



# IEEJ e-NEWSLETTER

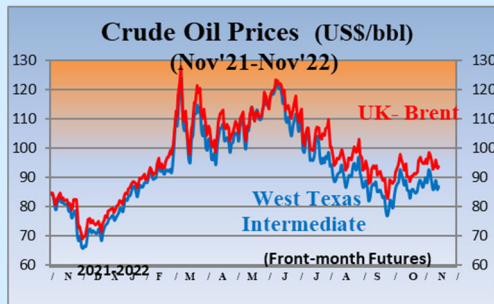
No. 239

(Based on Japanese No. 230)

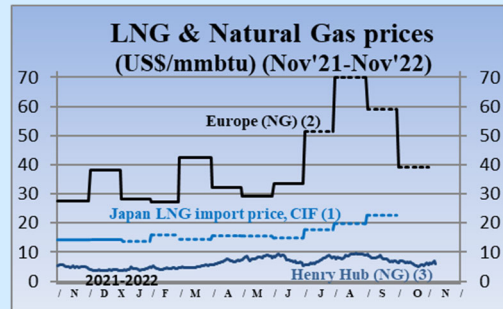
Published: November 17, 2022

The Institute of Energy Economics, Japan

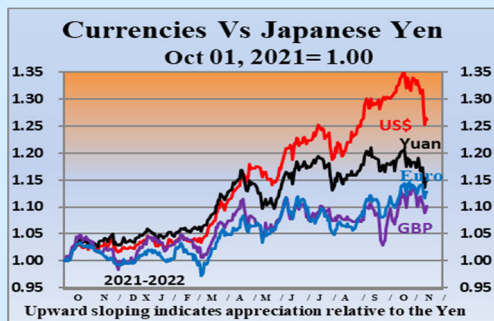
(As of November 15, 2022)



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 Nuclear Power
2. Recent Developments in the Oil and LNG Markets
3. Update on Climate Change, Energy Conservation, and Renewable Energies

#### 【Global Monitoring】

4. Europe and US: EU Strained by Soaring Energy Prices
5. China: World's Automotive Powerhouse No Longer a Dream as NEV Shift Accelerates
6. ME: OPEC Plus Decision Causes U.S.-Saudi Friction
7. Russia: Unilateral Territorial "Annexation" and Missile Strikes across Ukraine



## Summary

### **1. Developments in Nuclear Power**

Germany announced that it has decided to keep its three remaining reactors in operation, and a Canadian company announced the acquisition of Westinghouse. In Japan, the debate on the role of nuclear power continues and a review of the operational lifetime of reactors is being proposed.

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

Oil prices are under downward pressure despite OPEC Plus' decision to cut production further. Europe's plans to develop new gas price indexes indicate that the liberalized gas market is currently not functioning.

### **3. Update on Climate Change, Energy Conservation, and Renewable Energies**

In Europe and the U.S., the price of renewable energy PPAs continues to rise due to energy security reasons and accelerating decarbonization. The different policy responses taken by the U.S. and the EU are examined. The PPA model for renewable energy procurement is making progress in Japan as well.

### **4. Europe and US: EU Strained by Soaring Energy Prices**

EU leaders have agreed to set a range and a cap for natural gas prices within the region, but setting the actual levels is expected to be difficult. The EU will continue to struggle as it searches for a fundamental solution to soaring gas prices.

### **5. China: World's Automotive Powerhouse No Longer a Dream as NEV Shift Accelerates**

In September 2022, the share of NEVs in all units sold increased by 9.5 percentage points to 27.1%. As the Xi leadership starts its third term, the NEV shift is expected to accelerate. Becoming the world's automotive powerhouse is no longer a pipe dream.

### **6. ME: OPEC Plus Decision Causes U.S.-Saudi Friction**

There is friction between the U.S. and Saudi Arabia over the OPEC Plus' October 5 decision to significantly cut production. The Biden administration is critical of Saudi Arabia, which has claimed that the decision is economic and simply intended to address the supply and demand for oil.

### **7. Russia: Unilateral Territorial "Annexation" and Missile Strikes across Ukraine**

The G7 and the EU will impose additional sanctions against Russia's unilateral "annexation" of the four oblasts in southern and eastern Ukraine. Russia launched missile attacks across Ukraine in retaliation for a bridge explosion, raising fears of escalation.



