



IEEJ e-NEWSLETTER

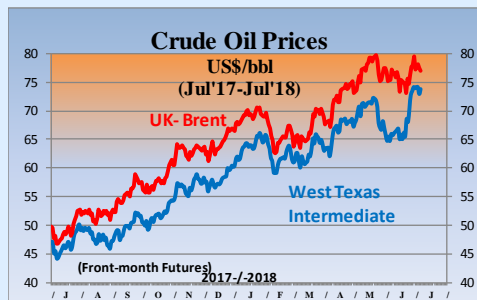
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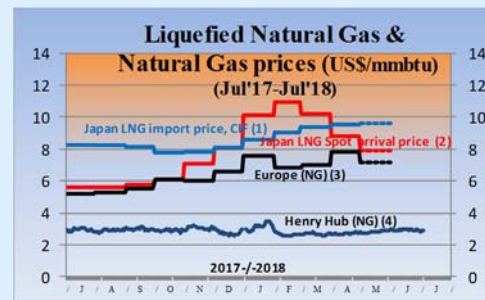
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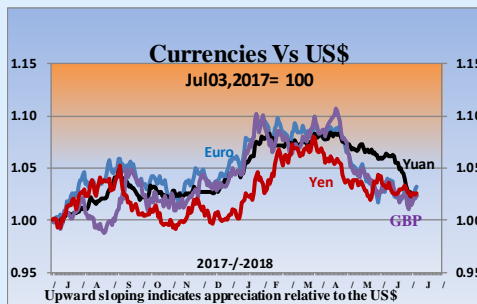


Source: DOE-EIA, Financial Times, NASDAQ



Sources:

- (1) Ministry of Finance "Japan Trade Statistics"
- (2) Ministry of Economy, Trade and Industry (contract month basis)
- (3) Estimated by World Bank and World Gas Intelligence
- (4) DOE-EIA, NYMEX (Front-month Futures)
- (5) Investing.com



Source: x-rates.com



Source: Financial Times

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Summary

【Energy Market and Policy Trends】

1. Developments in Nuclear Power

For the Horizon Project, which is a nuclear new build project run by Hitachi Corporation in Britain, whether the investment amount is acceptable for a private company will be one of the criteria for the final investment decision. The predictability of the project assessment will be an important factor.

2. Recent Developments in the Oil Market

OPEC and ten non-OPEC producers decided to ease the production cut. The market is likely to remain nervous amid concern over a trade war and geopolitical risks.

3. Recent Developments in the LNG Market

The Asia premium is returning as LNG prices increase backed by the growing demand in Asian importers and rising oil prices. FIDs in liquefaction facilities are starting to move forward as the market recovers and businesses regain strength and confidence.

4. Update on Policies Related to Climate Change

In the G7 communique, the United States committed to promote energy security and economic growth under a separate paragraph from those of the other six countries. Germany established a so-called Coal Commission to consider climate actions.

5. Update on Renewable Energies

Foreign companies are actively entering the Japanese renewable market. If Japan is to make renewables a key power source, the competitiveness of the domestic renewable industry and business must also be strengthened.



1. Developments in Nuclear Power

Tomoko Murakami, Manager
Nuclear Energy Group, Strategy Research Unit

On June 4, Britain's Secretary of State for Business, Energy and Industrial Strategy Greg Clark announced in Parliament that Hitachi and the UK government had decided to continue negotiations in relation to the proposed Wylfa Newydd nuclear new build project (Horizon Project).

In his statement, the State Secretary also confirmed that the project will be a variation of the Hinkley Point C financing model which was criticized for its high FIT-CfD price that the British government will consider direct investment in the project. Meanwhile, at a briefing on the power and energy business strategy held on June 8, Hitachi stated that it will review the economic rationality of the project and will make the final investment decision based on criteria including using a financing model that assumes Hitachi's off-balance-sheet financing (clearing the balance sheet), securing reasonable returns, and an investment amount that is acceptable for a private company (including cost overruns). The criteria show that Hitachi places high importance on the predictability of the project assessment. For the project to be signed off, the stance of the British regulator, ONR, which is involved in the licensing and screening of plants, will also be important.

