Context, Challenges and Countermeasures: Russian Energy Diplomacy Strategy and Sino-Russian Energy Cooperation

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Abstract

This paper systematically analyzes the evolution logic of Russia’s energy diplomacy strategy from political dominance in the Soviet Union to strategic expansion in the present age, and reveals the nature of its energy as a geopolitical tool and the continuity of its east-west balance strategy. The research shows that although Sino-Russian energy cooperation forms the basic framework of oil and gas trade and facility connection, it faces three deep challenges: geopolitical pressure intensifies Russian policy swing and weakens strategic mutual trust; traditional energy dependence and insufficient coordination in emerging fields limit cooperation depth; legal absence, financial settlement risk and coordination inefficiency continue to threaten sustainability. In order to break through the dilemma, it is necessary to construct a systematic countermeasures framework: strengthen the high-level diplomatic coordination mechanism to jointly resist external intervention; expand the cooperation between LNG production capacity and clean technology, promote the integration of the whole industry chain; improve legal protection and regional supervision, establish local currency settlement channels and crisis response plans. The study shows that through diplomatic coordination, technological innovation and institutional optimization, China and Russia are expected to build a stable and forward-looking energy community, providing a new paradigm for reshaping the Eurasian energy governance pattern, and their experience has important reference value for deepening energy security cooperation among emerging market countries.

Keywords

**Russian energy diplomacy, Sino-Russian energy cooperation, energy diplomacy strategy.**

1. Introduction

Energy security is the core component of national strategic security, which has a profound impact on the evolution of global geopolitical pattern. Russia, as a global energy resource reserve and export power, its long-term energy diplomacy strategy has distinct national interest orientation and geopolitical intention, which constitutes the key pillar of Russia's national foreign strategy [1]. A thorough study of the evolution of Russia's energy diplomacy strategy is crucial to understanding its position and role in the international energy system. At the same time, China and Russia, as important comprehensive strategic cooperation partners, energy cooperation is the cornerstone of bilateral relations and economic links between the two countries, which is of great practical significance to ensuring their respective energy security. However, in the process of promoting in-depth energy cooperation, the two countries are facing practical challenges from geopolitical environment, breadth of cooperation fields and institutional mechanism construction [2]. Based on this, this paper systematically combs the historical inheritance and policy characteristics of Russia's energy diplomacy, objectively analyzes the status quo, challenges and deep motives of Sino-Russian energy cooperation, and discusses the effective ways to deepen bilateral cooperation on this basis, thus providing reference for the practice of Sino-Russian strategic cooperation.

1. Evolution of Russian Energy Diplomacy Strategy

The evolution of Russia's energy diplomacy strategy is shown in Table 1.

During the Soviet Union period (1920s-1990s), energy diplomacy focused on political interests, and energy became a strategic tool for the Soviet Union to maintain the Eastern European camp and divide the West. By building a "friendship pipeline" across Eastern Europe, the Soviet Union bound the economic dependence of the CMEA countries with low-cost energy, while exporting to Italy and other Western European countries at discounted oil prices, disintegrating the unity of the US-dominated Western camp [3]. At this stage, energy cooperation highly served the geopolitical game of the Cold War, and economic benefits gave way to political goals.

From the 1990s to the beginning of the 21st century, Russia started the market-oriented transformation of energy strategy after independence. Yeltsin's government promulgated the Basic Concept of Energy Policy under the New Economic Conditions (1992) and the Basic Principles of Russia's Energy Strategy (1995), promoted the privatization of energy enterprises and attracted foreign investment, and attempted to integrate into the global energy system with liberalization policies [4]. However, the strategy at this stage lacks coherence, the dependence on European energy exports deepens, and the Asian market has not been effectively exploited, exposing the passivity of energy diplomacy.

Since the beginning of the 21st century, Putin has been in power to promote the overall strategy of energy diplomacy. The 2003 Energy Strategy before 2020 marked Russia's clear positioning of energy as a "national rejuvenation tool" and proposed a diversified layout of "breaking through North America, stabilizing Western Europe and opening up the East". In practice, Russia, on the one hand, deepens its energy binding to Europe through the "Beixi" pipeline, and on the other hand accelerates its eastward transfer: major projects such as the Sino-Russian crude oil pipeline (2011) and the eastern natural gas pipeline (2019) have landed, and the proportion of the Asian market has increased significantly. After the Ukraine crisis, in the face of western sanctions, Russia further strengthened its energy weaponization strategy to cut off supply and counter Europe, while deepening energy cooperation with China to hedge risks. At this stage, the strategy is both offensive and adaptive, and energy has become the core pillar of Russia's resistance to geographical pressure [5].