## 1. Developments in Nuclear Power

**Kenji KIMURA**, Ph.D, Senior Researcher  
Nuclear Energy Group, Strategy Research Unit

As reported in this Newsletter dated October 2022, the German federal government has decided to keep two of the country's three remaining nuclear reactors in operation as backup capacity until April 2023. Subsequently, on October 17, Prime Minister Olaf Scholz decided to lay the legal framework so that all three remaining units can continue operating until April. But while successful legislation is important, it is also crucial to take measures to avoid placing excessive burdens and disadvantages on businesses due to repeated policy revisions.

On October 11, it was announced that Canadian uranium miner Cameco will team up with asset management firm Brookfield Renewable Partners to acquire Westinghouse (WH), a major American nuclear plant manufacturer. WH has incurred huge losses from the Vogtle Unit 3 and 4 construction project and was let go by Toshiba in the form of a \$1 sale, but Cameco made the decision anticipating a global expansion of nuclear power going forward. Whether this acquisition will lead to the revival of WH must be closely monitored.

In Japan, the annual meeting of the Innovation for Cool Earth Forum (ICEF) was held on October 5-6, with a session on nuclear energy on the second day. In addition to highlighting the vital role of Japan-U.S. nuclear cooperation in achieving carbon neutrality and strengthening energy security, the session introduced the latest trends in nuclear technology, such as the development of small modular reactors (SMRs) and radioactive waste disposal sites. Overall, the discussions fully reflected the recent situation surrounding nuclear power.

In Japan, meanwhile, various moves have been made toward the effective use of nuclear energy. The September 22 meeting of the Ministry of Economy, Trade, and Industry's Nuclear Energy Subcommittee raised the issue of reviewing the current rule for nuclear operations. The rule sets the operational lifetime of a nuclear power plant to 40 years in principle, with a possible one-time extension of 20 years for plants that pass a prescribed examination. This point was also tabled at the October 5 meeting of the Nuclear Regulatory Authority (NRA), and Chairman Yamanaka stated at the press conference afterward that the issue of extending operational lifetime is a matter of nuclear policy and is not something for the NRA to comment on.

Japan's current rules on operational lifetime are similar to those of the U.S.; however, the U.S. sets no limit on the number of extensions, and in fact several nuclear power plants have received regulatory approval for a second operating extension (to 80 years). In addition, the current period of "40 years" was not set on the grounds of facility safety or durability. It would be reasonable to have an opportunity to review the current rules from a scientific perspective. On October 12, Kyushu Electric Power submitted an application to the NRA for an operational lifetime extension for its Sendai Units 1 and 2. This is only the first application for extension within the current rules, but will hopefully lead to more effective utilization of existing power plants in Japan.



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

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

At its meeting on October 5, OPEC Plus decided to cut production by 2 mb/d starting in November. In September, the organization had decided to end the gradual easing of production cuts (i.e., production increase) since the second half of 2020 and start reducing production. This decision surely reflects OPEC Plus' sense of crisis over falling oil prices, driven by fears of an economic downturn. In its October 11 World Economic Outlook, the International Monetary Fund revised its forecast for global GDP growth in 2023 downward by 0.2 percentage points to 2.7%. In its October 13 Oil Market Report, the International Energy Agency revised downward its forecast for oil demand in 2023 by as much as 500,000 b/d. Now, OPEC Plus is trying to prevent oversupply and prop up oil prices, but it may not succeed. The Brent price surged to the high \$90s from around \$80 at the end of September following the decision to cut production, but fell below \$90 again by mid-October. Nevertheless, there has been a backlash in the U.S. against the production cut, and President Biden has announced that he will reconsider relations with Saudi Arabia. There are also calls in the U.S. Congress to enact the NOPEC bill, which would ban cartels involved in the production and export of oil. The U.S. has also announced the release of 15 mb of oil reserves. This is part of the 180 mb release announced in April, but it shows the Biden administration's eagerness to tame inflation as the mid-term elections approach.

