



IEEJ e-NEWSLETTER

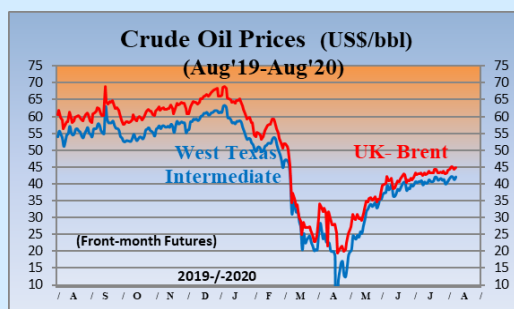
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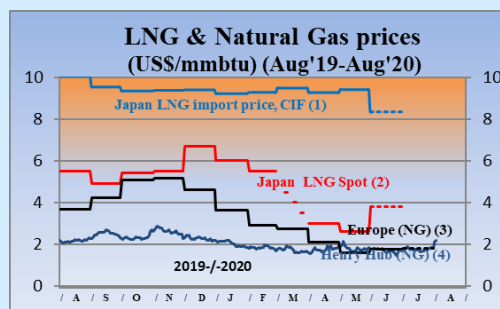
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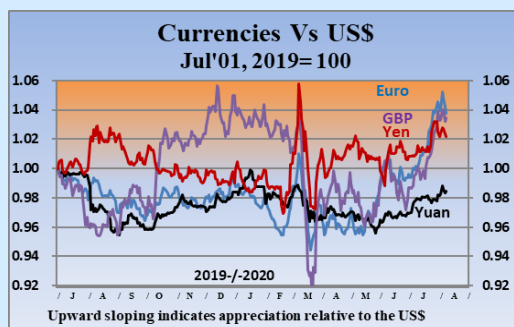
(As of August 10, 2020)



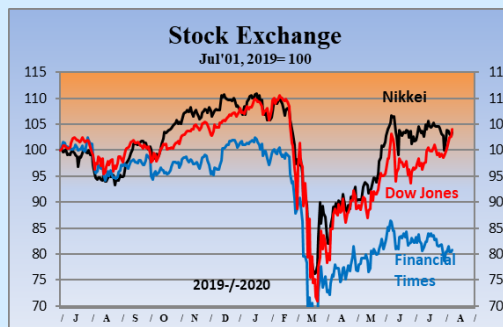
Sources:
(1) DOE-EIA
(2) Investing.com



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

Contents

Summary

【Energy Market and Policy Trends】

1. Developments in Energy Policies
2. Developments in Nuclear Power
3. Recent Developments in the Oil and LNG Markets
4. Update on Policies Related to Climate Change
5. Update on Renewable Energies



Summary

【Energy Market and Policy Trends】

1. Developments in Energy Policies

The Strategic Policy Committee of METI's Advisory Committee for Natural Resources and Energy was convened after a roughly 10-month hiatus. Committee members mostly commented on nuclear power, which has made little progress in restarting, as well as the impact of the Covid-19 pandemic.

2. Developments in Nuclear Power

The OECD/NEA suggested that small modular reactors (SMRs) with their superior economic efficiency and flexibility may become a game-changer in the post-Covid-19 energy market.

3. Recent Developments in the Oil and LNG Markets

International oil prices are in a temporary lull, and the impact of the scaling-back of the OPEC Plus production cut from August deserves attention. European and U.S. oil refineries are considering survival strategies such as cutting capacity and altering how they operate amid the worsening business environment.

4. Update on Policies Related to Climate Change

A review of climate actions, including the fading-out of inefficient coal power plants, has started in Japan. In the U.S., Joe Biden announced a new clean energy platform.

5. Update on Renewable Energies

The new hydrogen strategy of the EU further clarified the role and purpose of green hydrogen as one of the options for achieving climate neutrality through energy system integration, which the EU has long advocated.



1. Developments in Energy Policies

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On July 1, the 31st Strategic Policy Committee of METI's Advisory Committee for Natural Resources and Energy was convened after a roughly 10-month hiatus to discuss the direction of energy policies taking account of the impact of the Covid-19 pandemic.

With the revision of the Strategic Energy Plan due to start next year, the moderator reminded the members that the energy situation is changing due to Covid-19. The moderator pointed out that energy consumption and supply may undergo structural changes through increased teleworking, accelerating digitalization and the use of AI, and shrinking upstream investment, and that the changes may be irreversible even after the crisis ends. Six challenges to be addressed were indicated: (1) considering measures for improving and optimizing energy demand as a whole for the "with Covid-19" era, (2) supporting and promoting energy transformation (electrification, introduction of hydrogen), (3) stably procuring resources and fuels, (4) upgrading the environment to enable investments in energy and environmental innovation to be executed as scheduled, as well as promotion of digitalization, (5) introducing more carbon-neutral energy sources including hydrogen, and (6) further strengthening energy resilience.

