IEEJ e-NEWSLETTER

No. 32

(Based on Japanese No. 125)

Published: February 24, 2013

The Institute of Energy Economics, Japan

IEEJ e-Newsletter Editor: Yukari Yamashita, Director

IEEJ Newsletter Editor: Ken Koyama, Managing Director

Inui Bldg. Kachidoki, 13-1 Kachidoki 1-chome, Chuo-ku, Tokyo 104-0054

Tel: +81-3-5547-0211 Fax: +81-3-5547-0223

Contents

Summary

【Energy Market and Policy Trends】

1. Recent Developments in the LNG Market

Japan's LNG payment increased significantly in 2013 only due to the weaker yen. Global LNG market activities continued shifting toward the east. Major progress was observed in LNG project development in Russia and Canada around the turn of the year.

2. Adjustments to the Renewable Energy Policy in Germany

Germany continues to work on revising its renewable energy law, while the European Commission deferred setting country-based renewable energy targets for 2030. Thus, Europe appears to be modifying the course of its renewable energy policy.

【Global Watch】

3. China Watching: The Overall Energy Policy Targets for 2014

In January, the National Energy Administration analyzed the domestic supply-demand situation of energy, checked the progress of the 12th Five-Year Plan, and drew up working targets for lowering the ratio of coal and strengthening pollution prevention for 2014.

4. Russia Watching: President Putin's "Great Challenge" for Far East Development

President Putin is moving toward full-scale development of the Far East. Its progress will be a major test for the stability of the entire Russian economy and the government's standing.

5. EU Watching: Coal Power Reaches Highest Rate in 20 Years in Germany

The utilization rate of Germany's coal-fired thermal power has reached the highest level in 20 years. The government is struggling to reduce both greenhouse gases and energy costs at the same time.

1. Recent Developments in the LNG Market

Hiroshi Hashimoto
Senior Analyst, Gas Group
Coal & Gas Subunit
Fossil Fuels & Electric Power Industry Unit

Although Japan's LNG imports in 2013 grew only marginally by 0.2% year-on-year, the corresponding payment increased significantly to JPY 7 trillion in 2013 from JPY 6 trillion in 2012. As the average unit price in dollars actually went down from USD 16.68 in 2012 to USD 16.10 per million Btu in 2013, the main cause of the huge increase in payment was the weaker Japanese yen in 2013.

While the total global trades of LNG did not grow much in 2013, either, the gravity of the global LNG market continued shifting toward the east. European LNG imports continued sliding down by 25%, or 12 million tonnes compared to the previous year. On the other hand in Asia, Korea and China increased LNG imports by 3 million tonnes each.

Among major developments with regard to LNG production projects around the turn of the year, a final investment decision (FID) was made on the Yamal LNG project in Russia in late December, after the Russian law revisions took effect to end LNG export monopoly at the beginning of the month. After an apparent hiatus of long-term sales negotiations and development activities of brand new LNG export projects around the world, the decision may finally marks a sign of intensifying competition to secure LNG markets in the latter half of this decade.

Four LNG export projects on the west coast of Canada were awarded export licenses from Otawa's National Energy Board (NEB) in December. Although immediate project implementations and construction activities are not anticipated yet, the NEB's approval represented a significant progress toward export realization. Partners of the Kitimat LNG, which had taken an early lead in the regulatory approval process, selected an EPC contractor consortium in December.

While three LNG export projects in the United States from which Japanese companies plan to lift LNG have been granted licenses from the Department of Energy (DOE) to export LNG to countries that do not have a free-trade agreement (FTA) with the United States, they have not yet obtained construction approvals from the Federal Energy Regulatory Commission (FERC).

Turning our eyes onto the South Pacific where a major expansion of LNG export capacity is expected from 2014 onward, another upward revision of construction costs and a few-month delay of the first delivery date to the middle of 2015 were announced in December 2013 on the Gorgon project in Western Australia. Among other LNG export projects under construction, the QCLNG project in Queensland in eastern Australia and the PNG LNG project in Papua New Guinea have already introduced commissioning gas to liquefaction facilities and made steady progress toward beginning exports in the second half of 2014.

2. Adjustments to the Renewable Energy Policy in Germany

Hisashi Hoshi, Board Member, Director
New and Renewable Energy & International Cooperation Unit

The revision of Germany's Renewable Energy Act is approaching an important stage. On January 22, the details of the bill discussed in the Cabinet were released. As previously noted, in Germany's renewable energy program, the rising surcharges caused by widespread introduction of solar electricity are becoming a social issue. The government has revised the FIT system several times to control the surcharge, but has been unsuccessful. The new bill was rejected in the Upper House before the general election last autumn, and so the discussions were postponed until after the election.

The first aim of the draft revisions is to control the additional capacities of renewable energies. While the current system sets lower limits for the share of renewable electricity at 35% (2020) and 50% (2030), the new targets also set upper limits to keep the new capacity within 40 to 45% in 2025 and 55 to 60% in 2035, with the main aim of preventing excessive new capacity.