Meanwhile, natural gas supplies in Europe remain unpredictable. On September 26, the Nord Stream and Nord Stream 2 pipelines were damaged, in what some believe to be intentional sabotage. On October 3-5, Gazprom stopped supplying gas to Italy via Austria, a pipeline transit country. On the other hand, gas storage in Europe has reached about 90% and is on track to meet demand this winter. Germany will import its first cargo of LNG from the UAE in December. Expansion of the pipeline from Azerbaijan is also underway. However, supplies are still far from sufficient to fully replace Russian supplies which accounted for 40% of the total European demand before the invasion of Ukraine, and the International Energy Agency considers that the European gas crisis could become even worse in 2023.

The Dutch TTF, the benchmark gas price in Europe, has been around \$30-40/Mbtu since late October. Japan's import price for October has not been published but is estimated to be about \$22. Needless to say, the sharp decline in imports from Russia and the extreme tightness of supply are the main reasons for surging gas prices in Europe. However, liberalization of the gas market has also contributed to higher prices and increased volatility by the shift from oil-indexed long-term contract pricing to spot hub pricing. In response to soaring prices, the European Commission plans to cap the TTF price and develop a new index price in 2023. If implemented, it will be a return to price regulations that were in place before the liberalization. Thus, price cap literally means dysfunctional European gas market liberalization.





### 3. Update on Climate Change, Energy Conservation, and Renewable Energies

**Hiroko NAKAMURA**, Senior Researcher  
New Energy System Group, International Partnership Group  
Electric Power Industry & New and Renewable Energy Unit

Power purchase agreement (PPA) prices for renewable energy continue to rise in Europe and the United States. According to U.S. renewable energy procurement platform provider LevelTen Energy, in the U.S., PPA prices for the third quarter of 2022 (top 25% average; the same hereafter) were \$42.21/MWh for solar PV, up 7.5% from the previous quarter, and \$49.66/MWh for wind power, up 11.4%. In the EU, solar PV prices rose by 15.4% to €68.57/MWh and wind power prices by 8% to \$78.50/MWh. The increase was even steeper year on year at 30-40% in the U.S. and about 50% in the EU. Among the causes are the rising prices of input goods caused by soaring energy prices, as well as the growing demand for renewable energy to accelerate decarbonization and to reduce dependency on Russian energy.

The Inflation Reduction Act of 2022, which was legislated in the U.S. on August 16, allows a tax credit of up to 2.5 cents/kWh for renewable power during the first 10 years of operation. While this is expected to lower PPA prices, the effect is unlikely to appear immediately due to the supply chain crunch caused by the import ban based on the Uyghur Forced Labor Prevention Law and challenges in building power transmission lines and other infrastructure.

Meanwhile, in response to surging inflation in the EU, on September 30 the Council of Energy Ministers adopted a Council Regulation on emergency intervention to deal with high energy prices. This sets a ceiling of €180/MWh for sales revenues of non-natural gas power producers, with revenues in excess of that amount collected by member governments. However, this cap, also known as the “windfall tax,” may discourage investment in renewable energy, whose unit cost of electricity generation is low. As noted above, the current PPA prices are generally below the threshold and so there is likely to be no immediate impact. The UK is also considering introducing a similar revenue cap for renewable power producers.

In Japan, which has been slow to establish a PPA system, the procurement of renewable energy through a Japanese-style “PPA model” is making progress, as evidenced by the start of direct trading of non-FIT non-fossil certificates between power producers and consumers through “virtual PPAs” in April. High procurement costs remain an issue, but if prices in Europe and the U.S. continue to rise, the price levels of all three regions may become comparable.

A number of meetings were held from the end of September through the beginning of October on the subject of Green Transformation (GX). At the 9th Innovation for Cool Earth Forum (ICEF) held on October 5-6, attendees discussed such topics as demand-driven energy transition, carbon dioxide removal technologies, sustainable nuclear energy systems, and innovation to support the stable supply of critical metals and minerals. Roadmaps for low carbon ammonia and blue carbon were also unveiled. Furthermore, the first Global GX Conference was held on October 7, where participants agreed on the need to firm up the concept of contributing to reductions through green products and services, and reaffirmed the need to understand the different situations in each country and international cooperation to promote GX around the world.



