IEEJ e-NEWSLETTER

No. 94

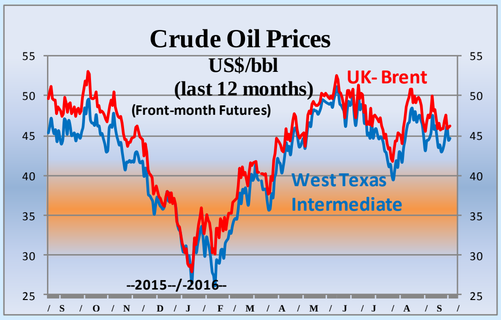
(Based on Japanese No. 156)

Published: September 23, 2016

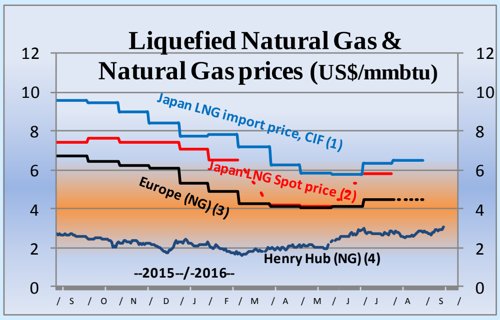
(Updated: September 26, 2016)

The Institute of Energy Economics, Japan

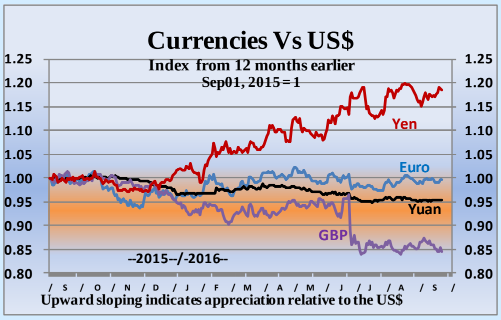
(As of September 23, 2016)



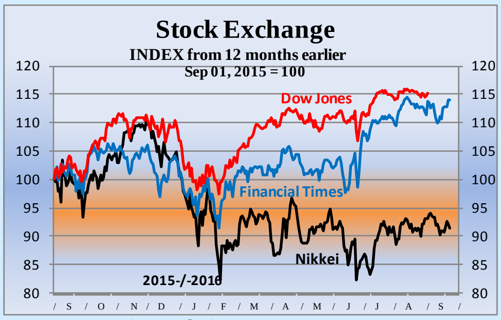
Source: DOE-EIA, Financial Times, NASDAQ



Sources:
(1) Ministry of Finance "Japan Trade Statistics"
(2) Ministry of Economy, Trade and Industry (contract month basis)
(3) Estimated by World Bank and World Gas Intelligence
(4) DOE-EIA, NYMEX (Front-month Futures)



Source: x-rates.com



Source: Financial Times

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With the withdrawal of five European firms from the Nord Stream 2 consortium, Russia is being forced to reconsider its gas export strategy. As the Turk Stream project comes back, the relationship between Europe and Turkey will need to be monitored.

1. US: Interior Department Advice Further Squeezes Coal Mine Development

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On August 9, the Office of Surface Mining Reclamation and Enforcement (OSMRE) of the Interior Department advised the mining department of each state not to grant exploration licenses to mining companies unless they have secured funding for cleanup and land restoration after coal production ends. Cleanup and landscape restoration after coal exploration have conventionally been considered a mining company's responsibility, and the companies have been allowed to finance it by self-bonding, which means setting aside cleanup and restoration costs from the earnings on their coal output. Meanwhile, the federal government (and ultimately the taxpayer) has had to occasionally shoulder the costs when a mining company closes and abandons a mine without paying for cleanup and restoration.

Since 2012, more than 40 mining firms have filed for bankruptcy under the Federal Bankruptcy Code. Particularly, 2016 saw the largest and second-largest coal companies, Arch Coal and Peabody, fail one after the other. The above advisory policy was issued in response to petitions by environmentalists who feared that the responsibility for cleanup and restoration might be left undecided after the bankruptcies. In the advisory policy, OSMRE points out that "the lack of global demand for coal, competition from low cost shale gas and the unprecedented and continuing retirement of coal-fired power plants are clear signs that the coal industry is undergoing a major transformation." The Interior Department expects the supply and demand for coal to even out by around 2021, causing the price to recover, but maintains that for the public interest of environmental cleanup, coal mining projects should not be permitted until funds are secured. The Ministry goes on to say that this also applies to mining projects that have already been licensed, so it will be necessary to screen the solvency of mining companies in view of the current sluggish coal market. Although the advisory policy addresses only state governments, it could reduce the number of new coalmines and accelerate the closure of existing ones, as a state coal development project requires approval by the Interior Department. Even if prices rebound in the long run, more coal mining companies could fail by then.