**Table 1:** Summary of the evolution of Russia's energy diplomacy strategy

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| --- | --- | --- |
| **Period** | **Characteristic** | **Typical events** |
| The Foundation of Energy Diplomacy in the Soviet Union (1920s-1990s) | Political interests dominate, East-West difference strategy | Friendship Oil Pipeline Construction (1960s-1970s); Low Price Energy Supply Mechanism within CMEA |
| **Formation and initial development**(1990s-early 21st century) | Market-oriented transformation, institutionalization of energy diplomacy | 1992 "Basic concept of energy policy under new economic conditions";1995 "Basic principles of Russia's energy strategy" |
| **Maturity and expansion**(early 21st century to present) | Omnidirectional energy diplomacy, weaponization of energy | In 2003, the Energy Strategy before 2020 was issued; oil and gas pipeline construction in the eastern route; and the strategy of "breaking through North America, stabilizing Western Europe and opening up the East" |

1. Current Situation and Challenges of Sino-Russian Energy Cooperation
   1. Status of Cooperation

At present, China-Russia energy cooperation has established a stable cooperation framework with oil and gas resources as the core and infrastructure as the carrier. Crude oil and natural gas trade constitute the main body of bilateral energy exchanges, and long-term supply agreements and relatively stable pricing mechanisms provide a predictable basis for cooperation between the two sides [6]. Substantial breakthroughs have been made in the construction of transnational energy channels. The continuous operation of Sino-Russian crude oil pipeline and Siberian power natural gas pipeline has significantly improved energy transmission capacity, and the improvement of physical connectivity level has provided hardware support for the expansion of trade scale. The cooperation between state-owned energy enterprises of the two countries in resource exploration and development, technical services and equipment manufacturing has gradually deepened, and the mode of joint participation in energy projects in third countries has also begun to be explored. In addition to traditional fossil energy cooperation, the two sides have gradually expanded the scope of cooperation to emerging areas such as power interconnection, nuclear energy technology sharing and joint research and development of renewable energy, reflecting their common willingness to adapt to the global energy transition trend [7]. The intergovernmental energy dialogue mechanism plays a guiding role at the policy coordination level, while high-level strategic mutual trust creates a favorable political environment for the promotion of specific cooperation projects. On the whole, Sino-Russian energy cooperation presents a fundamental trend of steady growth in trade volume, diversified development of project structure and continuous deepening of policy coordination, reflecting the dual driving characteristics of complementary energy security and integration of economic interests.

* 1. Challenges of Cooperation

At present, the challenges facing Sino-Russian energy cooperation mainly include the following aspects.

First, geopolitical factors profoundly restrict the stability of Sino-Russian energy cooperation. Western sanctions pressure on Russia persists, forcing Russia to accelerate its eastward shift in energy exports, with China becoming its key alternative market [8]. However, Russia's traditional dependence on the European market has not fundamentally changed, and its policy has strategic swing, which leads to doubts about its sincerity in cooperation with China. At the same time, the United States and its allies have tried to weaken Sino-Russian energy ties by means of high tariffs and technological blockades [9]. For example, the United States imposes punitive tariffs on Russian energy importers, directly threatening the economic viability of energy trade between the two countries and trying to create obstacles by interfering in emerging areas of cooperation such as Arctic development. In addition, the competition between Japan, South Korea and other East Asian energy importers and China has further intensified the complexity of the regional energy game. Russia has adopted the strategy of "multiple balance" and objectively weakened the strategic specificity of cooperation with China.

Second, the structural limitations in the field of energy cooperation are still outstanding shortcomings. At present, cooperation is highly dependent on oil and gas trade, with crude oil and pipeline natural gas dominating, while synergy in new energy, green technology, high-end equipment and other fields is progressing slowly. Although the two sides have made breakthroughs in Arctic liquefied natural gas and nuclear energy projects, renewable energy cooperation is still in the initial exploration stage and has not yet formed large-scale industrial linkage. In the upstream field, Russia has strict control over resource sovereignty, China enterprises have limited participation in oil and gas exploration and exploitation, and key technical cooperation faces barriers. For example, Arctic resource development needs to break through the technical bottleneck of extremely cold environment, but Russia's shortage of funds and insufficient technical reserves in China lead to joint research and development lag. The integration of downstream industrial chain is also insufficient, and the cooperation in value-added links such as energy refining and chemical production is weak, which restricts the transformation and upgrading from trade complementarity to coordination of the whole industrial chain.