## 4. Europe and US: EU Strained by Soaring Energy Prices

**Yoshikazu KOBAYASHI**, Senior Economist, Manager  
CCUS Group  
Fossil Energies & International Cooperation Unit

Energy security has become a central issue in Europe, where natural gas supplies from Russia have plunged. Until now, the focus of attention was on refilling natural gas stores for the winter season. However, now that the EU's gas storage level has exceeded 90% of capacity and substantial physical supplies have been secured, full-fledged efforts are being taken to deal with persistent high energy prices. Electricity and gas prices for regular households in Europe continue to increase; for example, in the Netherlands, gas prices for regular households in August were triple those of the same time last year.

To curb energy prices, on October 20, the EU Member State leaders agreed to establish a dynamic price range for natural gas and a cap on the price of natural gas for power generation within Europe. The EU has traditionally prioritized the market mechanism in relation to energy policy within the region. The EU's decision to intervene in natural gas price levels rather than leave it to the market, and to set price bands and caps, suggests that the soaring energy prices have become so serious that urgent action is required.

However, it is never easy to intervene in natural gas prices as trading practices and pricing mechanisms are firmly established. In fact, the agreement reached at the October 20 summit contains various conditions for setting a price cap for gas for power generation, such as a cost-benefit analysis of the price cap, ensuring that the cap does not affect the merit order for selecting power sources, keeping the cap at a level that does not spur gas demand, and dealing with the impact on natural gas trade outside of the EU. The specific method for setting the cap is left for future discussion. Although the agreement to set a price cap sent a meaningful political message to European citizens, the task of setting a price cap in a way that satisfies the conditions will be extremely difficult in practice.

Moreover, even if the EU manages to intervene in the price level effectively, the price cap itself will not solve the core problem, which is that higher gas prices are due largely to the drastic decrease in natural gas from Russia. In May this year the EU announced an action plan titled REPowerEU to simultaneously phase out the region's dependence on Russian fuels and decarbonize its energy supply. REPowerEU contains measures such as energy conservation, introduction of renewables and green hydrogen, and diversification of natural gas supply sources, some of which will take a relatively long time to produce effects. Whether these measures are sufficient to address the increasingly urgent issue of energy security, or whether more realistic measures may be needed will be also an important question for Japan as the world natural gas market has become more integrated.



## 5. China: World's Automotive Powerhouse No Longer a Dream as NEV Shift Accelerates

Li ZHIDONG, Visiting Researcher  
Professor at Graduate School  
Nagaoka University of Technology

According to the China Association of Automobile Manufacturers (CAAM), automobile sales (including for export) in the first nine months of 2022 totaled 19.47 million units, up 4.4% year-on-year. Of these, new energy vehicles (NEVs: including EVs, PHEVs and FCVs, but not HVs) increased by 111.7% to 4.57 million units (including 3.58 million EVs and 0.99 million PHEVs), and the share of NEVs in all units sold increased by 11.9 points to 23.5%. Meanwhile, sales of internal combustion engine (ICE) vehicles fell by 9.5% to 14.9 million units, falling for four consecutive years to 2021 and continuing to fall through September of this year. In addition, auto sales in September rose 25.7% year-on-year to 2.61 million units. Sales of NEVs increased by 93.9% to 0.71 million units, and the share of NEVs in all units sold increased by 9.5 percentage points to 27.1%. Meanwhile, sales of ICE vehicles increased by 11.1% to 1.9 million units, but the share dropped from 82.4% to 72.9%. The 50% cut in the acquisition tax for ICEVs introduced in June boosted the economy to some extent but not sufficiently to stop the tidal shift to NEVs.