The Committee members commented mainly on two points: nuclear policy and the impact of the Covid-19 pandemic. Regarding nuclear policy, many expressed the need for direct debates to regain public trust, on the regulatory and assessment framework, rebuilding of nuclear power plants, and training and maintaining engineers amid concerns that the 20-22% target share of nuclear power may not be met because many plants remain offline.

With Covid-19 certain to change lifestyles, some members saw the emerging trend of teleworking and migration out of cities as an opportunity to promote distributed energy resource, while others thought that improving efficiency in the residential sector will be a challenge as it is not covered by the Act on the Rational Use of Energy. Some also thought that the Strategic Energy Plan, which so far has focused almost exclusively on the supply side, should be rebalanced to address the demand side as well.

Regarding how discussions should be conducted, opinions such as the need to incorporate public opinion and to employ an evidence-based review mechanism were raised.

IEEJ President and CEO Masakazu Toyoda commented as follows:

- Energy demand has shrunk due to the Covid-19 pandemic and the prices of oil, gas, and even wholesale electricity have dropped. This raises the risk of insufficient investment. I am concerned that upstream investment cannot be secured for oil and gas without JOGMEC's lead, or for power sources without implementing the Cash for Difference (CFD) mechanism.
- With the EU advocating a green recovery and the IEA a sustainable recovery, it is important for Japan to back a "green & blue recovery," to focus not only on energy conservation and renewables but also decarbonization of fossil fuels through oil- and gas-sourced hydrogen and ammonia. Japan should work with oil-producing countries that are trying to accelerate the shift to a circular carbon economy.
- The restarting of nuclear power plants should be speeded up. The nuclear regulations of Japan are not ideal and need to be improved in some areas compared to those of Europe and the U.S. The IAEA states that regulations should be optimum and that their principal objective should be to make nuclear power function while securing safety.



2. Developments in Nuclear Power

Tomoko Murakami, Senior Economist, Manager
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As developed Western countries reopened their economies one after another from late June to mid-July, a series of international organizations issued policy statements stressing the importance of nuclear power for economic recovery.

The Nuclear Energy Agency (NEA) of the OECD issued four policy briefs from June to July. In these briefs, the NEA reiterated the substantial contribution of nuclear power to a stable supply of electricity, with nuclear power stations in various countries operating stably amid the pandemic to supply electricity to hospitals, homes, and other key consumers, and continuing to provide factories and businesses with the electricity needed for economic recovery after restarting economic activity.

Around the same time, on July 9, the World Nuclear Association (WNA) released a statement noting that nuclear new builds will serve as the driver for sustainable regional and national economic growth, and that governments must take appropriate initiatives to ensure that finances will not be a hindrance.

In these policy messages, nuclear expert organizations all stress the contribution of nuclear power to economic activity and jobs, and ask for government assistance. So too is the International Renewable Energy Agency (IRENA), but for renewable energy and its effect on economic recovery and employment. To ensure that the importance of nuclear power for economic recovery is widely recognized, rather than just waiting for governmental support, it is necessary to demonstrate that nuclear power is an economically viable private-sector business.

There has been progress in several nuclear new build projects in emerging countries. On July 9, the China National Nuclear Corporation finished loading initial batches of fuel at its Tianwan Unit 5 (1,118 MW) currently under construction. The plant is set to start commercial operation in 2021 as China's 48th commercial nuclear power plant.

On July 14, the construction of Unit 2 of the UAE's Barakah Nuclear Power Plant was completed and the plant was officially handed over to Nawah energy company, an operation and management subsidiary of the Emirates Nuclear Energy Corporation. Unit 1 is already loaded with fuel and is undergoing pre-startup testing, and is scheduled to start commercial operation in 2021.

On July 15, fuel loading began at Leningrad II-2 under construction in Russia. The plant was due to start operation in February 2021 but this has been put back six weeks to April 2021 due to Covid-19 (as reported in the June edition of this Newsletter). With no further delays since then, the plant is set to start operation as scheduled.

