

2022 Energy Outlook for the World and Japan

Ken Koyama, PhD
Chief Economist, Managing Director
The Institute of Energy Economics, Japan

The New Year 2022 opened after two consecutive turbulent years. In the following, I would like to forecast the Global and Japanese energy situations in 2022 while referring to an energy outlook and other reports published by the Institute of Energy Economics, Japan, on December 23 and 24, 2021.

First, we must pay attention to major countries' decarbonization initiatives and international talks on climate change policies. Particularly, discussion toward and at a Group of Seven summit in Germany in June will attract attention. New German Chancellor Olaf Scholz and his administration including the Green Party could take a tougher stance against coal power generation and fossil fuel investment and seek to enhance greenhouse gas emission cuts in G7's Nationally Determined Contributions, exerting great influence on Japan, advanced economies and the world. Discussion and results at the G7 summit in Germany will be significant for Japan set to host the 2023 G7 summit. In addition, we should closely watch the U.S. Biden administration's climate change policy developments toward the forthcoming congressional midterm election, as well as such developments in other major economies including China set to hold the Convention of the Communist Party in autumn, the European Community and India.

Second, oil production adjustments by the OPEC-plus group of oil-producing countries will continue to have decisive impacts on crude oil prices while oil demand changes depend heavily on how serious the impacts of the new COVID-19 variant named Omicron would be and how the global economy would perform. Front-month futures prices for Brent are forecast to average around \$70 per barrel for the year 2022 as the OPEC-plus production adjustments continue to work amid slow global oil demand growth. Brent prices may range between \$60/bbl and \$80/bbl. Potential factors exerting influence on crude oil prices may include an increase in U.S. shale oil production and geopolitical risks in the Middle East. If the OPEC-plus group pursues higher prices in handling production adjustments, the Brent average may be \$10/bbl higher than \$70/bbl. If oil demand stagnates due to a sluggish global economy and the COVID-19 pandemic, the average may be \$10/bbl lower.

Third, the global natural gas and liquefied natural gas market is expected to see steady demand growth in 2022. Demand is forecast to rise by 1.5% for natural gas and by 6-7% for LNG. The gravity center of the LNG market will continue its shift to Asia as Chinese and other Asian demand increases remarkably. LNG spot prices are expected to remain as high as \$34-43 per million British thermal units in the first quarter of 2022 but gradually decline to \$23-26/MMBtu due to rising supply later. The average LNG import price for Japan is expected to rise from some \$10/MMBtu in 2021 to around \$12/MMBtu in 2022, far lower than spot prices, as LNG imports to Japan are dominantly covered by long-term contracts under which prices are indexed to crude oil prices. The fate of rising European gas prices remains unpredictable due to uncertainties about

winter temperatures, the Ukraine situation and Russian pipeline gas supply uncertainties.

Fourth, the global coal market has come under growing decarbonization pressure. At the G7 summit in Germany and other international fora, pressure for restrictions on coal use will increase further. At the same time, however, coal demand will continue to rise in 2022 mainly in Asia. The average steam coal spot price is expected to fall from \$172 per ton in the second half of 2021 to \$132/t in 2022 as supply and demand stabilization measures are taken in the Chinese market, where domestic coal prices shot up due to supply shortages in 2021. Coking coal spot prices are also expected to decrease from high levels in the second half of 2021. If decarbonization policies restrict coal demand and production in 2022, however, coal prices may be destabilized. China, the largest coal consumer and producer in the world, will hold the key to the coal price trend.

Fifth, renewable energy is likely to sustain high global growth. Renewable energy power generation, including hydro power, increased by 8% in 2021 and is expected to score the same growth in 2022, accounting for 30% of total power generation. China's share of renewable energy power generation growth will increase substantially. Among renewable energy sources, solar energy will replace wind as the driver of overall renewable energy growth. To achieve its renewable energy power generation goal for 2030 under its sixth Strategic Energy Plan, Japan will have to continue the annual average growth of 7.5 gigawatts until the year. Future policy measures will be important for the growth that is faster than in the past five year.

Sixth, a key point regarding nuclear energy in 2022 is what would happen after hopes on nuclear energy grew in the second half of 2021. As energy prices shot up simultaneously in the second half of 2021, leaders in the world made statements indicating a new look at the roles of nuclear energy as a stable carbon-free power source. European Commission President Ursula von der Leyen pointed to the need for nuclear energy as a stable power source. French President Emmanuel Macron vowed to resume the construction of new nuclear power plants in his country. Attracting attention will be how these statements would be materialized and whether a new look at nuclear energy would be taken globally. Meanwhile, nuclear power plants have increased in China and other countries outside the Organization for Economic Cooperation and Development. In the international nuclear market, Russia's Rosatom has aggressively expanded nuclear plant exports. In 2022 as well, moves of the Russian firm and China will be important. Big news regarding nuclear energy in 2021 was that Canada adopted small modular reactors as its new nuclear power plants. In 2022 as well, we will have to watch any move regarding SMRs. In Japan, two boiling-water reactors are expected to have a chance to restart within FY2022. Whether their restart is realized will attract attention.

Seventh, I would like to pay attention to whether tighter electricity supply-demand balances would arise as frequently as in 2021. Based on experiences in 2021, many countries have implemented or enhanced measures to prevent such balances from tightening. Japan has increased LNG inventories in view of fuel procurement challenges, making improvements from 2021. Depending on unexpected severe cold waves or supply facility troubles, however, a tighter electricity supply-demand balance may come again. While the significance of electricity grows, the maintenance and enhancement of stable electricity supply must be balanced with initiatives for promotion of zero emission power generation. Electricity system reform toward this challenge will be considered in Japan and the rest of the world. While electricity wholesale transactions are growing more important in Japan, LNG prices and electricity spot prices are rising simultaneously, indicating their growing linkage. This would affect not only macroeconomic issues such as

economic growth and civic life conditions but also microeconomic issues including electricity market players' procurement costs and competitive conditions.

Eighth, the Japanese economy in FY2022 is forecast to grow by 3.3% in a recovery from the COVID-19 crisis. Primary energy supply in Japan is expected to increase by 0.4%. Of domestic primary energy supply, the largest energy source of oil is projected to increase by 0.1% in FY2022 after growing by 3.0% in FY2021. Coal, the second largest energy source, is expected to increase by 2.4% due partly to the launching of new coal power generation capacity. Nuclear energy is also expected to rise due to the possible restart of two reactors. Renewable energy is forecast to continue increasing. LNG supply is estimated to decline by 2.4% due to a fall in LNG supply for power generation. Japan's energy-related CO₂ emissions are projected to rise in FY2021 and FY2022 to 995 million tons after a downtrend through FY2020. How best to accelerate CO₂ emission reductions toward a FY2030 goal will become a challenge.

While watching the Japanese and foreign energy situations in 2022, including the abovementioned points, I would like to follow up on these situations through this bulletin.

Contact: report@tky.iej.or.jp

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