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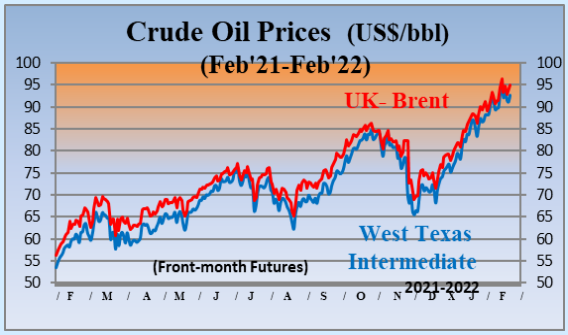
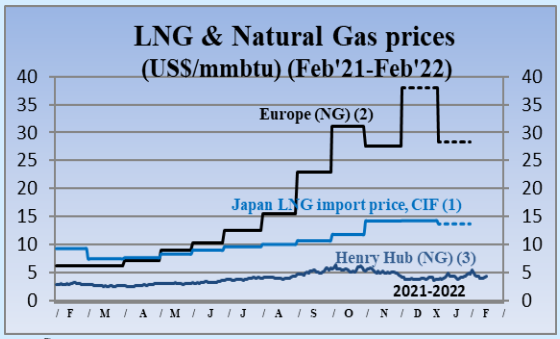
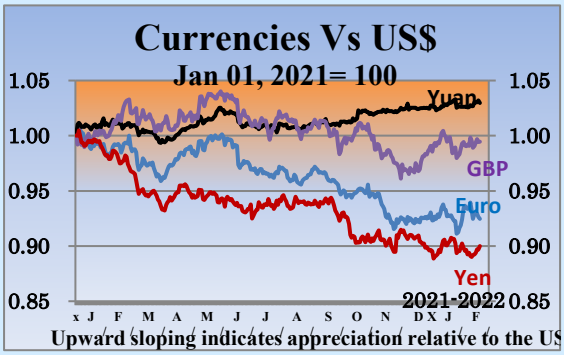


Sources:
(1) DOE-EIA
(2) Investing.com



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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1. US: Natural Gas Prices Surge in New England Region

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In Europe, spot wholesale electricity prices remain extremely high. Meanwhile, the United States has not suffered extreme price surges like those in Europe, though spot wholesale electricity prices are higher than last year due to increased gas prices. However, in ISO New England's service area in the Northeast, spot wholesale electricity prices have been reaching a day average of 15–20 yen/kWh caused by higher natural gas prices due to LNG imports driven by the cold weather in early 2022. Spot prices are also rising in New York City, but this seems to be caused by a power supply crunch due to rising electricity demand rather than an increase in natural gas prices.

The US Northeast has kept thermal power plants that can burn both natural gas and oil to avoid supply crunches in case of natural gas shortages. Since the start of 2022, oil-fired power generation has been increasing due to high natural gas prices. The North American Electric Reliability Corporation (NERC) stated in its 2021 winter reliability assessment report that ISO New England, despite having sufficient supply reserves alongside the state of California, faced the risk of a supply crunch due to vulnerabilities in its natural gas infrastructure. This prediction has materialized.

In ISO New England's service area, coal-fired thermal power plunged from 2,080 MW in 2017 to 560 MW in 2021. The area currently depends heavily on gas-fired thermal power. Of its total installed generation capacity of 38.12 GW, as much as 52% or 19.89 GW is gas-fired thermal; there are limits to reducing its dependency on gas in the near future (oil-fired thermal capacity has also decreased by 1,100 MW in the same period). With natural gas and solar PV power plants accounting for most of its plans for new builds, this trend is expected to accelerate.

Despite this situation, New England's plans to build a pipeline to transport natural gas to the region have been denied by the New York state regulators due to environmental activism. Consequently, the region has to import LNG even though there is cheap natural gas available in the US, resulting in only ISO New England seeing a surge in natural gas and spot wholesale electricity prices.

