

Discussions in U.S. on Energy Security

Ken Koyama, PhD
Chief Economist, Managing Director
The Institute of Energy Economics, Japan

On June 7 and 8, I had an opportunity to make discussion on what can be the most serious energy security challenges and risks in the world, with energy experts and energy industry stakeholders in New York. The perceptions of the most serious challenges and risks have changed depending on political, economic and energy market conditions as time has gone by. The perceptions have had influence on the consideration and implementation of necessary energy security measures and strategies. In this sense, American experts' and industry stakeholders' perceptions were a great matter of interest to me at the discussions.

The most impressive point in the discussions was that American energy experts and industry stakeholders had great interests in stable electricity supply and cybersecurity while traditional risk factors based on geopolitical risks remained a great matter of concern to them. In the United States as well as other countries, the importance of electricity has increased further. Electricity plays a great role in civil life, industrial operations, economic management, and national stability and security, growing even more important.

New energy trends of concern to citizens include the electrification of vehicles, autonomous driving technology, the sharing economy, rapid renewable energy power diffusion, advancing battery technology, the diffusion of demand response and other demand-side technologies, the spread of artificial intelligence and Internet of things, and a Society 5.0 initiative for combining AI, IoT, robots and big data. They could make electricity even more important. Therefore, stable electricity supply is a vital issue. Any electricity supply disruption can become a big society-shaking problem. This is a background reason for great interests in electricity security of supply.

As for the important stable electricity supply, how to address structural problems such as the expansion of variable or intermittent solar photovoltaics and wind power generation and how to secure sufficient investment in a deregulated electricity market have become key challenges. At the same time, however, how to respond to accidental or sudden problems like large natural disaster and abnormal weather risks has also become a key challenge. Given that asymmetric warfare including terrorist attacks by non-state or irregular force actors has become a new serious threat to national security, we must consider cyberattacks' threat to stable electricity supply regarding energy and electricity security. This is an argument that attracted my attention in the discussions.

Although cyberattacks caused blackouts in Ukraine in 2015 and 2016, cyberattacks bringing about serious electricity supply disruptions or exerting grave impacts on civil life and the economy have never been seen in the major member countries of the Organization for Economic Cooperation and Development and other major countries. Given the abovementioned importance of electricity, however, we cannot ignore the electricity supply disruption problem. It is important to

scrutinize and enhance measures for stable electricity supply. Electricity supply disruptions could seriously damage social and economic infrastructure and cause grave problems, as indicated by the Fukushima nuclear power plant accident which was caused by power cut-off. In this sense, electricity supply disruptions are linked to national security beyond energy security, becoming a highly delicate or sensitive issue. Therefore, adequate responses and policies must be planned and implemented. An impressive argument in the discussions was that initiatives to address electricity supply disruptions should be enhanced with consideration given to the essential significance of the issue.

Meanwhile, the discussions focused on Middle Eastern and other geopolitical risks among traditional risk factors regarding energy security. Particularly, the Iranian situation and the Middle Eastern situation after the United States' announcement to withdraw from the Iran nuclear deal were the greatest matter of concern to participants in the discussions. They roughly agreed that the U.S. action has made the Middle Eastern situation even more confusing and increased uncertainties. This means that there are various possibilities and scenarios, heightening the unpredictability of the Middle Eastern situation.

For example, participants in the discussions were divided over a potential reduction in Iranian oil exports following the United States' resumption of economic sanctions on Iran. Some participants noted that any fall in Iranian oil exports would be fairly limited as European countries make maximum efforts to avoid the collapse of the nuclear deal and as China and India take delivery of Iranian crude oil due to their robust oil demand even while being conscious of the United States. However, others pointed out that Iranian crude oil exports would substantially decline as even China and India hesitate to take delivery of Iranian crude oil as U.S. financial sanctions seriously affect Chinese and Indian companies and as the Trump administration retains a hardline attitude against Iran.

Scenarios on the impact of the U.S. withdrawal from the Iran nuclear deal will vary, depending on the global oil demand trend, shale and other U.S. oil production, and the fate of the coordinated production cut by the Organization of the Petroleum Exporting Countries and non-OPEC oil producing countries at the next OPEC meeting. However, any sharp decline in Iranian crude oil exports could be coupled with a production decline in Venezuela to cause a global crude oil supply decrease, leading Saudi Arabia and some other oil producing countries to increase their oil production to avoid a tighter supply-demand balance and excessive higher prices. Such development may substantially reduce excess production capacity (supply cushion) in the world, making oil prices more sensitive to geopolitical risks and other unforeseen incidents. Therefore, oil prices could become more volatile, according to some participants in the discussions.

In a scenario for a sharp decline in Iranian crude oil exports, the present Iranian regime that has promoted the nuclear deal could come under fire and pressure, shaking the nuclear deal arrangements. If so, geopolitical risks involving Iran would grow, heightening oil price volatility further in the abovementioned market environment.

In the present context, we must fully consider Middle Eastern geopolitical risks as a traditional challenge to energy security. It is indispensable to analyze energy security risk factors, including the cyberattack issue and other new challenges as well as geopolitical risks, based on the latest situation.