



# IEEJ e-NEWSLETTER

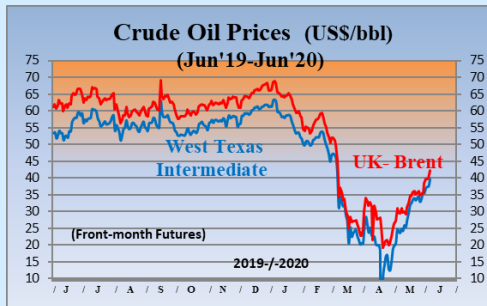
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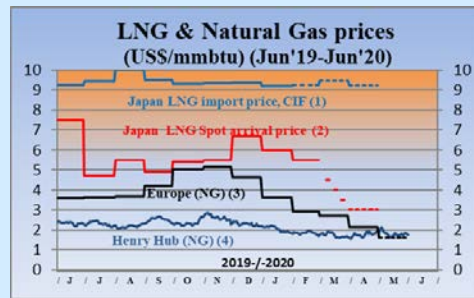
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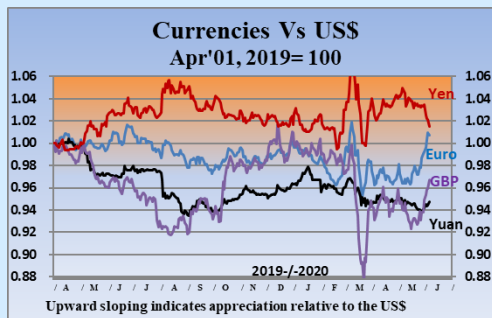


Source: DOE-EIA, Financial Times, NASDAQ



Sources:

- (1) Ministry of Finance "Japan Trade Statistics"
- (2) Ministry of Economy, Trade and Industry (arrival month basis)
- (3) Estimated by World Bank (Netherland Title Transfer Facility)
- (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**

On May 20, Kyushu Electric's Sendai Unit 2 was halted for periodic inspection. As Takahama Units 3 and 4 are also scheduled for a long-term shutdown for periodic inspection and the construction of specialized safety facilities (leading to total five reactors to be under outage), the ratio of nuclear power in the energy mix is expected to decrease.

#### **2. Recent Developments in the Oil Market**

Oil prices are recovering as the supply glut is expected to ease. However, prices may come under downward pressure again depending on the course of the Covid-19 pandemic and the situation in the US.

#### **3. Recent Developments in the LNG Market**

Japan's LNG import has been in the lowest level since 2010 during the last several months. Vigilant eyes are on development activities of new LNG production projects to meet future demand.

#### **4. Update on Policies Related to Climate Change**

The detailed recovery plan to be released and subsequent discussion must be watched, especially on the scope of expenditure and, for hydrogen, whether the scope will include both green and blue hydrogen.

#### **5. Update on Renewable Energies**

There are moves to place renewable energy at the center of economic recovery from the coronavirus. However, attention must be paid to the slowdown in introducing renewable energy and the current decline in cost-competitiveness.



## 1. Developments in Nuclear Power

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

On April 30, US power producer Entergy permanently closed Unit 2 of its Indian Point Nuclear Power Station (1,062 MW, PWR). The plant had had an excellent operating record since starting operation in 1974, with a capacity factor of 91.5% in 2018. Entergy is also set to permanently close Indian Point Unit 3, which also had a high capacity factor of 92.3% as of 2018, on April 30, 2021. These closures reflect the harsh conditions of New York's wholesale electricity market, which is forcing the closure of even those plants with top operating records. With these closures, the US now has 95 reactors (approximately 100.4 GW in total) as of May 2020. The world is watching whether anything can be done to stop the decrease in operating reactors.

From April 20 through 22, amid the disruption in international travel due to the coronavirus, Finnish nuclear regulator STUK used Skype to conduct the vendor inspection for the Hanhikivi Nuclear Power Plant, which is being proposed for construction, the world's first such inspection by this method. Over 30 members participated from Rosatom group company RAOS, the supplier of Unit 1, to answer numerous questions regarding regulatory requirements, work process and quality control. STUK is also keenly interested in future process control and requires the Russian side to employ a strict project management system. The use of Skype for vendor inspections may slim down the current regulatory scheme which involves a lot of paperwork.

