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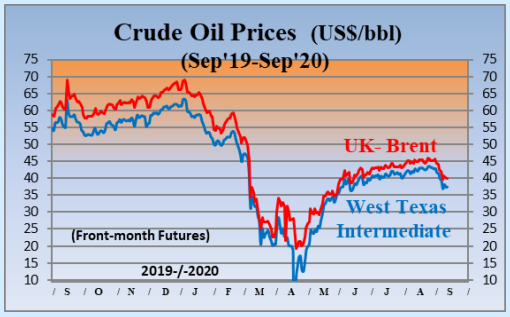
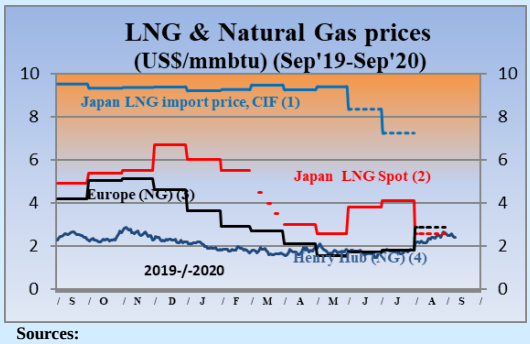
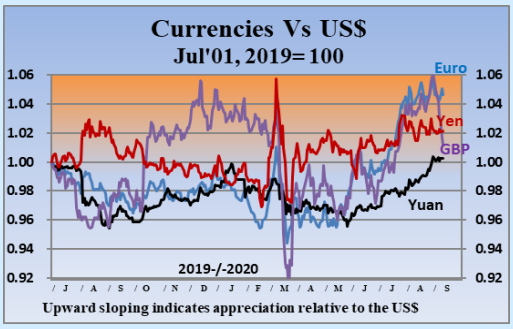


Sources:
(1) DOE-EIA
(2) Investing.com



Sources:
(1) Ministry of Finance "Japan Trade Statistics"
(2) Ministry of Economy, Trade and Industry (arrival month basis)
(3) Estimated by World Bank (Netherland Title Transfer Facility)
(4) DOE-EIA, NYMEX (Front-month Futures)



Source: x-rates.com

Sources:
(1) Finance. Yahoo.com
(2) Investing.com

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1. Developments in Nuclear Power

Tomoko Murakami, Senior Economist, Manager
Nuclear Energy Group, Strategy Research Unit

On August 7, Russia's state nuclear energy corporation Rosatom announced that loading of fuel had begun at Ostrovets Unit 1, which the company is currently constructing. The reactor, a VVER (a Russian PWR, 1,194 MW), is scheduled to be loaded with all 163 fuel assemblies within this month, undergo pre-startup testing, and start transmitting electricity by the end of this year.

Meanwhile, Belarus' neighbor Lithuania has strongly and consistently opposed the Ostrovets project. President Gitanas Nauseda of Lithuania stated on August 7 that the start of fuel loading at the plant is a threat to Lithuania's public health and security. There are many possible reasons behind the country's fierce opposition to the project, one of them being the difference in energy policy between the Baltic states and Belarus: the former are striving to escape completely from the former-Soviet era power system by 2025 while the latter remains highly dependent on Russia. In view of the volatile political situation in Belarus since the presidential election, the course of this project deserves attention.

There was progress in a nuclear new build project in the Middle East as well. On August 19, the Federal Authority for Nuclear Regulation (FANR) of the United Arab Emirates (UAE) announced that Barakah Unit 1 (APR-1400, 1,400 MW), the country's first reactor, had gone online. The plant is set to start commercial operation at the beginning of 2021 after a pre-startup test. Construction of Unit 2 of the Barakah Nuclear Power Plant has already finished, while Unit 3 and 4 are 93% and 86% complete. It will be interesting to see how the progress in the use of nuclear power through Barakah affects neighboring Middle Eastern countries.

On August 13, Mayor Haruo Kataoka of the town of Suttsu, Hokkaido, announced that the town is considering signing up for preliminary research, which is phase one of the selection process for hosting a high-level waste (HLW) disposal facility. The town is the first municipality to make such an announcement after METI released a colored map indicating the suitability of locations as HLW disposal sites across the country in 2017. As the main reason for signing up, Mayor Kataoka cited the funds granted during the research which could be used for the town's long-term finances.