The purchase price will also be lowered to 12 cents/kWh by 2015 from the current average of 17 cents/kWh. Further, in 2017, a bidding system will be introduced for deciding the purchased price or premium as described below, in order to reduce institutional costs.

The draft revisions clearly indicate the intention to subject renewable electricity to market risks. Even under the current system, an electricity producer can choose not to sell electricity at a fixed price, and instead to sell it to the market after receiving a certain premium (Feed in Premium, FIP), at the producer's discretion. The draft revisions will gradually change the system so that by 2017, it will be mandatory to sell all new capacity above 100 kW to the market.

Unlike the FIT system which virtually guarantees profits, under the FIP system, businesses will be constantly exposed to market risks. Receiving the premiums will ease those risks, but there is a big difference between no risk and low risk. While the details are yet to be determined, the new system, which requires electricity producers to take risks while maintaining their motivation to stay in the renewable electricity business, while keeping new capacity within a certain range, should be even harder to run than the FIT system.

On January 22, the same day, the European Commission announced a draft framework for its new policies on climate change and energy for 2030 . The framework presented a draft target share of 27% for renewable energies, but unlike for the existing target of 20% by 2020, no legally-binding, country-based targets were set. This suggests that promoting renewable energies is no longer a shared priority in the EU. This change could be based on the idea that all countries should work toward carbon reduction, but the approaches could vary to include renewables, nuclear, or CCS, as the UK had emphasized at the draft stage. As the cost burden of renewable energies becomes increasingly apparent, the UK's stance is gaining traction.

The era of aggressive expansion of renewable energies through the FIT system is coming to an end in Europe.

3. China Watching: The Overall Energy Policy Targets for 2014

Li Zhidong, Visiting Researcher
Professor at Nagaoka University of Technology

On January 13 and 14, the National Energy Administration (NEA) held a national energy meeting to analyze the supply-demand situation of energy and check the progress of the 12th Five-Year Plan. Based on the results of the meeting, at the end of the month the NEA announced the "Guiding Opinions on Annual Energy Development in 2014" that specify the targets and tasks for 2014.

According to preliminary statistics, for 2013, primary energy consumption increased by 3.9% to 3.76 billion tonnes (standard coal-equivalent, 1 t = 7×10^6 kcal) while the GDP growth rate was 7.7%. Thus, energy consumption per unit GDP (energy-GDP intensity) decreased by 3.7% from the previous year. However, although the energy-GDP intensity has decreased by 9.0% during the past three years, it would have to be reduced by at least 3.9% per year for the next two years to achieve the target 16% reduction from 2010 levels by 2015. At the same time, to achieve the total volume control target for primary energy consumption of 4.0 billion tonnes in 2015, the average annual increase must be kept within 120 million tonnes for the next two years. To do so, the NEA aims to keep primary energy consumption below 3.88 billion tonnes in 2014 by achieving energy conservation of 3.9%. As the target economic growth rate, which will be decided officially following the National People's Congress in March, the NEA estimates 7.4%, down 0.3 points from the previous year.

In terms of energy structure, because the development of non-thermal power sources including nuclear power is well under way, the share in total power generation capacity increased to 30.6%, up 3.1 points from the previous year, achieving the 2015 target of 30% two years ahead of schedule. On the other hand, the ratio of non-fossil fuels in primary energy consumption increased by only 0.4 points to 9.8%, due partly to the low utilization rate of renewable energy sources. To achieve the binding target of 11.4% in 2015, the NEA set annual installation targets of 8.64 GW, 18.00 GW and 10.00 GW for nuclear, wind and solar power, respectively, for 2014, which will raise the ratio of non-thermal power plants in total power generation capacity to 32.7% and the ratio of non-fossil energy in primary energy to 10.7%.

Meanwhile, the ratio of coal in primary energy consumption decreased by 0.9 points to 65.7%, almost reaching the target of 65% in 2015. However, due partly to a 2.5% increase in coal consumption, the serious air pollution by PM2.5 has not improved. In 2014, the NEA aims to lower the ratio of coal in primary energy consumption to below 65% and to increase the ratio of natural gas to 6.5%, while reducing coal consumption in Beijing City, Tianjin City, Hebei Province and Shandong Province to a total of 17 million tonnes (raw coal), closing 2 GW of inefficient small thermal power plants across the country, and increasing the use of flue gas desulfurization equipment to 100% in coal thermal power plants and denitration equipment to 70% in all thermal power plants.

Further, the construction of new coal thermal plants, except co-generation plants, will be prohibited in the Beijing, Tianjin, Hebei (Jing-Jin-Ji) Belt, the Yangtze Delta and the Pearl River Delta where air pollution is severe, and coal thermal power for the eastern area will be replaced by constructing nine large-scale coal thermal power bases in the coal-rich west and twelve "West-East Electricity Transmission" routes.

