

## **2019 Energy Outlook in Japan and World**

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The new year 2019 opened after the turbulent year of 2018 symbolized by wild fluctuations of crude oil prices. How would this year be? By reference to an outlook that the Institute of Energy Economics, Japan, released on December 21, I would like to summarize the energy outlook in Japan and the world in 2019.

First, a coordinated oil production cut of 1.2 million bpd that OPEC and non-OPEC oil producing countries start from the beginning of the year is attracting attention regarding the international oil situation. Iranian crude oil exports after the planned expiration of a temporary waiver from the Iran oil embargo will also be a major factor influencing the international oil supply-demand balance. On the demand side, we must pay attention to how the U.S.-China trade war would develop from March after a 90-day truce and how the global, Chinese and U.S. economies would perform under the development. We must also keep close watch on growing U.S. shale oil production as well as geopolitical risks in the Middle East and potential disruptions to oil supply from major oil producing countries. The IEEJ outlook forecasts that the average Brent crude price would be \$65/bbl amid sufficient supply in the first half of this year before rising to \$70/bbl on an assumption of a fall in Iranian oil exports in the second half. For a low oil price case where the supply-demand balance will loosen, the annual average Brent price is forecast at \$60/bbl.

Second, global LNG demand is forecast to expand to 338 million tons with growth driven by China, while global supply capacity is predicted to reach 344 million tons mainly due to a U.S. capacity increase. As supply capacity exceeds demand, supply will remain abundant in the market in the year as an annual basis. Meanwhile, LNG prices will follow a crude oil price trend with a certain time lag as LNG prices for Asian buyers remain mostly indexed to oil prices. Based on the abovementioned oil price outlook, the average LNG import price for Japan is forecast to almost level off from \$10.5/MBtu in 2018 to \$10.2-11.4/MBtu. Spot LNG prices reflecting the LNG market supply and demand environment will slip below the average Japanese import price on annual average. In China that replaced South Korea as the world's second largest LNG importer in 2017, LNG demand is expected to robustly increase to 60 million tons. China's LNG import trend as well as the impact of future development of US-China relation on Chinese LNG import will be important for analyzing the global LNG market.

Third, the global coal market is predicted to see prices falling slightly from the present high levels of about \$100/t for steam coal and \$170-260/t for coking coal. Holding the key to coal price changes will be again China's procurement that has been a main contributor to the present high coal prices. China's coal consumption in 2019 is likely to increase only slightly, with imports leveling off, amid economic growth deceleration. Steam coal prices are forecast to fall to around \$80/t on declining demand in early spring amid a pause in China's procurement expansion and

average \$88/t in the whole of 2019. Coking coal prices are forecast to average around \$185/t in 2019 as supply from operating coalmines expands in response to the current high prices.

Fourth, issues and challenges in Japan's electricity market and renewable energy market are likely to become more complicated as massive renewable energy power sources are added to the increasingly competitive market. While trading volume has continued to rapidly expand on the Japan Electric Power Exchange, trading prices around 10 yen/kWh are influenced by fuel cost for oil-fired power generation as marginal power supply source. As electricity retail competition has been intensified, retail margins have narrowed in a manner to create a serious challenge for retailers. Various ideas and policies are growing more important for harmonizing electricity market liberalization with stable power supply. As renewable energy power generation has expanded, power purchases under the feed-in tariff system now account for around 10% of total power demand. On the other hand, how to suppress the FIT system's economic burden on consumers has become a challenge due to the growing value of FIT power purchases. As the FIT power purchase period begins to expire for massive residential solar photovoltaics power generation capacity in November 2019, how to deal with the problems of the "post-FIT system" will loom as a new challenge. While the electricity system reform will make progress in 2019, stakeholders will continue to explore institutions and measures to make effective use of renewable energy electricity and increase cost efficiency.

Fifth, each country will tackle climate change countermeasures from 2019 basically under the work programme that were agreed on at the 24th Conference of Parties to the United Nations Framework Convention on Climate Change, or COP24, late last year for implementing the Paris Agreement. In such circumstances, we will have to closely watch the international negotiation and discussion at such events as United Nations climate summit and the COP25 in 2019. Attracting attention will be climate change policies and countermeasures in the United States, China, the European Union, Germany and other major parties. In Japan, we will have to pay attention to discussions at a government council on a long-term strategy under the Paris Agreement as a growth strategy and to deliberations on and details of climate change policies and targets toward a Group of 20 summit in June in Osaka.

Sixth, the restart of the next nuclear power plants and the Nuclear Regulation Authority's examinations of such plants in Japan will attract attention after nine plants were restarted by the end of 2018. While the NRA examinations and restart remain uncertain, the number of restarted nuclear power plants in Japan at the end of FY2019 is forecast at 11 at the most. The extension of nuclear plants' operational life is also seen as very important for Japan to achieve its target energy mix for 2030. Attracting attention in this regard will be nuclear plant operators' decisions on whether to submit an application to extend the operational life of 30-year-old or older plants, as well as the NRA's relevant examinations on these plants. While nuclear power generation in developed countries remains sluggish as symbolized by the retirement of some existing nuclear plants in the United States, China and other emerging countries as well as Russia are expected to briskly develop domestic and overseas nuclear plants. Meanwhile, interests are growing in small module reactors (SMR) as a new nuclear technology mainly among developed countries. Technological advancement and policy discussions will grow more important toward SMR development and diffusion.

Seventh, Japan's primary energy supply is forecast to increase by 0.2% in FY2019 after decreasing by 0.9% in the previous year. A key assumption behind the forecast is that the Japanese

economy will grow by 0.9% in FY2018 and by 0.8% in FY2019. The primary energy supply decline in FY2018 is coming after a severely cold winter and a high economic growth rate of 1.7% in FY2017. While oil and natural gas supply is decreasing substantially, renewable and nuclear energy supply is increasing amid an overall shift to non-fossil energy. Japan's carbon dioxide emissions in FY2019 will decrease to 1.07 billion tons, down 13.5% from FY2013. Among energy sales in Japan, electricity will increase by 0.6% in FY2019 after decreasing by 1.2% in FY2018. Gas sales will also rise by 2.6% in FY2019 after falling by 2.3% in FY2018. Oil products sales will decline in FY2018 and 2019, extending their losing streak to seven years. Installed FIT renewable energy power generation capacity will expand to 73 GW at the end of FY2019. If 86 GW in total approved FIT power generation capacity as of March 2018 becomes fully operational, cumulative FIT power purchases may rise to 61 trillion yen, making economically reasonable renewable energy promotion even more important.

Including the abovementioned points, energy situation developments in Japan and the world will continue to attract attention. Through this column, I would like to continue following up on the energy situation in Japan and the world this year.

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