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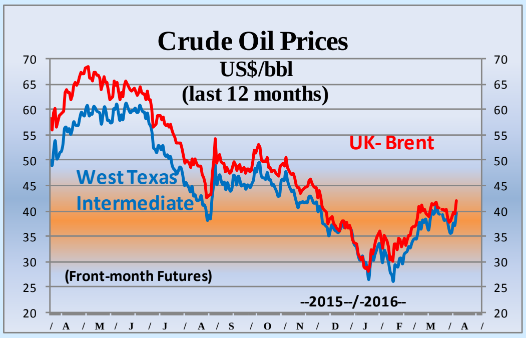
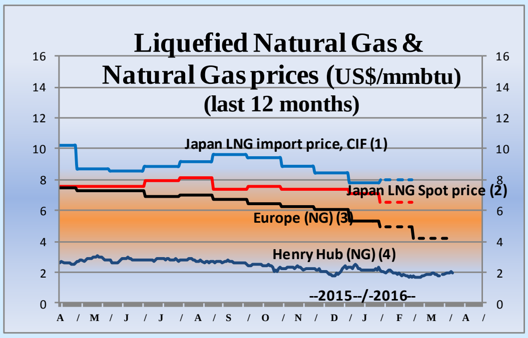
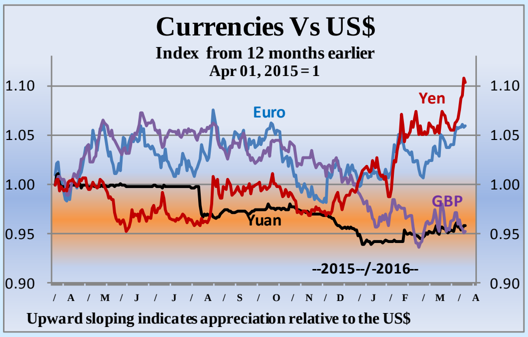


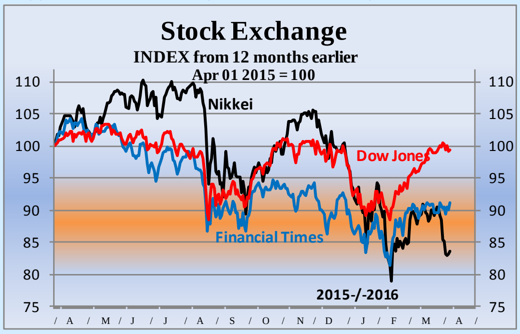
Source: DOE-EIA, Financial Times, NASDAQ



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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A joint meeting of the Central Environment Council and Industrial Structure Council was held, where the draft Global Warming Countermeasures Plan was presented. Topics such as the long-term goal of reducing emissions by 80% by 2050 and the domestic emissions trading system were discussed.

5. Feasibility of India's Ambitious Solar PV Target

India has set a target to boost its solar PV capacity to 100 GW by 2022, but there are many issues including securing the land, the financing of distribution companies, and ensuring stability of the power systems. The program’s progress must be closely monitored.

1. Developments in Electricity Retail Deregulation

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With full liberalization of electricity retailing starting in April 2016, on March 11, news came out that power producer and supplier (PPS), Japan Logitec Cooperative Association, is preparing to file for bankruptcy. It had previously filed to withdraw its electricity retailer registration on February 24. The news sparked much talk as the Association had sold 1,700 GW in 2015, which accounted for 4.7% of the total electricity sales by PPSs in 2015.

Japan Logitec Cooperative Association was an operator with many problems including falling behind with payments for electricity purchases from municipalities, being singled out in May 2015 for failing to make the payments required under the Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources. The Association commenced business as a PPS in July 2010 advertising lower electricity tariffs than local power companies, and has more than doubled its sales volume each year. However, presumably, it eventually ran short of cheap sources of electricity while accumulating massive debts.

The Association is not the first to leave the PPS business: GTF Institute, The First Energy Service Company, and Japan Wind Development have also closed, and Idemitsu Kosan also left temporarily before returning as Idemitsu Green Power. However, the Association's case is unusual in that, unlike these companies, it took no measures to ensure the smooth transition of customers and avoid chaos after closing, and thus the cooperative's stakeholders are left in disarray.

Under the Electricity Business Act, it is possible to open a specified-scale electricity business, including PPSs, simply by registering with the Economy, Trade and Industry Minister. The business is not subject to financial reporting obligations or to the guidance authority of the METI, including operational improvement orders. Meanwhile, the retailer system that is to be launched in April is similarly registration-based, but will be subject to METI's operational improvement orders. Thus, in theory, the Japan Logitec Cooperative Association case could have been handled properly had it occurred after April.

Meanwhile, operational improvement orders for retailers are provided under the Guidelines for Proper Electric Power Trade and the Guidelines Concerning the Management of the Electricity Retail Business, but none of the items in these guidelines apply to the Association case. Considering that the Association had failed to pay for supply purchases before it withdrew its electricity retailer registration, new guidelines should be established to ensure supply security based on which operational improvement orders can be issued.

