

Energy Politics and Security Concepts from Multidimensional Perspectives

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Abstract: *Even though the foregoing theories on international relations give different interpretations on this issue, they are actually interactional and overlapping. Also they seem to share more and more common features. With the acceleration of economic globalization since the end of the Cold War, nation states are increasingly interdependent in the energy sector while competition and coordination become the mainstream of international energy politics. Consequently all parties have put growing importance on international energy cooperation and its institutional construction. They believe that energy security should be achieved through international cooperation and coordination, for it is closely linked with sustainable development of economy and society as well as the external political and economic relations of nation states.*

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The two worldwide oil crises in the 1970s caused a sharp surge in global oil prices, leading to economic “stagflation” in the Western developed countries and recession in many economies across the

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world. The Western countries had to elevate the steady supply of oil to the prioritized level of national security. While the OECD countries established the International Energy Agency which is characterized by the collective energy security system and carried out energy consumer mechanism for international energy cooperation, the concept of "energy security" also started to appear in politics, economics, society and western academia.

Mason Willrich is a western scholar that made early analysis of energy issues from a political point of view. He put forward the concept of "energy security" in his book "Energy and world politics" published in 1975, and stated that energy security is the most important concern in international energy politics, in that energy is crucial for both industrialized and developing countries, while there is a huge inequality in the allocation, technology and capital of energy resources among nations and there is also a lack of a centralized body capable of allocating resources in the international political structure." (Willrich, 1975: 65) In the same year, the Swedish scholar Bo Heinebäck pointed out in a special report *Oil and Security*, "Oil is a very important resource for a country's economic and military security. A shortage of oil constitutes a huge potential threat for domestic and international security naturally ... Although the present 'oil crisis' has passed in several months, the seriousness of the energy problem is still there. The consequences of this 'crisis' have brought to light the pending need to research more into the role played by energy in this complex world, as well as the impact of oil on economies, trade and international diplomacy. The vast majority of countries rely on imports of such vital resources to maintain their economic, social and military security. In the future, the oil problem will become more of a priority in each country's foreign and defense policies. In other words, to make decisions on national security and strategic security,

much more needs to be considered regarding the following few points: not only should the potential domestic energy supply be taken into account, but the location of the foreign sources of energy supply as well as the access to the supply should also be considered.” (Heinebäck, 1976: 10). Bo Heinebäck has clearly pointed out the great significance of the “energy security” and basic direction of related researches.

Since then, the endless stream of writings on energy issues has emerged in the international academic community, but the concept of “energy security” was not unified, because “the explanation of energy security changes according to the constantly changing content of energy security with the changing times” (Bohi, D. & Toman, M., 1996: 2-3). At the same time, the perspectives from which the scholars from different parties study, assess and advocate energy politics and energy security concepts differ from one another. Therefore, a variety of energy politics and energy security concepts are formed under the multidimensional theory of international relations today, which can be broadly divided into different genres of theories on energy politics and security using analytic tools such as geopolitics, interdependence theory, neo-security theory and energy diplomacy. However, there are overlapping and reciprocal effects between the views of different theoretical schools.

I. The Perspective of Energy Geopolitics

In the study of the energy politics and energy security in contemporary international academia, many scholars focus on the geopolitical perspective, see geopolitics as a theoretical tool and analyze the energy politics and energy security to try to form geopolitics-based energy geopolitics. The scarcity and uneven

distribution of energy has given energy issues their geopolitical attributes. "Oil economy has a global nature. It is required to achieve inter-regional balance, so it must have a special geo-strategic theory." "The geo-strategic theory is based on the fatal characteristics and uneven distribution of the oil resources" (Berreby, 1980: 26, 14). Cooperation, competition, conflicts and even wars between different countries and regions in the issues of energy production and consumption will naturally occur. Therefore, geopolitics has become one of the important theoretical bases for governments and major oil companies to develop their energy policies.

An early representative who studied energy geopolitics is Melvin A. Conant from America. He is one of the Western scholars that made the systematic study of energy issues from a geopolitical perspective at an early stage. He cooperated with Fern Gold in 1978 to analyze the world energy situation and the political impact and published *The Geopolitics of Energy*, which is considered to be the fundamental literature on energy geopolitical studies. The two scholars pointed out that, "Access to raw materials, especially access to energy is a top priority of international political relations. The ability to obtain these essential commodities is no longer subject to the traditional colonial relations or military protection, but depends on geographical factors and the political decision-making of governments on the basis of different political conditions. The country having control over the resources will control those who rely on the resources, which will lead to a profound transformation of international relations" (Conant, M., & Gold, F., 1978: 3).

