



# IEEJ e-NEWSLETTER

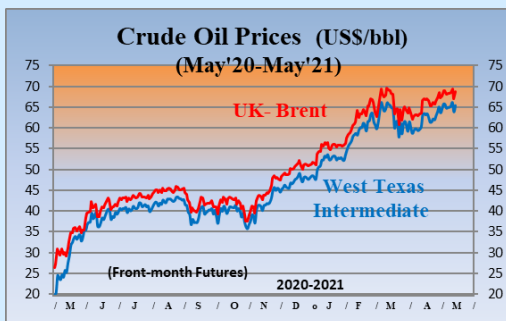
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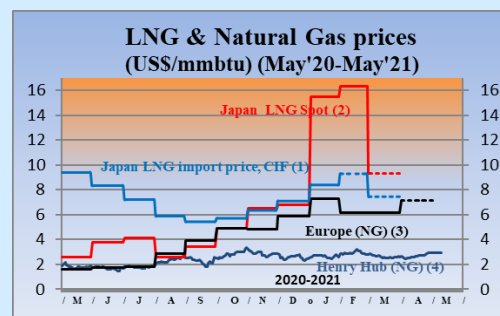
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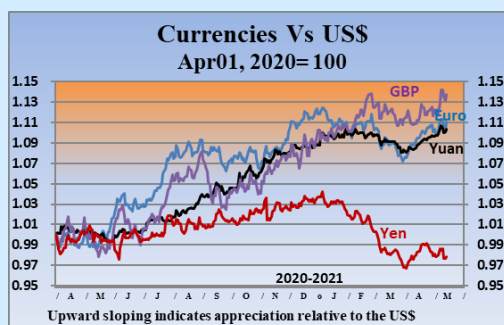
(As of May 14, 2021)



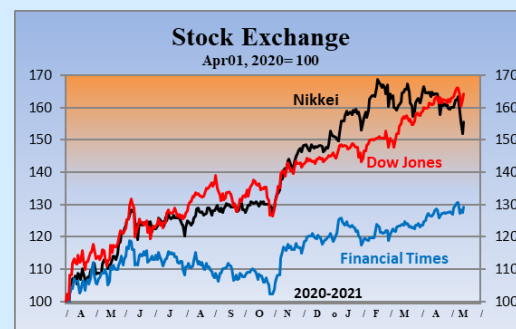
Sources:  
 (1) DOE-EIA  
 (2) Investing.com



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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## Summary

### **【Energy Market and Policy Trends】**

#### **1. Energy Policies**

Discussions on formulating the Sixth Strategic Energy Plan continue at the Strategic Policy Committee. Meanwhile, the Japanese government announced a new reduction target. Ensuring consistency between the new target and this Committee, which is currently accumulating supporting scientific evidence, is also a challenge.

#### **2. Developments in Nuclear Energy**

An administrative action was issued based on the relevant law to prohibit the movement of nuclear fuel at TEPCO's Kashiwazaki-Kariwa Nuclear Power Plant, regarding the partial loss of functions of physical protection equipment there. It will be interesting to see how TEPCO's remedial plan is evaluated.

#### **3. Recent Developments in the Oil and LNG Markets**

Oil prices are stable in the \$60 range and are becoming firmer due to the recovery of oil demand, steady production cuts by OPEC Plus, sluggish growth of US output, and decreasing OECD industry stocks. China's gas market reforms also deserve attention.

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

Japan and the US released new GHG emission reduction targets: a 46% reduction from FY2013 levels for Japan and a 50–52% reduction from 2005 levels for the US, both by 2030.

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

The discussions at the Subcommittee on Large-scale Renewable Energy Introduction and the Next-Generation Power Network revealed that many issues remain to be solved in order to expand renewable energy capacities.



## 1. Energy Policies

**Shigeru Suehiro**, Senior Economist, Manager  
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On April 13 and 22, the Strategic Policy Committee of the Advisory Committee for Natural Resources and Energy met to discuss the energy policies toward 2030. The two-day meeting discussed a wide range of topics including energy conservation, renewable energies, thermal power, nuclear power, distributed resources (including batteries), system reform, and hydrogen; this broad scope was perhaps too much to discuss in sufficient depth. Furthermore, Japan declared a new emissions reduction target of 46% from FY2013 levels (the current target is 26%) at the US-hosted Leaders Summit on Climate on the 22nd. Ensuring consistency between this target and the discussions at this Committee, which is accumulating scientific supporting evidence, will be a challenge going forward.