Another social problem associated with coal bankruptcies is the payment of retirement benefits, pensions, and work-related medical expenses of employees. For pensions and medical expenses of coal workers, the United Mine Workers of America (UMWA) has a benefit program in place, with payments partially guaranteed by the Pension Benefit Guaranty Corporation. However, facing possible termination of benefits for many workers and retirees as the benefit program runs short of funds as a result of the financial crisis and a spate of coal bankruptcies, the UMWA is demanding the transfer of excess funds to the benefit program from the abandoned mines fund, which has been built up from the mining tax for restoring former mining lands. In 2015, nonpartisan lawmakers from coal-producing states of both houses of Congress submitted a bill, but deliberations have not progressed.

Ahead of the November 8 elections, Democratic candidate Hillary Clinton announced during the preliminaries a 30 billion dollar package to revitalize coal-producing regions. This package was criticized by coal-producing states and Republicans as a plot to destroy the coal industry, but the package also includes workers' income security and healthcare benefits. Some even attribute the suffering of the coal industry to the inaction of the coal-producing states and Republicans who do not provide coal workers and coal-producing economies with the support needed to withstand declining demand, but instead insist on blaming environmental regulations and maintaining coal-fired power generation, ignoring the fact that coal is no longer cost-competitive. The Trump campaign so far lacks concrete details, but its coal policy is awaited.

2. Outlook for 2050 and CCS

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On July 20, the European Commission finalized a report titled the "EU Reference Scenario 2016" presenting its outlook for energy, transport and GHG emissions up to 2050 based on the market trends and policies of the EU and its members.

Regarding the power mix, the Scenario projects the percentage of renewable energies in total power output at approx. 19% in 2020, 25% in 2030, and 36% in 2050. With the growth of renewable energies, the volume of electricity trading between major regions in the EU and neighboring countries will increase from 17% in 2015 to 26% in 2020, and 29% in 2030. However, the report adds that the growth of electricity trade is premised on the successful progress of long-term grid development and integration of power markets in the whole of Europe, and thus the importance of securing flexibility in the power system is increasing.

The most notable difference between this outlook by 2050 and the previous version released in 2013 is the level of expectations for CCS. The 2013 version projected that CCS "will have a demonstration plant built by 2020. CCS development will accelerate after 2030, and account for 7% of electricity output by 2050 (installed capacity of thermal power with CCS reaching 38 GW in 2050)." However, in the 2016 version, the projection is revised down: "CCS development will accelerate if a demonstration plant is built by 2020/2025 and the ETS price goes up, and account for 4.8% of electricity output by 2050 (installed capacity of thermal power with CCS reaching 17 GW in 2050)." This reflects the tough situation surrounding the development and installation of CCS in Europe.

A typical example is Britain's White Rose CCS Project, which is mentioned in both reports as a demonstration plant but was cancelled in April 2016. The Project had been selected in 2013 as a recipient of government subsidies for CCS projects, until it had to close after the government's abrupt decision in November 2015 to cancel funding for CCS projects. The reason for the government's backpedaling has not been explained, but as the development of CCS struggled to advance, the fund could have been cut as part of budget adjustments.

The EU has so far driven the development of CCS technology through support programs including the European Energy Programme for Recovery (EEPR). A consultation by the European Commission concluded in 2013 that although investment in CCS is not economically rational at the current carbon price, the cost of CCS should decrease in the long run through research and development. However, recently, enthusiasm for investing in development seems to be diminishing as expectations for the feasibility of CCS have fallen throughout Europe. Attention must be paid to how the governments and companies of the EU and its members tackle the challenges facing the development and introduction of CCS.

3. China: National Carbon Market to Be Launched in 2017

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In August 2009, the Standing Committee of the National People's Congress adopted the resolution "Making Active Response to Climate Change", and declared the introduction of a carbon emissions trading system as one of the comprehensive measures for low-carbon economic development. Accordingly, the National Development and Reform Commission (NDRC), the general governor of China's climate change administration, released the "Guidelines for Accounting and Reporting Greenhouse Gas Emissions (Trial)" and the "Interim Measures on Carbon Emission Permit Trading", and since January 2014, has been building a system that requires key emission sources of each industry to report their GHG emissions each year. Further, to accumulate experience, the NDRC has been conducting regional emissions trading experiments in seven regions including Beijing and Shenzhen since 2013. In September 2015, President Xi Jinping and President Obama released the "US-China Joint Presidential Statement on Climate Change", in which China declared that it will launch a national emissions trading market for steel and other emission-intensive industries in 2017, which attracted attention inside and outside the country.

