



Energy security in international relations: reality and hopes

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Abstract

In recent years, the international energy landscape has accelerated its adjustment. Especially under the impact of factors such as the Ukraine crisis, the international energy security situation has presented many new characteristics and trends. The security risks of new energy are prominent, but oil and gas are still the focus of energy security; the "politicization" of energy is prominent, but the general trend of globalization is difficult to reverse; the low-carbon energy transformation has encountered setbacks recently, but the development of global clean energy is accelerating; the cost of the international energy system Or enter an ascending channel. Changes in the international energy security situation are a complex process that require observation from a comprehensive perspective and a dynamic security perspective. In the future, promoting international energy trade and cooperation will still be the choice of most countries. Maintaining energy security requires focusing on the dynamic balance of development, security and environmental protection.

✓ **Keywords :Energy ,security ,intrnational relations,reality,hopes**

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1.INTRODUCTION

Since 2021, the energy crisis in Europe and other regions has intensified, leading to a resurgence of energy security issues, and energy supply security has become a priority concern for many countries. Under the influence of multiple factors such as the Ukraine crisis, great power competition, and low-carbon transformation, the international energy landscape has accelerated its evolution, especially the increasing trend of "politicization" and "campization" of energy cooperation. Driven by the tide of anti-globalization, new and old factors are intertwined in the global political and economic landscape, and the "long-term trends" and "short-term phenomena" that affect energy development overlap, making the international energy security situation more complex. For this reason, The international community needs to promptly grasp various new risks, coordinate energy security and development, enhance the resilience of the energy system, and promote global energy governance in an all-round way. These are key issues worthy of attention , and In this context, we ask the following questions :

What are the main trends in world energy development, what are the common challenges, and what are the measures ;suggestions and solutions?

2. REALITY OF SECURITY ENERGY IN INTERNATIONAL RELATIONS :

In recent years, the global energy situation has undergone historic changes, and the superposition of a series of political, economic and other factors has caused fundamental changes in global energy strength and power structure. A series of new changes have occurred in the energy security requirements of the traditional "energy triangle", namely stability, affordability and sustainability, forcing countries to re-examine their national energy strategies.

First, among the various energy categories in the world, the status of oil has been relatively reduced, and "oil rights" no longer occupy an absolute core position in energy politics. This has also prompted oil-exporting countries to further integrate, and the energy rights of these countries have relatively increased. In the wave of global energy transformation, global oil supply has been characterized by oversupply for a long time, and the strength and power of oil-exporting countries has declined

relatively. The relative decline in the status of oil has instead become an opportunity for oil-exporting countries to strengthen cooperation.(**Cherp, Aleh.p.201**) .

During the period of low oil prices, various oil-exporting countries took the initiative to launch a new round of alliances and formed "OPEC+" with twice the number of members as OPEC. In April 2020, it successfully cooperated with other major oil-exporting countries to achieve the "historic" "Permanent production cuts" have brought oil prices back to nearly US\$100 per barrel by the beginning of 2022, and achieved a high compliance rate. The integration of oil-exporting countries has promoted the rise of "oil power" against the trend, and OPEC's influence on the global oil market has stopped falling and rebounded. In the long term, this rebound is not sustainable, but it is enough to play a role that cannot be ignored in the critical period of global energy transformation. In this environment, oil's stability is guaranteed, while sustainability remains its shortcoming; but for consuming countries, affordability is rising as a result of the energy transition.(**Li Bing.p.02**)

Second, the status of natural gas in various energy categories has increased to unprecedented heights. On the one hand, more and more countries are reducing or even discontinuing the use of coal. The extreme imbalance of global oil distribution and the high degree of financialization of the international oil market have also made consumer countries particularly sensitive to the energy security risks caused by over-reliance on oil. , natural gas has therefore become the best option to meet the country's energy needs while hedging oil risks.(**Wang Haiyun.p.189**). The "shale gas revolution" in North America has also allowed countries around the world to see the huge potential of natural gas supply. On the other hand, compared with oil and coal, natural gas has better climate and environmental effects. It plays a very positive role in controlling climate warming and improving the domestic environment. It is also conducive to making up for the stability defects of renewable energy. Under this situation, major natural gas exporting countries have gained unprecedented energy advantages, and natural gas security has become the focus of reshaping global energy relations. In the second half of 2021, global natural gas prices skyrocketed due to a huge natural gas supply gap in Europe. During the Ukraine crisis, serious diplomatic disputes broke out between the EU, Russia and the United States over the "Nord Stream-2" pipeline over the issue of European natural gas supply. This was a