Meanwhile, MHI also issued a statement on its nuclear business at a briefing on its power systems domain business plan on June 5. Unlike the domestic business which covered many topics, including steady progress in responding to new regulation standards and preparing for extracting fuel debris from the Fukushima Daiichi nuclear power plant, the only strategy mentioned regarding overseas business was "working on nuclear new builds including Turkey's Sinop Project"; no criteria for the final investment decision were presented, unlike Hitachi. For MHI which sees the nuclear business as a "solution for achieving the 2°C scenario," overseas nuclear business in emerging countries where CO₂ emissions are increasing must be as important as its domestic business. The future investment decisions of both Hitachi and MHI in their overseas businesses must be monitored.

On June 15, the Federation of Electric Power Companies announced that it will establish a new organization, the Atomic Energy Association (ATENA), on July 1 to strengthen its efforts for the autonomous and continuous improvement of safety. The purpose of ATENA includes mobilizing the information and resources of the entire Japanese nuclear industry for the voluntary safety improvement activities of each utility, and communicating with regulators on behalf of the nuclear industry. Considering that experts of both Japan and overseas have pointed out the importance of dialogue between industry and regulators in keeping regulatory standards predictable, the relationship between ATENA and the regulators must be closely monitored.

At a press briefing on the same day, Ei Kadokami, special advisor to MHI and the first chairman of ATENA, compared the continuous efforts for improving nuclear safety to "rowing a boat upstream against a swift current" and declared his resolve to restore public trust. Well-versed in the core principles of the safety philosophy, the new chairman is expected to lead the efforts to maintain and improve the human resources and technologies of the Japanese nuclear industry.



2. Recent Developments in the Oil Market

Tetsuo Morikawa, Senior Economist, Manager
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At an OPEC meeting on June 22 followed by a ministerial meeting of OPEC and non-OPEC parties to the joint production cut on June 23, it was decided to ease the supply cuts from July. On the basis of the production cut of approx. 1.2 mb/d for OPEC and 0.6 mb/d for ten non-OPEC countries agreed at the end of 2016, the compliance rate as of May stands at 152% for OPEC countries (a reduction of 1.8 mb/d) and 147% overall including the non-OPEC parties to the production cut. Regarding the decision, Khalid Al-Falih, the Saudi Minister of Energy, Industry and Mineral Resources, said that a production increase of around 1 mb/d would be necessary. However, as this amount may be insufficient to avoid a supply-demand crunch, on June 22 Brent climbed 3% from the previous day to \$75.55/bbl. It rose further to \$75.31 on June 27 after the United States called on major countries to stop importing oil from Iran.

This decision was surely backed by soaring oil prices in April and May. With the achievement of rebalancing and the rising market awareness of geopolitical risks in May such as the exit of the US from the Iran nuclear agreement, WTI reached \$70/bbl on May 7 and Brent surpassed \$80/bbl on May 22, both reaching their highest levels for three and a half years. Saudi Arabia and Russia were willing to continue the joint production cut in 2019 as of April, but as prices soared, a possible easing of the production cut was mentioned when Saudi Energy Minister Khalid Al-Falih and Russian Energy Minister Alexander Novak met on May 22. US pressure on Saudi Arabia, its partner in countering Iran, to boost production reportedly affected the decision on the easing.

Meanwhile, US oil output continues to increase, reaching 14.9 mb/d as of May 2018 from an average of 13.09 mb/d in 2017. Shale oil, which accounts for most of the increase, is improving in productivity, albeit moderately, as is the rig count. The US Energy Information Administration remains bullish, forecasting an annual average output of 15.13 mb/d for 2018 (up 2 mb/d yoy) and 16.5 mb/d for 2019 (up 1.4 mb/d yoy).

