

Energy Security and Energy Geopolitics

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Energy is an indispensable good for facilitating civilian life and economic/industrial operations. It is also a strategic good that could occasionally become a military good. In this sense, providing indispensable energy in necessary and sufficient volume at stable and affordable prices is the most fundamentally and primarily important among energy-related matters for all people, economic agents and states. This is the essence of energy security.

Over a long term from the beginning of human history, humans were basically self-sufficient in energy. When humans depended on their own and domestic animal labor with waterwheels or windmills for energy supply, energy self-sufficiency was natural. When industrial development led human life to consume massive energy, however, energy self-sufficiency became difficult to maintain. Transporting energy even at high cost from regions where energy could be produced massively at low cost allowed massive energy consumption in energy-short regions. Humans have thus transitioned to an economic system based on energy transportation. The transition has represented the history of energy development, resulting in international energy trade, which has led energy security to develop into an important international matter.

International energy trade has centered on oil. Oil as liquid energy has had an overwhelming economic advantage over other energy sources in terms of transportation since the development of very large crude carriers and other large tankers. This is the reason oil is still the largest internationally traded good and a key good supporting the global economy. Oil is thus subjected to large-scale international trade between oil producing and consuming countries. Following oil, natural gas and LNG have recently become a key internationally traded energy source. Growing demand for natural gas as a clean energy source has been combined with the improved economic efficiency of pipeline gas and LNG transportation to push up natural gas and LNG trade. Natural gas is expected to increase its presence in international energy trade as natural gas and LNG trade expands further.

International energy trade development has combined energy problems with international problems. Energy and international problems characteristically interact with each other. When energy problems' influence on international problems is considered, it is important that international economic conditions depend on energy problems. For example, crude oil price hikes bring about a massive income transfer in the form of oil payments from net oil importers such as Japan, the United States, Europe, China and India to net oil exporters like the Middle East and Russia. Regarding diplomacy, energy problems affect countries' political influence and diplomatic freedom, as seen in the two oil crises in the 1970s.

International problems' impact on energy problems include the global economy's impact

on the energy market, energy supply disruptions caused by wars or international conflicts, the effects of political embargoes or economic sanctions on energy supply, the influence of strategic decisions regarding international politics on energy sector investment as seen in pipeline politics, and the effects of international agreements like the Kyoto Protocol and the Paris Agreement on energy choices and investment. Given the present challenges facing the international energy market, it is easily understood that interactions between energy and international problems have been important historically and presently.

Interrelations between energy and international problems constitute the essence of energy geopolitics. Geopolitics is an academic discipline that has developed since the second half of the 19th century, being defined and viewed variously. Typically, geopolitics is defined as the combination of geography and politics or as the study concerning states as geographical organizations or spatial phenomena. On the other hand, each state has its own primary objectives such as survival and prosperity. The aspiration for those primary objectives is called the pursuit of national interests. State power consisting of military power, economic power, technological power and resources is required to realize national interests. Interrelations between states with such characteristics produce international politics or relations. Geopolitics thus represents a geographical analysis of international politics or relations. Then, energy geopolitics is designed to study interrelations between geopolitical analyses and energy problems.

As international energy trade has so far centered on oil, energy geopolitics has focused on oil-related problems. Oil-related geopolitical developments have become important matters of global interest, including the first oil crisis and the Arab oil embargo, the U.S.-led creation of the International Energy Agency to counter oil producing countries, the Iranian revolution and the second oil crisis, China's rise and growing presence in the international oil market, the United States' energy dominance amid the shale revolution, Russia's oil production even under Western economic sanctions and its joint oil production cut with the Organization of the Petroleum Exporting Countries attracting global attention. Recently, gas-related geopolitical developments have also attracted global attention, including Russia's suspension of natural gas supply to Ukraine and Europe, China's transformation into the world's largest gas importer (in terms of pipeline gas and LNG imports in combination) through rapid demand growth and the United States' potential development into a leading LNG exporter. Today's energy geopolitics has centered on relations between these major actors such as the United States, China, Russia and the Middle East, as discussed in my column "A Japanese Perspective on the International Energy Landscape (416)."

As far as oil, gas and LNG continue to account for most of global energy trade, energy geopolitics will continue to focus on oil, gas and LNG problems. Given that the electrification of energy supply and demand increases the importance of electricity in energy security and expands international electricity trade through the spread of wide-area grid networks, however, energy geopolitics factors regarding electricity problems may increase. Particularly, attention must be paid to cybersecurity problems that are attracting interest as a new risk factor for electricity supply security. From a wider point of view, problems regarding cutting-edge or innovative technologies will grow more important for future energy problems. If major countries in the world compete for technological supremacy, geography could be combined with technology into geo-technology regarding the geographical development and diffusion of cutting-edge or innovative energy technologies. We will have to watch how problems regarding energy security and energy geopolitics would develop in the world.

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