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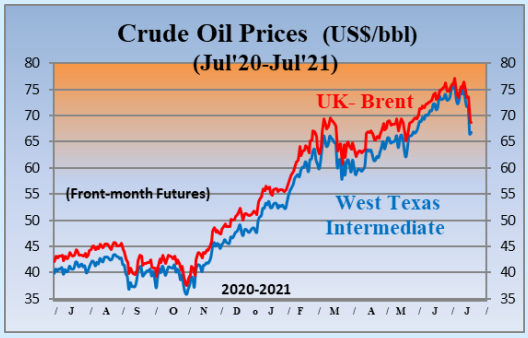
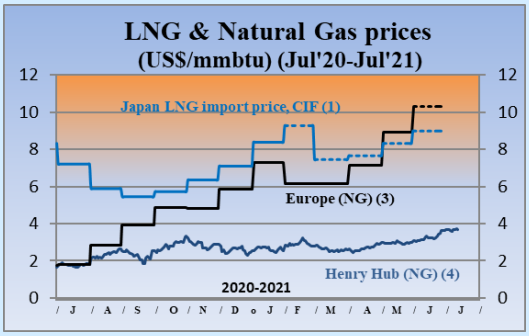
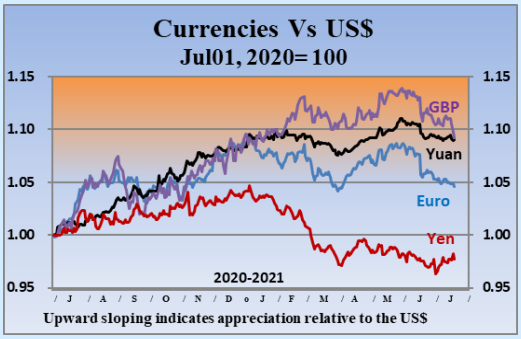


Sources:
(1) DOE-EIA
(2) Investing.com



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. Energy Policies

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Discussions on formulating the Sixth Strategic Energy Plan continue, headed toward finalization around summer. The revision process this time is quite different from previous times: Prime Minister Suga announced Japan's GHG reduction targets without waiting for discussions in the country. He unveiled Japan's 2050 carbon neutrality goal in his first policy speech in October last year, then promised a 46% emissions reduction by 2030 from 2013 levels at the Leaders Summit on Climate on April 22. Behind these moves lie international decarbonization efforts to address climate change, which are accelerating. In addition to Europe which made a head start, China's announcement of its 2060 carbon neutrality goal and the launch of the environment-focused Biden administration are important contributors. One of the major aims of a series of announcements by Prime Minister Suga was to show the international community that Japan is strategically committed to keeping pace with others.

The Strategic Policy Committee that formulates the Strategic Plan welcomed the carbon neutral declaration. Japan will need to do everything in its power to achieve the goal, promoting energy conservation and electrification on the demand side while implementing thorough decarbonization on the supply side, and covering any shortfalls with carbon recycling and other innovative technologies. The target, however, is currently defined as "aiming toward" rather than "achieving" a goal due to the high uncertainties regarding technological development and other factors, and multiple scenarios are to be analyzed. A particularly important point for discussion is the limitations of implementing renewable energy. Although renewables are surely a major means for decarbonization, if they involve technological or economic limitations, then nuclear power and hydrogen/ammonia will have a larger role to play. While hydrogen/ammonia still has technological barriers, the use of nuclear energy is a policy decision. The need for nuclear has also been mentioned by many members of the Strategic Policy Committee. To meet the 2050 deadline, the course of policies for nuclear new builds and replacement must be decided immediately. It will be interesting to see what kind of nuclear policies are incorporated into the revised Strategic Plan.