Meanwhile, on May 19, Rosatom's operations arm Rosenergoatom reported to Russia's electricity market regulators that the start of power transmission from Leningrad II-2, currently under construction, will be delayed by about 6 weeks from the initial plan to April 1, 2021. The delay occurred because the employees of the French company in charge of diesel generator installation returned to France from February to March 2020 to avoid becoming infected by the coronavirus. Rosenergoatom argues this delay is a case of force majeure and has demanded that regulators exempt the company from the 360 million-ruble fine (approx. \$5 million).

Being fined \$5 million for a six-week delay in starting power transmission is almost unheard of for nuclear new build projects in developed countries like the United States and Japan. However, introducing a system for grid operators to fine companies for delays caused by non-force majeure reasons, such as poor project management, is worth considering for developed countries seeking to minimize frequent delays in nuclear new build projects.

On May 20, Kyushu Electric's Sendai Unit 2 was halted for periodic inspection. The plant is believed to have shut down in connection with the May 21 deadline for constructing a specialized safety facilities building. As Takahama Units 3 and 4 are also scheduled to undergo a long-term outage including the construction of such facilities, the ratio of nuclear power in the energy mix is expected to decrease.



## 2. Recent Developments in the Oil Market

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

The number of Covid-19 cases has surpassed five million, but the pace of the increase is slowing compared to March and many countries have begun to ease travel restrictions and quarantines. Oil prices were relatively stable in May after a historic fall in April, with Brent returning to \$35 on the 20th. Behind the price increase are expectations that oil demand will recover as travel restrictions and quarantines are relaxed and economies open up, and that the supply glut will ease as OPEC Plus deepens production cuts and some countries bring their production cut schedule forward.

The IMF's World Economic Outlook released in April 2020 forecasts that if the pandemic ends in the second half of 2020, the global GDP growth rate will drop to minus 3.0% in 2020 but bounce back to 5.8% in 2021. However, if the pandemic is prolonged and a second wave hits in 2021, GDP will not recover in 2021 and will remain sluggish. An estimate by the IEEJ based on this outlook predicts that if the pandemic ends in 2020, demand will bottom out in 2020 Q2 at 83.3 mb/d and climb to 102.9 mb/d in 2021 Q4. However, if the pandemic is prolonged and a second wave hits in 2021, oil demand will fall to as low as 82.1 mb/d in 2020 Q2 and will increase only to 92.9–102.0 mb/d in 2021 Q4. To deal with this unprecedented loss of demand, a scheme transcending the conventional OPEC Plus framework was established. In addition to the 9.7 mb/d cut by OPEC Plus, Norway will curtail its production by 0.25 mb/d. Saudi Arabia and Kuwait apparently started to cut production in April, ahead of schedule. Further, with China, India, South Korea, and the United States boosting their strategic stockpiles, 2.0 mb/d of surplus in the market can be absorbed in 2020 Q2.

It goes without saying that containing Covid-19 quickly is the key to stabilizing supply and demand. If Covid-19 ends in 2020 Q2 and production cuts are steadily implemented, demand will surpass supply from Q3 onward. However, if the pandemic is prolonged and surges again in 2021, massive production cuts must be continued beyond 2020 Q3. The recovery of the supply and demand balance in the US is also a key. In the US, lockdowns are being eased and oil production is decreasing, thus easing storage capacity constraints. However, like other countries, some are concerned that the US pandemic may continue, and an even worse supply glut and storage capacity constraints might still occur. Also, production may stop decreasing as prices recover.

Oil demand has finally begun to recover with the reopening economies. However, the number of new Covid-19 cases is still high and the pandemic will take time to be brought under control. On May 8, the IMF mentioned the possibility of a downward revision to its outlook mentioned earlier. If supply and demand become unstable, storage capacity constraints may tighten, and oil prices may come under downward pressure again depending on the course of the Covid-19 pandemic and the situation in the US.