concentrated expression of the struggle for "natural gas power" during the transitional energy period. **(Fu Jingjun.p.33)** The advantages of natural gas in the three dimensions of the traditional "energy triangle" have gradually emerged, but this has also led to the expansion of natural gas power, threatening long-term energy affordability and stability.

Third, the development of renewable energy technology is beginning the process of reshaping the "energy triangle", but it will still take time. Renewable energy is both sustainable and has increasingly obvious advantages in affordability. In recent years, renewable energy technology has been continuously improved and costs have been declining. The cost of photovoltaic power generation has gradually become lower than that of fossil energy power generation. The outstanding climate and environmental benefits of renewable energy make it the ultimate goal of energy transformation in countries around the world, which is to build an energy system dominated by renewable energy. In addition, renewable energy categories such as solar energy and wind energy are relatively evenly distributed, and the competition around renewable energy supply has shifted from innate resource endowment to acquired technology and engineering strength. This has allowed countries around the world to see the bright prospects of energy transformation. **(M. Pehnt.p.56)** However, renewable energy still faces serious stability problems. Fossil energy is still needed to make up for its supply gap when natural conditions are poor, and energy storage technology is improved to reduce the occurrence of "light abandonment" and "wind abandonment" phenomena. But regardless of current challenges, renewable energy remains the undoubted main direction of future energy development. **(Xiong Ying.p.13)**

Global energy issues are closely related to the global political and economic situation. In recent years, changes in the global political and economic situation have caused changes in the global energy situation from the outside.

- First, the global security situation is becoming tense, especially the security risks in major fossil energy production areas or energy transportation areas have increased. In addition to war-prone regions such as the Middle East and Africa, the security situation in the Soviet Union has deteriorated. The Nagorno-Karabakh conflict broke out in 2020. The situation in Belarus and Ukraine was tense for a time in 2021. In early 2022, there was also turmoil in Kazakhstan. The Soviet Union is an important oil and gas export region in the world. Russia is the main oil and gas supplier to the European Union and East Asia. Azerbaijan, Kazakhstan and other countries are also known for their energy endowments. Belarus and Ukraine are important channels for Russia to export energy to Europe. The deterioration of the situation in the Soviet Union has directly affected the energy supply of major consumer countries on the edge of the Eurasian continent. It has repeatedly caused global energy prices to rise, and also contributed to the European energy crisis at the end of 2021. During the same period, instability in major energy exporting countries such as Sudan, Libya, Iraq, Venezuela, and Nigeria, as well as intensified frictions among Gulf energy exporting countries, also increased the uncertainty of global energy supply. **(James Sherr.p.37-38).**

- Second, “energy advantage” has increasingly become a key weight in the game between great powers. Major countries such as the United States and Russia have paid significantly more attention to their own "energy advantages" and have frequently used energy weapons to participate in the game between major powers. During the Trump administration, the United States proposed the concept of "energy superiority". Through the "shale gas revolution" and the large-scale expansion of fossil energy development, the United States became an increasingly important global energy exporter. It not only achieved "energy independence" ", and through its export capabilities, it has reduced its dependence on Middle East energy, reduced constraints on Middle East issues, and made its foreign policy less susceptible to the influence of exporting countries such as Saudi Arabia; the United

