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Contents

【Energy Market and Policy Trends】

- 1. Asia/World Energy Outlook 2014**
- 2. Developments in Nuclear Power**
- 3. The Future of Plummeting Oil Prices**

【Global Watch】

- 4. ME Watching: Uncoordinated Response to the Growing Threat**
- 5. Russia Watching: Situation of Oil and Gas Industries under Western Sanctions**

Summary

1. Asia/World Energy Outlook 2014

Global energy consumption will increase 1.4 fold to 2040, particularly in Asia. Slower growth in China and India, which will drive the increase in demand, will significantly affect the global economy, international oil and natural gas trade, and CO₂ emissions.

2. Developments in Nuclear Power

The amendments to permits for revising construction plans and operational safety programs for Unit 1/2 of Sendai Nuclear Power Plant were submitted, and Kagoshima municipal assembly approved the restart . Continued thorough efforts will be needed to gain the understanding of residents and municipalities.

3. The Future of Plummeting Oil Prices

The crude oil market remains weak as the supply-demand balance eases further. The keys to predicting future oil prices are Saudi Arabia's production policy and the trend of shale oil production in the US.

4. ME Watching: Uncoordinated Response to the Growing Threat

Despite the air strikes by the US-led coalition against “Islamic State”, the situation in Iraq and Syria is still in flux. The current focus is on Turkey, which is the key to curtailing the inflow of foreign fighters.

5. Russia Watching: Situation of Oil and Gas Industries under Western Sanctions

As Western sanctions against Russia over the Ukraine crisis intensify, Russia's oil and gas industries are starting to be affected. Combined with plummeting oil prices, the sanctions are starting to bite in Russia.

1. 2014 Asia/World Energy Outlook 2014

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1. Outlook for world/Asia supply-demand—Energy consumption to grow 1.4 fold in the next 28 years, particularly in Asia

- In the "Reference Scenario" which assumes that the current trends in the supply and demand for energy and policy and technology implementation will continue, the global primary energy consumption will grow by 44% from 13,371 Mtoe (million tonnes of oil equivalent) in 2012 to 19,276 Mtoe in 2040. Fossil fuels, which currently account for 82% of primary energy consumption, will provide at least 70% of this increase. Thus, the world's current high dependence on fossil fuels will not change.
- Asia will drive the growth in energy consumption, with the increase in Asia accounting for 60% of that of the entire world until 2040. In particular, the growth in China and India will account for 74% of Asia and 46% of the world, and the growth in demand in these two countries will drive global demand.

2. Supply and demand for energy in China and India, and its impact on the world—Slowing growth in China and India to suppress net oil and natural gas exports from the Middle East and former Soviet Union

- In the Reference Scenario, the energy consumption of China and India will grow explosively until 2040, increasing by more than the current energy consumption of the United States and Japan combined. However, if China and India seriously reform their economic structures and the supply and demand for energy even under lower economic growth (Low Growth and Reform Scenario), this growth could be reduced by 70%. Coal will be the foremost contributor, while in terms of the global supply and demand for energy, lower oil and natural gas consumption will have the greatest impact.
- In the Low Growth and Reforms Scenario, the growth in net oil exports from the Middle East until 2040 will shrink by 2.5 million b/d. Growth in exports from Latin America and the former Soviet Union will also shrink significantly. The drop will be even greater at 6.9 Mb/d if exports from other regions do not fall, and the Middle East becomes a swing supplier. Regarding natural gas, the main victim of the lower demand in China and India will be the former Soviet Union including Russia.

3. Responding to climate change—450 ppm not achievable even with maximum technological development

- The world's energy-related CO₂ emissions will reach 47.0 Gt in 2050 in the Reference Scenario, up 44% from 2012 levels. In comparison, the "Advanced Technologies Scenario" which assumes the maximum level of energy saving and low carbon technologies, combined with carbon capture and storage technology, would reduce emissions to 24.2 Gt in 2050, up 14% from 1990 and down 26% from 2012 levels. However, this is far from halving greenhouse gas emissions by 2050 from current levels. Thus, the 450 ppm scenario is almost impossible to achieve.
- Concentrating only on the 450 ppm scenario would require an even greater reduction than the Advanced Technologies Scenario, and could make it even more difficult for the major countries to make adjustments in the international negotiations. The realistic option in drafting specific actions and strategies in the negotiations is to focus on the 450 ppm scenario, but also remain open to combining the 500 and 550 ppm scenarios as needed.

2. Developments in Nuclear Power

Tomoko Murakami, Manager
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On October 24, the Kyushu Electric Power Company submitted to the Nuclear Regulation Authority (NRA) amendments for permits for revising construction plans and operational safety programs for Unit 2 of Sendai Nuclear Power Plant. This was done following the issuance of the reactor installation and modification permit on September 10, as part of the procedure required for restarting the plant, after the same procedure for Unit 1. Restarting the plant will be possible only after all amendments for permits for revising construction plans and operational safety programs are approved. While the NRA's review is under way, another amendment is inevitable as Unit 1 received a comment in the review meeting on October 21; the final approval still seems a long way off.