4. Russia Watching: President Putin's "Great Challenge" for Far East Development

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

On New Year's Eve 2013, President Putin delivered his annual televised address from the city of Khabarovsk, one of the centers of development of the Far East. It is extremely rare for a leader of Russia not to be in Moscow on this day. Although the visit was for consoling the victims of the massive flood in the Far East last fall, it is significant that he chose to visit the Far East immediately before the Olympic Games in Sochi even as the terrorist attacks in the North Caucasus intended to sabotage the Games were capturing domestic and overseas attention. The visit shows how urgently the President needs to raise the awareness of the Russian people and policymakers toward the development of the Far East, which the President himself is leading.

On January 1, 2014, the federal program "The Socioeconomic Development of the Russian Far East and the Baikal Region to 2018", decided officially by the government last month, was launched. The total budget for the program (697 billion rubles = 20 billion dollars) is to be covered by 213 billion rubles from the federal budget, 11 billion from the budgets of federal subjects (equivalent to Japanese "prefectures"), and the remaining 473 billion rubles from private investment, including foreign funds.

The Russian government is accelerating its efforts to develop the Far East, at least on paper. The Ministry for Development of Russian Far East has decided to open a representative office in Vladivostok, in addition to those in Khabarovsk and Moscow. The Ministry plans to specify the requirements for the special economic zone to be established in the Far East and Eastern Siberia, including various tax incentives, and to select the target region by June 5 this year. Accordingly, the Ministry must formulate the relevant laws by the end of March, jointly with the Regional Development, the Economic Development and the Finance Ministries.

The series of economic reforms currently planned for the Russian Far East is reaching an unprecedented scale in both geographical area and investment incentives. So far, less than 9% of foreign investment in Russia has been in the Far East (as of 2012), even though it accounts for more than 40% of the country, with more than 70% of it focusing on the Sakhalin Oblast. Accordingly, it will be difficult to attract foreign investment to the inland Far East, where the infrastructure urgently needs to be improved.

Meanwhile, the finances of Russia are worsening as its economic growth rate drops, and the current account surplus for 2013 was more than half that of the previous year at a preliminary value of 33 billion dollars. To overcome the inevitable challenges in rebuilding the Russian economy (controlling capital flight, fighting corruption, and drastically opening the market to foreign investment), it is essential to overhaul the vested-interest structure of the country. Failure to revitalize the economy could shake the power base of President Putin as he heads toward the next presidential election in 2018. The development of the Russian Far East is not only a regional development issue, but embodies all the elements of the drastic reforms needed for the future of Russia's economy. Japan should consider this background when drawing up its strategy for Russia.

5. EU Watching: Coal Power Reaches Highest Rate in 20 Years in Germany

Wataru Fujisaki, Senior Researcher
Global Energy Group 1
Strategy Research Unit

To achieve its long-term policy goal of "Energiewende (energy shift)" which positions renewable energies as the main source of energy, Germany formulated the "Energy Concept" in 2010. This aims to reduce GHG emissions by 40% by 2020, and raise the ratio of renewable energies in the electricity supply to 35%. While renewable electricity expanded steadily in 2013 to 25%, the utilization rate of coal thermal plants, which produce high CO2 emissions, reached the highest level in twenty years, suggesting that the CO2 emissions for the whole of Germany in 2013 increased from the previous year.

The total electricity output of Germany in 2013 was 479.4 TWh, of which thermal power accounted for 61.5% at 394.8 TWh. Compared to 2012, in 2013, standard coal increased by 3.2 TWh to 141.5 TWh (+2.3%) and hard coal increased by 4.5 TWh to 110.3 TWh (+4.2%), while natural gas plunged by 10.5 TWh to 39.4 TWh (-21.0%). One reason for the increase of coal is the low emission allowance price of the EU ETS (EU Emissions Trading System), which makes it cheaper for the power companies to continue running their coal power plants even with the cost of buying emissions allowances. Another reason is starting to operate 2,743 MW of coal thermal power plants, while closing only 1,321 MW of old coal plants.

Under such circumstances, the opposition Green Party claims that in order to reverse this trend and reduce GHG emissions, not only should the dependence on fossil fuels be reduced, but also power companies should opt for lower-carbon natural gas rather than coal, if fossil fuels have to be used. However, this approach will impose a tough choice on the government. Due to the Feed-in-Tariff system of renewable energies, the premiums for regular households are continuing to rise, and are expected to reach 2,500 yen per month in 2014 for a regular household of four. Replacing coal with expensive natural gas would cause the tariffs to rise further, and could provoke strong opposition from consumers. Meanwhile, the EU is aiming to promote natural gas rather than coal by setting a lower limit on the EU-ETS emissions allowance price, but again, this will increase the burden on companies and significantly affect the EU's industrial competitiveness compared to non-EU countries.

So far, Germany has steadily expanded the use of renewable energies. Aiming to reduce GHG emissions by 40% in 2020 and by 80% in 2050, the challenge is how to use fossil fuels while improving its industrial competitiveness and lowering the burden on the public. We need to closely monitor how the German government tackles this challenge.

More information on IEEJ can be found by clicking below.

IEEJ Calendar of Events

Energy Indicators of Japan

IEEJ Homepage Top

Back Numbers of *IEEJ e-Newsletter*