

Special Bulletin

A Japanese Perspective on the International Energy Landscape (564)

December 22, 2021

## **European Gas Prices Up to Record Highs amid Concern over Russian Supply**

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European natural gas price hikes have remained unabated. On December 21, European benchmark gas prices shot up to record highs. The British NBP (National Balancing Point) price went up by \$10.75 per million British thermal units or 22% from the previous day to \$59.84/MMBtu and the Dutch TTF (Title Transfer Facility) price by \$11.13/MMBtu or 23% to \$59.67/MMBtu. On a calorie basis, the price levels amount to an oil price of some \$360 per barrel, indicating alarmingly high levels.

European gas prices continued an uptrend from the beginning of the year and have accelerated the uptrend since autumn. The NBP price rose beyond \$40/MMBtu to a new high in October and fell back slightly. Gas prices were then expected to stabilize. In the second half of November, however, European gas prices resumed their spikes. Since early December, they have continued to rewrite record highs.

In Europe, gas inventories plunged due to low temperatures early this year, with demand for gas for power generation remaining robust, leading to a need for additional gas procurement. However, constraints on the expansion of (1) liquefied natural gas procurement and (2) Russian pipeline gas supply have forced the supply-demand balance to tighten, pushing up prices. In Asia known as the center of the global LNG market, LNG demand has grown steadily as symbolized by a rapid increase in China's LNG imports. Despite an increase in U.S. LNG supply, additional supply in Asia remained insufficient, leading the LNG supply-demand balance to tighten. Asian LNG spot prices temporarily topped \$50/MMBtu. In such situation, it has not been easy for Europe to make additional LNG procurement. Europe's additional LNG procurement has been expected to further push up LNG spot prices.

Regarding Russian pipeline gas supply, there were complicated developments involving international politics and business interests. From the political or geopolitical viewpoint, some European policy makers criticized Russia for failing to fully meet their request for additional gas supply or attempting to exploit the failure as a bargaining chip for carrying out negotiations on its pending Nord Stream 2 pipeline project to its advantage. Russian gas company Gazprom for its part continued to assert that it was fully meeting long-term contracts with European customers and saw no commercial problems. Europe and Russia in this context thus differed and exchanged accusations over the additional gas supply. While Russia continued to provide Europe with gas in line with long-term contracts, no progress was seen in Russia's response to Europe's request for additional gas supply. This was a background element to the high European gas price hikes until October.

European gas price hikes reaccelerated in December as the two constraints on additional gas supply remain unsolved were combined with a seasonal increase in demand for gas for heating, as well as growing military tensions between Russia and Ukraine that were expected to affect

Russian gas exports to Europe. The steep gas price hike of more than \$10/MMBtu on December 21 came as concern over Russian gas supply grew on a reported decline in Russian gas supply to Europe through major pipelines and a reported reverse gas flow to Russia. The gas flow change was interpreted in various ways. Some analysts noted that Russian gas demand was increasing due to colder-than-expected weather.

The shutdown of some French nuclear power plants, robust gas demand, low temperatures and low inventories have been coupled with perceived insecurity over Russian gas supply to bring about the latest gas price spike. The situation could deteriorate further if winter temperatures are lower than usual or cold waves come. If Europe attempts to procure LNG even at high prices, Asian LNG spot prices may rise further, leading gas and LNG prices to accelerate their hikes globally.

In Europe, the prolonged suspension of some wind farms and electricity supply capacity shortages have been cited as factors behind the tightening electricity supply-demand balance and electricity price hikes since autumn. In addition, fuel procurement and price hike problems have been recognized as important factors. The gas price hikes are likely to lead to electricity price spikes, threatening overall energy security in Europe. If gas supply interruptions come in the middle of winter, the situation may deteriorate and become critical.

Asia or Japan should not view the European gas price hikes as someone else's problem. Most of Asian LNG procurement is based on long-term contracts with prices indexed to crude oil prices. This means that LNG spot price spikes do not necessarily lead to any steep rise in overall LNG procurement costs in Asia in general. However, abnormal LNG spot price hikes have the potential to make additional LNG procurement difficult. If additional procurement is required for some reason, procurers may have to pay very high prices. Based on experiences with temporary LNG spot price hikes last January, Japan has maintained more LNG inventories than earlier. However, any serious cold wave or unforeseen development could cause a tighter LNG supply-demand balance, prompting Japan to implement additional LNG procurement.

Crude oil prices have risen back above \$70 per barrel after falling below the level on growing concern over the new COVID-19 variant named Omicron. Depending on crude oil price hikes, future LNG procurement costs could increase. In Japan, electricity spot prices on the wholesale electricity exchange that assumes more importance have been linked closely to LNG prices, indicating that future crude oil and LNG spot price hikes could bring about wholesale electricity price increases, which may have not only macroeconomic impacts including electricity and energy cost hikes in Japan and Asia but also microeconomic impacts including various electricity market players' electricity procurement cost hikes and competitive conditions among various market players.

How European gas prices would change in the future is difficult to foresee due to various uncertainties regarding temperatures and geopolitical factors related to Russia. Toward the end of 2021, we will have to keep a close watch on the European energy security issue, growing interactions between European and Asian gas and LNG markets and the future course of the Asian LNG market. Given that these points exert great impacts on Japan's stable energy supply, Japanese government and business world should monitor market conditions and enhance efforts to secure stable energy supply.