EU Energy Transition Against the Russian-Ukrainian Conflict: Based on the Concerns of Chinese Academia

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Abstract. The outbreak of the Russian-Ukrainian conflict in 2022 has profoundly affected and reshaped the energy transition process established by the EU. For a long time, the EU has adopted a parallel policy of importing natural gas and developing renewable energy. However, the outbreak of the Russian-Ukrainian conflict has forced the EU to re-examine the energy transition, significantly raise awareness of energy security, lower the priority of addressing climate change goals, and seek diversified energy supply paths. In this context, the concerns of Chinese academia about the EU’s energy transition have shifted from economic issues to energy security and geopolitics, which guides references and cooperation for China’s energy transition.

Keywords: Russian-Ukrainian Conflict; European Union; Energy Transition; Geopolitics; Chinese Perspective.

1. Introduction
Since the last century, focusing on promoting the transformation of renewable energy, the EU has boosted the development of green energy while phasing out traditional fossil energy, so as to maintain energy security, reduce the impact of changes in external energy supply on the economy, and respond to global climate change. Considering the high cost of initial investment and renewable energy development as well as the low price of imported natural gas from Russia, the EU has not completely cut off the energy supply from Russia and other countries. Various factors have formed the dual fact that the EU not only promotes energy transition, but also faces external dependence.

The intervention of geopolitical factors has fully exposed the problems caused by the EU’s dependence on foreign energy, which also made its mentality of energy transition more complicated. Europe has long been at risk of energy dependence. The high dependence on Russian natural gas makes geopolitical risks affect the stability of the energy supply. After the outbreak of the Russian-Ukrainian conflict in 2022, the EU has launched 13 rounds of sanctions against Russia, including an energy embargo against Russia. In March of the same year, the European Commission proposed the plan of REPower EU, planning to get rid of dependence on Russian fossil fuels by 2030, which raised the energy transition to a new height. Although Europe has reduced its dependence on Russian energy and other raw materials, due to the asymmetry of energy relations between Europe and Russia, after losing Russia’s relatively cheap and stable energy supply, Europe’s economy has been severely harmed, which in turn triggered a series of chain reactions in the politics. Given that energy independence has not yet been fully realized, the EU has to find other energy supplies again, importing a large amount of expensive natural gas resources from the United States, the Middle East and Australia, which formed a new path of dependence.

Based on actual needs, international relations and the responsibilities of major powers, Chinese scholars pay attention to the development of the EU’s existing energy transition under the geopolitical crisis. Studying the experience of the EU energy transition will help China formulate a more robust energy security strategy and steadily promote the green energy transition. As the two economies worldwide, China and Europe are expected to further cooperate in the field of energy in the future, improve global energy governance, and achieve sustainable energy development.
The EU has always attached great importance to the energy transition. On the one hand, the EU has long had a low energy self-sufficiency rate and a high dependence on external energy supply, which has led to the EU facing high energy security risks in the case of geopolitical instability. According to statistics, natural gas supply from Russia accounts for about 40% of the EU’s overall demand. By 2030, the EU dependence on natural gas imports will grow to 80%. On the other hand, the EU is committed to addressing climate change and environmental protection, which results in promoting green energy transition and developing renewable energy. Hence, the energy transition is driven by multiple issues such as climate change, energy security, environmental protection, and technological industry innovation.