Thereafter, in January 2016, the NDRC specified the target companies of the emissions market as those from eight industries (electricity, steel, nonferrous metals, ceramics and cement, paper and pulp, petrochemical, chemical engineering, and aviation) with an annual energy consumption of at least 10,000 tce (tonne of coal equivalent, 1 tce = 7×10^6 kcal), and requested the companies to submit emissions data. As data verification still continues, on August 3, Jiang Zhaoli, Deputy Director General of the NDRC's Climate Change Department, announced that the number of companies in the market is seven to eight thousand, and that emissions allowances will be assigned from October to the first quarter of 2017, after which trading in the national market will begin. A total of approx. 5 billion tonnes of CO_2 emissions allowances (total energy-derived emissions was approx. 9 billion tonnes for 2013) will be traded on a total of nine exchanges, including the two new ones in Fujian and Sichuan. He also indicated that each industry would be assigned a month of the year in which the companies will be evaluated for compliance with the annual emissions allowance: April for industry A, May for industry B, and so on.[1] This might be an institutional arrangement based on the lesson learned in China and other countries that trading is inactive except immediately before the evaluation. The Regulations on National Carbon Emissions Permit Trading, which sets the specific processes of the system including how to allocate emissions allowances and to deal with noncompliance, are due to be ratified and released by the State Council in 2017.

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[1] As an example, see an interview on Nanfang Net after the opening ceremony of the National Emissions Trading Scheme Capacity Building Center (Guangdong). http://www.ccchina.gov.cn/Detail.aspx?newsId=62844&TId=57

Meanwhile, on August 2, the NDRC also established the "Draft Measures for the Administration of Carbon Emission Reduction Quota for Next-Generation Vehicles (NEV)[2]" which adds the auto industry as a target industry. The target companies are divided into two groups: companies with a certain volume of petroleum-based car production/import, and companies with a certain volume of NEV production/import that participate voluntarily. The petroleum-based car companies are required to meet their carbon reduction allowances by achieving a mandatory NEV percentage in their annual sales. The document explicitly states that if a company fails to meet a target through its own efforts or by using certified reduction allowances obtained through market transactions, it must pay three to five times the annual average market-trading price for the shortfall, and the shortfall will also be added to the following year's target. The certified reduction allowances for the auto industry will be traded on the nine trading markets, but separately from those of the eight industries mentioned above. Following a trial period, the system is due to be launched officially in 2018. There may still be some difficulties, but China's carbon trading market will actually launch next year, and its development must be closely monitored.

2 Includes BEV, PHEV and FCV. Translates also as "New Energy Vehicle" in both Chinese and Japanese.

4. ME: Fast-Moving Developments in Post-Coup Turkey

Koichiro Tanaka, Managing Director &
President of JIME Center

Turkey's moves are increasingly coming under the spotlight as the country faces off with the US over the extradition of the US-located Turkish religious inspiration Fethullah Gulen. At the first-ever Russia-Turkey summit after Turkey shot down a Russian military jet last year, President Erdogan suggested to President Putin a joint military operation against Islamic State (ISIS/ISIL). The summit was followed immediately by a visit by the Iranian Foreign Minister Mohammad Javad Zarif to Turkey, who suggested the possibility of a trilateral cooperation including Russia. This all coincides interestingly with Turkey's improving diplomatic relations with Israel for the first time in six years, in display of the former's pivotal role in the region.

Amid suspicions over the use of chemical weapons in the fierce battle over northern Syria's largest city Aleppo, the Syrian civil war is coming to a major turning point. The government forces recaptured Daraya to the south of the Syrian capital Damascus after four years, although its siege of Aleppo was broken by the rebel forces. As Russia continues to bomb the rebels and China announces military support (such as training) for the Assad administration, the tide is turning in the administration's favor. Meanwhile, the Syrian Democratic Forces consisting mainly of the Kurdish militia YPG recaptured Manbij that lies on the supply route from Turkey. In response, Assad forces intensified their attacks on Kurdish forces in the northeastern town of Hasakah, creating new tensions with the US that backs the Kurdish forces. Wary of the western advance of its enemy, YPG, Turkey conducted preemptive air strikes on the IS-ruled border town of Jarabulus and sent in ground forces where they have maintained their presence along with their ally, the Free Syrian Army. An outright ground war between the Kurds and the Turks has been avoided because the Kurds retreated to the east bank of the Euphrates on America's advice, but the incident left concerns over the situation after defeating ISIS/ISIL. Following a series of bombardment attacks by US jets against positions held by Assad forces in the vicinity of Deir al-Zour, and an alleged Russian aerial bombings in retaliation against UN humanitarian convoys to the west of Aleppo, spar of harsh words has been ignited between the US and Russia in the chambers of the UN Security Council. It is likely that the mutual denunciation between the two major external factors to the Syrian civil war will further endanger the already fragile cease-fire agreement.