States has suppressed competitors such as OPEC and Russia, and has significantly Increased oil production quickly filled OPEC's production reduction space, causing "OPEC+" to fail in its repeated efforts to "cut production and protect prices." Russia is also increasingly taking advantage of natural gas exports to put pressure on Europe, taking a relatively active position in dealing with issues with Ukraine and Belarus, and giving full play to its advantages in pipeline construction projects, using this as a weight to expand energy supplies to Europe and East Asia. Export capabilities while containing anti-Russian countries, such as the "Nord Stream-2" pipeline, can further weaken Ukraine's status as a transit country(**Chen Xiaoqin.p.38**)In addition to the United States and Russia, countries such as Qatar and Azerbaijan have also taken advantage of their superior energy supply to gain a relative upper hand in games with rival countries. Compared with the countries that used a full range of "petroleum weapons" in the 1970s and 1980s, today's national goals of exerting "energy advantage" are more precise and the methods are more flexible and changeable. In recent years, these countries have also Therefore they often have the upper hand.(**Anna Borshchevskaya.p.05**)

- Third, the concept of global energy governance is deeply rooted in the hearts of the people, and energy issues are playing an increasingly important role in global governance. Energy is a basic element to maintain the normal operation of human society. Energy issues are directly related to political, economic, social, climate and other issues. Many global governance issues cannot bypass the link of energy governance. The global energy transformation environment has put forward higher requirements for energy governance. Therefore, in recent years, a series of emerging energy governance mechanisms represented by the "Belt and Road" energy partnership have emerged, and old mechanisms such as OPEC and the International Energy Agency are also gradually transforming to adapt to the requirements of the new era and improve governance capabilities. In addition, energy issues have increasingly become an important agenda of global governance platforms such as the

United Nations, G20, and G7. Building an energy governance model that is consistent with interdependence under multilateralism has become a mainstream choice in the world.(IEA ; **World Energy Investment 2023**)

3. DIFFERENT CHALLENGES IN WORLD ENERGY SECURITY AND DEVELOPMENT :

Extreme weather occurs frequently and the competition for energy becomes more intense. In the context of global climate change, extreme weather events occur frequently, and their impact on humans and ecosystems continues to increase. Moreover, climate change is still uncertain, and different regions face different types of climate impacts, such as "high temperatures" in the European winter in 2023, "quick freeze" cold waves in the United States, and heavy rains in Brazil. Faced with natural weather conditions, countries are competing more intensely for fossil energy sources such as oil and natural gas to ensure their own energy security foundation and stabilize economic development. In addition, excessive human activities and fossil burning may lead to more complex climate changes. The United Nations Intergovernmental Panel on Climate Change (IPCC) released a report stating that human activities have increased the global average temperature by 1.1°C, exacerbating global warming trends and extreme weather events. With climate political constraints such as carbon neutrality, countries around the world must not only pay attention to current energy security and economic development issues, but also strive to achieve zero-carbon goals, requiring more economic and policy deployment.(**Li Boxi**).

Energy is "instrumentalized" and international energy governance is weakened. As countries around the world gradually enter the process of modernization, energy, mainly oil and natural gas, has become the basis for national security and economic development now and in the future. However, in today's era of globalization, in order to realize national strategic interests, some Western countries still use Cold War mentality and unilateralism to deal with international relations, excessively "politicize", "instrumentize" and "weaponize" energy, hindering the globalization of energy trade. , triggering a geopolitical crisis and seriously affecting the development of global energy transformation. At the same time, the international political and economic landscape is changing, nationalist trends are rising, global

energy governance mechanisms are fragmented and governance capabilities are insufficient, making it powerless to face the current energy security crisis. Under the turbulent trend of energy security order, the binding force of climate politics will gradually weaken with economic development and social stability, causing some countries to encounter energy crises, destroying energy development rules, and even accelerating the global economic recession.(**Yang Yu.issue.03**).