The Governor of Hokkaido raised objections immediately after the announcement, citing a prefectural ordinance that bans the construction of a final repository in the prefecture. Other municipalities and the fisheries industry of the prefecture also raised objections, citing a lack of information and concerns over damage caused by harmful rumors.

On August 26, the town held a forum for the heads of the town's economic organizations and town councilors to exchange views, and opinions both for and against the research were raised. In response, Mayor Kataoka expressed his intention to hold briefings for residents in five districts in the town and to postpone the decision to October or later. It is good that the town's announcement is causing intense debate over the HLW repository issue and ultimately the choice of energy, and Mayor Kataoka himself is also looking forward to this. Lively discussions are keenly awaited.

2. Recent Developments in the Oil Market

Tetsuo Morikawa, Senior Economist, Manager
Oil Group
Fossil Energies & International Cooperation Unit

Oil prices remained stable in the $40-45 range in August, with hardly any surprises in in the market.

The IEA's monthly Oil Market Report released on August 13 predicted that demand would shrink by 8.1 mb/d to 91.9 mb/d in 2020. While this is certainly an unprecedented drop, it is an upward revision of as much as 1.4 mb/d from the April forecast of 90.5 mb/d. The rebound in demand is led by China, whose demand in 2020 is expected to almost match 2019 levels.

On the supply side, the OPEC Plus' production cut is proceeding smoothly overall. As agreed in April, the curb has been eased from 9.7 mb/d in May–June to 7.7 mb/d in September–December, with the compliance rate reaching 95% in July. The US' output has only just stopped decreasing, and a sharp recovery appears unlikely in 2020. Iran seized Liberian tankers on August 12 and the US captured four Iranian tankers on the 14th, but the market has paid little attention.

Although supply and demand are stabilizing, the oil price slump has had an immense impact on the oil industry and severely damaged the business of oil companies. The five oil super majors of Europe and the US posted final losses for the April–June quarter of 2020, recording the worst combined losses in history of $52.6 billion. In line with the EU's goal of achieving net zero emissions by 2050 announced in December 2019, three European oil majors adopted the same goal in 2020. European majors seem to be accelerating their exit from fossil fuels amid the pandemic and plummeting oil and gas prices. In particular, BP has declared it will cut fossil fuel production by 40% and boost investment in low-carbon energy business 10-fold by 2030 under the slogan "From International Oil Company to Integrated Energy Company."

The International Monetary Fund predicts that global GDP will shrink by 4.9% in 2020, the worst decline since the Great Depression. Despite the serious economic fundamentals at present, US stock prices (S&P500) set record highs on August 19 based on expectations for major public spending and monetary easing, and the introduction of Covid-19 vaccines. Possible factors that could cause oil prices to fluctuate toward the year-end are the extent of Covid-19 pandemic, US-China relations, and the US presidential election. The number of Covid-19 cases has surpassed 25 million worldwide and continues to rise mainly in the US, Brazil, and India. Although there are high expectations for practical vaccines, distribution of the vaccine could delay. President Trump is putting more pressure on China, and a dramatic improvement in US-China relations is unlikely even if Joe Biden wins. Further, stock markets will probably not like the higher taxes promised by Biden. Considering these factors, the underlying downward pressure on oil prices remains high and a sustained rise in prices seems unlikely in 2020.

3. Recent Developments in the LNG Markets

Hiroshi Hashimoto, Senior Analyst
Head of Gas Group
Fossil Energies & International Cooperation Unit

Japan's LNG import during the first half of 2020 was 36.40 million tonnes, the smallest in ten years. During the six-month period, the average import price declined from the USD 9s in January to the USD 7s in July. Among the cargoes imported during the recent months, nine cargoes each in June and July were priced below USD 5 per million Btu, respectively, compared to two such cargoes in May.