We must see that the influence of geographical factors on energy security is not static. On the contrary, it changes with the passage of time, the advances in technology, the shifting demand for raw materials, the changes in domestic and international political goals, as

well as the changing judging standards of the legality of the means to the pursuit of political goals. At the same time, the importance of geographical factors will also vary due to the evolution of the international system itself. The international environment changes like the emergence of new international actors and the decentralization and interdependence of power, will lead to the changes in geopolitics and the means by which one obtains energy. In addition to the geographic location of the energy resource endowments, energy exploration, development, transportation, refining, markets, and its related technology research, economic growth, the resource needs and the sustainability of specific economic systems as well as other factors concerning energy supply and demand are also studied in energy geopolitics.

After World War II, the general picture of the world's energy geopolitics is as follows. The development of petroleum resources was centered in the Middle East. The transport and refining of oil and consumer markets are controlled by the non-OPEC industrialized countries. The international oil industry was dominated by multinational oil companies of the United States, Britain and other Western countries. Conant and others pointed out that after the oil crisis of the seventies, the new element of the international oil situation is that "the exploitation of oil was concentrated in a small number of less developed countries. The urgent needs for oil of the industrialized countries and the lack of immediately available alternatives enhanced the self-confidence of these less-developed countries. The petroleum distribution location and the control over it have become the tool of the less developed countries to conduct the reform of or replacement of the international economic and political system dominated by the US and its allies. At the same time, the current challenge facing energy geopolitics is still how to meet the

world's energy needs when oil remains dominating and its location is limited to one geographical area" (Conant, M., & Gold, F., 1978: 137-138, 141). Conant and Gold studied the policies of energy producing and consuming countries and the prospects for the development of various forms of energy worldwide. And they proposed energy policy recommendations especially on how the United States could deal with short-term and long-term threats to supply as a big energy consumer. In addition, Conant also founded in 1979 a professional journal *Geopolitics of Energy* in the field of international energy research. In North America and Europe, there has been a lot of works on the geopolitics of energy published since the 1980s, such as the *The Geopolitics of Natural Gas* by Jeremy Russell.

Energy geopolitics theory has had a significant impact on the Western international political and strategic circles. Kissinger, Brzezinski, Huntington and other people have all made analysis of the energy policy of the United States from a geopolitical point of view. They all attach great importance to the control of the world's energy and insist that the US use energy geopolitics as its perspective to consider the world's geopolitical situation and determine the geopolitical strategy of the United States.

The geographical imbalance of the distribution, production and consumption of the world's oil and gas resources has caused the separation of the economic factors of oil, namely the separation of resources and consumption, capital and demand, science, technology and development, leading to increasing strategic competition in oil and the changes in the impact of the world's energy geo-political pattern. In the late 1980s, the World Energy geopolitical situation entered the era when OPEC confronted the non-OPEC nations. The region surrounding the Caspian Sea became the world's new oil and gas supply source after the Cold War, while oil and gas exploration

also became more active in the Maghreb region in North Africa and the coastal region of Guinea in West Africa. The rise of these emerging oil and gas resources in the region means that a larger oil resource belt has come into being with the Middle East at the core. John V. Mitchell, Peter Beck and Michael Grubb of the Royal Institute of International Affairs, timely captured this new change. In "The New Geopolitics of Energy" published in 1996, the new features, new development and new trends of the global energy geopolitical situation after the Cold War were discussed. They believe that the so-called energy geopolitics is "new" for the following reasons. First, the role of oil in the global energy mix has declined as well as the share of the Middle East in the world oil market. The oil market is becoming more and more open, competitive and transparent. Second, the end of the Cold War has lifted the major constraints on the free action of the United States in the Middle East and other regions of the world. As a result, it could now demonstrate its military forces in the Middle East to protect the region's oil supply. Third, the oil and gas resources of Russia and the other former Soviet countries are integrated into the world system, which will lead to the transformation of the international energy trade. Fourth, along with the development of technology and the power sectors, the importance of natural gas has increased. Fifth, Asia will become the main threat to "new energy geopolitics". Sixth, many developed countries have lost hope in the use of nuclear energy and become worried. Seventh, the political process to ease the global warming problem has been started. Eighth, energy supply or investments still risk crashing in the Middle East (Mitchell, J. & Beck, P. & Grubb, M., 1996: 2-3). Thus the new geopolitics of energy has been formed. It puts emphasis on liberalization and the non-interference principle of the market, and to a shift in the world's energy geopolitical center to Asia.