Saudi Arabia, Russia, and other countries that agreed to ease the production cut in the meetings on June 22 and 23 will boost their output and try to maintain the supply-demand balance. Meanwhile, the outlook for the global economy is uncertain amid fears of worsening trade friction if the Trump administration imposes further tariffs ahead of the US mid-term election in November. The situation in the Middle East remains tense with the return of sanctions against Iran. There will be much speculation ahead of the next OPEC meeting on December 3, which will discuss how to coordinate the production cut policy for 2019. Accordingly, the market is likely to become even more nervous, resulting in high price volatility.



3. Recent Developments in the LNG Market

Yoshikazu Kobayashi, Senior Economist, Manager
Gas Group, Fossil Energies & International Cooperation Unit

The Asia premium is returning. Since the start of this year, while US Henry Hub has remained in the \$2 mmbtu range and UK NBP in the \$7 mmbtu range, the spot LNG price for Northeast Asia has been heading upward since May, currently testing the \$10 line. With long-term contract prices also set to increase in step with the rising oil prices, the gap in LNG price between Asia and Western countries is expected to widen.

With no notable disruptions occurring on the supply side since May when Asian LNG spot prices began to rise, the current price increase is believed to be caused mainly by two factors, namely, the strong demand for spot LNG and the recent rise in oil prices. Not only is the demand for spot LNG increasing among the key importers of Northeast Asia including China and South Korea, but emerging importers including India, Jordan, Pakistan, and Israel are also ordering more through bids, resulting in a tighter supply-demand balance in the spot market.

The impact of oil prices on spot LNG prices also cannot be ignored. Many emerging countries that have been importing more LNG in recent years are using LNG in the power and industrial sectors as a substitute for oil. Accordingly, higher oil prices reduce the relative price of LNG, an oil substitute, thus boosting demand for the energy. Also, some buyers with long-term, oil price-linked contracts constantly monitor both long-term and spot LNG prices to buy at the lowest possible price, in which case a rise in oil prices boosts the demand for spot LNG. LNG prices of Asia are still strongly affected by oil prices; the Asia premium is still alive.

Market principles dictate that when prices increase, so will investments in supply capacity. Although final investment decisions (FID) for liquefaction plants have been slow since 2015 due to low oil and LNG prices, recently there has been some good news. On May 22, Cheniere announced an FID for Train-3 of Corpus Christi. Further, on April 27, Canada's LNG Canada Project announced that it will grant the EPC agreement for its liquefaction plant to a joint venture of JGC Corporation and Fluor despite the condition that FID will be made. Also, there are media reports that Area-1 Project in Mozambique is approaching FID. A rise in oil prices improves the balance sheet of upstream companies, boosting their capacity to invest in new projects. As demand for LNG grows globally, whether the supply-demand balance of LNG remains stable in the long term will depend on new investments in this year and the next. There are hopes that a few more FIDs will be made within this year.



4. Update on Policies Related to Climate Change

Takahiko Tagami, Senior Coordinator, Manager
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The communique presented at the end of the G7 Summit held in Charlevoix, Canada on June 8 and 9 contained a separate paragraph for the United States from those for the other six countries. In the communique, the United States committed to continue to promote energy security and economic growth, while increasing public-private investments in energy infrastructure and technology that advance the ability of countries to use all available energy sources. A similar language was heard in the Talanoa dialogue at the Climate Change Conference held in Bonn, Germany in May (see the June edition of this Newsletter), where references were also made to innovations in nuclear energy, fossil fuels and CCS. Attention must be paid to whether such a language is just narrative or will develop into a concrete set of actions.

Under such circumstances, a new US-led initiative on nuclear energy was launched at the Ninth Clean Energy Ministerial held on May 24. Titled "Nuclear Innovation: Clean Energy Future (NICE Future)," the initiative aims to address nuclear energy within the context of broader clean energy systems, initiating a dialogue among policymakers and stakeholders on the role of nuclear energy, with a focus on integrated renewable-nuclear energy systems, electric and non-electric applications, and small modular reactors. In addition to the United States, the participating countries of the NICE Future initiative include Canada, Japan, Russia, United Arab Emirates, and the United Kingdom. Attention must be paid to how this initiative develops into specific actions and whether the US energy and environmental policies will be structured through this initiative.