The Committee moderator indicated that the 2030 energy consumption outlook may be revised downward from the previous one (formulated in 2015) due to Covid-19. Meanwhile, the outlook for new renewable energy capacities will be revised upward. The share of renewable energies in power generation is estimated to increase to around 30%, a sizable jump from the previous outlook of 22–24%. For thermal power, the moderator commented that it is necessary to consider the balance between the need to decarbonize and the stable supply of thermal power as adjustment capacity to complement renewables. There were also comments that the direction of the nuclear energy policy must be determined immediately and the decision cannot be delayed considering the need to secure technologies and human resources.

Many members commented on renewables and nuclear power. In view of the increase in troubles with local communities regarding renewables, many said that collaboration with local communities and among ministries and agencies will become essential in introducing new capacities. While some members expressed concerns about the public cost burden and the impact on international competitiveness with reference to the total purchasing cost for renewables, a member representing a consumer group said that the public burden should be tolerated in order “not to pass on any burden to future generations.” Regarding nuclear power, many members said that its use should be promoted, on condition of safety, because it is a carbon-free, stable power source, but there was also a comment that nuclear power is a high business risk. Another member also expressed frustration as to when public trust will be regained, despite constant talks of achieving it.

IEEJ Chairman and CEO Masakazu Toyoda commented as follows:

- Japan has been among the top countries in energy conservation with moderate regulations and assistance to date, but there has been little progress in recent years. To make further progress, it is necessary to tighten regulations and provide stronger support.
- The previous outlook for new renewable capacities did not anticipate any rise in electricity tariffs. However, a possible rise in costs was indicated this time in the process of raising the target. Higher costs entail the risk of weakening the international competitiveness of the manufacturing sector and so costs must be thoroughly discussed.
- It is dangerous to reduce thermal power strictly based on the power mix. Thermal power is essential for output adjustment and grid inertia, and it is also possible to decarbonize while using it.
- The decision on nuclear new builds and expansions must be made before it is too late. The current discussion is about 2030, but this issue also has a bearing on 2050. While noting the importance of recovering trust and ensuring safety, nuclear new builds and expansions should be increased steadily, premised on permission by the Nuclear Regulation Authority and consent by local communities.
- The nuclear fuel cycle has merits such as reducing the use of uranium and the waste volume. Now that the procedures for establishing a final disposal facility have begun, I hope that the nuclear fuel cycle will be achieved.



## 2. Developments in Nuclear Energy

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

On April 14, the Nuclear Regulation Authority (NRA) issued an administrative action based on the relevant law that prohibits the movement of nuclear fuel at TEPCO's Kashiwazaki-Kariwa Nuclear Power Plant, regarding the partial loss of functions of physical protection (PP) equipment there. On March 23, this incident was rated Category 4 (significant material degradation of the operator's safety activities for sustained periods), the second most serious of the five response categories of additional regulatory inspections. TEPCO is scheduled to formulate a remedial action plan and report it to the NRA by September 23, 2021.

This is the first administrative action concerning reactor facility safety and nuclear security issued to a commercial power plant, and the second after the order for operational safety measures issued to the prototype fast-breeder reactor Monju of the Japan Atomic Energy Agency (JAEA). The JAEA was ultimately judged to be "ineligible as the operator of Monju" and it was later decided to decommission Monju based on a political decision. The recent incident of the loss of PP equipment function at Kashiwazaki-Kariwa is far more serious than the problems in the quality assurance system of Monju. How should TEPCO's remedial action plan be evaluated?

The first dialog forum regarding the high-level radioactive waste (HLW) final disposal facility project was held at Suttsu Town and Kamoenai Village in Hokkaido Prefecture, where a literature survey is underway, the first phase in the siting of such a facility. Representatives from the government and the Nuclear Waste Management Organization of Japan (NUMO) were present at the forum held at Suttsu Town on the 14th and in Kamoenai Village on the 15th to provide information to the town and village representatives. However, the dialog forum was strongly criticized by some as merely an "occasion for persuasion; the siting of the facility is irrevocably fixed," and so it was decided that future dialogs will not ask questions on whether the community accepts the HLW facility and that the dialogs will be held privately except for the opening.

Only a few countries in the world have decided on the siting of an HLW final disposal repository, so Japan's actions are receiving attention both domestically and internationally.

