

Japanese and Global Energy Outlook up to 2019

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

On July 26, the Institute of Energy Economics, Japan, held its 429th forum on research works, dealing with the Economic and Energy Outlook of Japan up to FY2019 and reports on the latest international oil, natural gas and coal situations and on the Japanese and global renewable energy outlook. As indicated by these reports, we at the forum analyzed and made projections of the supply-demand balance and prices for international oil, natural gas, coal and renewable energy markets up to 2019 and provided Japan's short-term economic and energy outlook. In the following, I would like to comment on key points of the outlook and summarize Japanese and global energy situations up to 2019.

First, the outlook forecasts that the international oil market and prices will remain susceptible to wild fluctuations due to various supply and demand factors, geopolitical risks and global economic risks, with prices being highly volatile. While global oil demand in 2019 will post a steady rise of 1.3 million barrels per day from 2018, Saudi Arabia and other OPEC members will increase oil production to cover an Iranian crude oil export reduction on the revival of U.S. economic sanctions on Iran and production falls in Venezuela and some other major oil producing countries.

In such situation, the average Brent crude oil price is predicted at \$75 per barrel for the second half of 2018 and at \$70/bbl for 2019. The price will fall slightly in 2019 because supply will remain sufficient thanks to increased production by Saudi Arabia and some other oil producing countries and by U.S. shale oil producers. If without destabilizing factors, the Brent price is expected to remain around \$70/bbl in 2019. As noted above, however, crude oil prices have the potential to shoot up depending on a larger-than-expected decline in Iranian crude exports, disruptions to supply from major oil producing countries, and growing geopolitical risks and destabilization in the Middle East. Attention must be paid to the point that surplus production capacity holding the key to market stability will decrease due to Saudi Arabia's production expansion. If U.S. shale oil production expands faster than expected or some trade war escalates to cause downside risks for the global economy, however, crude oil prices will come under downward pressure.

Second, the supply-demand balance in the global LNG market will remain loose. Global LNG demand in 2019 will increase by 22.2 million tons from the previous year due mainly to Chinese and Asian demand growth, while supply capacity will grow by 30.6 million tons. However, interest is growing in the possibility that oversupply in the international LNG market could disappear earlier than 2023 as traditionally anticipated, depending on demand growth mainly in China. We must pay attention to air pollution and other Chinese or Asian policies and market developments that could exert influence on the LNG demand expansion pace.

Even if the LNG supply-demand balance remains loose, prices of LNG imports into Japan, indexed to crude oil prices in principle, will rise slightly from \$9.9 per million British thermal units (MMBtu) in the January-May period in 2018 to \$11.3/MMBtu in the second half of 2018 and to \$10.9/MMBtu in 2019. As crude oil prices have the potential to fluctuate wildly as noted above, however, we must pay attention to the possibility that LNG import prices for Japan could grow volatile in line with crude oil price fluctuations. How final investment decisions for new LNG projects would be made by investors watching LNG price trends and Asian demand expansion may be a key point for anticipating the future market.

Third, an increase in China's coal imports, including spot procurement, is viewed as a major factor behind steam and coking coal prices that have stayed high in the international market since the beginning of 2018. While coal demand is likely to increase robustly not only in China but also in India and ASEAN countries, supply is expected to expand in response to high prices to meet growing demand. If the substantial rise in Chinese procurement as a special factor fades away, the market will restore stability. The average spot steam coal price is thus predicted to rise from \$89 per ton in 2017 to \$101/t in 2018 and fall back to \$80/t in 2019.

Fourth, we predict that the global renewable energy power generation market including solar photovoltaics and wind power generation will continue to expand substantially in response to policy support and cost reduction. Installed renewable energy power generation capacity including hydro power plants is projected to increase from 2,290 GW at the end of 2017 to 2,600 GW (comprising 1,300 GW in hydro capacity and 1,300 GW in non-hydro capacity) at the end of 2019. Renewable energy power generation capacity will expand globally, but the expansion will concentrate in Asia including China and India. Asia will account for 50% of global growth. Western countries will command 30% of the global increase. In 2017, renewable energy accounted for 8.4% of global power generation. The share included 4.4 percentage points for wind, 1.7 points for solar PV and 2.3% for biomass and geothermal energy. As installed capacity for renewable energy power generation increases, renewables' share of global power generation will expand. Future challenges include responses to intermittent renewable energy power generation and renewable energy power plants' connection with electric grids in the world and cost cuts in Japan.

Fifth, our short-term outlook up to 2019 for Japan predicts that as the Japanese economy decelerates expansion, GDP growth will decline from 1.6% in FY2017 to 1.1% in FY2018 and 0.9% in FY2019. Growth will fall back below 1% after staying above the level for four years, restoring a cruising speed close to growth potential. Under such economic situation, primary energy supply in Japan will decrease by 0.8% from the previous year in FY2018 and by 0.2% in FY2019. Japan's primary energy supply is thus projected to decrease for two years on end due to progress in energy conservation after increasing by 0.4% in FY2017. As Japan's primary energy decreases, non-fossil energy sources' share of total primary energy will expand thanks to the restart of nuclear power plants and the expansion of renewable energy, with shares narrowing sharply for fossil fuels such as natural gas and oil. As a result, energy-related CO₂ emissions in Japan are projected at 1.07 billion tons for FY2019, down 13.1% from FY2013. Renewable energy power generation will expand on the installation of renewable power generation capacity approved under the Feed-in-Tariff system. Installed FIT power generation capacity will reach 74 GW in FY2019, accounting for 13% of total power generation. The renewable energy expansion is estimated to bring the cumulative FIT

surcharge burden on consumers to 50 trillion yen, pushing electric rates up by 2.9 yen/kWh.

A \$10/bbl increase in crude oil prices is estimated to push down the Japanese economy down by 0.2% and Japan's primary energy supply by 0.3%. If the United States and China impose a 45% tariff on imports from each other in an escalating trade war (in line with U.S. President Donald Trump's remark during presidential election campaigns), the U.S. economy will contract by 2.1%, the Chinese economy by 2.9% and the global economy by 0.6%. The Japanese economy, which may become an alternative to the United States or China, will expand by 0.4%. In such event, oil demand will decline by 200,000 bpd in the United States and by 300,000 bpd in China. Natural gas demand may decrease by 13 billion cubic meters in the United States and by 6 BCM in China. Particularly, oil market supply and demand will be greatly affected. If the United States levies a 20% tariff on imported vehicles, the U.S. economy will contract by 0.4%, the Japanese economy by 0.1% and the global economy by 0.2%. Central and western Japan where the automotive and related industries concentrate may be seriously affected.

Contact: report@tky.ieej.or.jp

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