To stabilize natural gas supplies, Congress has begun to deliberate a bill that would introduce gas pipeline reliability standards and create a new supervising entity. The bill was created based on the lessons learned from the massive, freeze-induced blackout in Texas in 2021 and the cyberattacks on petroleum pipelines, but legislation is likely to be bogged down by major push-backs from Republican lawmakers, the gas industry, and state governments. The deliberations on the Build Back Better bill, the Biden administration's trademark climate change and social security bill, are also stalled. Though this occurred because the Democrats decided to prioritize the election reform bill that prohibits state governments from limiting voting rights, it is still uncertain whether the Build Back Better bill will be adopted. Heading into the November mid-term elections, the Democratic Party is threatened by its inability to implement climate change and electoral reform policies, the two top policies being fiercely promoted by progressives to satisfy the Party's support base.

2. EU: European Commission Completes Draft Taxonomy Bill

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On December 31, 2021, the European Commission began consultations on the draft Taxonomy bill, which will determine whether an investment is green or not. Following examinations by expert advisory bodies, the formal Taxonomy bill is scheduled to be forwarded to the European Parliament and the European Council within January for deliberation. As scrutiny by the two entities could take up to six months (maximum four months plus a possible extension of two months), a decision on whether to adopt the legislation will be made by summer. According to media reports, the draft bill being discussed categorizes nuclear power and natural gas as sustainable with certain conditions. Media reports suggest that a nuclear project will be judged as green provided that plans for high-level radioactive waste processing and funding are in place and a construction license is obtained by 2045. The conditions for sustainability for a natural gas-fired thermal project are that it has CO_2 emissions of 270 g-CO_2/kWh or less, as well as plans to obtain a construction license by the end of 2030 and to switch to low-carbon gas by the end of 2035.

The conclusion that nuclear power and natural gas should be classified as "qualified," though with conditions and pending official announcement by the European Council, was presumably reached reflecting the reality in various EU member countries. For example, nuclear is an important option for Eastern European countries that aim to move away from coal and dependency on Russia (for natural gas), as well as for France which already uses much nuclear energy. Also, it goes without saying that natural gas is an economical and realistic option for a stable electricity supply for the time being.

What does an emission cap of 270 g-CO_2/kWh for gas-fired thermal power actually mean? Though it depends on the generation efficiency and the composition of the fuel gas, the typical emission level of a new large-scale gas-fired power plant is about 300 g-CO_2/kWh. This means that the emission cap will require efficiency to be improved by at least 10%, which will not be easy to achieve solely by improving the generation efficiency. One realistic option would be to build the plant as a co-generation facility (which supplies both heat and electricity) to increase the overall efficiency of natural gas usage. This would be a viable option in regions with high coverage of community heating or an industry cluster nearby.

Considering the differences in stance between the EU member states, the scheduled scrutiny by the European Parliament and the European Council may face many twists and turns. For example, Germany is reportedly considering natural gas to be acceptable for transition but opposes nuclear power. The EU's final conclusion warrants attention.

Another issue is the soaring energy prices in Europe. Europe's natural gas and electricity prices remain high, though they have come down from their peak in December 2021. A key point is the "spark spread." This is the difference between the wholesale electricity price and the natural gas price assuming a certain generation efficiency, and represents the margin earned by natural gas-fired generation. For instance, for the UK, the average spark spread was $26/MWh in 2020 by simple estimation, but is now $270 at the time of writing. This suggests that for Europe, the electricity supply crunch is even more serious than the increase in gas prices, and that the increase in burden is more significant for electricity users, though the extent varies among countries.

3. China: Switch to New Energy Vehicles Accelerates

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China is shifting from gas-fueled cars to new energy vehicles (NEVs, including EVs, PHEVs, and FCVs, but not HVs) to achieve sustainable growth, establish a decarbonized society and transition from a major car manufacturing country to a car manufacturing powerhouse. Major progress was made in 2021.