In 2000, the Center for Strategic and International Studies released a research report *The Geopolitics of Energy into the 21st Century*, which focuses on the analysis of the contemporary world's energy and geopolitical relations from the American perspective (CSIC Press, 2000: November). On one hand, the report analyzes the geopolitical trends that have an impact on today's world energy supply and demand. 1) The main energy-producing countries will continue to be in turmoil. In 2020, half of the oil demand will have to rely on those troubled countries. Prior to that year, one or more of the key energy-producing countries will be subject to the outbreak of the crisis at any time. 2) Economic globalization will result in new competition and political pressure for the world's major energy producers and consumers. It will contribute to the increase in the global energy supply and demand, leading to severe fluctuations in energy prices. 3) The NGOs (think u mean the private sector) that are skilled in the use of new information technologies will play an increasingly important role in establishing the energy production and consumption patterns. Terrorist organizations that have mastered new technology might cause severe damages to the increasingly complex energy infrastructures. And the militants may disrupt the infrastructures through space terrorist activities. On the other hand, the report also points out that a number of factors in the international energy pattern may also have an impact on today's world geopolitical situation. The wavering energy demand may influence the domestic situation and international status of the energy exporting countries. The recession that causes a sharp decline in global energy consumption, could cause instability in many large energy exporting countries. On the contrary, sustained economic growth coupled with rising demand for energy will allow exporters greater influence. The balance between energy supply and demand will help improve the relationship between

energy importing and exporting countries. If the situation in the energy-producing countries is volatile, there might be a sharp decline in energy supply. If the development of new reserves and the increase in production capacity can meet the growth in the demand for energy, it will be probable to maintain a balance between energy supply and demand, which will promote the steady development of the relationship between the energy producing and consuming countries in order to form a win-win situation. To establish an energy network and to realize the liberalization of trade could consolidate the basis of economic growth in Asia. The environmental problem has a constantly growing impact on energy-related decision-making of governments, manufacturers and consumers. It's more and more urgent to strengthen the international energy cooperation, to broaden its scope and connotation and to improve their corresponding mechanisms.

Recently, the key technical breakthrough of oil and gas exploration and exploitation, especially the broad use of shale oil, shale gas and oil sands and other unconventional energy production is believed to lead a potential energy revolution. According to the latest report of the *World Energy Outlook 2012* published by the International Energy Agency in Nov. 2012, the resurgence in oil and gas production in US driven by upstream technologies that are unlocking light tight oil and shale gas resource, is steadily changing the role of North America in global energy trade as well as reconstructing the global energy geopolitical map. By around 2020, the United States is projected to become the largest global oil producer by overtaking Saudi Arabia. With the continued fall in US oil imports, North America becomes a net oil exporter around 2030 (International Energy Agency). At the same time, the new technology also increases the proved reservation and production of oil and gas in South America

countries such as Venezuela, Brazil, Peru, Argentina and Bolivia (Guerrero, A.). Based on these new tendencies, it is supposed that the center of world energy production is gradually moving from the great Middle East to the West Hemisphere, while the center of world energy consumption is moving to the East because of the continued increase of the energy demand from China and India. This accelerates the switch in direction of international oil trade towards Asia, putting a focus on the security of the strategic routes that bring Middle East oil to Asian markets.

Clearly, the new geopolitics of energy is outstandingly innovative in that, in contrast to the old geopolitics of energy, it emphasizes more on building international cooperation and mechanisms in the field of energy.

II. Interdependence and International Energy Cooperation Mechanism Theory

Interdependence theory is based on the fact that linkages and influences between countries in world economics were significantly enhanced after World War II. In the 1970s, when interdependence theory prevailed, the global outbreak of the first oil crisis prompted Western countries to recognize the presence of “a less desirable but more symmetrical interdependence” (Conant, M., & Gold, F., 1978: 138) and interdependence theory became the main theoretical tool for the international academic community to understand the oil crisis and explore energy security, which also had a profound impact on international energy cooperation.

Mason Willrich believes that “the energy field is a typical example of the increasing interdependence in the postwar world economy ... in order to understand the issue of energy security we must proceed

from the reality of economic interdependence". The economic interdependence among the post-conflict countries is the result of the rapid economic recovery and long-term growth, which however, at the same time led to tensions between the general interests and the special national interests. Oil's role in stimulating economic growth and nurturing economic threat in manufacturing was highlighted. "All countries depending on foreign oil have come to realize from the oil embargo that their national economic lifeline is now in foreign control. And therefore interdependence in the oil fields has caused extensive and far-reaching economic insecurity in Western countries." (Willrich, 1975: 15-16, 181). The oil prices, production levels and the embargo in the energy pattern reflected the tense confrontations between general interests of the international community and the special interests of the state, as well as the economic mutual interdependence and national independence. Nonetheless, the international community lacks the institutional framework to reconcile these conflicts, and thus the energy crisis has become an institutional challenge.