Third, the systematic defects of the energy cooperation mechanism need to be improved. At the legal level, the lack of special legislation in the energy field of the two countries leads to vague rights and responsibilities. The laws and regulations in Russia's Far East are not perfect, the rights and interests of energy exploitation are not clearly defined, and the policies are easily interfered by domestic oligarchy interest groups; China's Energy Law has been absent for a long time, and the supporting regulations are not operational enough, so cross-border projects face legal connection obstacles [10]. In terms of coordination mechanism, although there is an intergovernmental energy cooperation committee, the decision-making efficiency is restricted by bureaucratic procedures, the feedback channels for enterprises are not smooth, and the coordination power of local governments is insufficient. For example, cross-border infrastructure projects in the Northeast and Far East have been slow to advance due to lengthy approval processes and inconsistent standards. The financial settlement mechanism is also facing risks [11]. The US dollar settlement system is threatened by sanctions, while the direct settlement scale of local currency is limited, and the hedging tools of exchange rate fluctuation are insufficient, which increases the transaction cost of enterprises and the risk of capital safety.

1. Countermeasures for Deepening Sino-Russian Energy Cooperation
   1. Strengthen Energy Diplomacy Coordination

To deepen Sino-Russian energy cooperation, it is urgent to build a multi-level and efficient diplomatic coordination system.

The two countries should rely on the existing high-level strategic dialogue mechanism, include energy issues in the core agenda of the summit meeting, clarify cooperation goals and implementation paths through signing binding joint statements, and transform political mutual trust into operational institutional arrangements [12]. The Intergovernmental Energy Cooperation Committee needs to strengthen its functions, set up a permanent secretariat responsible for policy communication and technical consultation, regularly sort out trade barriers and project obstruction points, and establish an inter-departmental joint review mechanism to shorten the administrative approval cycle [13].

In the face of Western unilateral sanctions, China and Russia can promote the construction of a joint statement on energy security within the framework of the BRICS mechanism, join emerging economies to advocate the establishment of non-politicized international energy governance rules, and eliminate sanctions and pressure through the multilateral arena. At the strategic level, deepen the special energy docking between the "the belt and road initiative" initiative and the Eurasian Economic Union, jointly formulate medium-and long-term plans for cross-border infrastructure, and give priority to promoting mutual recognition of standards and coordination of supervision for projects such as power interconnection and intelligent pipelines [14].

For sensitive areas such as Arctic development, a special working group directly led by the foreign ministries of the two countries will be established to coordinate policy positions on resource development and ecological protection, and jointly issue a white paper on sustainable Arctic development to guide international public opinion [15]. Simultaneously expand the two-track diplomatic channels, support authoritative think tanks to establish joint research platforms for energy security, and regularly issue risk assessment reports; set up an enterprise roundtable mechanism to enable market entities to appeal directly to the policy-making level, forming complementary strategies between the official and private sectors.

In addition, a joint Incident Response Service procedure for US and European sanctions has been established, and financial countermeasures plans and technical alternatives have been formulated in advance to reduce the impact of sudden sanctions. Through the above-mentioned institutional construction, the energy diplomacy of the two countries will be promoted from crisis response to rule-building, providing stability guarantee for strategic cooperation.

* 1. Expand Energy Cooperation Fileds

To deepen Sino-Russian energy cooperation, it is necessary to break through the single framework of traditional fossil energy trade and build a new cooperation system covering the whole industrial chain and multi-dimensional coordination.

In the field of traditional energy, in addition to ensuring the stable operation of existing oil and gas pipelines, we should focus on expanding the scale of liquefied natural gas trade, promoting the second phase capacity construction of Arctic liquefied natural gas projects, exploring joint marketing mechanisms for East Asian markets, and realizing strategic upgrading from pure resource procurement to upstream extension of the industrial chain [16]. Renewable energy cooperation needs substantial breakthrough, priority should be given to promoting the transnational grid connection of wind power and photovoltaic power generation bases in the Sino-Russian border areas, establishing regional green power trading rules, jointly carrying out research and development and application of key technologies for hydrogen energy production and energy storage devices, and forming a complementary supply pattern of traditional energy and clean energy.

The nuclear energy field needs to be expanded to full-cycle cooperation, covering joint uranium exploration, fourth-generation nuclear reactor construction and spent fuel recycling technology sharing, so as to build a technology-leading regional nuclear energy industry consortium [17]. The link of energy intensive processing has great potential. We can change the primary trade mode of pure export of crude oil by building a modern energy chemical park in the Far East of Russia, introducing advanced refining and chemical technology from China, cooperating in the production of high value-added petrochemical products.