According to the China Association of Automobile Manufacturers (CAAM), automobile production in 2021 was 26.275 million units, up 3.8% year-on-year. The automobile market grew year-on-year for the first time in four years, recovering from the impact of the US-China trade war that broke out in 2018 and the spread of the Covid-19 pandemic in 2020. What is remarkable is the change in market structure. Sales of NEVs, primarily EVs, increased by 157.5% to 3.521 million units, surpassing 3 million units per year for the first time in the world (including 2.916 million EVs, up 161.5% and 0.603 million PHEVs, up 140.2%). The share of NEVs in all units sold increased by 8 percentage points to 13.4%. On the other hand, sales of gas-fueled cars fell by 5% to 22.754 million units, the fourth consecutive year of decline. In other words, China saw rapid electrification of cars in 2021 that drove the growth of the car market. Thus, China's auto sector has taken a major step toward going green.

Providing NEV purchase subsidies is a common measure used around the world to spur sales. China's subsidy program, launched in 2009, is due to end in 2023. In 2021, subsidies were reduced by 20% per unit. For example, the subsidy cap for passenger EVs was reduced from 24.9 thousand yuan in 2020 to 19.8 thousand. Nevertheless, why did the NEV market grow so rapidly? While registration requirements and driving restrictions on gas-fueled cars in Beijing and other large cities played a role, more important was that BYD and other Chinese manufacturers launched a wide range of NEV products, with prices from low to high, providing consumers with an array of options. In 2021, the share of Chinese manufacturers in passenger car sales was as high as 74.3% for NEVs compared to 38.9% for gas-fueled cars. The increased usefulness of NEVs also made a contribution: the average cruising distance of passenger EVs has grown from 253 km in 2016 to over 400 km in 2021; as of the end of 2021, 2.617 million chargers and 1,298 battery swapping stations have been rolled out. The impact of the NEV regulation and credit trading system introduced in 2019 (assigning target companies with an NEV sales ratio requirement and allowing any excess or shortfall to be settled with trading credits) cannot be ignored. The NEV credit target against gas-fueled cars assigned to automakers was raised from 12% in 2020 to 14% in 2021. These systematic improvements in promotional measures are thought to have encouraged the shift to NEVs.

In 2022, the subsidy per car will be reduced by 30% from the previous year and the NEV credit target raised to 16%. CAAM estimates that NEV sales will increase to 5 million units and its share to over 18% in 2022. Meanwhile, the China Passenger Car Association (CPCA) estimates that EV sales will surpass 6 million units (including 5.5 million passenger EVs) and the share will rise to around 22%. The government's goal of increasing the share of NEVs to 20% in 2025, which was set in November 2020, is likely to be reached ahead of schedule.

4. ME: Drone Attacks on UAE's Abu Dhabi from Yemen

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On January 17, several drone attacks struck Abu Dhabi, the capital of the United Arab Emirates (UAE), setting off explosions in three fuel trucks at an oil storage site in the Mussafah Industrial Area, killing two people from India and one from Pakistan and injuring six others. A fire also broke out at a construction site at Abu Dhabi Airport. The UAE Ministry of Foreign Affairs and International Cooperation issued a statement condemning the series of incidents as "terrorist attacks." Yemen's Houthi militants have claimed responsibility for the attacks, stating that they carried out a military operation and warning that similar attacks will follow if the UAE continues its military intervention in Yemen.

Yemen has been mired in civil war since the collapse of the long-ruling Saleh government in 2011 amid the Arab Spring. The then vice president Abdrabbuh Hadi, who took over as president, failed to calm the turmoil in the country, and since 2015, the Houthi militants have been in control of the capital city of Sanaa. In response to calls for support from the Hadi administration to the Arab League, Saudi Arabia and the UAE have been intervening militarily since 2015 by sending ground forces and conducting air strikes.

The Houthis carried out drone attacks in 2017 and 2018, but at the time the UAE did not acknowledge that the Houthis were behind the attacks. This time, however, the UAE government was quick to release a statement condemning the Houthis, indicating that the government can no longer ignore the reality that the Houthis now have the military capability to attack targets over 1,000 km away.

