

Market Mechanism and Energy Security

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On March 28 through 30, I had an opportunity to discuss energy issues with Australian government officials and experts in Melbourne, focusing on how Australia is facing the energy security issue and what Australia should do to address its energy security challenge.

Australia is one of the world's leading net energy exporters, boasting very rich energy resources and exporting coal, gas (liquefied natural gas) and uranium for nuclear power generation. Why does such a large energy exporter have great interests in energy security? One reason is that stable supply of energy as an indispensable good is a key challenge for energy-using economic operations and energy users or consumers living normal lives even in a net energy exporting country.

This point attracts attention at a time when some resource-rich countries are failing to cover domestic energy demand and turning into energy importers for various reasons. For example, a Middle Eastern country rich with natural gas resources has chosen to import LNG instead of developing domestic gas resources to cover a supply-demand imbalance attributable to too cheap domestic gas prices. Malaysia, known as a large LNG exporter, has begun to import LNG. Even in Australia, a leading LNG exporter rich with gas resources, an LNG export project in Queensland has affected domestic gas supply, leading to concern that a domestic gas price hike problem may grow more serious unless domestic gas supply is expanded. Irrespective of resources, any problem with oil, gas or electricity supply chains or infrastructure could become a threat to stable domestic energy supply. In this sense, it is not strange that energy security issues are attracting attentions even in resource-rich Australia.

In fact, however, another important point is that Australia is a net oil importer and is growing more dependent on oil imports. Australia's rate of dependence on oil imports rose from 4% in 2000 to 62% in 2015. While its dependence on the Middle East for crude oil imports is not so great, Australia depends heavily on petroleum product imports from South Korea, Singapore and other Asian countries that import crude oil primarily from the Middle East. Given such "indirect dependence" on the Middle East, Australia's overall dependence on the Middle East is not necessarily ignorable. Furthermore, Australia, a net oil importer and a member of the International Energy Agency, has yet to meet the IEA requirement to keep oil reserves equivalent to 90 days of net oil imports. In a sense, it may be sound for Australian policy planners to be conscious of energy security in such situation.

An interesting point to me in the discussions in Melbourne was that Australian government officials and experts indicated a stance that energy security, though being very important, should or can be left basically to market principles. This may mean that a fully functioning market may resolve energy security problems. Based on the stance, the government should refrain from intervening in the market even if energy prices spike due to some supply disruption. The basic philosophy may be that high prices can hold down demand and expand supply to bring about lower prices.

As for the concept of diversity to which many energy security experts give top priority, the Australian side interestingly indicated that diverse market participants including new entrants exist in a fully functioning market and act diversely to make diverse options available. Australia, as well as the United States and the United Kingdom, has a strong affinity for market principles and adopts an energy security policy based on the philosophy.

However, energy security (like environmental problems including climate change) is essentially the issue of how to address “externalities”. We may not be able to expect that market principles alone can resolve energy security problems. I think that policies or governments have great roles to play in addressing energy security. Market principles basically represent a world of winners and losers in which losers have no choice but to leave the market. In such world, the most efficient options (within a period of time to be determined by the market) could be frequently selected to cause concentration. This factor might have been behind the fact that Japan’s rate of dependence on oil for energy supply exceeded 70% in the first half of the 1970s. Also reflecting the factor is the fact that many coal power plant construction projects have been planned amid the electricity system reform in Japan. As for market competition, a great number of new entrants in the market may initially diversify the market before market players decline amid competition to lead a smaller number of players to occupy the market, as seen sporadically in the world.

Market principles and competition basically represent a process in which surpluses are efficiently eliminated from a system. As a result, surplus capacity may be reduced with inventories being optimized (minimized), leading to a cautious stance on uncertain long-term investment. This may be a desirable streamlining process. However, a buffer redundancy to deal with unpredictable fluctuations in the market could be lost, leading to the market’s destabilization. It may be needless to say that it is very important to effectively take advantage of market principles and have a fully functioning market in the energy world. However, how to address externalities including energy security is an old, new and important issue in the energy world. The discussions on energy security in Australia gave me an opportunity to reconsider the above critical, complex and current issue.

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