Special Bulletin

A Japanese Perspective on the International Energy Landscape (463) January 17, 2020

Outlook for Asian Energy Market and Its Challenges

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

In Tokyo this week, I had an opportunity to discuss an outlook and challenges for the Asian energy market with experts from various countries. At a time when Asia is growing more important with the gravity center of the international energy market shifting to the region, I would like to summarize Asian energy challenges anew based on the discussions.

Energy demand has been expanding in Asia, supported by economic growth mainly in China, India and Southeast Asia. Although advanced economies forming the Organization for Economic Cooperation and Development had accounted for more than 70% of global energy demand in the early 1970s, Asia (including such OECD members as Japan and Australia) commanded the largest share of global energy demand at 43% in 2018. The global energy market's gravity center is shifting to Asia. The shift will continue in the future, leading Asia's presence in the international energy market to increase further.

In Asia, however, various energy and environmental challenges are expected to grow more serious and complicated due to increasing energy demand. Those challenges include energy security that has become a major matter of concern because of Asia's growing dependence on energy imports. As Asian energy production growth fail to catch up with regional energy demand growth, the region is growing dependent on energy imports. Asian economies such as China, India and Southeast Asia expected to boost energy demand will face a rise in their dependence on energy imports, particularly oil purchases from the Middle East. As the heightened risk of a military clash between the United States and Iran became a "reality" early this year, global interests in the Middle Eastern situation are increasing. Particularly, the stability of the Middle East is important for energy security for Asia that heavily depends on energy imports from the oil-rich region. The Middle East for its part must give priority to the Asian market as its dependence on Asia increases. In this sense, Asia and the Middle East will grow more interdependent, with their stable development being their common challenge.

Substantial energy demand growth makes it important for Asia to tackle environmental problems. A particularly important problem involves Asia's structurally high dependence on fossil fuels including coal. In 2018, coal accounted for 48% of primary energy consumption in Asia, far higher than the global average at 27%. Coal has become a main energy source in Asia including China and India as large energy consumers because coal has been locally abundant and price competitive in Asia. However, massive coal consumption has boosted CO_2 emissions, becoming the largest factor behind growing calls for Asian countries to enhance climate change countermeasures. Massive coal consumption has also directly caused serious air pollution as an urgent, grave environmental challenge in Asia. Given future energy demand growth, how best to clean energy use in Asia is also a great future challenge.

It is frequently noted that the world now faces energy transition. Following the industrial revolution, coal became a main energy source in the 19th century. Then came the 20th century as the

century of oil. In the 21st century, oil is still the largest energy source, though with its share in total energy consumption declining steadily. Recently, solar photovoltaics, wind and other renewable energy sources have rapidly spread thanks to fast falls in renewable energy power generation costs, attracting global attention. An increasing number of countries and companies are offering ambitious initiatives to enhance climate change countermeasures in pursuit of “net zero” greenhouse gas emissions. In such situation, hopes are growing on the development and diffusion of hydrogen and other advanced or innovative energy technologies.

What energy transition Asia should promote is an important issue for Asia plagued with the abovementioned energy challenges. An impressive issue found in the energy discussions in Tokyo is how to assess the realities in Asian countries in promoting energy transition. Even in Asian emerging market economies featuring rapid economic growth, average per capita income levels are still far lower than in advanced economies. These emerging market economies also have extremely many low-income citizens. Their top policy priority is the promotion of economic growth to generally raise income levels and provide most of the citizens with affluent, convenient lives. Stable supply of affordable energy is indispensable for that end. How to use coal as a main energy source is a very important energy policy challenge for Asian countries.

On the other hand, cleaner energy supply will be strongly required to address air pollution and climate change. The requirement must be compromised with the realities again. Another key point is that energy investment decisions will exert influence on energy options over a long term because of energy investment’s characteristics. Decisions that investors make while considering the uncertain, unpredictable future will remain in the form of infrastructure over a long term to exert influence on energy supply and demand. This means a risk that present coal sector investment decisions based on wrong predictions could lead to “stranded assets.”

In Asia where energy demand will keep on expanding, decisions on massive investment to develop future energy infrastructure must be made now. Therefore, investment decisions must be well oriented toward the future. In Asia, it is basically important to fully consider the realities and hold pragmatic views based on the realities in predicting the future. It is also important to base decisions on Asian countries’ characteristics regarding energy endowment, the energy supply and demand structure and the industrial structure. Another important point is that private sector investment decisions could be unprecedentedly difficult to make in the face of great uncertainties in Asia where massive energy investment is required. Then, public investment promotion mechanisms may play a key role. Such mechanisms are required for each country to realize a policy target or planning that would be considered desirable for energy and environment policies.

From a realistic viewpoint for Asia, attention is paid to the role of natural gas and LNG. In Asia, natural gas and LNG account for a relatively small share in the energy mix and have room to be expanded. The expansion of natural gas and LNG can be expected to contribute to cleaning and diversifying energy supply and reducing Asia’s dependence on energy imports from the Middle East. While natural gas is regarded as one of the fossil fuels subject to decarbonization in Europe where “net zero” emissions are pursued, how to use natural gas and LNG is realistically important in Asia. Even natural gas and LNG are not necessarily any perfect energy source. The biggest challenge regarding natural gas and LNG is how to make natural gas and LNG more price competitive, more affordable, more attractive and easier to be selected as preferred energy. Given these points, the pursuit of the best energy mix adapted to the unique conditions of each country would be the key to energy policy in Asia as well as any other region.

Contact: report@tky.ieej.or.jp
The back issues are available at the following URL
http://eneken.ieej.or.jp/en/special_bulletin.html