EU-Russia energy relations have a profound impact on the EU energy transition. From the 1960s to the 1990s, EU-Russia energy cooperation was in the “honeymoon period”. Some Western European countries took the lead in conducting energy cooperation with the Soviet Union based on economic demand, which was also regarded as a means to ease tense political relations. After the collapse of the Soviet Union, the two sides signed a series of long-term energy supply contracts, and Russia became a major supplier of natural gas and oil to Europe. At the beginning of the 21st century, the natural gas dispute between Russia and Ukraine led to Russia’s three interruptions of natural gas to Europe. On the one hand, the EU reassessed its energy security policy and sought to diversify its energy supply. On the other hand, it focused on promoting the transformation of renewable energy. The EU issued the EU Energy Security and Solidarity Action Plan in 2008, proposing some measures to “strengthen energy infrastructure construction and supply diversification, develop common foreign energy policies, improve oil and gas inventories and crisis response mechanisms, improve energy efficiency, and fully use local renewable energy”. In 2009, the EU introduced a natural gas market reform plan, which laid more emphasis on improving the security and resilience of the natural gas pipeline network system. After the Ukraine crisis in 2014, the EU issued the European Energy Security Strategy, which paid more attention to the ability to deal with market shocks and supply disruptions than before. As a result, the EU’s goal of energy transition that takes into account the three aspects including security, competitiveness and sustainability has begun to take shape.

On the whole, the EU energy transition is intertwined with its goal of addressing climate change, for which the EU basic policy framework was formed by the 2020 Climate and Energy Package Deal issued by the EU in 2008, marking the expansion of climate issues to the energy. Although the goal of addressing global climate change runs through the EU energy transition agenda, as geopolitical risks rise, considerations of climate and environmental issues are marginalized. Before the Russian-Ukrainian conflict, the EU energy transition featured a two-pronged strategy. On the one hand, the EU continued to import cheap Russian natural gas. On the other hand, the EU increased technology and capital investment, and introduced preferential policies to subsidize the development of the new energy industry. The 2030 Climate and Energy Framework issued by the EU in 2008 highlights the policy orientation aimed at achieving climate change. Nonetheless, in the communication document of the 2030 Climate and Energy Framework, the EU reflects to a certain extent that competitiveness and energy security are prioritized. Policy adjustments to climate change goals, the “climate-energy” strategy is shifting to the “energy-climate” strategy. When the new European Commission took office in 2019, it released the European Green Deal putting the response to climate change and energy transition in the first place, which proposed the goal of carbon neutrality in 2050 and accelerated the pace of the Green New Deal.

By analyzing the motivation for the EU energy transition, it is found that the EU energy transition is profoundly affected by geopolitical factors and continues to advance independently of the impact of geopolitical conflicts on climate issues. Up against the importance attached to non-traditional security, the EU has taken the lead in formulating guidelines to gain a first-mover advantage in addressing climate change and enhance its voice in climate governance. In addition, Russian intervention in geopolitical factors such as the EU’s three natural gas supply cuts has been a “catalyst” for the EU energy transition. The gradual transition policy of reducing energy imports while developing
renewable alternative energy sources no longer adapts to the status quo. The EU needs to find new solutions to avoid extraterritorial geopolitical risks and solve security problems triggered by energy independence.

3. Energy Crisis Triggered by the Russian-Ukrainian Conflict and Its Impact on EU

The conflict between Russia and Ukraine has led to an energy embargo imposed by the United States and the West on Russia, triggering a serious energy crisis in the EU, which is manifested in soaring energy prices, setbacks in the economy and industry, and intensified social instability. These factors have accelerated the pace of the EU energy transition.

Theoretically, an energy geopolitical crisis usually refers to the occupation, use, control, and transaction of energy as a strategic resource in international politics caused by geographical distribution and factors closely related to geography and the relationship between different international actors. Besides, it also means strategic and tactical issues involving major international politics and international relations. Daniel Yergin, president of Cambridge Energy Research, proposed that “the close relationship between oil and geopolitics is unmatched by any other raw material”. In fact, fossil energy represented by oil and natural gas has become a tool for geopolitical games. After the outbreak of the Russian-Ukrainian conflict, the interaction between the two major political entities of Europe and Russia highlights the trend of energy geopolitical politicization. In this context, European Commission President Ursula von der Leyen positioned the European Commission as a “geopolitical committee” to promote the EU’s new strategic adjustments on energy issues. In February 2022, the energy crisis triggered by the escalation of the Russian-Ukrainian conflict further strengthened the EU’s determination to reduce its energy dependence on Russia, which increased the significance of geopolitical factors in the energy transition agenda.