Full retail deregulation is receiving much attention, especially on its expected effects and positive aspects. However, the precedents in Europe and the US show that liberalization faces many challenges as it moves forward, and appropriate discussions and responses are needed. Bearing this incident in mind, the Electricity Market Surveillance Commission needs to build an appropriate organization that will allay customer concerns.

2. Developments in Nuclear Power

Tomoko Murakami, Manager
Nuclear Energy Group, Strategy Research Unit

On March 9, the Otsu District Court issued a provisional injunction ordering Kansai Electric Power Company to halt operations of Takahama Units 3 and 4. This is not the first court ruling ordering a power company to shut down its plants citing "inadequacy of the new regulation standards" and "concerns for plant safety", but is the first to immediately shut down an operating plant. In response to the decision, Kansai Electric shut down Unit 3 and stopped preparations for starting Unit 4. The company filed an objection on March 14 against the ruling and the District Court will conduct new proceedings on the ban on running the plants.

So far, the dominant view in Japan, the US, and major European countries was that the court should rule only on procedural legitimacy and defects, and that decisions on technical issues such as the validity of safety standards and plant safety should be made by the regulators. On April 6, an opposite decision was issued by Fukuoka High Court on the operation of Sendai 1 and 2 by a different presiding judge. It will be interesting to see how society views this ruling that makes a judgment on the validity of an independent regulator's regulatory standards, and how the ruling affects the business decisions of the operators.

While the restarting of nuclear plants in Japan continues to stutter, China and the former Soviet countries are actively constructing and expanding nuclear plants. On March 5, China General Nuclear Power Group (CGN)'s Hongyanhe Nuclear Power Plant Unit 4 reached initial criticality. On top of the 30 plants already in operation, several plants including Hongyanhe Unit 4 and Sanmen Unit 1, a Westinghouse AP-1000, are planned to start commercial operation in 2016.

In a bid to export more of the plants that it is developing, China is upgrading its export organization. On March 17, Hualong International Nuclear Power Technology Company (Hualong Company), a joint venture of CGN and China National Nuclear Corporation (CNNC), which will promote China's domestic reactor Hualong 1 overseas, was officially launched. To drive this expansion, Hualong Company plans to accelerate technical integration in both CGN and CNNC while managing the intellectual properties and related assets of the companies collectively in both China and abroad. On March 10, the EC antitrust regulators approved the partnership between EDF Energy and CGN for the Hinkley Point C construction project, in which CGN plans to invest. China is thus gaining presence in the international nuclear market.

During the five whole years since the Fukushima Daiichi accident, different countries have steadily accumulated experience in operating their nuclear power plants based on the lessons of the accident. On February 29, OECD/NEA released a report describing the safety measures taken by various countries since the accident. Hopefully, further improvements will be made in Japan, too, through the success of "generating peer pressure by the JANSI's peer reviews and the comprehensive power plant assessment" as mentioned by FEPC Chairman Makoto Yagi on March 18.

3. Recent Developments in the Oil and LNG Markets

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Have oil prices bottomed out? Despite daily fluctuations, WTI futures and Brent futures have been rising steadily overall after reaching a low of $26.21/barrel on February 11 and $27.88/barrel on January 20, respectively. As of late March, both Brent and WTI have returned to around $40/barrel. It was always thought that the excessively low prices were not sustainable and would eventually pick up, but have oil prices really bottomed out? In short, we can't be sure yet.

Regarding supply and demand, there is still a supply glut. Though global oil demand is continuing to grow steadily propped up by the demand for gasoline in the US and China, US's oil inventory is also growing as the country continues to pump more than 9 million barrels/day. The meeting on freezing output by major oil producers planned for April 17 in Doha may reach some kind of agreement, but is unlikely to drastically improve the supply and demand situation. The current recovery of oil prices is likely due to financial factors such as the slowing fall of global stock prices and the dollar depreciation associated with the slower-than-anticipated interest rate hike, rather than supply and demand factors. Thus, claims that oil prices are recovering may be premature.

The key point in the near term is Iranian exports. The figures for March exports are crucial, as they will be based on the first export plan since the sanctions were lifted in January and should show the extent to which Iran has recovered its share that was lost following the economic sanctions in 2012. Regarding US shale oil production, it will be important to see whether financial institutions continue to lend to the debt-ridden shale producers after the regular borrower review in April. However, an uptick in failed producers from April would not result directly in lower output as some of the production assets would be taken over by other producers. On the demand side, amidst the bearish view on this year's global economy, gasoline is currently driving the demand increase as it is relatively less susceptible to economic trends. In that sense, the trends in gasoline demand must be watched closely heading into the summer demand period.

In the Asian LNG markets, spot LNG for April-May delivery is apparently being traded in the $4/MMBtu range as of late March. Japan's LNG import price for April-May is expected to fall to around $5-6/MMBtu, reflecting the steep fall of oil prices at the beginning of the year. The LNG market is currently in the midst of a rush to launch projects, with the Sabine Pass (US) and Gorgon (Australia) projects starting operation in February and March. Further, American LNG will bring a new Henry Hub-linked pricing system to Asia. It is hoped that the diversification of supply sources and pricing systems, combined with the easing and abolition of the Destination Clause, will improve the liquidity of the Asian markets and help establish an Asian Hub and an LNG index that reflects the supply and demand of Asia.

