative authorities may consider not only market factors but also public interest. The government may grant certain welfare-oriented energy property rights to specific entities either free of charge or at a low price to ensure that these rights are exploited and utilized for public welfare. In such cases, allowing unrestricted transfer by right holders could lead to speculation on profiteering through the resale of energy property rights licenses.

Secondly, the ownership of the transferred energy property rights must be undisputed. Clear ownership is a prerequisite for the transferor and transferee to realize their rights and obligations under the assignment contract. Although fundamental legal principles can address situations where the transferor lacks the right to dispose, this is not the intended approach for the parties involved in the transfer of energy property rights, as their ultimate goal is to transfer the corresponding rights through a contractual arrangement. Meanwhile, unclear ownership will also affect the regular transaction order of the secondary energy market. If energy property rights are traded without prior confirmation of ownership, third parties may raise objections, leading to ownership disputes or the need to restart the ownership confirmation process. Therefore, it is crucial to clearly define the ownership of energy property rights before the transfer. For instance, the *Measures for the Public Trading of Mining Rights Transfer and Assignment in Beijing Municipality (for Trial Implementation)* stipulate that mining rights that are in dispute or involving a transferor or transferee with unresolved violations of mineral resource regulations cannot be legally transferred.<sup>13</sup> Generally speaking, to facilitate administrative supervision of energy authorities, the transfer system

13 See article 14 of the *Measures for the Public Trading of Mining Rights Transfer and Assignment in Beijing Municipality (for Trial Implementation)*.

for real rights is often adopted, mandating that energy property rights cannot be transferred without registration.

### *C. Other Transfer Conditions*

In addition to the main transfer conditions mentioned above, the provisions on the transfer conditions of energy property rights are manifested in the following aspects. First, China has set specific time limits for the transfer of energy property rights to prevent illegal profit-seeking transfers. For example, articles 5 and 6 of the *Measures for the Administration of Transfer of Exploration Rights and Mining Rights* stipulate that exploration rights shall only be transferred within two years after the issuance of the exploration license, and mining rights may only be transferred after the mining enterprise has been in production for at least one year. Second, when the energy property rights are transferred, corresponding fees must be paid in accordance with the law. For instance, according to the same provisions, the transfer of exploration rights requires the payment of applicable usage fees and purchase prices; similarly, the transfer of mining rights requires the payment of usage fees, purchase prices, mineral resources compensation fees, and resource taxes. Third, the transfer of certain energy property rights should also meet special transfer conditions. For example, article 5 of the aforementioned Measures provides that exploration rights may only be transferred after the required minimum exploration investment has been completed.

## V. TRANSACTION MECHANISMS FOR THE TRANSFER OF ENERGY PROPERTY RIGHTS

### *A. Institutional Advantages of Energy Property Rights Exchanges*

The design of legal systems should take into account economic benefits. A legal system lacking economic value or efficiency will inevitably be abandoned by the market economy. For the establishment and development of the ‘secondary market’ for energy property rights transactions in China, the construction and improvement of market institutions are crucial. The transfer or mortgage of energy property rights can, of course, be carried out between ‘point sources’, that is, through traditional private and individual free transactions. However, from an economic perspective, this traditional transaction method has high transaction costs and low efficiency. Therefore,

this article argues that a tangible 'secondary market' should be designed for the circulation of energy property rights, with energy property rights exchange as the optimal choice.

Firstly, the existence of the tangible 'secondary market' enables the energy property rights exchange to act as an intermediary for the circulation of energy property rights. A large number of surplus energy property rights are concentrated in such exchanges, where transactions can be carried out at any time, to ensure the continuous circulation of energy property rights. At the same time, it reduces marginal costs such as blind searches for trading partners by right holders, information asymmetry, and transaction defaults, while also increasing trading opportunities, improving trading speed, and enhancing trading credit.

Secondly, the energy property rights exchange can contribute to the formation of a relatively fair circulation price. Due to the scarcity of energy property rights, the price of energy property rights has become the core issue in 'secondary market' transactions. Energy property rights exchanges generally adopt a centralized and public multi-party bidding mechanism to conclude transactions and promptly disclose relevant information to the public, which can effectively regulate the orderly development of the energy market and prevent certain entities from maliciously reaping excessive profits by controlling the price of energy property rights.