At the beginning of the conflict, EU countries announced the suspension of Russian energy imports and imposed sanctions on Russia at the cost of their own energy security. The energy crisis caused by this action had a huge impact on both the EU and Russia in the short term. On the one hand, Russia’s economy has been impacted by sanctions. According to EU statistics, the import ban covers 90% of Russian oil exports to the EU and 1/4 of its total coal exports, causing Russia an annual loss of about 8 billion euros. However, Russian countermeasures have shown great resilience, with the effect of sanctions far lower than Western expectations. On the other hand, the EU had to bear the economic and political costs brought about by sanctions, which triggered the energy crisis in Europe.

Economically, energy shortages have led to soaring energy prices in the EU. It is difficult for the public to afford high gas and electricity prices. Some energy-intensive enterprises have to reduce production or even shut down, triggering a wave of de-industrialization of manufacturing in Europe. Nearly half of the European aluminum and copper smelting capacity has been shut down, with paper-making, textile, chemical and other industries facing the threat of a shutdown and business closure. According to the Confederation of Italian Industry, “energy prices and supply difficulties may paralyze the industrial system”. Meanwhile, energy prices have become the most direct factor driving up the EU inflation rate. Since 2022, the inflation rate in the euro zone has repeatedly set new historical peaks. In September, the energy inflation rate reached 40.8%. In the face of high inflation, the willingness of European companies and residents to engage in economic activities has decreased. In September, the Eurozone Purchasing Managers Index (46.1) hit the lowest since 1998. Internationale Nederlanden Group expected the euro zone economy to decline by 0.6% in 2023, which may even push the EU into recession again. Studies have shown that soaring energy prices will cause Germany to suffer economic losses of 260 billion euros by 2030. At the same time, the disruption of the energy supply chain has further exacerbated the market instability. The downward pressure on the economy has increased and the recovery prospects are vague. The European Commission issued a forecast in May 2022, lowering the economic growth forecast of the euro zone in 2022 from 4% at the beginning of the year to 2.7%. Soaring energy prices have put European public energy companies at risk of huge losses, which may lead to large-scale defaults or bankruptcy of
related companies. Mika Lintilä, the Finnish Economy Minister, believed that the European energy sector may encounter a “Lehman moment”. Financial markets are generally pessimistic about the European economy. The exchange rate of the euro against the US dollar has fallen by 14.74% since 2022, falling below parity to 1:0.973, a new low since 2002. A weaker euro exchange rate will further lead to higher inflation and energy import costs, which will form a vicious circle with the downward trend of the economy.

Politically, the energy transition is intertwined with the EU security concerns with more apparent “political spillover” of energy. The EU sandwiched between NATO and Russia should bear the political cost of “energy weaponization” facing the energy geopolitical crises. The main manifestations are as follows. Firstly, transferring the manufacturing caused by high electricity prices impacts the poor groups within the EU, and the resulting wave of unemployment will make this group support right-wing parties, exacerbating political polarization and instability. Secondly, different resource endowments of various countries lead to different dependence on Russian energy, and the limits that EU countries can bear after the suspension of energy relations with Russia vary, which makes it difficult to unify their attitudes towards Russia and increases the differences among EU member states. Thirdly, the EU energy break from Russia means that the energy sector will increase its dependence on the United States, making it more difficult to pursue “strategic autonomy” and an independent foreign policy. In addition, although various energy demands have expanded the differences within the EU to a certain extent, EU member states have unanimously imposed sanctions on Russia against the “political correctness” of anti-Russia and support for Ukraine. The EU has set aside a buffer period of 6-8 months for importing Russian crude oil and petroleum products, which intends to leave more room for member states that rely on Russian oil imports.