Meanwhile, from early October to the 20th, public hearings were held for the residents of four municipalities, including Satsumasendai City where Sendai Units 1 and 2 are located. After these meetings, in which NRA staff explained the results of the reviews, a survey by Mainichi Shimbun of 50 residents indicated that 16 supported restarting the plants while another 33 opposed it. Some reports stated that many residents were disappointed that the NRA merely explained the plant's technical compliance with the new safety requirements, and did not discuss the need to restart the plants. The purpose of the meetings was to fully inform the residents by clearly explaining how the plants now meet the safety requirements.

On November 7, Kagoshima Municipal Assembly gave an approval to the restart of the plants. However, the three documents submitted by Kyushu Electric, namely the applications for permits for reactor installation and modification, revising construction plans and operational safety programs, are very detailed technical documents, exceeding 20,000 pages in total. When nobody would perfectly understand them, who should be responsible for the decision of the restart?

Many issues have been raised also at the discussions on nuclear policy. At the seventh Nuclear Energy Subcommittee meeting on October 2, an expert from overseas commented that "Japan is expected to play an important role in nuclear nonproliferation and technical innovation". Many members highly evaluated the contribution of the Japanese nuclear industry to the international community, and expect various domestic issues including the Fukushima Daiichi accident, plant decommissioning, and radioactive waste disposal to be dealt with accordingly. The eighth meeting on October 28 referred to the start of discussions on a decommissioning-related accounting system by launching a working group. Prior to these meetings, on September 24, the WG on Self Efforts & Continuous Improvement of Nuclear Safety, Technology and Human Resources under this Subcommittee held its first meeting, and started discussions on drafting roadmaps for the development of safety technologies and personnel training. Securing safety and maintaining the technological base are important, especially as the prospects for restarting the power plants and the future dependency on nuclear power remain unclear.

Meanwhile, a global competition in selling nuclear power plants is intensifying, particularly in emerging countries. At a trade show hosted by an engineering firm Areva held from October 14-16 in the outskirts of Paris, Chinese businessmen took the stage for the panel discussion and explained the prospects for nuclear power in China, and actively discussed business with European suppliers in front of Chinese company booths. Watching this bustling scene, it was difficult not to notice the gap between Japan, which is still under discussion on its nuclear future, and the rest of the world. The real world is developing methods for introducing nuclear power in the deregulated market, and working on introducing nuclear power for the stable electricity supply and combating environmental issues including global warming. Perhaps it is time for Japan to squarely face the reality in other countries.

3. The Future of Plummeting Oil Prices

Yoshikazu Kobayashi

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Oil prices are plummeting. Brent Crude, which has remained stable between 100 and 110 dollars per barrel since the beginning of the year, has fallen rapidly since summer, reaching the 80-dollar range since mid-October for the first time in four years. The slide is due mainly to such large increases in supply that even geopolitical risks can no longer prop up the supply-demand balance, unlike in the past. In addition to the weakening demand in emerging countries, production hikes in the US, and periodic maintenance of refineries in Europe and the US, Libya's oil production has recovered faster than expected after the export ban was lifted, thus dramatically easing the supply-demand balance.

In predicting oil prices, the market is focusing mainly on Saudi Arabia's production policy and the trend of shale oil production in the US. Although Saudi Arabia has always stated that the desirable Brent Crude oil price is 100 dollars or more, it has so far shown no inclination to prop up oil prices by throttling back production, but instead has continued to lower the price differential for the formula price of its oil since the summer. This is because the country is currently financially comfortable due to the high oil prices in recent years, and that it has decided to maintain and increase its market share by keeping prices lower than other oil producers, rather than protecting the short-term oil price, now that competition among oil producers in the Asian market has begun to intensify. It can be even said that the Asian premium, or high export oil prices for Asia, is coming to an end, and that the age of an "Asian discount" could emerge.

There are those who believe that this production policy of Saudi Arabia is intended to lower oil prices and hence curb production in the US, Iran and Russia. Although Saudi Arabia could have such strategic motives, it is difficult to guess at the truth from the outside. The "working-level" market views and decisions by the technocrats, who actually run the daily operation of Saudi's oil business, are also a major factor in the production policy. In any case, the situation must be closely monitored.

Concerning the impact of low oil prices on shale oil production, the increase in production is expected to slow down once oil prices fall below 80 dollars, although according to the International Energy Agency, only 4% of shale oil production today has a breakeven point above 80 dollars. Further, with an estimated 70% of this year's production by US independent developers already hedged by futures contracts, it is not clear whether a fall below 80 dollars per barrel would cause significant production cutbacks. Considering Saudi's production policy, oil prices are likely to remain weak for some time.

The drops in oil prices naturally affect the LNG import price of Japan. Not only the oil-linked, long-term LNG contract price, but also the already falling spot LNG contract price, which reflects the long-term contract price, will inevitably face more downward pressure.