The Houthis are purportedly backed by Iran, and so the Yemeni civil war is also a proxy war between Saudi and UAE forces versus Iran. Accordingly, the Yemen issue was a main agenda item in the four direct dialogs between Iran and Saudi Arabia that have been held in Iraq since the spring of 2021. The dialogs seem to be continuing; on January 10, a spokesperson of the Iranian foreign ministry suggested restarting talks with Saudi Arabia. The UAE has also changed course and started to improve ties with Iran: in December 2021, Sheikh Tahnoon bin Zayed Al Nahyan, National Security Advisor of UAE, visited Iran's capital, Teheran. Thus, tensions in the region seem to be easing overall; several Yemeni peace talks have also been held with Oman as the mediator. The recent attacks by the Houthis, however, indicate that there is still no certain path for resolving the disputes and could exacerbate tension in the region once more.

As the nuclear talks with the United States struggle to make progress, Iran's President Raisi visited Russia on January 19 and 20 and had talks with President Putin. This was the first visit to Russia by an Iranian president in five years and the first under the Raisi government. It is assumed that Iran's objective is to win backing from Russia, which supports the Iran nuclear deal (JCPOA), in order to get the economic sanctions lifted.

5. Russia: Tensions in East Ukraine and Turmoil in Kazakhstan

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Russia and the West continue to discuss the build-up of Russian troops along the eastern border of Ukraine, but have not reached any agreement. On January 18, German Chancellor Olaf Scholz said that Germany could halt Nord Stream 2 if Russia invades Ukraine. The pipeline had its second string charged with technical gas on December 29 and finished preparations to go live. However, the approval process by German regulators has been suspended until approval is granted to the establishment of a new subsidiary (a German corporation) that will serve as the owner and operator of the pipeline's German section. It is possible that Germany's new three-party coalition government, which includes the Green Party, might reverse the policy set by the former administration.

Neither Russia nor the West has made any compromise in their arguments. Russia explains that Gazprom is fulfilling its supply obligations based on an agreement and that there are no active purchases by companies, which Uniper has acknowledged as a fact. Meanwhile, the EU and the IEA are harshly criticizing Gazprom for intentionally reducing gas supplies, which has caused Europe's underground gas stockpiles to be about 20% lower than in normal years. Gazprom has filed litigation against Poland's PGNiG with the Arbitration Institute of the Stockholm Chamber of Commerce to demand a raise in gas prices (by switching to a spot price-indexed system, to be applied retrospectively from 1996).

On January 19, US President Biden, anticipating an invasion, warned that Russia will "pay a heavy price" if it carries out a full-scale military invasion of Ukraine, and mentioned the possibility of banning US dollar payments by Russian companies. On the 20th, Secretary of the Treasury Janet Yellen said that the US Treasury Department is prepared to impose major sanctions on Russia if it invades Ukraine, and is working closely with allies to shape the response. On December 27 last year, the National Defense Authorization Act for Fiscal Year 2022 was signed into law in the US, and a policy to spend $300 million to support the Ukrainian armed forces, $4 billion for the European Deterrence Initiative, and $150 million for national security cooperation in the Baltic Sea has been indicated.

On January 18, Kazakhstan's first president Nursultan Nazarbayev released a video statement for the public, stating that President Kassym-Jomart Tokayev is in control with full authority, and that he would retire definitively from politics. The incumbent president has been firing a series of friends and relatives of Mr. Nazarbayev from key positions in the government and economic entities. Protests triggered by an LPG price hike in January spread in Kazakhstan and a state of emergency was declared nationwide. President Tokayev called on the Russia-led Collective Security Treaty Organization (CSTO) to help calm the protests, and Russia dispatched its airborne troops. Although over 10,000 people were detained and there were many deaths and injuries, the troops began to withdraw on January 13 judging that public security had been restored, but. In the energy sector, on January 6, reports emerged that oil output decreased in Tengiz field, the country's largest oil field, due to railway sabotage by protesters, which temporarily pushed up oil futures prices. Spot uranium prices also soared due to market fears over disruptions to production, despite an announcement by Kazatomprom denying any impact on uranium production or export. Mr. Nazarbayev had a massive influence not only on politics and national security but also on the economy. A change in the economic power structure may affect the course of state-run enterprises' business management and policies; developments must be closely monitored.

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