Realistic discussions will be essential if the 2030 target is to be attained. This means accumulating as much renewable capacity as possible and then determining the right balance between renewable and nuclear electricity in light of the path to 2050 carbon neutrality. The initial plan was to gather proven scientific, numerical evidence to decide how far the current reduction target of 26% could be raised. However, before that could happen, an ambitious 46% reduction target, almost double the original, was decided. There are fears that the overall picture is unrealistic and distorted, despite the necessity of discussion on how to attain this ambitious goal. The idea of abolishing or reducing nuclear power mooted by some members is unrealistic in terms of both energy security and energy cost reduction. Some consider that the current targets may be maintained assuming that nuclear power plants will be restarted, and that solar PV capacity, which has a short lead-time, will be expanded until the reduction target is met. If this happens, the additional cost burden will become a major issue.

Qualitative discussions have mostly been completed. Discussions will now move on to analyzing multiple scenarios for 2050 and the energy mix figures to support the 2030 reduction target of 46%. The basic stance of the current Plan is to set the 2030 reduction target at levels that are certainly achievable while drafting multiple ambitious scenarios for the 2050 target. However, under the revised Plan, challenging targets will be set for 2030 as well. Realistic solutions that are "difficult but not impossible" for both 2030 and 2050 will need to be found.

2. Developments in Nuclear Energy

Tomoko Murakami, Senior Economist, Manager
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On June 10, Belarus' first commercial nuclear power plant, Ostrovets Unit 1 (Russian PWR, 1,194 MW), started commercial operation. The plant had been in test operation after starting to transmit electricity in November 2020. Deputy Prime Minister Yuri Nazarov stressed the benefits of nuclear power for the country, stating that the start of commercial operation of its first commercial nuclear power plant was crucial, not only for the economy but also for enhancing Belarus' competences. The country's energy minister commented that the plant would bring the latest technologies and new jobs to many industries leading to higher quality of life for people, and is hopeful that Unit 2 will start operations in 2022 as scheduled.

On June 18, the mission of the International Atomic Energy Agency (IAEA) team of experts, who have been in Ostrovets-1 since the start of commercial operation to confirm its safety, was completed. Neighboring Lithuania and other EU countries have expressed serious concerns over the start of operation of Belarus' first plant, but they have no grounds to interfere now that Belarus has accepted the IAEA mission as other member states do and has received a clean bill of health.

America's largest nuclear operator, Exelon, is struggling to continue operating its plants amid the harsh power market environment. The company had said its Byron and Dresden nuclear power plants will have to be retired this year unless a bill promising support for nuclear power is passed in Illinois, home to several of its plants, by the end of May 2021. As such a bill had not been passed by June 15, the company announced that Byron Units 1 and 2 would close in September and Dresden Units 2 and 3 in November.

All of Exelon's plants in Illinois have an excellent record of operation. According to an IAEA database, Dresden Unit 3 had an average 10-year capacity factor of 98.3% (the highest in the US), Dresden Unit 2 97.5% (second), Byron Unit 1 96.2% (tenth), and Byron Unit 2 95.8% (12th). Their performance could not have been better, but the reality is that the nuclear business is not economically sustainable in states with deregulated electricity markets without state government support.

There are many other nuclear plants with excellent operational records in US states with deregulated electricity markets. Will those plants meet the same fate? Responses by state governments and the federal government must be watched.

Kansai Electric's Mihama Unit 3 started its reactor on June 23 and began power control operation on the 29th followed by the full-power operation on July 4th. It became the first plant to restart among the four plants given a 20-year license extension by the Nuclear Regulation Authority. During the 10-year outage period since May 2011, Mihama Unit 3 has been taking measures to address aging degradation, including replacing and repairing key facilities and strengthening their seismic resistance, and installing flame-retardant cables. There are high hopes for the continued operation of plants older than 40 years and their contribution to stable, long-term electricity supply.