In the field of energy equipment manufacturing, a joint innovation system shall be established, and special R & D centers shall be set up around polar drilling and production equipment, smart grid system, pipeline corrosion protection technology, etc. to promote mutual recognition of technical standards and transformation of patent achievements. The financial cooperation mechanism needs to be innovated simultaneously, the settlement scale of energy trade in local currency should be expanded, special investment funds for energy projects should be explored, risk hedging tools for exchange rate fluctuations should be developed, and capital support should be provided for diversified cooperation [18]. Through the integration of five links: resource development, energy conversion, technology research and development, equipment manufacturing and financial services, Sino-Russian energy cooperation will shift from traditional buying and selling relations to strategic coordination covering the whole value chain, realizing the transformation and upgrading from single commodity output to comprehensive energy solution provision.

* 1. Improve Energy Cooperation Mechanisms

Building a systematic and standardized institutional framework is the core support to ensure the sustainable development of Sino-Russian energy cooperation. At present, it is urgent to promote the special legislative process of bilateral energy cooperation, jointly formulate a binding Basic Law on Sino-Russian Energy Cooperation, clarify the allocation of rights and interests in resource development, environmental protection responsibilities and dispute settlement procedures, and provide legal certainty for cross-border projects. In view of the risk of policy fluctuation in Russia's Far East, regional joint regulatory agencies can be established to unify energy project approval standards and environmental protection requirements, establish an investor right and interests’ protection list system, and reduce the arbitrariness of policy implementation [19]. Optimize the functions of the existing Intergovernmental Energy Cooperation Committee, upgrade it to a permanent coordination center, set up oil and gas, electric power, new energy and other professional sub-committees, give it the right to project evaluation and policy recommendations, establish a closed-loop response mechanism of "enterprise appeal direct reporting-sub-committee judgment-committee decision-making", and shorten the decision-making chain. We will simultaneously build a collaborative network of local governments, establish joint conferences on energy cooperation at the provincial and state levels in Northeast China and the Far East of Russia, focus on solving operational obstacles such as land requisition and labor access for cross-border infrastructure, and promote the formation of a three-dimensional governance structure of "central overall planning and local linkage."

The innovation of financial settlement mechanism is particularly critical. It is necessary to expand the direct settlement scale between RMB and ruble, promote the central banks of the two countries to sign a special agreement on local currency settlement of energy trade, and establish a bilateral payment clearing channel independent of SWIFT system. Jointly develop full-cycle financing instruments for energy projects, set up a special fund for Sino-Russian energy cooperation, absorb capital injection from sovereign wealth funds and development financial institutions, and explore diversified financing models such as project income bonds and green bonds. In view of the risk of exchange rate fluctuation, commercial banks of the two countries are encouraged to cooperate in providing hedging services such as long-term settlement and sale of foreign exchange and currency swap, so as to reduce the financial uncertainty of enterprises. The integration of technical standards is the basic link of mechanism construction [20]. A Sino-Russian joint committee on energy standards can be established to give priority to mutual recognition of standards in the fields of pipeline construction, power grid interconnection and liquefied natural gas transportation, and gradually form a regional technical specification system. Establish an energy data sharing platform to integrate core information such as resource reserves, production capacity distribution, market demand, etc. to enhance the scientific and transparency of cooperation decisions.

The construction of a crisis response mechanism is indispensable. The "China-Russia Energy Cooperation Incident Response Service Plan" should be formulated to clarify the principles of joint action in the event of extreme sanctions, natural disasters or geopolitical conflicts, and preset energy supply allocation, technological alternatives and Diplomatic coordination procedures. Establish a joint stock of critical equipment and components to reduce the risk of supply chain disruption. Through the systematic restructuring of the above-mentioned mechanisms, Sino-Russian energy cooperation will shift from temporary project-driven to institutionalized rule-driven, providing a resilient guarantee for coping with the complex international environment.

1. Conclusion

Russia's energy diplomacy strategy has evolved from political dominance to strategic expansion. Its core logic has always positioned energy as a geopolitical tool, and the east-west balance strategy has become more prominent under western pressure. The reconstruction of global energy order triggered by the Ukraine crisis creates a historical window for Sino-Russian cooperation. The cooperation between the two countries has gone beyond the economic significance of complementary resources and shoulders the strategic mission of reshaping the rules of Eurasian energy governance. Through the deep integration of strategic mutual trust, technological innovation and institutional resilience, China and Russia are expected to build an energy community with stability and foresight. This practice will not only inject lasting momentum into bilateral relations, but also provide a paradigm reference for emerging market countries to explore energy security cooperation and promote the transformation of the global energy system towards multiploidization and anti-risk direction. The realization of this vision requires continuous policy investment and strategic patience, and its value to regional governance innovation and geo-economic pattern shaping is worth exploring together.

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