The five OECD/NEA webinars held in June on the subject of small modular reactors (SMRs) suggested that the superior economic efficiency and flexibility of SMRs may make them a game-changer in the post-Covid-19 energy market. To make this happen, it is essential that a licensing system suitable for SMRs be established in the next ten years. (As of July 25)



3. Recent Developments in the Oil and LNG Markets

Yoshikazu Kobayashi, Senior Economist
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International oil prices are in a temporary lull with little change, with Brent remaining in the low \$40 range since last month. OPEC Plus is set to scale back the current agreed reduction (9.7 mb/d) by 2.0 mb/d (that is, to increase production) from August, and it deserves attention how this increased production will affect the future price levels.

The impact of Covid-19 on demand for petroleum products is threatening oil refineries worldwide. According to the IEA's monthly Oil Market Report for July, refining margins were far below their past three-year average for gasoline and middle distillates in all major oil markets of North America, Europe, and Asia. The business environment surrounding European oil refineries has been particularly tough as the pre-existing structural decline in oil demand was combined with government efforts to boost EVs to reduce CO₂ in the transport sector, accelerating the decline in demand for oil. The situation is now deteriorating further as Covid-19 hits the economy and demand, and more closures and suspensions of business are being considered in the U.K., Belgium, and Italy. Meanwhile, in the U.S., on June 1, Holly Frontier revealed plans to invest up to \$175 million to convert its small-scale Cheyenne refinery (capacity: 52,000 b/d) into a biodiesel refinery. According to the Financial Times, European oil companies such as Total and Eni are also considering similar conversion plans. As the environment surrounding oil refineries undergoes a major transformation, refining companies in Europe and the U.S. are exploring survival strategies including new ways of operation.

Regarding climate action in the oil and gas industry, on July 15, the Oil and Gas Climate Initiative, an organization that includes the world's key oil companies such as ExxonMobil, Shell, Saudi Aramco and CNPC, revealed plans to lower the upstream CO₂ intensity of its members from 22.1 kg CO₂e/boe (CO₂ equivalent per barrel of oil equivalent) in 2018 to 20–21 kg CO₂e/boe in 2025. While the numerical improvement is not huge, the new target deserves attention for setting a unified emission reduction target, which is an unprecedented move by an association of international and state-run oil companies with varying stances on climate change.

In the area of domestic policies, on July 1, METI's Natural Resources and Fuel Committee discussed the post-Covid-19 resources and fuel policies. IEEJ Chairman and CEO Masakazu Toyoda pointed out the need to consider acquiring upstream resources taking advantage of the current low oil prices, establishing a new pricing mechanism in the LNG market, building joint Asia-wide stockpiles, and setting up a flexible framework for increasing oil stockpiles to stabilize the international oil market when demand falls sharply.

Japan's average LNG import price fell about \$1/MMbtu MoM in June to \$8.4/MMbtu. The impact of the oil price crash, which appears in the price with a 3- to 4-month time lag, has started to show, and the price is expected to continue to fall in the next few months. Meanwhile, the spot price for Northeast Asia was in the lower \$2 range; the gap remains large.



4. Update on Policies Related to Climate Change

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Japan is taking climate actions in line with the Plan for Global Warming Countermeasures adopted by the Cabinet in 2016. To achieve the 2030 energy mix, electricity generators must improve the efficiency of their thermal power plants based on the Act on the Rational Use of Energy. Further, as a long-term initiative, the Environment Innovation Strategy was formulated in January 2020 based on the Long-Term Strategy under the Paris Agreement to spur disruptive innovation. A review of such climate actions has been launched.

To ensure the fading-out of inefficient coal-fired power plants by 2030 as stipulated in the Strategic Energy Plan, Economy and Trade Minister Kajiyama ordered the ministry on July 3, to start a discussion in July on the introduction of new regulatory measures and the establishment of a mechanism to induce early exit of inefficient coal-fired power plants, and to compile a proposal. Accordingly, the Electricity and Gas Basic Policy Subcommittee under the Electricity and Gas Industry Committee of the Advisory Committee for Natural Resources and Energy was convened on July 13 to discuss the direction of fading-out inefficient coal-fired power plants. It was decided that new regulatory measures will be discussed at the Joint Working Group under the Electricity and Gas Basic Policy Subcommittee and the Energy Efficiency and Conservation Subcommittee.

Regarding coal-fired power, on July 9, the Meeting on Strategy related to Infrastructure Export and Economic Cooperation was convened at the Prime Minister's Office, and the outline of the new infrastructure export strategy was decided. According to the outline, Japan will adopt the basic policy of "supporting infrastructure export that encourages decarbonization policies," under which Japan will present options such as CCUS/carbon recycling that contribute to CO₂ reduction, and will help governments formulate long-term strategies under the Paris Agreement. The outline also clarified that the government will support the export of a coal thermal power plant only if it is an Ultra Super Critical (USC) plant with an efficiency of at least 43% or which uses CCUS/carbon recycling to keep its CO₂ intensity per unit output equivalent to that of an IGCC or lower.