Finally, energy property rights are different from ordinary property rights and require specialized institutions to guide their transactions. This is especially true for functional pollutant emission rights. Pollutant emission rights transactions are highly regional in nature. The traditional approach of self-seeking trading partners cannot effectively control the total emission volume in each region and is likely to increase the cost of social supervision. Therefore, through the 'intermediary' of the energy property rights exchange, transactions can be effectively organized, the basic transaction value maintained, and the free flow of energy property rights across various circulation markets guaranteed.

## *B. Establishment of Energy Property Rights Exchanges*

*1. Productive Energy Property Rights Exchanges.* — As mentioned above, the energy property rights system is divided into two parts. Productive energy property rights are constructed around the actual links of the energy production process. Based on the practice of China's energy trading market, productive energy property rights exchanges are primarily structured around

mining rights transactions and power generation rights transactions.

Take the mining rights exchange as an example. In 2023, the *Rules for Mining Rights Transfer and Trading* were promulgated. This document stipulates the corresponding procedures for the transfer of mining rights and clarifies that the transfer of mining rights can be implemented by reference.<sup>14</sup> It can be seen that such a transfer should be carried out through an open trading platform in accordance with relevant national regulations. The trading platform will issue transfer announcements based on the relevant materials provided by the transferor, specifying information such as time, place, and method, and review the qualification certificate materials submitted by the transferee. The trading platform should organize the transaction at the time and place determined in the announcement and notify in writing the transferees who have passed the qualification review to participate. After the transfer transaction is completed, the results should be publicly announced in a timely manner. For example, in 2015, Wuhan International Mining Rights Exchange — the first international mining rights trading center in central China — was established. It is a market trading institution approved by the People's Government of Hubei Province, and its business scope covers mining rights trading, mineral product trading, mining finance, and mining consulting services.<sup>15</sup> In the same year, it issued the *Interim Measures for the Release of Mining Rights Transfer Project Information of Wuhan International Mining Rights Exchange*, which clearly defined the specific process of public disclosure of mining rights trading information, including application materials, release procedures, and time limits, etc.<sup>16</sup> From 2016 to 2024, the Wuhan International Mining Rights Exchange issued three prospecting rights transfer announcements and four mining rights transfer announcements. Each announcement contains complete and clear information, which has contributed to standardizing the transfer practices of mining rights and optimizing the transfer market environment of mining rights.

Another example is power generation rights transactions. In April 2009, Shanxi Electric Power Company held the first centralized consultation

14 See articles 3-36 of the *Rules for Mining Rights Transfer and Trading*.

15 HUBEI PROVINCIAL PEOPLE'S GOVERNMENT, WUHAN ESTABLISHES THE FIRST INTERNATIONAL MINING RIGHTS EXCHANGE IN CENTRAL CHINA, at [https://www.hubei.gov.cn/hbfb/zzql/201512/t20151225\\_1632583.shtml](https://www.hubei.gov.cn/hbfb/zzql/201512/t20151225_1632583.shtml) (Last visited on November 20, 2025).

16 WUHAN INTERNATIONAL MINING RIGHTS EXCHANGE, INTERIM MEASURES FOR THE RELEASE OF MINING RIGHTS TRANSFER PROJECT INFORMATION OF WUHAN INTERNATIONAL MINING RIGHTS EXCHANGE, at <https://www.cwime.com/view/3944.html> (Last visited on November 20, 2025).

on quarterly power generation rights trading, establishing an open and transparent power generation rights trading platform, which effectively promoted the regional energy conservation and emission reduction work.<sup>17</sup> In 2022, the *Guiding Opinions on Accelerating the Construction of a National Unified Electric Power Market System* was promulgated. This document clearly requires improving the trading mechanism of the national unified electric power market system, giving full play to the roles of the Beijing and Guangzhou Electric Power Trading Centers, and enhancing the operation and management of the electric power trading platform, as well as the cross-provincial and cross-regional market trading mechanism. Subsequently, in December 2024, the China Electricity Council, jointly with multiple units, issued the *Blue Book on the Development Plan of the National Unified Electric Power Market*, clarifying the goals of initially establishing the national unified electric power market by 2025, fully establishing it by 2029, and improving and enhancing it by 2035.<sup>18</sup>

Overall, although the scope of adjustment of China's energy property rights exchanges is still relatively single and the involved fields are not yet complete, a tangible market for energy property rights trading in China has taken shape. The rules summarized by these exchanges in practice have also provided a valuable foundation and reference for the trading of China's energy property rights in the 'secondary market'.