4. Update on Climate Policies

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A joint meeting of the Central Environment Council's Global Environment Committee and Industrial Structure Council's Global Environment Subcommittee was held on March 4, where the draft Global Warming Countermeasures Plan, being formulated under the Act on Promotion of Global Warming Countermeasures, was presented. During the preparatory coordination between the Ministry of the Environment and the Ministry of Economy, Trade and Industry, "strategic efforts toward the long-term goal" and "domestic emissions trading" were reportedly discussed until the end.

Regarding strategic efforts toward the long-term goal, the draft Plan was worded as follows: "Based on the Paris Agreement and under a fair and effective international framework with the participation of all major countries, Japan will pursue the long-term goal of reducing GHG emissions by 80% by 2050 while ensuring that its global warming countermeasures remain compatible with economic growth, leading the international community to involve the major emitters in reducing emissions based on their respective capabilities." The main point in dispute was whether to reiterate the goal of "pursuing the long-term goal of reducing GHG emissions by 80% by 2050" included in the Fourth Basic Environment Plan approved by the Cabinet on April 27, 2012, as the goal had been left untouched since then without any quantitative evaluation, including the cost of the reduction. After the coordination, an additional phrase was incorporated into the new Global Warming Countermeasures Plan saying "ensuring that its global warming countermeasures remain compatible with economic growth".

Regarding domestic emissions trading, the Plan says that it should be "discussed cautiously, in light of the burden on Japanese industry and repercussions on jobs, the trends of overseas emissions trading systems and their effectiveness, and the assessment of major existing climate measures in Japan (such as voluntary efforts of industry)". This wording is almost identical to that in the "Three Major Economic Instruments against Climate Change" of the Cabinet Committee on Climate Change on December 28, 2010, which means that no substantial discussions will be made on domestic emissions trading.

As a member of the Joint Committee, IEEJ President and CEO Masakazu Toyoda raised some issues, questioning why the quantitative long-term goal (a reduction of 80% by 2050) was incorporated into the Plan even though its feasibility was not fully analyzed considering the Great East Japan Earthquake when it was established in the Basic Environment Plan in April 2012. Further, regarding emissions trading, which the Plan says must be cautiously considered in light of the trends of overseas emissions trading systems, Mr. Toyoda questioned their effectiveness, as the study prepared for the European Commission says carbon abatement and the carbon price were not the primary driving factors for most companies and sectors to invest in carbon efficient solutions.

The other members' comments focused on the long-term goal, carbon pricing such as emissions trading, strengthening efforts in the residential and commercial sectors, and the role of nuclear power.

The public comment version of the draft Global Warming Countermeasures Plan was approved at the Global Warming Prevention Headquarters on March 15, and the Plan is up for public comment until April 13, and will be finalized by the Headquarters and approved by the Cabinet in early May.

5. Feasibility of India's Ambitious Solar PV Target

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As the rapid expansion of solar power causes issues in Japan such as the public burden and grid stability of the power systems, India is working on a target that far exceeds that of Japan and its feasibility is attracting attention. The target is to boost solar PV capacity from the present 6 GW to 100 GW in 2022. This would require an average increase of more than 13 GW per year, which is double the annual average increase in Japan during the three and a half years since the launch of the FIT system.

This target was established last August at the initiative of Prime Minister Modi himself, who took office in 2014, by dramatically ramping up the conventional target of "20 GW in 2022". To achieve this ambitious target, support has been provided continuously through the FIT system and the bid system, but many barriers to achieving the target remain.

The first is securing the land. To meet the solar power generation target of 60 GW out of the target 100 GW by mega solar, approximately 1,000 km^2 of land will be needed. While this is only 0.06% of India's 1.8 million km^2 of farmland, mega solar is already causing conflict with farmers over plots of land near transmission lines, which are ideal for mega solar plants. Behind this lies the Modi Administration’s high economic growth policy. Farmland is already being sought for industrial use, and further purchases for mega solar plants could cause a decline in agricultural output and agriculture-related jobs. Thus, farmers are strongly opposed.

The next is the financial risk of power distribution companies and the issues with the transmission systems. Electricity tariffs are kept low in India by government policy, hurting the finances of the transmission companies which cannot recover all the costs. Ramping up solar power capacity under such circumstances would further damage their finances, as they cannot recover purchase costs through surcharges. In fact, a transmission company has gone to court in Gujarat demanding a discount on the purchase price. In some states that have been assigned solar capacity targets that exceed their peak electricity demand, measures will inevitably be needed to ensure the stability of the power systems, including supply-demand adjustments.

To secure the land, many states are offering low-price lease schemes of public land. Efforts are also being made to solve the problems of transmission companies, including encouraging direct transactions between solar power companies and consumers without going through transmission companies, hence alleviating their financial risks, and reinforcing the transmission networks. However, considering the speed required to meet the target, these measures must be ramped up immediately. Meanwhile, the success of the program is a serious concern for related firms such as battery companies, as an increase in solar power would increase the need for grid stabilization measures. The outcome of the program must be closely monitored.

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