Following the operations against ISIS/ISIL in Syria, air raids and ground offensives in Iraq for recapturing Mosul have also intensified. The US forces conducted sweeping operations against ISIS/ISIL in the Libyan city of Sirte, while also air bombing and killing the leader of the group's branch in Afghanistan. However, the terrorist group continues to retaliate, with further major terrorist attacks such as a hospital bomb attack in Quetta, in western Pakistan, while also inciting lone-wolf terrorist attacks. Attention must be paid to IS's incursions in these areas, and in the Afghan capital of Kabul where a bomb attack to a US military commander took place.

After continuing intermittently for three months, the Yemeni peace talks in Kuwait broke down. The US State Department approved the sale of weapons to Saudi Arabia despite criticism over the rising civilian death toll in Yemen and Syria, but the US Congress is moving to stop the sale. The Iranian cabinet approved the much-disputed new law on the Iran

Petroleum Contract. Meanwhile, the Rouhani administration is coming under increasing fire domestically, including from Ayatollah Khamenei who said "people's lives have not improved" as lifting of sanctions has still not materialized. Tensions are rising in the Persian Gulf due to the harassment of US navy ships by Iranian military boats. The Federal Supreme Court of Switzerland issued a ruling in a dispute over payment for pre-Iranian Revolution oil exports, ordering an Israeli company to pay $1.2 billion to Iran.

The Sixth Tokyo International Conference on African Development (TICAD VI) was held in Kenya's capital Nairobi jointly by Japan, the UN, and the African Union Commission. The meeting discussed the new challenge of the rising financial burden caused by the recent drop in resource prices, and adopted the Nairobi Declaration which includes Japan's commitment to work with international and regional organizations and the governments concerned to help mitigate the impact of the price drop by diversifying and industrializing the economic structure of the countries concerned. Accordingly, Prime Minister Shinzo Abe pledged $30 billion worth of high quality, job-creating public and private investment by FY 2018.

5. Need to Rethink Gas Export Strategy as European Firms Leave

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On August 12, five European firms (French ENGIE, Austrian OMV, British-Dutch Shell, German E.ON's subsidiary Uniper, and German Wintershall) announced withdrawal from the Nord Stream 2 gas pipeline that connects Russia with Germany. In December 2015, a business consortium comprising Russia's Gazprom and the five European companies had filed for a JV license with the Office of Competition and Consumer Protection (UOKiK) in Poland. However, on July 22, 2016, UOKiK expressed concern that the Nord Stream 2 consortium, when established, could hamper competition and further reinforce Gazprom's already dominant position over gas transport in Poland. With the cancellation of a 10% bid in the project by each of the five companies, Gazprom will now have to shoulder the entire cost of building Nord Stream 2.

While the EU continues to disagree over Nord Stream 2, investment decisions of the energy firms, especially those of the major German companies, were the key factors for determining the profitability (secured gas demand) of the project and hence its feasibility. If Gazprom must now secure funds and sales channels by itself, considering the sluggish European economy and the ongoing economic sanctions against Russia by Europe and the US, the future of the project is no longer secure.

In addition to Nord Stream 2, the Turk Stream gas pipeline passing through the Black Sea and Turkey has been Russia's other option for bypassing Ukraine beyond 2019 when the gas transit contract with the country expires.

Ahead of the withdrawal of the five companies, at the summit in St. Petersburg on August 9, President Putin and the Turkish President Erdogan referred to the status of the Turk Stream construction as well as to the Akkuyu Nuclear Power Plant construction project. The relationship between the two countries had worsened after a Russian military jet was shot down by the Turkish military in November 2015, with both countries imposing economic sanctions. However, tensions thawed quickly after President Erdogan apologized to President Putin by phone in June 2016, and the relationship has been improving quickly since the coup attempt in Turkey in July. However, the feasibility of the Turk Stream project remains uncertain, as the bilateral negotiation is currently limited to Line 1 and Line 2 that carry gas to Turkey, and the demand of European countries beyond Turkey remains unsecured.

Russia's GDP has fallen for six quarters straight to the second quarter of 2016. On August 4, Economic Development Minister Alexey Ulyukaev mentioned a possible upturn in the third quarter, and experts at the Central Bank of Russia are also projecting that Russia's economic recession is over. However, the Russian economy is likely to remain dependent on international oil and gas prices and the demand in surrounding countries, as the structural issues of the economy, namely the dependence on oil and gas revenues, remain unresolved. To correctly evaluate Russia's economic situation as well as its energy strategy, the relationship between Russia, Europe, and Turkey must continue to be monitored.

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