In addition to economic sanctions, the EU has adopted internal institutional changes to speed up the energy transition and completely get rid of its dependence on Russian energy. Under the crisis, the EU responds to the challenges of energy geopolitics and constantly explores new paths to achieve a win-win energy transition and geopolitical stability. The European Commission took advantage to propose the plan of REPower EU, which aims to provide Europe with affordable, safe and sustainable energy, striving to balance the three strategic goals of security, competitiveness and sustainability. On May 25, 2022, the European Commission announced the establishment of the EU Energy Platform Task Force, which is responsible for discussing new alternative sources of energy supply on behalf of the EU externally, and coordinating energy needs among member states internally. In the natural gas conservation plan announced by the European Commission in July of the same year, the EU proposed that “it is necessary to temporarily replace natural gas with more carbon-intensive energy sources such as diesel and coal.” Compared with the previous proposition of eliminating coal and reducing the use of fossil energy, this decision can better highlight the strategic proposition of ensuring energy supply security under the energy geopolitical crisis.

4. Chinese Academia's Concerns About the EU’s Energy Transition Under the Influence of the Russian-Ukrainian Conflict

Chinese scholars have expressed great concern about the EU energy transition under the Russian-Ukrainian conflict for three reasons. Firstly, based on domestic actual needs, as the world’s largest energy consumer, how to effectively guarantee national energy security has always been the key to Chinese energy development. Although the energy self-sufficiency rate has always been relatively high, China still has 20% of the energy gap that needs to be made up through imports with the dependence on foreign energy showing an increasing trend. Secondly, in terms of international relations, the Russian-Ukrainian conflict is not only a regional military and political confrontation, but also has caused major changes in the global energy landscape, involving a wider range of geopolitical relations and major power entities including Russia, the United States, the West, and China. As for China, how to weigh the stakes and conduct energy strategic deployment in this complex international environment is crucial. Finally, from the perspective of international responsibility, as one of the permanent members of the United Nations Security Council, China has
been playing a vital role in global climate governance actions, proposing “dual carbon targets”, and continuously increasing the proportion of green energy in the energy structure to achieve the energy transition.

In Western academia, some scholars believe that in the process of energy transition, there is an embedded causal relationship between the political, economic and technical aspects, and economic and technical factors play a leading role. Some scholars hold that a country’s energy transition is not the development and strengthening of the political, economic and technological interlocking structure dominated by economic and technological factors. In their view, the promotion and R&D of clean energy require a lot of cost investment. Considering economies will not participate in the energy transition, so the government needs to dominate this process. Meanwhile, a small number of scholars attribute the motivation of energy transition to environmental governance and means of addressing climate change, trying to reveal the trend and characteristics of the EU’s use of the extraterritorial effects of unilateral legislation to achieve its green transition goals. Compared with foreign scholars who focus on the economic and technological drivers of energy transition and their policy background, Chinese scholars generally agree with the leading role of political entities in the transition. Different concerns have been given to the importance of geopolitical factors. Such different concerns from Chinese and Western scholars when studying the EU energy transition reflect the diversity in national interests and strategic needs, political systems and policies, and economic development of their respective countries.

Before the outbreak of the Russian-Ukrainian conflict, the research on the EU energy transition in Chinese academia indicates the following three concerns. Firstly, there is research on the integration of EU energy policies, internal energy markets, energy security, and energy diplomacy, mainly focusing on the impact of energy on the EU industrial development from the economic aspect. Secondly, some research further explores the EU foreign energy strategy on this basis and focuses on the energy relationship between Europe and Russia, reflecting the geopolitical shift of focus. Chinese academia believes that before the outbreak of the Russian-Ukrainian conflict, although occasional geopolitical conflicts affected the security of the EU energy supply to a certain extent, from the perspective of the strategic framework, the factor of geopolitical conflicts did not fundamentally shake the EU energy supply pattern, while laying more emphasis on the energy policy itself. Thirdly, climate policy is brought into the energy transition discussions. It is believed that the EU energy transition not only reflects its sense of crisis caused by its dependence on overseas energy imports but also proves that the EU hopes to have responsibility and international influence on climate issues.