2. *Functional Energy Property Rights Exchanges*. — Different from productive energy property rights, functional energy property rights are constructed to achieve special purposes related to the energy production process. Currently, the most maturely regulated functional energy property right is the emission trading right, i.e., the right of the right holder to discharge a certain amount of specific types of pollutants under certain temporal and spatial conditions in accordance with the law. In terms of the content, the emission trading right is an exemption from administrative prohibition. That is, for certain social purposes, the right holder is allowed to engage in acts generally prohibited by law. Under the current technical conditions, industrial production cannot be separated from emissions. In other words, emissions are an inevitable result of industrial production.

17 POLARIS THERMAL POWER NETWORK, SHANXI HOLDS THE FIRST CENTRALIZED CONSULTATION ON QUARTERLY POWER GENERATION RIGHTS TRADING, at <https://news.bjx.com.cn/html/20090508/215574.shtml> (Last visited on November 20, 2025).

18 NATIONAL ENERGY ADMINISTRATION, BLUE BOOK: THE NATIONAL UNIFIED ELECTRIC POWER MARKET WILL BE FULLY ESTABLISHED BY 2029, at [https://www.nea.gov.cn/2024-12/02/c\\_1310787405.htm](https://www.nea.gov.cn/2024-12/02/c_1310787405.htm) (Last visited on November 20, 2025).

Without obtaining the emission trading right, industrial production cannot be lawfully conducted. From this perspective, the emission trading right can also be legally regulated using the methodology of the factor market for production.

The emission trading right system is a market-based trading system that takes the implementation of emission permit management and total pollutant emission control as the premise, with the market mechanism as the basis, enterprises as the main participants, and the transfer of pollution emission indicators as the goal. This system has obvious market-orientation, relevance, and integration. The initial allocation of emission trading rights is the starting point of this transaction, while the secondary market trading is the focus.<sup>19</sup> The pilot programs for the emission trading right system in China originated in the late 1980s. With the development of society, the scope of trading pilots has been continuously expanded, and the number of involved industries and fields has been increasing. In 2015, the *Overall Plan for the Reform of the Ecological Civilization System* was promulgated, which clearly stated the need to expand the pilots for the paid use and trading of emission trading rights and strengthen the construction of emission trading right platforms. In 2021, the *Opinions on Establishing and Improving the Value Realization Mechanism of Ecological Products* were issued, which proposed to improve the paid use system of emission trading rights and expand the types of pollutants traded and the regions involved.<sup>20</sup> Since June 1, 2024, the *Regulations on Ecological Protection Compensation* have been officially implemented. Article 22 of the Regulations stipulates that the state shall establish and improve trading mechanisms for carbon emission rights and emission trading rights, optimize transaction rules, and promote market development. As of September 18, 2025, the national carbon emission rights trading market has achieved a cumulative trading volume of 714 million tons of emission allowances and a cumulative transaction amount of 48.961 billion yuan.<sup>21</sup> In practice, China has gradually established a series

19 Ren Zhuoran, *Environmental Pollution Third-Party Governance Enterprises Participating in Emissions Trading: Path Design and Institutional Coordination*, 6 Journal of Henan Normal University (Philosophy and Social Sciences Edition) 44, 45 (2023).

20 THE CENTRAL PEOPLE'S GOVERNMENT, OPINIONS ON ESTABLISHING AND IMPROVING THE MECHANISM FOR REALIZING THE VALUE OF ECOLOGICAL PRODUCTS ISSUED BY THE GENERAL OFFICE OF THE CENTRAL COMMITTEE OF THE COMMUNIST PARTY OF CHINA AND GENERAL OFFICE OF THE STATE COUNCIL OF THE PEOPLE'S REPUBLIC OF CHINA, at [https://www.gov.cn/gongbao/content/2021/content\\_5609079.htm](https://www.gov.cn/gongbao/content/2021/content_5609079.htm) (Last visited on November 20, 2025).