In 1976 Nazli Choucri published a book "International Politics of Energy Interdependence" and made profound analysis of the interdependence in the international energy field. "The constraints put on the international behavior of all countries by the growing oil trading and the rising oil prices led to the worldwide interdependence." (Choucri, 1976: Preface). The asymmetric structure of the oil production has determined high oil prices, which in turn led to a series of economic and political consequences. And thus the constraints on national independence are enhanced in the field of international politics. The asymmetric energy trading provides a foundation to promote interdependence, forming the leverage of mutual interaction and constraints between importing and exporting

countries. In Western industrial countries, the economy is highly dependent on oil imports, while the economy of the oil-exporting countries also relies on the West to gain industrial products, advanced technologies and services. International oil cooperation is increasingly subject to the growing impact of OPEC and the direct investment of the oil-consuming countries. The oil can be used as weapons by OPEC, but also the potential tool of the Western countries to influence the politics of the oil-exporting countries. The interdependence makes the two sides recognize that there are common interests in maintaining the economic and military stability of the international society, thus forming the institutionalization basis for collective action. The political significance of the oil crisis of the seventies is that it enables the West to recognize for the first time that the requirements of the oil-exporting countries should be taken into account when solving global economic problems. "The establishment of the national energy agencies shows that international negotiation involving the less developed countries is moving forward, looking for international energy trading rules." (Choucri, 1976: 194).

The seventies and the eighties witnessed the worldwide oil crisis, the unstable status of the dollar, the rapid development of multinational companies, as well as increasingly severe global challenges including food, resources, environment, and climate. Especially in the world economy, interdependence among various countries and regions became more significant. The concept of globalism gradually had more impact on the traditional and emerging realist ideas. Therefore, among the contemporary Western international relations theories, neo-liberalism emerged.

The neo-liberal theorists such as Robert Keohane and Joseph Nye emphasize the importance of the international institutions for the international energy system construction from the development of

globalization and the interdependence theory of the international community. International institutions consist of the framework of international rules, norms and the international regime. They believe that the international institutions play a key role in international cooperation by regulating the acts of state. The state would achieve mutual trust to reduce their fear through cooperation and negotiations. The dilemma of national security could be solved and national security could be achieved by seeking cooperation between countries. In energy politics, especially on the issue of energy security, the international institutions can not only prevent the anarchy in the international energy relations, but can also be effective in promoting international cooperation in the interdependent world in the field of energy.

In *Understanding International Conflicts: An Introduction to Theory and History* Theory and History, Nye made incisive analysis of the key role of the interdependence factors in the oil crisis. He pointed out that, the interdependence had existed between the “Seven Sisters” of multinational oil companies and oil-producing countries for more than 20 years after the war. In the 1970s, the collapse of the international oil mechanism with the multinational oil companies as its center was because of the gradual disappearance of the bargaining power of the multinational oil companies with oil-producing countries. At the same time, the new multinational companies entering the world oil market also weakened the bargaining power of the “seven sisters”. This is a very important international background for the outbreak of the global oil crisis in the seventies. As the world’s major oil producing country and an important oil source for the US, Saudi Arabia, took a relatively cautious approach in the “petroleum struggle”, both because of its huge economic investment in the United States and the fact that the United States is the only country capable of

providing the Gulf with long-term security. Therefore, not only the oil, but also the use of force is a source of power. "Force played its role behind the scenes. There is an indirect connection between the security interdependence and oil interdependence" (Nye, 2005: 250-253). Nye further pointed out that the oil is still very important in the information age. The development of global economic interdependence network will not only result in a win-win situation, but also generate political issues. In the era of economic globalization, the role of oil as a source of power cannot be ignored in an interdependent world.

In his book *After Hegemony*, Keohane aptly analyzed the important effects of interdependence on the international cooperation in the field of the world's energy. He suggested that from the mid-sixties to 1983, the energy interdependence led to significant changes in the international petroleum mechanism. The oil producers began to play a role in the international crude oil market which was going through deepening integration. The old oil mechanism center with the international oil companies of the United States and Europe represented by the "seven sisters" as the core was destroyed, and the Western international oil capital lost control over the oil-producing countries. The Organization of Petroleum Exporting Countries pushed the international oil prices to soar in the seventies. In the oil embargo, the Western industrial countries took a short-sighted method in pursuit of their own interests. Hence the chaos appeared that countries strived to help themselves, while the official price of oil soared to three times higher. The anarchy in international energy relations did not change until the International Energy Agency was set up in 1974. "The old oil mechanism completely collapsed in the early seventies, the International Energy Agency-centric consumer petroleum mechanism became the 'model of cooperation after

hegemony'." (Keohane, 2006: 212). The most important task of the International Energy Agency is to develop the rules to improve the energy security of the member states through the establishment of emergency oil reserves. Its main role (although limited) is to coordinate the relationship between countries as well as between governments and the oil companies to reach agreements, and to reduce the cost of cooperation through the provision of relevant information and the organization of effective coalitions. The evolution of the system of international oil prices from 1979 to 1983, especially during the Gulf crisis and the Gulf War, helped the international community successfully tide over the global oil crisis, showing the important value of the international oil cooperation institutions represented by the International Energy Agency.