The Power Generation Cost Verification Working Group, an expert panel to revise the estimated generation cost for each of Japan's electricity sources, has been meeting since March 31 after a five-year hiatus. The topics discussed in the five meetings up to April 26 included the preconditions for costs of each source of thermal, nuclear, and renewable power generation and the definition of grid optimization costs and policy expenses. The costs of new technologies such as hydrogen and ammonia, and new phenomena and indicators such as changes in the power market resulting from introducing large volumes of variable renewable energies, provide important references for shaping the future energy mix and must be incorporated into the generation cost estimate as rationally and realistically as possible.



### 3. Recent Developments in the Oil and LNG Markets

**Tetsuo Morikawa, PhD**

Senior Economist, Manager

Oil Group

Fossil energies & International Cooperation Unit

Oil prices are trending stably. On April 1, OPEC Plus decided to ease joint production cuts from May through July. Saudi Arabia has also announced to phase out its own additional cuts. As a result, the production cuts will decrease from an estimated 6.9 mb/d in April to 6.55 mb/d in May, 6.2 mb/d in June, and 5.76 mb/d in July. Upon news of the scaling-down, Brent on April 5 dropped 5% from the previous business day to \$59 but subsequently bounced back and was in the higher \$60 range in late April.

In its monthly Oil Market Report released on the 14th, the International Energy Agency revised the 2021 global oil demand to 96.70 mb/d, up 0.2 mb/d from the March outlook. This upward revision assumes that the pandemic will subside as the vaccine is rolled out and that economic activity will accelerate, based on the latest World Economic Outlook of the IMF.

While OPEC Plus is steadily implementing its joint production cuts, the slow growth of US output is evident. As shale drillers prioritize strengthening their finances over increasing production, the oil output for March stood at 16.26 mb/d, remaining unchanged from last autumn despite recovering oil prices. The US Department of Energy estimates the 2021 output at 16.30 mb/d, which is below the 2020 production level. Due to these supply-demand conditions, industry stocks of OECD countries have clearly declined, almost reaching the average of the past five years. Thus, oil prices are becoming firmer.

In Japan, the Natural Resources and Fuel Committee of the Advisory Committee for Natural Resources and Energy met on April 23 to discuss the draft Committee report. IEEJ Chairman and CEO Masakazu Toyoda commented that the government must quickly implement powerful policies in order to achieve carbon neutrality, international rules should be established to avoid disadvantages for fossil fuels, and reloading LNG should be promoted in all of Asia to establish an Asia-wide system for accommodating LNG needs.

In China where LNG demand is growing rapidly, the gas market is being reformed. It is particularly notable that the state-run oil and gas infrastructure company PipeChina took control of the nationwide gas pipeline network at the end of March. In the context of gas market liberalization, this corresponds to the unbundling of the gas infrastructure, but its impact will reach beyond the Chinese gas market. In Europe, the unbundling began in the 1990s and led to the formation of the wholesale (hub) prices and the end of oil indexation for imported gas price contracts. China appears to be following in the footsteps of Europe and heading toward hub pricing and de-oil indexation. With China certain to become the world's largest LNG importer as early as the end of this year, if its wholesale market becomes more liquid, Chinese buyers are likely to demand that LNG import prices be linked to China's hub prices. While the end of oil indexation is not expected for at least another 10 years, it is necessary to closely analyze how gas price formation in China affects Japan's LNG import prices.



## 4. Update on Policies Related to Climate Change

**Takahiko Tagami**, Senior Coordinator, Manager  
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At the Japan-US summit meeting on April 16, the two countries released a Joint Leaders' Statement announcing that they "are committed to taking decisive climate action by 2030, both aligned with efforts to limit the global temperature increase to 1.5°C and 2050 greenhouse-gas emissions net-zero goals." They also stated in an attachment to the statement titled "Japan-U.S. Climate Partnership on Ambition, Decarbonization, and Clean Energy" that the countries will "align official international financing with the global achievement of net zero greenhouse gas emissions no later than 2050 and deep emission reductions in the 2020s, and will work to promote the flow of public and private capital toward climate-aligned investments and away from high-carbon investments."