21 PEOPLE'S DAILY ONLINE, MINISTRY OF ECOLOGY AND ENVIRONMENT: CUMULATIVE TRADING VOLUME OF NATIONAL CARBON EMISSION ALLOWANCES REACHES 714 MILLION TONS, at <http://finance.people.com.cn/n1/2025/0919/c1004-40567919.html> (Last visited on November 20, 2025).

of tangible intermediary institutions, such as environmental exchanges and carbon emission exchanges. A typical example is the Beijing Green Exchange (formerly Beijing Environment Exchange). Established in 2008, it is a comprehensive environmental rights trading institution and the only designated trading platform for the Beijing carbon emission trading pilot. In 2013, the Beijing carbon emission rights electronic trading platform was officially launched to conduct unified trading and settlement of carbon emission rights in the city, achieving positive outcomes. In recent years, the Beijing Green Exchange has developed a series of transaction rules for carbon emission rights trading. For example, in April 2025, it released the *Beijing Municipal Carbon Emission Rights Trading and Settlement Rules*, followed by the *Beijing Municipal Carbon Emission Rights Market Agreement Repurchase Trading Business Rules (for Trial Implementation)* in September 2025.<sup>22</sup>

## VI. TRANSACTION PROCESSES FOR THE TRANSFER OF ENERGY PROPERTY RIGHTS

The design of specific processes for the transfer of energy property rights constitutes a crucial component in establishing an overarching transaction regulatory framework. A clear and comprehensive process should incorporate the necessary steps and methodologies for effectuating the transfer of energy property rights, including transaction initiation, transaction matching, and transaction confirmation, thereby providing effective guidance for the transaction activities of market participants. As mentioned above, distinct categories of energy property rights exhibit significant differences. Consequently, it is imprudent to adopt a one-size-fits-all approach. Instead, the transaction processes of China's secondary energy market should be constructed in a differentiated manner, tailored to the specific nature and characteristics of energy property rights.

### *A. Transaction Processes for Productive Energy Property Rights*

Using the mining rights as an example, this article argues that the processes and rules for productive energy property transactions can be systematically summarized as follows.

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22 CHINA BEIJING GREEN EXCHANGE, BEIJING CARBON EMISSION TRADING, at <https://www.cbge.com.cn/bjsdtjy> (Last visited on November 20, 2025).

The first step is a preliminary review. The transferor shall submit an application to the natural resources authorities, which then review the transaction project to determine whether the energy property rights are eligible for circulation and transaction. Mining rights can be transacted only through statutory mining rights trading institutions (e.g., mining rights exchanges) after obtaining approval from the natural resources authorities. At this stage, the authorities primarily examine documents, including the application submitted by the transferor, the transfer contract, the transferee's qualifications, and other supporting evidence that the transferred mining rights comply with statutory requirements. If the exploration rights or mining rights to be transferred were created through state-funded exploration, such rights must be appraised and valued by a designated appraisal organization. After the review, the natural resources authorities shall decide whether to approve the transfer within the statutory time limit and notify both the transferor and the transferee. Subsequently, the intended mining rights transfer must be publicly disclosed on relevant websites, with a reasonable public notice period.<sup>23</sup> If no objection is raised during the public notice period, the transferor may proceed with the transaction application.

The second step is the disclosure of the transaction. Mining rights transactions can be conducted in two ways: one is via bidding, auction, or listing, and the other is through a negotiated agreement. Transactions conducted through bidding, auction, or listing must be carried out on a public trading platform and incorporated into a unified public resources trading platform system. The transferor is required to submit relevant documents to the trading platform, which shall then issue a transfer announcement and notify the transferor, bidders, and auction participants to join in the transaction. The announcement must include: (1) the names and addresses of the transferor and the trading platform; (2) basic information of the mining rights to be transferred; (3) qualification requirements for bidders or auction participants; and (4) the specific method, time, and location of the transfer. For transfers of mining rights by agreement, once the natural resources authorities accept the application, they must publicly disclose relevant information on the statutory portal, including the name and address of the transferee, the scope and location of the mining rights to be transferred, the types of minerals for exploration and exploitation, and the scale of exploitation.<sup>24</sup>

23 See articles 4-10 of the *Measures for the Administration of Transfer of Exploration Rights and Mining Rights*.

24 See articles 1-32 of the *Rules for Mining Rights Transfer and Trading*.

The third step is the disclosure of the result. For transfers of mining rights conducted through bidding, auction, or listing, upon the successful conclusion of the transaction, the trading platform shall legally issue a notification letter to the winning bidder or sign a transaction confirmation letter with the successful auction participant. Thereafter, both the trading platform and the natural resources authorities shall publicly disclose the transaction results on the statutory portal, the website of the trading platform, or in the trading hall. The public announcement should include: (1) the name and address of the winning bidder or successful auction participant; (2) a basic overview of the transaction subject; (3) the time, place, and price of the transaction; and (4) the time limit for applying for mining rights registration. For transfers of mining rights by agreement, the transaction results must also be publicly disclosed on the statutory websites or via other means for a period of no less than 10 working days.