3. Recent Developments in the Oil and LNG Markets

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O Oil prices rose sharply in June. On the 23rd, Brent marked $75.19 and WTI $73.11, the highest in 2 years and 9 months since October 2018. The International Energy Agency maintained its 2021 oil demand forecast at 96.40 mb/d in its Oil Market Report dated June 11 and predicts that the demand will return to 100 mb/d in Q3 of 2022. The OPEC Plus joint production cut has eased since April but still has an extremely high compliance rate of 114% as of May. With hardliner Ebrahim Raisi becoming Iran's new president, the nuclear deal is likely to take longer to be agreed and Iran's production will not recover soon. Meanwhile, the US output is at a standstill at around 11 mb/d and the US Energy Information Administration believes it will grow only by 400,000 b/d by the end of 2021. The industry stocks of OECD countries fell below the five-year average in April 2021, and the excess stocks built up during the pandemic have thus been resolved. In addition to the tightening supply-demand balance, the excess money arising from global monetary easing is pouring into the futures market, though to a lesser extent than the stock market. However, the US FRB mentioned on June 16 that it would lift its zero-interest policy in 2023, which should put some downward pressure on prices.

The current situation of low stock level and limited production growth in the US is favorable for OPEC Plus. They are likely to try to stay in control of the global supply by tweaking the joint production cut levels, while weighing such factors as the course of the pandemic, the progress of Iran's nuclear talks, the degree of US production increase, and the US monetary policy. Oil prices are expected to be steady in the second half of 2021 especially with the absence of US production growth. However, factors for lower prices, including the possibility of progress in Iran's nuclear talks and its consequent return to the oil market, as well as US monetary policy, must be watched.

The spot LNG price in Asia was high in June at around $10–12. Japan's average import price, which is largely oil-indexed (60–70% of imports), is currently expected to trail the spot price but will be more likely to exceed it if oil prices keep rising. The spot price is being supported by vigorous demand and the shutdown of some liquefaction plants. The growth in demand is particularly striking in China, which imported 33.23 million tonnes in January–May 2021, up 30% year-on-year and slightly more than Japan's imports for the same period. The full-year imports of both Japan and China are estimated to be around 80 million tonnes in 2021 but China could become the world's largest LNG importer for the first time. At the Special Meeting of ASEAN Ministers on Energy and the METI Minister of Japan held on June 21, Japan announced it would provide $10 billion to support LNG, renewable energy, energy efficiency, and other projects for ASEAN countries. It is hoped that this initiative will assist the energy transition in ASEAN countries while boosting the presence of Japanese companies in the LNG market.

4. Update on Policies Related to Climate Change

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On May 20, an executive order was issued in the United States requiring the Financial Stability Oversight Council to assess the climate-related risk to the stability of the US financial system and to report to the President within 180 days, including on the necessity of enhancing climate-related disclosures. The fact that the United States has begun to address climate-related financial risk marks a milestone. Meanwhile, the Biden administration is up against a wall in both the judiciary and the legislature. On June 15, the U.S. district court for the western district of Louisiana issued an injunction that blocks the Biden administration's pause on new oil and gas leasing on public lands (see the April edition of this Newsletter). The federal government has not revealed how it will respond to this ruling. Furthermore, on June 24, President Biden and a bipartisan group agreed on the infrastructure bill, which was cut back drastically, including the removal from the original plan of the clean electricity standard (CES), a focus for the Biden administration that would have set requirements on the percentage of renewable power sources and others. The President is now expected to include CES in the "budget reconciliation bill" which can be passed with a simple Senate majority, but seems to have difficulty getting political support from moderate Democrats such as Joe Manchin from West Virginia.

On May 26, China's leaders group for the works of carbon peaking and carbon neutrality convened its first plenary meeting. This is the first climate-related major group to be launched since the one on climate change and energy conservation in 2007. On the same day, Liu Youbin, spokesperson for the Ministry of Ecology and Environment, said at a press conference that the trading system of the national emissions trading scheme will be launched at the end of June as scheduled.

On June 17, the meetings of the Subsidiary Bodies of the UNFCCC, which had been held online since May 31 in preparation for COP26, closed. While topics such as rules for international credit trading, common tabular formats for ex-post review of the progress of each country (transparency), and common target years beyond 2030 (common time frame) were discussed, developing countries refused to move forward with the discussions citing a lack of willingness among developed countries to provide finance, and thus the discussions ended without finding a middle ground for COP26 in November. A ministerial meeting will be held in late July for discussions, including on support for developing countries.