Following the Freeport LNG in Texas in May and the Cameron LNG in Louisiana in late July, all the liquefaction facilities at the Elba Island LNG in Georgia have started commercial operation by August. Facilities of cumulative 56 million tonnes per year of liquefaction capacity that underwent investment decisions by 2016 are now in commercial operation. EIA (Energy Information Administration), which had revised down expected LNG export volumes in 2020 during the previous few months in its monthly short-term energy outlook series, slightly revised up the figures in the August issue, to 42 million tonnes in 2020, while keeping the figure for 2021 relatively stable at 55 million tonnes. The latest preliminary figure for July of around 2 million tonnes stood at two-fifth of the level performed in the first quarter of the year. The main cause of the lower performance has been a higher number of cargo cancellations, which are expected to peak in July and August.

The increase of LNG cargo cancellations from the United States, has been caused by relative competitiveness between crude-oil linked contract LNG prices and contract prices of LNG cargoes from the United States. Triggered by the collapse of international oil prices after March, Japan's average crude oil import price, which is used to determine a lot of LNG contract prices in Northeast Asia, went down to around USD 24 - 25 per barrel in May and June. As a result, Japan's average LNG import price, which contains a lot of crude-oil linked LNG prices reflecting crude-oil prices of about three months earlier, is expected to go down to as low as USD 3s per million Btu in August and September - the lowest in 21 years, if it is realized. The cost of LNG delivered from the United States is divided into three elements: (1) feed gas commodity related; (2) liquefaction; and (3) transportation. Since the liquefaction element (2) should be borne by the offtaker irrespective of actual or no delivery, the sum of (1) and (3), when larger than crude-oil linked term-contract LNG prices, may create a reason to cancel a specific cargo. As of late June, when the deadline to notify cancellations of August offtakes arrived, many offtakers had already known crude-oil linked contract LNG prices for August delivery, leading to many cancellations. Although cargoes were cancelled, offtakers were still required to pay liquefaction fees.

The mechanism of liquefaction (and cargo cancellation) fee is a mitigation measure for project developers in the United Sates to take care of risk of a cargo cancellation which should have been supposed to be exceptional. While the large number of cancellations is only a short-term phenomenon, LNG from the United States should be viewed as a stable supply source with affordable prices. But the latest development adds a new factor to analyze for buyers before making a long-term commitment to offtake LNG from the United States. LNG project developers may have to be even more innovative, requiring new ideas such as further cost reductions.

4. Update on Policies Related to Energy Conservation

Naoko DOI, Senior Economist, Manager
Energy Efficiency Group
Climate Change and Energy Efficiency Unit

On June 23, the IEA convened the Fifth Annual Global Conference on Energy Efficiency. Forty speakers including senior government officials of various countries and members of international organizations and private businesses presented reports and shared opinions that energy efficiency would help boost employment and investment in the economic recovery from the pandemic. The Conference published the 10 energy efficiency recommendations formulated by the Global Commission for Urgent Action on Energy Efficiency, of which IEEJ Chairman and CEO Masakazu Toyoda is a member, proposing actions including prioritizing cross-cutting energy efficiency actions for economic, social, and environmental benefits, unlocking the job creation potential of efficiency, and creating greater demand for energy efficiency solutions.

On July 9, the IEA held the Clean Energy Transitions Summit. Forty ministers from around the world, including METI Minister Kajiyama of Japan, participated in response to the IEA's call to put clean energy transitions at the center of a "sustainable economic recovery" from the pandemic-induced economic crisis. Leaders of international organizations including the UN, IAEA, IRENA, and ADB, and CEOs of EDF, ENI, Hitachi-ABB, and others also made presentations.

Ministers of European countries stressed that digitalizing power distribution to improve its flexibility and investing in energy-efficient remodeling of buildings and energy storage should be set at the center of economic recovery, in addition to increasing solar PV and wind power. In contrast, the US Energy Secretary said that for a clean energy transition, technological innovations should be pursued for all energy sources and technologies, not just certain sources, underscoring the differences in policy between Europe and the US. The Summit provided an important opportunity to share the importance of setting clean energy transition at the center of economic recovery, not just among the ministers of developed countries but also China, India, the ASEAN, and others, and was an important forum for discussing future policy directions.

On August 7, the Ministry of Economy, Trade and Industry held the 29th meeting of the Energy Efficiency and Conservation Subcommittee for the first time in roughly a year. Progress in energy efficiency policies was reported in various areas, including the implementation of a new fuel standard in April this year and the requirement to explain the energy efficiency performance of residences becoming mandatory next April. Further, due to extended low-load operation of air conditioners resulting from better insulation of residences, evaluation of the efficiency of low-load operation is being considered.