The final step is contract signing and registration. Following the public disclosure of transaction information, if no objection is raised, the transferor may sign a mining rights transfer contract with the winning bidder, the successful auction participant, or the designated transferee. The mining rights transfer contract should encompass the following information: (1) the basic identity information of the parties; (2) the fundamental details of the mining rights to be transferred; (3) the transfer period; (4) the price and payment method; and (5) the handling institution and the transfer method. The winning bidder, the successful auction participant, or the designated transferee may then apply for the transfer and change registration of the mining rights. Notably, they must pay the corresponding price prior to obtaining the exploration and mining licenses. Additionally, after the transfer of the mining rights, the validity period of the exploration and mining license acquired by the transferee shall be calculated as the remaining period of the original licenses' validity minus the number of years during which exploration and exploitation have already been conducted.<sup>25</sup>

### *B. The Special Rules for Functional Energy Property Rights*

The transactions of functional energy property rights are more intricate compared to those of productive energy property rights. Currently, the

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25 See articles 8 and 9 of the *Measures for the Public Trading of Mining Rights Transfer and Assignment in Beijing Municipality (for Trial Implementation)*; article 32 of the *Rules for Mining Rights Transfer and Trading*; article 13 of the *Measures for the Administration of Transfer of Exploration Rights and Mining Rights*.

regulatory framework has not clearly distinguished between the transaction processes and rules applicable to these two types of rights, which may pose a challenge to efficient transactions of functional energy property rights. In this regard, this article takes the pollutant emission rights as an example and proposes improvements to the transaction rules for functional energy property rights.

*1. Eliminating Regional Restrictions and Establishing a Diversified Joint Transaction Market.* — In recent years, under the guidance of policies such as the national pollutant emission permit system and total quantity control, local governments have actively and independently explored ways to improve the emissions trading system. However, a unified system for emission rights trading has not been fully established, and the development of a nationwide unified market is required.<sup>26</sup> Although relevant regulatory authorities have demarcated pollutant emission rights by region based on the ‘total quantity control’ theory, the rationale underlying this demarcation requires further clarification. Notably, when transactions occur between polluting enterprises in different regions, even though the outcomes will not result in emission levels exceeding regional caps, they may lead to increased pollution within the region. To effectively address these practical challenges, China has initiated the establishment of a unified pollutant emission rights accounting system in the Yangtze River Delta region since 2023, aiming to create a joint pollutant emission rights transaction market and gradually promote cross-regional pollutant emission rights transactions.<sup>27</sup> This article contends that this initiative is worthy of broader implementation. By drawing on the pilot experience of pollutant emission rights transactions in the Yangtze River Delta region, building a cross-regional pollutant emission rights trading platform and formulating unified transaction rules constitutes a viable approach.<sup>28</sup>

*2. Periodic Adjustment of the Initial Allocation of Pollutant Emission Rights.* — It is essential to incorporate factors such as ‘environmental

26 Chen Gang, Liu Qian & Guo Zhenyi et al., *Study on the Effects Evaluation of Provincial Pollutant Emission Trading System in China*, 2 *Ecological Economy* 191, 192-193 (2024).

27 THE PEOPLE’S GOVERNMENT OF SHANGHAI MUNICIPALITY, NOTICE ON THE ISSUANCE OF THE IMPLEMENTATION PLAN FOR THE COORDINATED CONTROL OF TOTAL POLLUTANT DISCHARGE IN THE YANGTZE RIVER DELTA REGION, at <https://www.shanghai.gov.cn/gwk/search/content/e2f14826d47845a897496bea135743eb> (Last visited on November 20, 2025).

28 ZHEJIANG PROVINCIAL DEPARTMENT OF ECOLOGY AND ENVIRONMENT, INTERIM MEASURES FOR THE MANAGEMENT OF PAID USE AND TRADING OF VOLATILE ORGANIC COMPOUND EMISSION RIGHTS IN THE YANGTZE RIVER DELTA PILOT REGION (DRAFT FOR COMMENTS), at [https://sthjt.zj.gov.cn/art/2024/5/11/art\\_1638995\\_58955638.html](https://sthjt.zj.gov.cn/art/2024/5/11/art_1638995_58955638.html) (Last visited on November 20, 2025).