The contradiction between supply and demand in the global energy market is increasing and prices fluctuate frequently. After the 1970s, world crude oil prices began to fluctuate violently, and gradually increased during the fluctuations. Affected by the European energy crisis, the new crown epidemic, etc., natural gas prices also fluctuate frequently. After the Ukraine crisis, the United States and the West stepped up sanctions on Russia's energy economy, causing it to withdraw from the European market, weakening its investment, export and production capabilities, and seriously damaging the world's energy supply. However, the space for the United States and Middle Eastern countries to increase oil and gas revenue is limited. The new round of Palestinian-Israeli conflicts has caused the relationship between Middle East and other countries to become colder with the United States. Negotiations between Saudi Arabia and Israel have been interrupted. The willingness to invest in oil and gas production is sluggish, and the world's energy shortage has intensified. But at the same time, the world's energy needs are increasing day by day. The global population has exceeded 8 billion, and economic growth and electrification demand continue to grow. The mismatch between supply and demand intensifies the energy market volatility, and future prices face many uncertainties, affecting global energy prices and supply and demand chains.(**Labandeira, Xavier.p.47**)

The global macroeconomic growth rate is declining and the energy development gap is widening. Geopolitical crises such as the Ukraine crisis have pushed up world energy prices. As global economic growth gradually slows down, the cost of energy importing countries will increase significantly. The increase in energy costs will be transmitted to many levels of the domestic economy and society, thereby increasing local prices and consumption. costs, driving regional conflict and inflation. Throughout 2022, fuel issues triggered more than 4,400 protests and riots in 103 countries and regions, nearly twice the number in 2021. Food issues caused 1,391 protests and riots in 90 countries and regions, an increase of nearly 50% from

2021. United Nations Secretary-General Antonio Guterres pointed out that in the past year, global fertilizer prices have increased by more than half, and energy prices have increased by more than two-thirds. Food harvests including rice and corn have been affected, and the impact has spread to Asia, Africa, and the Americas. Billions of people. At the same time, global climate political action will risk exacerbating inequality. Most developing countries have a large number of poor people. High energy prices and differences in transformation speeds have led to increased consumption costs, aggravated poverty and North-South development imbalances, and further deepened the energy development gap.(**Jin Canrong. Issue 12**) .

The game between major powers has become more complicated, and barriers to exchanges of energy technology have intensified. In the context of global power competition, international confrontation is intensifying. The Ukraine crisis has intensified geopolitical and military confrontations, and the recent Palestinian-Israeli conflict has continued to trigger turmoil in the Middle East. Interest alliances and regional confrontations have continued to strengthen, and there is a trend of further expansion.(**Yang Yu .issue.3**)

4. MEASURES AND SUGGESTIONS TO PROMOTE WORLD ENERGY TRANSFORMATION ,SECURITY AND DEVELOPMENT.

Changes in the international energy security situation are a complex process, affected by multiple factors. It is not only the result of the evolution of the international energy structure, especially the rapid development of clean energy, but also closely related to changes in the world's geopolitical landscape and the competition among major powers. Therefore, observing the international energy security situation requires both a comprehensive perspective and a dynamic view of security, avoiding linear thinking as much as possible, and viewing some short-term phenomena as long-term trends, thus amplifying most security risks.

First, the evolution of the connotation and extension of energy security is a gradual and complex process. In recent years, with changes in the international situation, especially the advancement of the global carbon neutrality goal, new energy security risks such as power security, energy network security and critical mineral security have become increasingly prominent. However, energy transformation is a long-term and gradual process, and the adjustment of the connotation and extension of energy security, which is mainly caused by changes in the energy structure, will also take a

long time. Especially at present and in the future, oil and gas are still the focus of international energy security.(**Xu Qinhua.issue 07**)

Second, promoting international energy trade and cooperation is still the choice of most countries. In recent years, under the tide of anti-globalization, international energy cooperation has shown trends such as "campization" and "fragmentation". However, the current international energy market has been deeply integrated. In the long run, globalization is still the general trend of the development of the world's energy pattern. Some countries' practices such as "de-globalization" and "decoupling and disconnection" are mainly due to considerations such as geopolitical games and competition between major powers. They may be responded to by some countries or people in the short term, but in the long run the resistance and costs will increase. big. "Decoupling" is a bargaining chip used by American and European politicians in international political games. It goes against the laws of economics and will eventually give way to economic laws. "Decoupling" of the energy economy will also lead to the "derailment" of its own development and the weakening of competitiveness.(**Chen Xiaoqin.p.12**)