In the area of innovation, on July 7, the cabinet office and three ministries collaboratively held the first Green Innovation Strategy Meeting. The Meeting and its Working Group will discuss the follow-up and revision of the Environment Innovation Strategy as well as actions for various technological areas and acceleration plans, aiming to compile a proposal within this year.

Japan's nationally determined contributions communicated to the U.N. in March clearly states that Japan will carry out a review on its Plan for Global Warming Countermeasures. Accordingly, it was decided to set up a joint meeting under the METI's Industrial Structure Council and the Environment Ministry's Central Environment Council in August to review the Plan for Global Warming Countermeasures and discuss the direction of climate actions taking into account the impact of Covid-19.

In the United States, on July 8, the Biden-Sanders Unity Task Force Recommendations were unveiled, and on July 14, Joe Biden announced the new clean energy platform, which includes an additional \$2 trillion investment in sustainable infrastructure and clean energy over his first term. How this platform will contribute to or affect support for Biden deserves attention.



5. Update on Renewable Energies

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A series of hydrogen strategies were formulated in Europe recently: by the Netherlands in April, Norway and Germany in June, and the European Commission in July. Eager to introduce more renewable energies, many expected Europe to limit its strategies to green hydrogen (renewable-sourced hydrogen); however, most strategies recognize that blue hydrogen (hydrogen from fossil fuel tied with CCS) is useful in the short to medium term, while setting green hydrogen as the ultimate long-term goal.

Most notable among these moves was the release of “A hydrogen strategy for a climate-neutral Europe” (the Hydrogen Strategy) and simultaneously “An EU Strategy for Energy System Integration” (the Integration Strategy) by the European Commission. These documents define the role and purpose of green hydrogen in the process of going climate neutral.

“A hydrogen strategy for climate neutral Europe” aims to install at least 40 GW of renewable hydrogen electrolyzers by 2030 and produce up to ten million tonnes of green hydrogen in the EU. However, the EU’s hydrogen consumption in 2030 is estimated at 2.5 million tonnes, just 1% of the current final energy consumption of the region. However, the significance of this tiny amount of green hydrogen is revealed in “An EU Strategy for Energy System Integration.” The Integration Strategy sets out the path to achieve sector coupling, which Europe has been advocating. To achieve carbon neutrality, in addition to individual efforts in the electricity, gas, heat, and transportation sectors, it is necessary to integrate the electricity sector with other sectors and to supply them with renewable energy, to make the entire energy system carbon neutral. The key to this endeavor is EVs and batteries for connecting the power system with the transportation sector, as well as heat storage technology that connects the power system with the heat sector. The Integration Strategy clearly indicates that green hydrogen from excess grid electricity and green hydrogen-sourced synthetic fuel will be supplied to sectors such as chemicals, oil refining, steel, large automobiles, railroad, shipping, aviation and other sectors which are still technically difficult to decarbonize. It must also be noted that the Integration Strategy mentions the importance of water electrolysis, as it provides load frequency control capability that contributes to enhancement of grid flexibility, as well as existing city gas infrastructure such as gas storage facilities, which can store energy by integrating the energy system using green hydrogen.

In conclusion, in Europe, green hydrogen has a complementary role as an energy to be supplied to the last remaining “hard-to-decarbonize” sectors to complete the decarbonization process under the Integration Strategy, which is designed to integrate existing energy infrastructure and to achieve electrification, energy conservation, shift to renewable energy, energy storage, and digitalization of the system as a whole. The Hydrogen Strategy does not exist independently, and is not complete on its own.

The Covid-19 pandemic may turn out to be a tailwind for green hydrogen in Europe. While in many countries the system is designed so that renewable energy is supplied with priority, more renewable power will be subject to curtailment if the Covid-19 lingers and electricity demand falls. Meanwhile, if renewable capacity continues to expand due to the green recovery plan and others, output will be curtailed even more heavily and surplus electricity will soar, which may be used to accelerate the production of green hydrogen.



Past IEEJ Events

Energy and Economy Indicators of Japan

IEEJ Homepage Top

Back Numbers of *IEEJ e-Newsletter*

Back Numbers of *IEEJ Newsletter* (Original Japanese Version - Members Only)



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