The research on the post-Cold War energy issues of the international academic community have been deeply influenced by Keohane and Nye. Many scholars see establishing energy cooperation institutions as a way out for the region's energy security. Robert Manning suggested in the analysis of energy issues in Asia that in energy security the concept of resource scarcity was misleading the energy policy making, because "the experience of the oil crisis of the seventies proved that the greatest threat to energy security is the collapse of the short-term energy supply, rather than the material means of energy supply." (Manning, 2000: 202). Therefore, rather than to see energy as a source of conflict, it is better to attach more importance to "energy's ability to promote integration and to create a broader range of shared interests and cooperation". Energy is of strategic significance for a country's economy and security. It requires a certain degree of mutual trust for a country and other countries to form energy interdependence by connecting energy pipelines etc. Asian countries have been carrying out energy dialogues under the

framework of the ASEAN Regional Forum and APEC. The functional multilateralism in the field of energy has been formed. The institutionalization efforts of energy cooperation based on the establishment of strategic oil reserves, the maintenance of the safety of sea lanes and the fight against pirates and other issues, embody the right direction of energy cooperation in Asia.

In recent years, the exploration of the paths of energy cooperation between the regions has been the focus of attention of the European and Asian scholars. Francoise Nicolas and other scholars indicate in the book *Asia-Europe Cooperation on Energy Security: An Overview of Options and Challenges* that, there is great resemblance in the field of energy in Asia and Europe. Both sides are highly dependent on the energy imports of the Middle East, and both are faced with the issue of energy security. At the same time, this has become the strategic factor that promotes the interdependence between Asia and Europe. The options of one side will affect the policy-making of the other. Asia can learn from the experience of Europe, such as the European strategic petroleum reserve mechanism, multinational energy agreement and others. The mutual interests of Asia and Europe in energy security have also provided them with the opportunity to lead the world governance in solving the energy problems. The fact that Europe and Japan were the main proponents and supporters of the Kyoto Protocol indicate that Asia and Europe should cooperate in the energy sector, and incorporate other players such as China, the United States and Russia into this cooperation process (Nicolas, F. & Godement, F., & Yakushiji, T., 2004). IEA cooperation mechanism, however, only includes the industrialized countries, the main concern of which is the short-term energy supply interruption. With the rise of Asia as a whole, particularly with China becoming one of the largest consumers in the energy market, it would be necessary to update the

existing cooperation mechanisms, for the stability of the global energy market cannot be maintained without China's participation and influence.

III. The Concept of Energy Security: From Traditional to Non-traditional

Towards the end of the Cold War, the energy security concept also experienced an evolution from the traditional concept of security to the non-traditional security concept. In the traditional theory of energy security, the premise is the assumption of anarchy in international politics, and the actors of security are nation states. And it believes that nation states mainly achieve energy security through self-service behaviors. Also, it emphasizes the distinction of energy security between the oil-importing countries and oil-exporting countries.

In *Energy and World Politics*, Mason Willrich laid the traditional analytical framework of energy security (Willrich, 1975: 36). In his view, the main actors in the world political system are the governments of the nation states. How useful a role an international organization can play in the international system depends on the domestic policies and capabilities of the governments of the member states of this organization. Also, how much autonomy a multinational company enjoys in the international system depends on the policies of its government. Hence the analysis of energy security should take national energy security as the logical starting point. And due to the lack of a supra-national government in the international community, national security is obtained through self-service behavior and power games. The self-service behavior of a country's pursuit of energy security will become another country's security threat. For the

oil-importing countries, to secure energy supplies is the primary concern in energy security. Specifically, the energy security of the oil-importing countries consists of three levels. First, in the narrow sense, energy security meant the guarantee of an adequate energy supply to maintain national production during the war. Second, in the broad sense, energy security is to guarantee adequate energy supply to ensure that the national economy is running at normal levels. Third, energy security also means that the energy supply is enough to keep the country's economy afloat in a politically acceptable form. For oil-exporting countries, energy security means, first and foremost, that the national sovereignty over the natural resources is preserved, without foreign military invasion to impose their control and external intervention to disturb the resource development. Second, it means to secure the needs, namely access to foreign markets. Third, it means to ensure the financial security of energy export earnings. Given that the energy is non-renewable, it's important to prevent energy export earnings from being squandered by the government or swallowed by inflation. Thus Mason Willrich suggested that energy security refers to the interactive relationship between the importing and exporting countries. Importing countries want to guarantee an adequate energy supply to ensure the country's economic growth, while the exporting countries seek markets and investment security. This is the basis of the bargaining between the two.