4. ME Watching: Uncoordinated Response to the Growing Threat

Koichiro Tanaka, Managing Director &
President of JIME Center

Despite the air strikes by the US-led coalition launched in August against “Islamic State (IS)”, the situation in Iraq and Syria is still shifting, with Iraqi forces occasionally losing battles against the militants seeking to expand their rule. As neighboring and related countries become increasingly aware of the threat, Turkey's ambiguous stance is a concern, as the country is crucial for implementing effective measures.

The recently named "Operation Inherent Resolve", the air campaign in Iraq and Syria against “Islamic State”, has entered its third month. Within Iraqi borders, Australia and Canada have joined the ongoing airstrikes by the UK, France and others to deter the advance of the IS militants, while joint ground operations to take back strategically important locations are being conducted by Iraqi forces and the Peshmerga of the Kurdish Regional Government (KRG). Despite these efforts, public security in Iraq remains under threat, as IS continues to launch offensives on cities near the capital Baghdad. While the absence of defense and internal affairs ministers were considered to be root causes of weak governance by the al-Abadi government, the recent appointment of these two ministerial positions is unlikely to change the picture.

Within Syria, the air campaign by the US and Saudi Arabia failed to stop “Islamic State” from advancing to Kobani (Ayn al-Arab), a town on the Turkish border. As US airstrikes on the front-line continue, the Syrian Kurdish force YPG, which is defending Kobani, has been offered support by their Iraqi compatriots KRG, which have mobilized the Peshmerga forces. However, limited numbers of KRG fighters crossing Turkey for Kobani may not be sufficient to reinforce the YPG against IS offensives.

With no immediate solution in sight, there is a growing awareness among countries of the risk posed by “Islamic State”, especially after the attacks in Canada and the US allegedly linked to the radical beliefs of IS. Turkey's parliamentary approval of military action in Iraq and Syria is an example of such change, yet despite its crucial position in the operation against IS, the country remains ambiguous, with radical activist recruiting organizations in the country and the country's priority on handling its Kurds. It has also been reported that IS is training military aircraft pilots and has allegedly used chlorine gas in Iraq.

About to expire for the second time, the nuclear talks with Iran are viewed with both optimism and pessimism. There are rumors that an agreement will be reached, due to speculation that the member countries have agreed that their common interest is to prevent the talks from collapsing, but the situation remains uncertain.

5. Russia Watching: Situation of Oil and Gas Industries under Western Sanctions

Shoichi Itoh, Manager, Senior Analyst
Global Energy Group 2, Strategy Research Unit

In September 2014, Russia's crude oil output reached 10.56 million barrels/day, nearing the post-Soviet record of 10.59 million barrels/day (December last year). Early that month, the Energy Ministry of Russia announced an estimated average daily output for the year at 10.51 million barrels/day, up 0.3% year-on-year. Meanwhile, the Western sanctions against Russia, now affecting the country's energy and financial industries, are likely to damage the long-term production capacity of the country, which is being forced to boost production in areas where development costs are high.

Russia's crude oil output from Q1 to Q3, 2014 was 392.93 million tonnes, up 0.7% year-on-year. The top three companies Rosneft, Lukoil and Surgutneftegaz produced 150.96 million tonnes (down 0.8% Y-o-Y), 64.73 million tonnes (down 0.2% Y-o-Y) and 45.92 million tonnes (down 0.1% Y-o-Y), respectively. Despite the small increase in overall output attributed to Gazprom Neft and Bashneft, the drop in production of the top three is serious.

Going forward, Russia's oil production will depend on: (1) Curbing the production cutback in western Siberia, and (2) developing the frontier areas. In particular, for the latter, access to state-of-the-art technologies of the West and the availability of major Western investments, including the procurement of foreign funds, will be essential for successful development of the Arctic continental shelf and eastern Russia (eastern Siberia and the Far East), which will require vast amounts of high-risk investment. Crude oil output from western Siberia, which accounted for approximately 70% of the country's total, has been declining after peaking in 2007. Since then, the drop in production has been compensated by producing more in eastern Russia, which now accounts for approximately 10% of total output.

In September this year, the US and the EU announced sanctions against Russia including a ban on providing technologies and facilities to the oil industry (and the gas industry, too, for the US) and on financing (longer than 30 days) in the Western money markets. Lukoil's President Vagit Alekperov warned that without introducing Western technologies and know-how, Russia's oil output could drop by approximately 2 million barrels/day in the future.

Regarding natural gas, output was 463.3 billion m³ as of end-Q3, down 19.2% year-on-year. This drop is attributed to the production adjustment to meet the slowing demand for gas in Europe, as well as the easing demand in the international gas market under the shale gas revolution. However, as in the case of oil, the aging of major gas fields of western Siberia should not be overlooked. Further setbacks in cooperation with Western countries, resulting in delays in the development of new gas fields in the Arctic and the east, would threaten the country's future gas production capacity. The oil and gas field development technologies of China, with which Russia is rushing to strengthen ties, have yet to exceed the levels of the West.

The oil and gas industries account for approximately 70% of Russia's exports. The Russian economy is being negatively affected not only by Western sanctions, but now also by declining international oil prices. Russia is being severely affected by the Ukraine crisis.

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