### 3. Recent Developments in the LNG Industry

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

Japan's LNG import in April 2020 was 5.13 million tonnes, the lowest since May 2010, and a decrease by 8.8% year-on-year. The average import price was USD 9.29 per million Btu, three times as high as assessed spot LNG prices for the month. On the other hand, the average LNG import price is expected to decline to USD 6s or lower from July with the average crude oil import price of USD 42s per barrel in April. Japan's LNG import during the first quarter of 2020 amounted to 21.36 million tonnes, decreasing by 3.7% from one year earlier. Japan's yearly LNG import for the fiscal year 2019 (April 2019 - March 2020) was also the lowest since the fiscal year 2011 at 76.50 million tonnes, a decline of 5% year-on-year.

The four major LNG markets in Northeast Asia increased LNG imports during the first quarter of 2020 by 3.4% year-on-year to 53.39 million tonnes, which was still 1% smaller than the same period in 2018. Although Korea drove the volume growth in the region during the period in 2020, the country's LNG import only returned to the level in the same period in 2018. During the first quarter of 2020 China's LNG import grew by 2.2% or 0.33 million tonnes, much smaller than high growth rates in the previous several years. According to data from the China's central government, the country's natural gas consumption during the first quarter of 2020 only grew by 1.6% year-on-year to 78.5 bcm. On the other hand, development activities are underway to lead to greater LNG demand in the future, including Sinopec's Tianjin terminal expansion and a new LNG terminal project in Shandong by PipeChina which was established as a national pipeline company in December 2019.

As of the end of April 2020, gas prices for front-month delivery in the United States and Europe and assessed spot LNG prices for delivery in immediate future were all below USD 2 per million Btu. Among them the Henry Hub price of the United States was the most expensive. Therefore, at this moment LNG from the United States has lost cost advantages in Asia as well as in Northwest Europe. In parallel with this, LNG supply capacity in the United States keeps on expanding, as the third train at Freeport LNG in Texas has started commercial operation, the third train at Cameron LNG in Louisiana has produced initial LNG volumes, and the remaining facilities at Elba Island LNG in Georgia are undergoing commissioning activities.

Development activities of new LNG liquefaction projects have been expected to slow down due to the COVID-19 and bearish energy prices. Those projects on which final investment decisions had been made have been restricted either by preventative measures to contain the virus spread or some actual cases of infection. A project intends to finalize its construction schedules only after the situation has stabilized. Therefore, some delays from the previously intended project operation should be expected. Meanwhile, as real disruptive effects caused by the spread of the virus on LNG demand are expected to be felt from the second quarter of the year, reduction of LNG demand by dozens of cargoes per month is likely to lead to reduced utilization rates of liquefaction trains and forced outages of some facilities.



## 4. Update on Policies Related to Climate Change

**Takahiko Tagami**, Senior Coordinator, Manager  
Climate Change Group  
Climate Change and Energy Efficiency Unit

On May 27, the European Commission put forward its proposal for the recovery plan as part of the revised draft EU budget for the next seven years (2021–2027).

On April 22, the Dutch government floated its priorities for an EU green recovery regarding the scope of expenditure: (1) the taxonomy and the sustainability proofing guidance made by the European Commission can be used to determine the criteria, and (2) the exclusion list for the Just Transition Fund (JTF), which provides support to territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy (see the article ‘EU: Announcement of the Just Transition Mechanism’ in the February issue of this Newsletter), should be used as the starting point for an exclusion list for this expenditure. The proposal for a regulation establishing the JTF states that the JTF shall not support the decommission or the construction of nuclear power stations and investment related to the production, processing, distribution, storage or combustion of fossil fuels. The Dutch government also requested to scale up the deployment of clean hydrogen, which was focused in its vision for hydrogen unveiled on March 30.