Behind this trend is the advantage of NEVs over ICEVs (refer to the February and August editions of this Newsletter). As a result of preferential treatment policies such as acquisition tax exemption and purchase subsidies, as well as corporate efforts, the acquisition and ownership costs of NEVs are now estimated to be 20,000-50,000 yuan (1 yuan  $\doteq$  20 yen) lower than those of gasoline vehicles. The expansion of charging infrastructure is also having a significant impact. According to the China Electric Vehicle Charging Infrastructure Promotion Alliance, the number of chargers had increased to 4.49 million by the end of September 2022, up 71.5% or 1.87 million units since the end of 2021. Meanwhile, according to the Ministry of Public Security, the number of NEVs owned has grown to 11.49 million units, up 46.6% or 3.65 million units since the end of 2021. The ratio of NEVs to chargers improved from 3 as of the end of 2021 to 2.6 as of the end of September 2022 on a stock basis and to 2 on an increment basis from January through September, greatly improving the convenience of charging. As for the future, on August 25, the Ministry of Transport, the National Energy Administration, the State Grid Corporation of China, and China Southern Power Grid jointly released the Action Plan for Accelerating the Construction of Charging Infrastructure along Public Roads. With the goal of enabling NEVs to “get back home, get out of the city, and go on long trips to rural areas,” the Action Plan will expand charging services to (1) highway service areas nationwide by the end of 2022, (2) service areas on national roads and regional public roads with suitable conditions by the end of 2023, and (3) along rural public roads by 2025. At the same time, the Action Plan stated that policy support, such as subsidies and low-interest loans, will be extended to charger infrastructure businesses. If charging infrastructure reaches every corner of the country, the uptake of NEVs is bound to accelerate.

Meanwhile, the impact of growing exports resulting from higher international competitiveness cannot be ignored. According to CAAM, the number of vehicles exported in the first nine months of 2022 increased by 55.5% year-on-year to 2.12 million units, and the number of NEVs increased by 99.5% to 0.39 million units, with their share of the total rising by 4.1 percentage points to 18.4%.

The electrification of automobiles is a global trend. China has leapfrogged to the forefront of this trend as the world's largest NEV manufacturer, owner, and exporter. On October 23, following the 20th National Congress of the Communist Party of China held every five years, Mr. Xi Jinping began his third term as the party's general secretary. The new leadership has set the establishment of a “great modern socialist country,” its long-cherished goal, as the central mission for the future. As part of this effort, the development of the NEV industry and the expansion of its market are indispensable for the country's transition from a major car manufacturing country to a car manufacturing powerhouse, and thus the industry is expected to grow dramatically. Becoming the world's automotive powerhouse is no longer a pipe dream.



## 6. ME: OPEC Plus Decision Causes U.S.-Saudi Friction

**Akiko YOSHIOKA**

Senior Researcher, JIME Center

At the OPEC Plus ministerial meeting on October 5, the decision was made to cut production drastically by 2 million barrels/day starting in November. However, many oil-producing countries had already reached their production capacity limits, and as of August, the actual production of OPEC Plus was already less than the quota by more than 3 million barrels/day. In fact, the member countries managed to agree on such a large production cut partly because the actual cut would be less than half the announced cut. Although it is Saudi Arabia, the UAE, and other Gulf countries which will be actually cutting production, the members appear to have judged that there is great advantage in OPEC Plus uniting to raise prices.

This decision, however, infuriated the U.S. Biden administration as it benefits Russia as a member of OPEC Plus. On October 11, U.S. National Security Council spokesperson John Kirby expressed displeasure with the decision, particularly with Saudi Arabia, and said that President Biden is considering re-evaluating U.S.-Saudi relations. After issuing a number of objections, Saudi Arabia issued a lengthy statement on the 13th through its Ministry of Foreign Affairs. The statement emphasized that the OPEC Plus decision was a purely economic one intended to maintain the supply-demand balance in the oil market, and that it was a unanimous decision, not a unilateral one made by Saudi Arabia alone. Not only Saudi Arabia but many other Middle Eastern countries that have close security ties with the U.S. have somewhat distanced themselves from the country since the Ukraine crisis, and have been reluctant to condemn Russia or take part in sanctions. There is nothing unnatural about OPEC Plus' statement that the decision was based purely on concerns about falling oil prices and global economic uncertainty. However, with the mid-term elections coming up and the Biden administration nervous about rising gasoline prices, this decision could play a part in destabilizing the U.S.-Saudi relationship. On October 19, METI Minister Nishimura spoke online with Saudi Energy Minister Abdulaziz and conveyed the importance of promoting dialogue and cooperation between oil-producing and -consuming countries.