Third, maintaining energy security requires focusing on the dynamic balance of development, security and environmental protection. Energy security is a dynamic concept. Different countries and a country face different main energy security risks and priority protection goals at different times. We should combine our own national conditions and development stage, coordinate the relationship between development and security, openness and security, and accelerate the construction of a high-level energy security system under open conditions. Adhere to systems thinking and comprehensive planning, consider the overall security of the energy system beyond individual energy types, and focus on the clean, low-carbon, safe and efficient energy system. It is necessary to adjust the energy strategy in a timely manner according to changes in domestic and international situations. It is necessary to maintain a dynamic balance among multiple goals such as energy security, environmental protection and economy, and to clarify strategic focus, priority goals and action strategies in the new era.(**M. Pehnt.p.71**)

4. CONCLUSION

The international environmental situation is changing rapidly, climate change is becoming more uncertain, and global energy development has entered a new

era. Faced with multiple risks to the ecological environment and economy and society, it is necessary for countries around the world to "return to rationality", strengthen technological innovation and collaborative cooperation, improve the energy supply and demand market, strengthen the energy governance system, strengthen governance capabilities to respond to emergencies, and promote the world's energy transformation.

First, promote technological innovation and drive accelerated energy transformation. Faced with ensuring energy security and achieving climate stability goals, countries around the world urgently need to accelerate energy transformation, and technological progress is the fundamental strategy. On the one hand, fossil energy is still the main component that ensures the energy security needs of various countries. Using technological progress to strengthen the comprehensive energy security system and improve comprehensive energy utilization efficiency is the key to reaching the peak of world energy consumption as soon as possible and reducing energy waste and carbon emissions. On the other hand, accelerating the development of renewable energy and developing energy storage, storage and other technologies will be the key to effectively leading the world's energy transformation and deep decarbonization in the future.

Second, Energy trade has become "camp-oriented" and security issues have been exposed in the global energy system, reshaping the world's energy pattern. In view of this, it is necessary to reiterate the urgency of climate change, promote diversified and stable international energy cooperation, implement the actions of various countries in institutional construction, finance and technology, deepen the connection of interests, and broaden cooperation channels. Create multi-level, regional and international cooperation and expand an open and win-win security pattern for international energy. It is necessary to establish mutually beneficial development cooperation relationships in the fields of energy and sustainability, improve multilateral cooperation mechanisms and international coordination mechanisms, study and judge specific issues of today's carbon emissions, ensure the participation and development rights of developing countries, and form long-term cooperation in energy mechanism. In addition, in the field of technological innovation, build a multidisciplinary industry-university-research interactive cooperation mechanism, aiming at future development and application of clean energy, low-carbon related

technologies, joint innovation, cultivating interdisciplinary talents, increasing the sharing of results, breaking technical barriers and restrictions, and persisting in cooperation. Advance together and jointly promote technological breakthroughs. In addition, it is necessary to strengthen world energy policy communication, facilities connectivity, unimpeded trade, promote infrastructure interconnection, promote resource sharing and complementation among countries, and create an innovative cooperation platform for global energy development.

Third, improve market mechanisms and improve energy supply relationships. Geographical conflicts, international competition, political turmoil and fluctuations in international energy resource prices have long-term impacts on the global energy market and pose potential risks to economic and social stability.

Fourth, there are some requirements for a governance system that maintains the stability of the world energy market and energy security. The first is to respond to global climate change, deepen international consensus, jointly promote ecological civilization and sustainable development strategies, actively promote energy transformation and development, strengthen dialogue and cooperation among countries, maintain the stability of the energy market, and promote green and healthy development on the basis of a community with a shared future for mankind. Development path transformation. The second is to promote the reform of energy governance systems and mechanisms, establish an international climate agreement implementation mechanism, clarify the responsibilities and obligations of all parties, integrate with international and domestic development routes, promote planning coordination, strengthen policy guarantees, implement action plans through common development, and dialogue. Negotiate to resolve energy conflicts and promote energy technology innovation through cooperation and innovation. Adhere to multilateral trade exchanges and build a community of interests at global and regional levels. The third is to firmly lead the energy development revolution, actively include emerging and developing countries, and build a more inclusive and fair new order of international energy governance.

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