

Energy Security and Cybersecurity in New Situation

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Energy security is both an old and new issue. As far as energy is a key good indispensable for daily human activities, stable economic and industrial management, and military and strategic operations, energy security will remain important for every country, company and person. Energy security can be variously defined. Normally, it is defined as “securing the amount of energy required for stable life, economic and social management at reasonable prices.” More widely, energy security can be additionally defined as “maintaining the freedom of policy decisions to secure the required amount of energy and reasonable prices.” The additional definition is important because even if the required amount of energy is made available at appropriate prices, the loss of the freedom of policy decisions for the availability may not represent a situation in which energy security is protected.

Energy security has so far surfaced as a key international or national issue on various occasions. In some past events, large-scale energy supply disruptions caused substantial hikes in international energy prices or physical difficulties in securing energy, developing into problems shaking international politics and the world economy and forcing countries to give top priority to addressing energy problems. Typical examples include the first oil crisis triggered by the Arab oil embargo and the second oil crisis caused by the Iranian Islamic Revolution. In a recent event, a gas dispute between Russia and Ukraine triggered the disruption of Russian gas supply to Europe.

As these actual problems have been put deep into the memory of stakeholders, energy security problems have tended to be interpreted as involving supply disruptions in international energy markets and energy imports. The tendency has been strong for large net energy importers such as Japan. Therefore, measures to secure imported energy and address energy supply disruptions have been given priority among energy security measures. At present, the destabilization of the Middle East situation and relevant energy supply problems, including the Strait of Hormuz problem, are frequently attracting attention. As a matter of course, it is important to pay attention seriously to these kinds of energy security risks and challenges at present and in the future. Given the definition of energy security, however, risks regarding international markets and imported energy alone should not be viewed as energy security problems.

Rather, the Great East Japan Earthquake and the Fukushima nuclear power plant accident clarified that problems involving domestic energy supply system stability are grave energy security problems. A situation where grave problems arise in regard to oil, electricity, gas and other key energy infrastructure and supply systems would be critical for energy security. In this sense, the stability of international markets and energy imports must be secured along with the stability and resilience of energy supply systems for domestic markets.

At present, international energy markets face excessive supply and low prices. In energy importing countries, people may not feel any serious energy security threat. As a matter of course, we must take note of the possibility that the present low energy prices would discourage energy supply investment, lead to a tighter energy supply-demand balance and price hikes in the future or contribute to destabilizing oil producing countries. Even if there are excessive supply and low prices in international energy markets, however, any problem involving a domestic energy supply system may become an energy security problem. In this sense, Japan and other major countries have grown interested in the stable management of domestic energy supply systems and infrastructure (as well as international market stability).

In this respect, cybersecurity has recently and rapidly been seen as a significant risk factor for energy. Cybersecurity has so far focused on attacks on general networks and information technology systems and the relevant leakage of key personal, government and corporate data and information. However, cyberattacks have gradually been recognized as a threat to energy, water, transportation and other key social infrastructure, with discussions activated on energy and cybersecurity. Cyberattacks have actually posed a threat to energy supply systems in the world. In the most attention-attracting case, a control system of Iran's uranium enrichment facility was infected with malware in 2010, causing trouble with a centrifuge. In Canada, the United Kingdom, the United States, Turkey etc., cyberattacks occurred targeting electricity or oil facilities, disrupting energy supply.

In response, Western countries, including the United States, have begun to tackle the issue of cybersecurity and energy security. In view of the importance of stable electricity and other energy supply in the society and economy for national security, the Department of Energy has taken leadership in addressing cybersecurity related to energy in cooperation with information companies. In May 2015, a policy paper for a meeting of energy ministers from the Group of Seven industrial countries in Hamburg, Germany, clarified that it would be important to address cybersecurity as the United States and some others indicated strong interests in the issue. Later, the European Union enhanced efforts to tackle the cybersecurity issue. In January this year, the European Parliament's Internal Market and Consumer Protection Committee approved the Network and Information Security Directive including the enhancement of cybersecurity measures in the energy field.

This year, Japan will host an annual G-7 summit on May 26 and 27 after a meeting of G-7 energy ministers on May 1. The G-7 deals with important problems in the world and is expected to demonstrate leadership in addressing energy problems in consideration of new domestic and external market environments and situations. While there are many important energy-related viewpoints including the coexistence of low oil prices and the Middle East's destabilization, the growing importance of Asia, and Chinese economic risks and their impacts on energy markets, the G-7 is likely to pay attention to cybersecurity as a challenge to maintain the stability, soundness and resilience of key international and national energy infrastructure and systems. I would like Japan to lead specific and constructive discussions on these problems as the G-7 chair.

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