On June 21, a Special Meeting of ASEAN Ministers on Energy and the Minister of Economy, Trade and Industry of Japan was convened. The joint statement "Enhancing Partnership in Realising Energy Transitions in ASEAN" noted the unique energy policies of each country, which address energy security, economic competitiveness and environmental sustainability based on each country's circumstances, and welcomed Japan's "Asia Energy Transition Initiative (AETI)," which includes $10 billion financing support for renewable energy, energy efficiency, LNG and other projects.

At the meeting, the Economic Research Institute for ASEAN and East Asia (ERIA) reportedly outlined the results of a model analysis for the case where ASEAN countries reach net-zero emissions between 2050 and 2070. The results showed that even assuming that ASEAN countries decarbonize by 2070, the amount of additional investment over the baseline would be 4.8% of GDP in 2070 and electricity tariffs would triple. Thus, reaching net-zero emissions even by 2070 will be a daunting challenge for ASEAN. The efforts of ASEAN nations themselves and the supports of Japan will be tested in controlling the cost of measures and pursuing decarbonization in a realistic manner.

5. Update on Renewable Energies

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Offshore wind initiatives under the New Offshore Use Act for Offshore Wind Projects enacted in April 2019 are gradually firming up. The operator for the offshore wind project off the coast of Goto City, Nagasaki Prefecture, was selected in June after a year-long public selection process. Under the Act, the area has been designated as a promotion zone for the development of marine renewable power plants. There was just one applicant (a consortium) and the power plant is small at just 17 MW, but Japan's first floating offshore wind project is still remarkable. Furthermore, the public call for applications for Japan's first fixed-foundation wind power project that began in November last year for four offshore promotion zones in Akita and Chiba Prefectures was closed at the end of May. Operators are due to be selected in the autumn. A total grid capacity of about 1.5 GW has been secured for these zones. These new development projects are of great significance considering that Japan's cumulative installed offshore wind capacity is just 65 MW, or 54 MW excluding the Fukushima floating wind power plant which is scheduled to be dismantled.

Expectations are rising for offshore wind power as a means to reach carbon neutrality by 2050 due to the lack of suitable land for new commercial solar PV and onshore wind power plants, as is being discussed in government councils. The government seeks to attract investments by committing to designating promotion zones for 1 GW of offshore wind power each year, creating projects for 10 GW by 2030 and 30–45 GW by 2040. The keys are reducing costs and fostering related domestic industries.

Regarding costs, the purchase price is set at 36 yen/kWh for the Goto City offshore project and to a maximum of 29 yen/kWh for the other four projects. Though the purchase prices will not be final until operators are selected, they are still far from those in Europe where purchase prices for many projects are less than 10 yen/kWh. Japan's offshore wind development has only just started and it is difficult to assess the possibility of future cost reductions. We must closely watch how the initiatives are carried out to lower onshore wind power costs to 8–9 yen/kWh by 2030–2035, a target set by the Public-Private Council on Enhancement of Industrial Competitiveness for Offshore Wind Power Generation.

In terms of fostering related domestic industries, factors such as enhancing the competitiveness of related industries, building clusters of related industries, and upgrading infrastructure and the environment have long been considered crucial for the economically-rational growth of offshore wind power. The Council has set a target based on that of the UK Offshore Wind Sector Deal, which aims to raise the domestic procurement ratio to 60% by 2040 by promoting domestic related industries. There are some good signs, including the recent news on JFE Engineering opening a factory in Japan for building foundations (monopiles) for fixed-foundation offshore wind power plants, and Toshiba Energy Systems' alliance with US General Electric to manufacture nacelles in Japan.

Japan's solar PV started out with generous purchase prices but with inadequate industrial policies, eventually lost competitiveness, and faced a barrage of Chinese and other foreign products. Consequently, the percentage of domestic products in domestic shipment fell from around 60% at the launch of the FIT system to 16% in fiscal 2020. It is not clear whether Japan can develop a healthy offshore wind power sector by learning from the experience of solar PV and setting an expansion target that is accompanied by lowering costs and promoting related industries.

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