capacity' and periodically adjust the allocation and transaction volume of pollutant emission rights to encourage energy conservation and emission reduction. In practice, various models exist for the initial allocation of pollutant emission rights, including the regional population-based allocation model, economic total allocation model, historical emission-based allocation model, environmental capacity allocation model, and comprehensive allocation model. Among these, the comprehensive allocation model is the most suitable, as it considers factors such as population demographics, economic development, historical emissions, technological level, and social equity.<sup>29</sup> This model can effectively balance fairness and efficiency while maintaining strong operability. However, with the development of society, these factors are inherently subject to change. Therefore, this article recommends periodically adjusting the initial allocation of pollutant emission rights. Regarding adjustments to the transaction volume of pollutant emission rights, polluting enterprises should retain autonomy in making adjustments, with no legal intervention in principle. As rational market participants, the polluting enterprises can make informed decisions after obtaining the initial allocation of pollutant emission rights, such as modifying emission reduction targets and adjusting transaction volumes of pollutant emission rights, to optimize their own interests,<sup>30</sup> provided that their actions do not violate the mandatory provisions of laws and administrative regulations.

*3. Integrating Exchanges' Self-Regulation with Government Supervision.*  
— Trading through emission rights exchanges is the primary form of pollutant emission rights transactions. In practice, if a pollutant emission rights exchange relies solely on the resources of its internal members for operation, it may encounter operational difficulties due to the lack of a mandatory membership constraint mechanism. Therefore, a scientific and effective government supervision system should be established to facilitate the smooth operation of emission rights trading. The focus of government supervision should be twofold: on the one hand, to supervise the behavior of the exchanges, such as reviewing the legality and rationality of the transaction rules formulated by the exchanges; on the other hand, to provide support to the exchanges, such as sharing information related to pollutant

29 Hu Xiaofei & Fu Chun, *Comparison of Emissions Initial Allocation Patterns in Poyang Lake Watershed*, 5 Resources and Environment in the Yangtze Basin 839, 840-841 (2015).

30 Zhao Wenhui, Tan Zhongfu & Gao Yan et al., *Emission Permit Optimal Allocation Strategy Based on Bi-Level Programming*, 1 Industrial Engineering and Management 72, 77 (2016).

emission rights transactions. It should be noted that when designing the government supervision system, a balance must be maintained between safeguarding the autonomy of the exchanges and protecting public interests, and the space for the exchanges to exercise their autonomy should not be unduly restricted.

4. *Appropriately Introducing Public Participation.* — The objective of the pollutant emission rights transaction system is to optimize the utilization of energy resources and the ecological environment, balance economic and environmental benefits, and protect the rights and interests of all members of society. From the standpoint of the for-profit energy enterprises, the economic benefits they obtain may offset the costs of acquiring energy property rights. However, for citizens, when their rights to live in a healthy environment and utilize environmental resources are infringed upon, they often have limited means to obtain economic compensation. The transaction of pollutant emission rights cannot overlook the protection of citizens' environmental rights and other fundamental rights. Therefore, it is necessary for the exchanges to introduce public participation and supervision by disclosing the transaction process during the pollutant emission rights transaction. Specific disclosure rules should require that the information be comprehensive, complete, and authentic; the channels be accessible to the public; and a reasonable time limit be set for the public to raise objections and assert their rights.

## VII. CONCLUSION

As energy constitutes a crucial strategic resource for national economic development and the public welfare protection, the establishment of a unified national energy market is imperative for advancing the high-quality development of energy market and the modernization of energy governance. The *Guideline for Building a Unified National Market*, issued by the National Development and Reform Commission, identifies 'building a unified national energy market system' as a key objective, emphasizing the strategic significance of constructing and improving unified market rules and institutional systems. Against this background, proactively developing the secondary market for energy property rights and clarifying the fundamental principles, essential conditions, and transaction procedures for the transfer of energy property rights provide a robust institutional safeguard for the sound operation of the energy market. The fundamental principles for energy property rights transfer emphasize the integration of private rights protection

with public power supervision to strike a balance between economic benefits and environmental protection. Clearly defined transaction conditions provide explicit access and transaction criteria for market participants, ensuring the legality and security of transactions. Standardized transaction procedures further enhance market transparency and transaction efficiency, thereby fostering a favorable environment for a green-oriented transition of the energy sector. In the future, with the continuous improvement of transaction rules and the gradual maturation of the market, the Chinese energy market, operating within a unified national market framework, will better serve the goals of national energy security and sustainable development, and contribute China's insights and capabilities to the global energy transition.

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