As a new direction of energy efficiency policy, the pursuit of "transition and improvement of the energy structure" was suggested. As an example, a policy to pursue energy efficiency and new energy together was presented. This would be achieved by introducing dynamic pricing to optimize the timing of energy demand based on time-based pricing, thereby promoting energy efficiency as variable renewable energy capacity expands.

On August 25, the second meeting of the WG to Study Coal-Fired Thermal Power was held to discuss the phasing-out of inefficient coal-fired thermal power plants. In the meeting, the electricity, steel, and chemical industries reported on their state of use of coal-fired thermal power, and indicated the need for coal-fired thermal power as a low-cost and stable power source for contributing to the regional economy and international competition. The definition of inefficient coal-fired thermal power and how to regulate it were also discussed. The third WG meeting is scheduled for September, where inputs from relevant industries will continue to be gathered.

5. Update on Renewable Energies

Yoshiaki Shibata, Senior Economist, Manager
New and Renewable Energy Group
Electric Power Industry & New and Renewable Energy Unit

Work is under way to build a logistics hub for offshore wind power-sourced hydrogen on Helgoland island located 60 km off the northern coast of Germany. First, as part of the German government's program, Hystarter, which boosts the regional use of hydrogen, hydrogen will be produced from offshore wind power on nearby islands to meet the demand in Helgoland island by 2025. Then, hydrogen will also be produced from wide-area offshore wind power, which is to be constructed in the future, and transported to mainland Germany via Helgoland island through a hydrogen pipeline. In the more distant future, an offshore wind power-sourced hydrogen network covering the entire Nordic Sea including the Netherlands and the UK will be built. The effort will be joined by REW, in addition to the government of Helgoland, German Hydrogen and Fuel Cell Federation, and German Offshore Wind Energy Foundation.

At this point, building this offshore wind-sourced hydrogen network may seem to be merely a conceptual plan, albeit an ambitious one. Further, considering technical issues such as installing water electrolyzers offshore and laying undersea hydrogen pipelines, we must wait for the results of the detailed study to determine the plan's feasibility. However, its feasibility is supported by a successful bid for a project which includes hydrogen production, made in a bid for Dutch offshore wind power.

At the end of July, Crosswind, a consortium established by Shell and Dutch energy corporation Eneco, won the development rights in the selection of a developer for the Dutch offshore wind power development district of Hollandse Kust Noord. This bid was held in April while Covid-19 was expected to be spreading quickly, based on a careful decision by the authorities. Hollandse Kust Noord is one of the three offshore wind power zones which the Dutch government aims to develop by 2023. Crosswind plans to construct 759 MW of offshore wind power.

As with the selection process for the preceding Hollandse Kust Zuid, zero subsidy (no income allowed except from the wholesale electricity market) was a condition for participation. The process was also designed so that a developer with a unique additional proposal will be selected. What is notable is that the winner Crosswind's additional proposal featured a stable power supply system for offshore wind power equipped with not only batteries but also water electrolysis. The hydrogen produced is planned to be used in Shell's oil refining process in Rotterdam's Permis district.

The result of this bid in the Netherlands suggests that Germany's Helgoland plan may not be unrealistic. Concurrently, the Global Offshore Wind Report published by the Global Wind Energy Council in August also names hydrogen production from offshore wind power as a driver for expanding offshore wind power going forward. While offshore wind power is expected to expand, grid connection constraints may be a bottleneck. Hydrogen production could be a way to circumvent this problem. Offshore wind power development is currently accelerating in Japan with the implementation of the new offshore wind power law. Hydrogen production from offshore wind power may be worth considering in the future as a way to overcome grid connection constraints.

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***IEEJ e-Newsletter* Editor: Yukari Yamashita, Managing Director**
***IEEJ j-Newsletter* Editor: Ken Koyama, Senior Managing Director**
The Institute of Energy Economics, Japan (IEEJ)
Inui Bldg. Kachidoki, 13-1 Kachidoki 1-chome, Chuo-ku, Tokyo 104-0054, Japan
Tel: +81-3-5547-0211 Fax: +81-3-5547-0223