After the world's first oil crisis, the special report *Oil and Security* made by the Swedish scholar Bo Heinebäck of the Stockholm International Peace Research Institute, also summarized the systematic understanding of energy security, from the security implications caused by the development, distribution and use of oil. It's stressed in the report that: "for those who are responsible for planning the national security, to ensure that the country can obtain sufficient oil

supplies to support the defense, is the top priority". In the international context of the time, Bo Heinebäck focused on national and military security level to analyze the energy security issues. It is commendable that his understanding of energy security also involved energy-related economic security and ecological security. Daniel Yergin also pointed out that "the goal of energy security is to ensure an adequate and reliable supply of energy with a reasonable price and without harming the country's values and goals" (Heinebäck, 1976: 75). Energy security involves the normal operation of the national economy, adequate and reliable supply of fuel for the army, and the preservation of the vital interests of the country.

G. C. Thomas pointed out that energy security issues involve security in various fields, such as economy, politics, strategy and military. The so-called economic security is adequate national resources, especially the affordable access to goods and services in the world market. The political security is to maintain domestic stability. The strategic and military security refers to the military capability to notice and respond to threats (Thomas, 1990: 1-5). In his view, the oil crisis of the seventies all of the above three forms of security. Oil shortages and soaring oil prices caused widespread inflation and trapped the Western countries into economic crisis and political unrest. Weapon suppliers of industrialized countries competed to sell weapons to the Middle East countries in exchange for more Middle East oil, which threatened the military balance between the Islamic countries and Israel, resulting in a new round of the arms race. Meanwhile, the industrialized countries also chose to enhance their own military forces in order to protect the international energy sources and energy supply lines.

The Paul B. Stares summarized the above-mentioned theoretical points of view of the traditional energy security (Stares, 2000: 19). He

believes that traditional energy security focuses on the security threats caused by sudden interruption, disintegration and the price volatility from manipulations of the existing energy supply agreement. Accordingly, the potential security threats of political unrest, economic threat, military conflict and terrorist attacks are the most important concerns in the traditional energy security. These safety concerns include not only the source of the energy supply, but also the energy transport routes and means. To determine the level of energy security, to a large extent, is to assess a country's dependence on a particular type of energy, and whether it can achieve the energy within the territory or must rely on imports from abroad. If it has to rely on imports, then energy security would involve dependence on foreign energy, diversification of energy sources as well as the political unrest of the source. Therefore, in the traditional sense, energy security refers to a country's level of self-sufficiency and ability to deal with temporary or lasting energy supply disruptions without causing serious economic or military consequences.

The end of the Cold War and the profound changes of post-Cold War international relations showed the limitations of neo-realism and neo-liberalism in explaining and predicting international politics. The various non-mainstream schools came into being, and a "critical security research team" different from traditional security research camp in the field of international security studies. These scholars oppose the research orientation of the traditional security theory, question the state as the main referent of security research, shift the research focus from sovereign states to care for people, and suggest that safety is not only limited to the specific sovereign states, but also includes all the social relations of the people and all societies. David Baldwin put forward the concept of "multifaceted research into international security" and advocates a multifaceted, wide-ranged

integrated security research framework consisting of political security, economic security, military security, environmental security and social security as well as other components. Among the components, economic security is becoming increasingly outstanding. Thus he emphasizes that security is no longer unilateral, but “interdependent”, issues such as the environment, population, migration, drug trafficking, international terrorist activities and so on are included in the security research horizons (Baldwin, 1997). With respect to traditional security theory that considers the military security as the only form of security, these problems are collectively referred to as non-traditional security. Changes in the perspective and the expansion of the research agenda of security research have profoundly expanded the connotation and extension of energy security.

Paul B. Stares thinks that the non-traditional concept of energy security is most concerned about the influence the current energy policy has on human welfare and the planet's ecosystems. As the extension of the development of the “critical security studies”, Copenhagen school of security studies that uses the methodology of constructivism, also examines energy security in a broader perspective, including the consumption, scarcity and unbalanced allocation of energy resources, as well as the treatment for energy disasters and accidents (especially those associated with nuclear energy, oil transportation and petrochemical industries). The school is also concerned about the ecological security caused by energy issues, including climate change, loss of species diversity, deforestation, soil desertification and other forms of erosion, the loss of the ozone layer as well as various other forms of pollution.