On May 18, France’s President Macron and Germany’s Chancellor Merkel announced a French-German initiative for the European recovery from the coronavirus crisis. The initiative proposed speeding up the green and digital transitions as one of its four measures and reaffirmed the European Green Deal as the EU’s new growth strategy. To this end, the initiative also proposed increasing the EU targets of emission reduction in 2030 in synchrony with a package of efficient measures to avoid carbon leakage including a carbon border mechanism, and the introduction of minimum carbon pricing in the EU Emissions Trading System.

The partially leaked working document for the draft green recovery plan includes building renovation, renewables and hydrogen, and clean mobility. Regarding hydrogen, the plan lists Scaling up clean hydrogen production: “1 Million ton of clean hydrogen,” and proposes a “carbon contracts for difference (CCfD)” pilot scheme which could bridge the cost gap between conventional (grey) and decarbonized (green and blue) hydrogen.

On May 8, five economists including world-renowned Dr. Stern and Dr. Stiglitz published a paper in the Oxford Review of Economic Policy on the impact of COVID-19 fiscal recovery packages on climate change. They surveyed 231 economic experts from G20 countries on 25 major fiscal recovery archetypes. They identified five policies with high potential on both economic multiplier and climate impact metrics: (1) connectivity (clean transport and communications) infrastructure investment, (2) general R&D spending, (3) education investment, (4) clean energy infrastructure investment, and (5) clean R&D spending.

The detailed recovery plan to be released and subsequent discussion must be watched, especially on the scope of expenditure and, for hydrogen, whether the scope will include both green and blue hydrogen.



## 5. Update on Renewable Energies

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

According to the IEA's Global Energy Review 2020 released at the end of April, renewable energy including large-scale hydropower will account for 30% of the world's total power generation in 2020, up from 28% in 2019. The report concludes that the coronavirus catastrophe will not have such a large impact on renewable energy, though it also points out the uncertainty of a complete recovery of the wind power supply chain and the concerns over the slowdown of medium- and small-sized solar power, which has grown rapidly in recent years.

In an online meeting, energy ministers of mainly European countries confirmed the importance of placing "green stimulus" such as renewable energy at the center of economic recovery plans from the coronavirus. In the same spirit, the United Nations has also published a roadmap for boosting the economy and protecting jobs while remaining consistent with the decarbonization policy as a guideline for recovering from the coronavirus crisis. The World Economic Forum is concerned that the coronavirus may slow down the energy transition, but considers that the current crisis is also an opportunity to speed up the transition through structural changes in energy-related industries.

However, these statements are "beliefs" that the coronavirus-triggered economic crisis will not disrupt decarbonization efforts to date, rather than objective "forecasts." Although the virus may not have a major impact on renewable energy as indicated by the IEA's outlook, the situation is still very serious, with some notable cases in biofuel and renewable power generation.

First is biofuel. Plummeting oil prices have eroded the price-competitiveness of biofuel, and, coupled with the decline in fuel demand in the transportation sector, biofuel refineries are being forced to cut production or suspend operations in Brazil, the EU, the US, and others. In Malaysia and Indonesia, there are moves to postpone the target for introducing biodiesel. In Thailand, some bioethanol plants are being repurposed to produce medical alcohol.

Next, regarding renewable power generation, declining cost-competitiveness is becoming a serious concern, perhaps more serious than the slow recovery of supply chains. Solar PV and wind power incur extremely large capital costs in comparison to the total cost, and so cash-strapped investors normally borrow large amounts of money. In developing countries, there is a risk that the economic slowdown may worsen exchange rates and thus increase financing costs, causing the cost of renewable power generation to rise. A decline in wholesale electricity prices is also a concern. In Europe, wholesale electricity prices are expected to remain sluggish until around 2025 due to decreased power demand. Renewable electricity "without subsidies or premiums" normally wins bid assuming that the renewable power company can make business with only the revenue from sales to the wholesale electricity market. However, low wholesale electricity prices may cause anticipated profits to vanish and the business to collapse.

There are moves outside Japan to set renewable energy at the center of economic recovery from the coronavirus. However, the slower introduction of renewable energy and declining cost-competitiveness are issues of particular concern.



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