On June 6, the Cabinet of Germany decided to establish a Commission on Growth, Structural Change, and Employment. The Commission will consider (1) measures for the social and structural development of brown coal regions and for financial security, (2) measures to help the energy sector achieve the 40% reduction target for 2020 "as much as possible," and (3) measures that enable the energy sector to achieve its 2030 emissions reduction target of 61-62% "based on a comprehensive impact assessment" (including "suitable" measures for the share of coal-based power generation and a plan for its phase out). The four co-chairs consist of two former minister-presidents of coal-producing states, one environmental economist, and one former official of the Finance Ministry. The Commission's 24 members are from environmental NGOs, trade unions, industry, affected regions and science, and the secretariat will be seated in the Federal Ministry for Economic Affairs and Energy. The discussions and recommendations by the Commission must be closely monitored.

In Japan, at the 17th meeting of the Council on Investments for the Future held on June 4, Prime Minister Shinzo Abe instructed the establishment of a panel of experts from the financial and economic sectors, and academia for the formulation of the long-term strategy based on the Paris Agreement, and the relevant ministries to work together to accelerate the consideration of the long-term strategy. To date, the long-term strategy towards 2050 has been considered by METI in the Long-Term Global Warming Countermeasures Platform and the Round Table for Studying Energy Situations and by the Environment Ministry in the Long-Term Low-Carbon Vision Subcommittee, but without coordination between the ministries. Attention must be paid to the members to be selected for the expert panel, the discussions held in the panel and the consultation among ministries.



5. Update on Renewable Energies

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Since the start of the FIT system in 2012, foreign companies have been entering the renewable energy business of Japan. They have entered various areas, most notably the import of solar PV modules. The percentage of imports in domestic module shipments has grown from less than 40% in FY2012 to 70% in FY2017 (although just under 40% of imports are Japanese products manufactured overseas). The presence of foreign companies can also be seen in the supply of foreign-made boilers and turbines for biomass power generation and the assembly of wind turbines for wind power.

Meanwhile, many foreign countries are also entering the renewable power generation business of Japan. The main players were from Germany, Spain, the US, and China initially, but since 2014, Thai companies have been entering mainly the mega solar area (see the IEEJ clean energy report "Thai companies continue to invest actively in the Japanese renewables market," Clean Energy Flash of IEEJ, April 2017).

The entry of foreign companies into Japan's renewable electricity business has been prompted mainly by the government policy to attract them by improving the investment environment through a lower corporate tax rate and the cheap-yen policy. As far as the renewable electricity business is concerned, the benefits for foreign companies of operating in Japan include low business risk owing to the very low rate of theft and damage to facilities and a mature physical power infrastructure that enables the stable sale of electricity, in addition to being able to utilize the business know-how gained through the FIT system back home. However, the greatest attraction of all remains the high purchase price. For solar power, the purchase price remains higher than international levels even though it has fallen by 50% since the start of the FIT system and part of the purchase has been switched to bidding. Further, for non-solar PV energies, Japan is keeping the FIT system even though emerging markets, which have room for growth, have moved on to a bidding system, not to mention major countries.

Japan plans to continue to lower the purchase price, albeit more slowly than in other countries, and expand the bidding system. Paradoxically, however, this works in favor of foreign companies with strong global experience. For instance, developers and construction contractors that are skilled in the renewable energy business can effectively cut costs in each phase from the procurement of facilities to design and construction. A vertically-integrated model covering everything from the production of facilities to operation & maintenance has also emerged. Foreign companies that have high competence based on such business models have an advantage. However, costs have not fallen in Japan due to a shortage of developers and construction contractors with expertise in renewable power and the multi-layered contractor structure of the industry.

Entry by competitive foreign companies will accelerate the reduction of renewable energy costs and is thus desirable for suppressing the increase of the FIT-related public cost burden and exiting the FIT system at an early stage. However, to make renewable energies a key power source, it is also necessary to boost the competitiveness of the domestic renewable industry and business. Japan tends to focus on its technological capabilities, but there is also a pressing need to reform the business model itself.



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