The international energy security research authority Daniel Yergin also came up with a new understanding of energy security in the 21st century. He believes that to maintain energy security, the

country must comply with the “four principles: first, diversified supply channels; second, post-crisis recovery force; third, the stable operation of the overall market; forth, timely and correct supply and demand information. Yergin thinks that in the past few years two other decisive aspects of the expansion of the concept of energy security have been highlighted. First, we must recognize that the globalization of energy security, which requires the newly rising China and India to be taken into account. Second, the fact should be admitted that the entire energy supply chain, from initial production to sales, needs to be protected (Yergin, 2006: 69-82). As a result, we can see that he stresses the importance of securing the national energy security through cooperation between the countries. This international energy cooperation includes not only the cooperation between energy consumers, but also the cooperation between the energy suppliers and energy consumers. Obviously, in an increasingly interdependent world, energy security largely depends on how the state should deal with the relationship between the countries, and the international energy cooperation is an effective way to jump out of the field of the international energy “security dilemma”.

Analyzing the energy challenges faced by the countries of East Asia in a non-traditional energy security perspective, we would come to a different conclusion with traditional security theory. Paul Stares thinks that in the traditional energy security perspective, the insecurity East Asia faces in the field of energy first comes from continued growth of the East Asian countries’ Middle Eastern energy needs, which has enhanced the “political and economic leverage” of energy, and prevented East Asian countries from fully supporting the implementation of the policies of the West in the region, such as preventing nuclear proliferation and fighting against terrorism. Second, East Asia’s route to transport energy from the Gulf region,

especially offshore energy channel faces security threats. Observers believe that the United States will eventually give up the dominance of security in the Gulf region, to shrink its military presence in the sea, so as to leave a power vacuum in the region, which will cause the East Asian countries to compete for the control rights of energy transportation pipelines and sea lanes. Eventually, territorial disputes between the East Asian countries on energy development will become a major security threat caused by the conflict in the region.

However, from the perspective of non-traditional energy security, due to a wide range of economic, political and structural changes that have occurred in the global energy market, energy predicament facing East Asia forces all parties to cooperate in order to find a solution. Therefore the most worrying issue is not regional tensions caused by the energy predicament, but “East Asia’s growing energy consumption that leads to living and environmental costs in the region to rise further” (Stares, 2000: 19-22). Indeed, the non-traditional security threats the East Asian countries are now facing are increasingly focused on the following aspects. First, the number of tankers from the Gulf through the Strait of Malacca to the Western Pacific is constantly growing, resulting in serious marine pollutions. Second, nuclear waste, waste water treatment and the nuclear power plants generated by the nuclear power industry development have brought about safety issues. Third, growing energy consumption has caused acid rain pollution. Forth, greenhouse gases effects lead to long-term environmental disasters.

IV. The Perspective of Energy Diplomacy

Energy is a source of power, the foundation for mankind's survival and development, the “engine” of economic growth in the

modern industrial society, and irreplaceable strategic resources for international politics, national security and diplomatic game, which will undoubtedly consolidate its modern international extraordinary position in the political economy. Energy diplomacy, as a kind of economic diplomacy, has quite naturally become the center of gravity and the underlying theme of contemporary diplomacy. It is important for national energy security and even national global strategy to pursue the economic and political interests in the global energy resource allocation through energy diplomacy and provide a powerful guarantee for the country's economic development and international status. This is the core content of the national energy diplomacy for all countries. Accordingly, attention and discussion around energy diplomacy (including oil diplomacy, natural gas diplomacy, pipeline diplomacy), have also become a hot focus in the international energy politics, economy and security research field.

So far, the most famous authority on energy diplomacy theory is Russian scholar C. Z. Zhiznin, who is the top scholar of the Russian Government's energy policy and energy diplomacy, with rich experience in the theoretical study of the energy problems of the world and Russia. He has introduced three masterpieces of systematic analysis of energy diplomacy, namely *Fundamentals of Energy Diplomacy*^① (2003), *Energy Diplomacy of Russia* (2006), and *Energy Diplomacy: Russia and the World* (2007) laying the theoretical foundation of the Russian energy diplomacy. He then became a unique master of the contemporary world's energy politics theory research. Through the analysis of the international energy economy, he built a complete system of energy diplomacy theory. His research into the status and

^① C. Z. Zhiznin, *Fundamentals of Energy Diplomacy*, 2003, its Chinese edition was translated by Qiang Xiaoyun, Shi Yajun, Cheng Jian et al. with the new name *International Energy Politics and Diplomacy*, Shanghai: East China Normal University Press, 2005.

trends of world energy markets has revealed that there are two processes that have the largest impact on the world energy development. First, the large energy companies in the world energy market are increasingly competitive. Second, the mutual cooperation and regulatory activities in the energy field between countries are gradually strengthened. To avoid competitions of increasing destruction and chaos in the world energy market, and to secure the national, regional and global energy security, the international collaboration has been strengthened gradually in the energy field. Energy diplomacy comes to be the basis of this mutual collaboration. This is shown from the fact that since the energy crisis of the seventies, many countries have begun to develop a set of energy-related foreign political and foreign economic special measures, indicating the policy orientation of the foreign policy related to energy factors. The official diplomats participated in the implementation of these policies and measures, which then formed the external energy policy and energy diplomacy.