After the outbreak of the Russian-Ukrainian conflict, Chinese scholars’ concerns about the EU energy transition have undergone major changes. The issue of energy security has been placed at the priority of the list. Chinese academia generally believes that the Russian-Ukrainian conflict has brought an unprecedentedly serious energy crisis to Europe. In this crisis, the trend of politicization and weaponization of energy has been increasingly obvious. First of all, geopolitical factors have exacerbated the uncertainty of EU energy imports, forcing the EU to re-examine its foreign energy policy and realize that excessive dependence on the Russian energy supply will fall into a passive situation. Some studies have found that in the overall energy framework of the EU, energy security has declined significantly, so the EU has begun to accelerate the diversification of energy supply channels and find alternative energy sources to reduce its dependence on Russia. According to scholars such as Xiao Lanlan and Yan Shuyang who hold a positive stance, the energy crisis can become an opportunity for the EU energy transition. The EU hopes to turn the deepening energy crisis after the Russian-Ukrainian conflict into a driving force for further promoting energy transformation and development, serving medium and long-term energy and climate policy goals such as “carbon neutrality” and corresponding industries, and ensuring energy security by increasing self-sufficiency. As the EU has shown a certain amount of energy resilience in the energy crisis, the crisis can still be resolved in the long run. However, Lian Bo et al. believed that although the EU has issued the REPower EU and a number of council regulations to balance the three strategic goals while
responding to the crisis. To make up for the energy supply gap in the short term, some member states have slowed down the coal withdrawal and restarted coal-fired power generation, which has slowed down the original “green transition”. Dong Yifan held that under the crisis, the EU’s willingness and ability to promote green transformation have encountered greater challenges. In the long run, the energy crisis will hinder the green transition.

By analyzing the energy security environment faced by the EU in different periods and the adopted energy security strategies, the Chinese academia hopes to anchor the direction of the Chinese energy transition by studying the integrity of the EU energy transition, and provide international experience for the formulation of Chinese energy security strategy. On the one hand, Chinese scholars have found that the EU energy transition policy is not only to address climate change and energy security challenges, but also to enhance economic competitiveness and technological innovation capabilities. In this regard, they suggested that China learn from the experience of the EU and achieve its energy transition by strengthening technological innovation, improving energy efficiency and accelerating green energy development. On the other hand, scholars emphasized the importance of China-EU international energy cooperation, believing that China and the EU have extensive cooperation space in the field of energy. It can strengthen cooperation in clean energy technology R&D, energy market opening, etc., and jointly promote the global energy governance system construction to achieve sustainable energy development.

5. Conclusion

Confronted with the rising geopolitical risks caused by the Russian-Ukrainian conflict and the fierce impact of energy security, the EU promotes the adjustment of energy security policies and accelerates the green energy transition, but there are problems such as ideological priority, overly radical policies, and ignoring the globalization of the energy market. To cope with the short-term energy shortage, the EU imports a large amount of high-priced natural gas from the United States, Australia and other countries, which can solve the energy supply shortage in the short term. However, Russia’s low energy prices, huge supply and perfect supply facilities still need cooperation in the long run. The energy transition is a long process and the key to determining whether the EU can achieve the promotion of internal integration and external strategic autonomy. Although the EU has indicated some resilience in dealing with the energy crisis, it has been greatly impacted economically and politically. In the future, it still needs to further strengthen the intensity and depth of energy transformation, so as to achieve energy self-sufficiency and fundamentally get rid of external energy dependence. In this context, Chinese academia should pay attention to the experience of the EU energy transition, focusing on how to achieve the Chinese energy transition and enhance energy autonomy and sustainable development capabilities by ensuring energy security and promoting green energy development. From the perspective of economic and trade cooperation, it provides development suggestions for China-EU cooperation in the field of energy, which promotes multilateral relations in a pragmatic, open and inclusive direction.

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