After the Global Warming Prevention Headquarters meeting on April 22, Prime Minister Yoshihide Suga said Japan aims to reduce GHG emissions by 46% in FY2030 compared to FY2013 and will continue strenuous efforts cutting its emissions by 50% (not published as a headquarters decision). He said at a press briefing that the number 46% was the result of a bottom-up analysis by the government (though not by the Strategic Policy Committee of the Advisory Committee for Natural Resources and Energy). Furthermore, relevant ministers have been instructed to swiftly consider specific initiatives to meet the target. When asked about restarting nuclear power plants, the Prime Minister said renewable energies will be given priority.

On the same day, President Biden announced the US' new target of reducing GHG emissions by 50–52% from 2005 levels in 2030 and submitted it to the UNFCCC secretariat. This target is said to have been set based on a detailed bottom-up analysis, consultation with stakeholders, and consideration of multiple pathways, but documents on the quantitative analyses and modeling results are unknown at the time of writing. Simultaneously, the US international climate finance plan was released. The plan intends to double, by 2024, the US' annual public climate finance to developing countries relative to the average level during the second half of the Obama-Biden Administration. Efforts will also be made to promote improving information on climate-related risks and opportunities, identifying climate-aligned investments, managing climate-related financial risks, and aligning portfolios and strategies with climate objectives.

The Leaders Summit on Climate, hosted by the US, was convened online on April 22 and 23, attended by the leaders of 40 countries and regions. US-India, US-China, and China-EU meetings were convened in the few weeks before the Summit, but neither China nor India announced new targets. It was reported that some countries may update their 2030 targets or announce they will end funding for coal, but apart from Japan, only Canada raised its 2030 reduction target, from 30% to 40–45% below 2005 levels. South Korea stated it will further raise its 2030 NDC (the current target is a 24.4% cut from 2017 levels) and submit it to the UN within this year, and announced it will end public financing for overseas coal-fired plants. President Xi Jinping participated online from China and stated the importance of stepping up measures and international cooperation on climate change. Even as the US-China rift widens, possibilities for cooperation on climate change are appearing, though the battle between the US and China for leadership may intensify. Developments must be closely monitored.



## 5. Update on Renewable Energies

**Yoshiaki Shibata**, Senior Economist, Manager  
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In line with the Economy, Trade and Industry Minister Kajiyama's instruction in January to "discuss the targets and policies for 2030 looking ahead to 2050, and regarding renewable energies, shift gears based on the 2050 carbon neutrality target, scale up discussions, and gather the outcomes at the Strategic Policy Committee," the Subcommittee on Large-scale Renewable Energy Introduction and the Next-Generation Power Network has been discussing since March the renewable energy policy for 2030.

In the five meetings of the Subcommittee held to date, hearings of research institutes and renewable energy operators were conducted. The aim is to estimate comprehensively the realistic and economically rational amount of new renewable capacities that can be added by 2030 and to identify the challenges in expanding capacities.

The first point is securing suitable sites for solar PV and wind power. Suitable sites for ground-based solar PV plants are running out. Renewable operators suggested utilizing abandoned farmland, land whose owner is unknown, and municipal land, but Committee Members pointed out that the lost benefits these lands would have earned had they been used for their original purposes should also be considered. Further, for roof-mounted solar PV, the need to consider mandatory installation in new buildings and granting of incentives, to devise construction methods for mounting plants on existing buildings more easily, and to develop lighter solar PV plants were raised. Regarding wind power, there was an opinion that it is necessary to use forest reserves, to which Members stated that measures must be taken to use forest reserves while ensuring consistency with their original policy objectives.

The second point is the possibility of cost reduction. There was an opinion that solar PV cannot achieve the target generation cost of 7 yen/kWh before 2030 due to the high construction cost in response to disaster countermeasures, among others. The generation cost for wind power can be lowered by increasing the size of the plant and project, but transporting large blades may increase the costs.

The third point is grid enhancement. There was an opinion that "connect & manage," which is being implemented in the main power grids, should also be applied to lower-level grids and distribution networks. Renewable energy operators stressed the need to expand the system so that it supports corporate PPA, in which electricity is sold directly to consumers, so as to avoid grid enhancement.

Other opinions included the need to optimize and accelerate environmental assessments for wind power, coordination with fishing rights for offshore wind power, response to opposition by local communities and natural park regulations for geothermal power, difficulty in reducing costs due to development sites for medium- to small-sized hydropower in more remote areas, and the need to utilize domestic biomass resources.

The framework for the FIP system, which is due to commence in FY2022 aiming for self-sustained introduction of renewable energies, was mostly finalized in only February. The Committee meetings revealed that many challenges remain to be solved to expand renewable capacities.



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