Kuwait held its National Assembly elections on September 29. Following the elections, Emir of Kuwait Sheikh Nawaf reappointed his son Crown Prince Sheikh Nawaf al-Ahmed as prime minister and a new government was formed at the beginning of October. However, the list of ministers sparked fierce opposition from the new members of the National Assembly who claimed it did not reflect the results of the elections, and so the list had to be withdrawn. The new government was sworn in on October 16 after major changes, with 12 of the 15 ministers being new faces. Behind this series of events lies the perpetual conflict between Kuwait's executive branch led by the emir's family, and the elected legislative branch. This conflict has made it difficult for the country to set bold policies for decarbonization and economic reforms compared to its neighbors Saudi Arabia and the UAE, and has weakened its presence. In addition, there have been frequent rumors about the health problems of Emir Nawaf and Crown Prince Mishal, who are both over 80 years old, adding to the uncertainty about the future.

In Iraq, negotiations to form a government had been underway for over a year following the parliamentary elections in October 2021. On October 13, Mohammed al-Sudani was finally nominated as the prime minister-designate and the new government was inaugurated at the end of October.





## 7. Russia: Unilateral Territorial “Annexation” and Missile Strikes across Ukraine

**Sanae KURITA**, Senior Researcher  
Global Energy Group 2, Strategy Research Unit

On September 23-27, self-proclaimed “referendums” were enforced in four oblasts in eastern and southern Ukraine where pro-Russian armed forces are based, and the authorities of the oblasts announced that nearly all votes were in favor of “annexation” to Russia. The bills regarding the proposed annexation were approved by Russia’s lower parliament on October 3 and the upper parliament on October 4. On the same day, President Putin signed a federal law to unilaterally “annex” the four oblasts to the Russian Federation, appointed interim governors for those oblasts, and signed a decree that places the Zaporizhzhia nuclear power plant under Russian supervision. In response, Ukrainian President Zelenskyy announced that he had signed a presidential decree invalidating Russia’s unilateral “annexation,” and strongly condemned Russia for threatening Ukraine’s territorial integrity and wielding a nuclear threat.

On October 1, the G7 foreign ministers and the EU issued a statement in response to Russia’s unilateral “annexation” and escalation of military action. They declared that neither the illegal “annexation” of the territories of Ukraine, a sovereign state, nor the sham “referendum” held at gunpoint will ever be accepted, and that they intend to impose further economic sanctions against Russia and those individuals and entities in and outside Russia that provide political and economic support for international law violations, and condemned Russia’s nuclear rhetoric. Prior to the release of the joint statement, on September 30, the U.S. government had added to the sanctions list Central Bank Governor Nabiullina, Deputy Prime Minister Novak (in charge of energy), and Russian parliamentary officials involved in the “annexation”. On October 6, the EU announced the eighth round of economic sanctions against Russia, which includes plans to introduce a fresh ban on imports worth 7 billion euros and restrict exports aiming to curb Russian revenues. For the EU, these sanctions provide the basis for the legal framework for establishing the oil price cap that the G7 seeks to introduce.

On October 8, a massive explosion struck a bridge connecting Crimea and Russia across the Kerch Strait of the Black Sea. The bridge consists of a road section completed in 2018 and a railroad section completed in 2019, and is a strategically important supply route to the southern and eastern regions controlled by pro-Russian forces. The cause of the explosion and the perpetrators remain unidentified, but in retaliation, Russia launched missile attacks across Ukraine, including the capital Kyiv, from October 10. On October 12, the UN General Assembly resolved that the sham “referendum” has no legal effect whatsoever and cannot be the basis for changing the status of the area, with a vote of 143 in favor (including Japan, Western countries, Turkey, and Brazil), 5 against (Russia, Belarus, North Korea, Nicaragua, and Syria), and 35 abstentions. While many Southeast Asian and African countries also voted in favor, China abstained and Iran was absent.

On October 18, Ukrainian President Zelenskyy posted on Twitter that Russian airstrikes since October 10 have destroyed 30% of the country’s power plants and caused massive power outages in many areas, and said that “there is no room left for negotiations” with President Putin. On October 20, Russia invoked martial law in the four oblasts it had unilaterally “annexed,” and is expanding its military control and strengthening the draft there on the grounds of “external threats,” raising fears of an escalation in military action.



**Past IEEJ Events**

**Energy Indicators of Japan**

**IEEJ Homepage Top**

**Back Numbers of *IEEJ e-Newsletter***

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



***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**



**IEEJ : November 2022 ©IEEJ 2022**