There are mainly two categories in the contemporary world's energy diplomacy, namely diplomacy for the purpose of energy and diplomacy by means of energy. Zhiznin analyzed that the official diplomacy is more and more involved in the realization of the international energy political tasks. In energy diplomatic practice, the interests of the countries in the international relations can be divided into foreign economic interests and foreign political interests. Accordingly, the countries' external energy policy and energy diplomacy contains two specific aspects: First, the purpose of the external political activities is to ensure the economic interests of the country in the field of energy development, transportation and consumption. Second, there are political motives in energy diplomacy, so as to achieve specific external political purposes through taking

advantage of energy factors. From systematically examining and exploring both the practice and theory in the energy diplomacy of the countries especially Russia, he came to the following conclusions.

1. The strengthening internationalization and globalization trends of the world energy and the increasing interdependence between the energy consumers and producers all relies upon further development and improvement of the world's energy politics and global multilateral energy diplomacy mechanism.

2. The basic tasks of the energy importing countries' energy diplomacy are to promote the diversification of energy imports, to ensure that the enterprises enter the raw material base overseas, to research and implement of integrated foreign political and economic measures to ensure the safety of long-term energy imports.

3. The common goal of exporting countries' energy diplomacy is to maintain the high prices of energy products in a reasonable range and to avoid price volatility. The external energy policy and energy diplomacy of these countries have an increasing influence on the world energy market situation as well as the world's energy politics.

4. The size of the world's energy trade in the 21st century will significantly expand. And the international transit transport issues will frequently appear in energy diplomacy practice. To lay the foundation for the relevant international law within bilateral and multilateral frameworks is the guarantee of the reliable operation of the energy international transit transport routes.

5. The position of multinational corporations has been improved significantly in the world energy economy after the Cold War. The game relations between multinational corporations are linked to multinational energy security, so to keep mutual cooperation between the major energy multinationals in the world energy market is of great significance. This mutual cooperation exists on the company energy

diplomacy level, and may also involve the participation of the Government's energy diplomacy.

Energy represented by oil and natural gas is the basic resources for the national socio-economic development resources. They are closely associated with international politics, diplomatic game and national security, and have become a key factor in the ever-changing international relations. Energy diplomacy that is interwoven with international energy politics and energy security has naturally attracted the attention of the international observers and the international politics scholars of other countries than Russia. However, its explanation is often linked to international relations, in the geopolitical strategies and policies. For instance, the American peace and world security expert Michael Claire reveals that contention of energy has become the main target of the international competition between the major powers of the world in the context of the increasing the scarcity of oil and gas and other energies and the world's growing demand for energy. In the contention, Governments play a commanding role, and have almost replaced the enterprises in fighting on the front line of energy diplomacy. To strengthen the international energy cooperation and to build a new international energy order is the only way to avoid the catastrophe of global conflict incurred by competing for energy (Klare, 2002). French oil expert Philippe Sebille-Lopez comprehensively outlined a series of energy diplomacy strategies and policies of the United States in the global competition for oil origins and the control over the transport routes through his insightful analysis of today's world oil geopolitics. What he mentioned includes all kinds of means of energy diplomacy like coercion, intimidation, inducements, reconciliation, compromise and alliances. Meanwhile, British scholar Nikolas Kozloff uses concrete examples to vividly portray how today's international man of the hour,

Venezuelan President Hugo Chavez fully utilized the rich oil resources to expand the South American oil diplomacy, especially that he used oil as a weapon to courageously challenge the United States in the global diplomatic game (Sebille-Lopez, 2008; Kozloff, N., & Chávez, H., 2007).

V. Conclusion

To sum up, the deepening of research into energy politics and energy security in particular in the international academic community was accompanied with the change of the international political and economic situation since the oil crisis in the 1970s. As the economic interdependence was strengthened after the 1970s especially after the Cold War, people have shifted the center of gravity of the issue of energy security from the military field to the field of national economic security. In the context of deepening globalization, the theme of today's international relations has gradually changed from "conflict and confrontation" to "dialogue and cooperation". Therefore, the international community has increasingly emphasized that energy security should be achieved through international cooperation and coordination and that the maintenance of energy security should be closely linked to the goal of sustainable economic and social development, as well as the country's foreign political and economic relations. Accordingly, academics tend to commence comprehensive studies of energy issues from the political, economic, military, diplomatic, environmental and social dimensions.

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