

Britain to Reform Electricity Market to Address Global Warming Issues and Enhance Energy Security

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In the British electricity market that is the most liberalized in the world and positioned as a model for a competitive market, interesting policy discussions are ongoing in regard to the future electricity market. Britain is now considering new systems to achieve two major goals -- promotion of low-carbon electricity sources and stabilization of electricity supply.

On May 22, the British government submitted to Parliament a bill to reform the electricity market, triggering parliamentary debate over the reform. The bill covers a wide range of measures including (1) a long-term fixed feed-in tariff system with a “contract for difference” system to cover the gap between electricity market prices and the feed-in tariff to promote low-carbon electricity sources such as solar, wind power and other renewable energy power plants, nuclear reactors and fossil fuel plants with carbon capture and storage (CCS) facilities, (2) the capacity market system to provide incentives for the possession of electricity generation sources (generation capacity) and demand-side measures to secure stable electricity supply, (3) a carbon floor price in greenhouse gas emissions trading to promote investment in low-carbon electricity generation sources, and (4) the emission performance standard (EPS) set at 450 gCO₂/kWh to discourage the construction of new coal thermal power plants without CCS facilities.

The submission of the bill followed various efforts. In July 2011, the government published the “Electricity Market Reform White Paper 2011” covering major points of the bill. In December 2011, the government issued the “Technical Update” as a detailed follow-up on the White Paper. Thus, the electricity market reform bill submission came after discussions within the government, the summary of which was published in the above-mentioned policy papers. What were the background and purposes of this reform?

Britain initiated electricity market deregulation in the 1980s in a manner to lead the world, “un-bundling” and privatizing its state-run utility industry. The industry was later realigned through new entries and mergers and acquisitions. While efforts were made to promote competition and improve business efficiency, there were various developments including electricity suppliers' horizontal and vertical integration. Under such industry/market environment, how to develop electricity generation sources to enhance climate change/global warming measures and electricity/energy security has surfaced as a key challenge regarding future electricity supply and demand.

Existing power plants have been aging under the competitive market environment in Britain. The above White Paper indicated that power plants accounting for a quarter of Britain's total power generation capacity may be decommissioned within 10 years, while electricity demand may double by 2050. New power generation capacity amounting to 20 large power plants may have to be built with relevant electric grids enhanced, costing 110 billion pounds in 10 years, according to the White Paper.

Not only is a power generation capacity expansion required. Low-carbon electricity generation sources may also have to be introduced more and more to allow Britain to reduce GHG emissions in 2020 by 34% from 1990 and those in 2050 by 80% as planned by the government. In a bid to hold down any increase in electricity supply costs and secure stable supply, the government gives priority to a balanced electricity generation source portfolio regarding low-carbon sources. It also acknowledges that the challenge to secure sufficient reserve electricity supply capacity should be addressed appropriately. Such challenge usually surfaces under a competitive market.

The bill covers the four abovementioned measures, calling for the electricity market reform to achieve both global warming measures and energy security in Britain. From now on, discussions on the reform will make progress mainly at Parliament. Specifics of measures or systems cited in the bill will depend on future discussions. Various discussions among government officials, industry people and experts, as well as the specifics, are expected to attract great attention.

Discussions on how the market reform should be understood or interpreted, as well as those on the specifics, are interesting. Apparently, there are two views on the market reform. One is that the market reform including the measures cited in the bill is designed to enhance the British electricity market. Another is that the reform is designed to recognize and thoroughly address the limitations of the present market. While the effectiveness of the market mechanism and competition principles is interpreted as given or granted, some policy intervention (strong intervention in some sense) is required to achieve the policy goals of global warming prevention and energy security. The problem is how to balance the market mechanism and competition principles with the policy intervention. The electricity market reform indicates that the market mechanism and competition principles cannot ensure global warming prevention or energy security and that some policy or regulatory intervention is indispensable for ensuring the goals.

During my stay studying in Britain in the mid-1990s, I frequently questioned British experts on the characteristics of British energy policy. I was then strongly impressed with some experts' view that competition policy clearly existed in Britain while there was no strict energy policy. In this sense, we may interpret the proposed electricity market reform as indicating that Britain has become more conscious of energy and environment policy.

Discussions on the relationship between the market mechanism and policy intervention are seen in all economic or social areas. How we should view the utility and limitations of the market mechanism regarding energy is both an old and new problem. For Japan that is urgently required to

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thoroughly reform its energy policy and electricity market, energy policy discussions in the world including Britain provide precious opportunities to learn meaningful lessons. It is very important for Japan to take full advantage of those lessons.

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