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Summary

【Energy Market and Policy Trends】

1. Discussions on Energy Policies in the Basic Policy Subcommittee

The first meeting of the Basic Policy Subcommittee was held on July 24. The discussions were joined by the Japanese Consumers' Cooperative Union (JCCU), the Japan Business Federation (Keidanren), the All Japan Consumer Groups' Liaison Association (Shodanren), and the Japan Chamber of Commerce and Industry (JCCI) as user representatives.

2. Developments in Restarting the Nuclear Power Plants and the JAPC's Objection

Since the new safety regulatory requirements came into effect on July 8, applications have been submitted for restarting 12 power plants at six sites. The progress of the reviews and the prospects for restarting, however, remain uncertain. There was an unexpected development concerning the alleged active fault at the Tsuruga Nuclear Power Station of the Japan Atomic Power Company (JAPC).

3. European Parliament Adopts Revisions to the EUETS Auction Rules following Modification

The European Parliament adopted revisions to the EUETS auction rules by a narrow margin. The revisions had been modified by adding measures to alleviate the impact on industry. The revisions will now move to a higher level of discussion, but their prospects remain uncertain.

4. Trade-off between Renewable Energies and Thermal Power: Shutdown of Thermal

Power Stations Increasing in Germany

As renewable energies grow rapidly, many thermal power stations are being closed in Germany. Thermal power and renewable energies, however, are complementary: thermal power provides adjustment power to compensate for the fluctuating output of renewable energies. An institutional system for maintaining thermal power plants is also being developed.

5. Short- to Medium-term Outlook for the Supply and Demand of LNG

There is a sufficient supply capacity of LNG to meet global demand until 2014. Towards 2020, the supply-demand balance of LNG is likely to ease significantly as Australia and the US add supply capacity.

1. Discussions on Energy Policies in the Basic Policy Subcommittee

Akira Yanagisawa, Senior Economist

Energy Data and Modelling Center

On July 24, the first meeting of the Basic Policy Subcommittee was held, taking over the discussions in the former General Subcommittee which was abolished due to the restructuring of the committees by the Ministry of Economy, Trade and Industry. The meeting solicited the views of energy users, and representatives from four organizations, namely the Japanese Consumers' Cooperative Union (JCCU), the Japan Business Federation (Keidanren), the All Japan Consumer Groups' Liaison Association (Shodanren), and the Japan Chamber of Commerce and Industry (JCCI) were invited to join. The first half of the meeting, an hour, was spent on reports from each of the four organizations, while in the second half, a little over an hour, the members presented comments and posed questions to the four organizations. Although the purpose of the Basic Policy Subcommittee is to discuss and help formulate the Basic Energy Policy, the discussions in the first meeting focused on the restart of the nuclear power plants and the rise in electricity tariffs.

Although all organizations spoke as users of energy, there was a wide division of opinion between JCCU and Shodanren (consumer groups) on the one hand, and Keidanren and JCCI (business groups) on the other. Specifically, the consumer groups are opposing both restarting the nuclear plants and raising electricity tariffs, while the business groups are advocating avoiding further rises in electricity tariffs by restarting the nuclear plants. Some members pointed out that such a serious division in opinion among the same Japanese people is in itself a problem, while others commented that it is natural to have different views. Personally, given the scale and complexity of the issue, the author does not consider that having different views is a problem. However, in light of its purpose, the Basic Policy Subcommittee must analyze the factors behind such a significant difference, and if it is due to a lack of information or misunderstanding, it must communicate accurate and clear information.

The consumer groups and the business groups were also divided in their views on the Feed-in Tariff (FIT) system. Whereas the business groups were anxious about possible adverse economic effects of the enormous cost of the FIT system, the consumer groups argued that the promotion of renewable energies through the FIT system is still in its infancy and the additional costs that may arise should be tolerated. Thus, there was an interesting contrast in the groups' views towards tolerating the increase in electricity tariffs caused by the FIT system. The business groups claimed that it is difficult to pass on the increase in electricity tariffs to product prices, while the consumer groups stated that no consumer would not complain about paying surcharges for the FIT system. While these views do not seem compatible, if they are true, then all parties should be satisfied and higher costs in the near-term can be avoided if the household sector bears the entire cost of the FIT system, thus exempting businesses from paying any surcharge. However, this might not be a sustainable solution in view of the experience of Germany.

IIEJ CEO and Chairman Masakazu Toyoda commented in the meeting as follows:

- There seem to be major differences in opinion between JCCU and Shodanren on the one hand, and Keidanren and JCCI on the other.
- Keidanren and JCCI have commented on the possible impact of an increase in electricity tariffs on production and investment, which could affect employment. What do JCCU and Shodanren think of this?
- JCCI has commented that the municipal radiation standards, which are much stricter than the national levels, are impeding the reconstruction of Fukushima. How should this issue be solved?
- The FIT system has not developed greatly in Japan except for solar photovoltaic. How does Keidanren think the design of the FIT system could be improved? For example, Germany is setting separate purchase prices for mega solar and general solar facilities.

2. Developments in Restarting the Nuclear Power Plants and the JAPC's Objection

Tomoko Murakami, Group Manager
Nuclear Energy Group, Strategic Research Unit

Since the new safety regulatory requirements went into effect on July 8, four power companies have submitted applications to the Nuclear Regulation Authority for a review of 12 power plants at six sites for compliance with the new safety regulatory requirements: Tomari Units 1-3 (Hokkaido), Takahama Units 3 and 4, and Ohi Units 3 and 4 (Kansai), Ikata Unit 3 (Shikoku), Genkai Units 3 and 4, and Sendai Units 1 and 2 (Kyushu).

Accordingly, the NRA has launched a detailed review of the measures against severe accidents, earthquakes and tsunami in accordance with the guideline published in advance. Ikata Unit 3 of Shikoku Electric held the most frequent hearings, 10 in the 15 days from July 9 to 23, or 1 every 1.5 days. Both the regulatory authorities and the power companies, which are keen to restart their plants quickly, are working hard on the review, but it will not be easy to complete the innumerable and detailed review items in a few months. Considering the time and manpower needed for the review, as well as the need to gain the consent of the local community once a plant has passed the review, realistically speaking very few plants may be able to restart within this year.

As the power companies and the NRA continue to work towards restarting, there was an unexpected development. On July 16, the Japan Atomic Power Company objected to the NRA's order to analyze the behavior of the spent fuel pool of Tsuruga Unit 2 in a loss of coolant situation. This is the first time in the history of the nuclear power industry in Japan for a power company to object to a regulatory authority's order to submit a report. This order by the NRA assumes that the fracture zone in the premises of the Tsuruga Nuclear Power Station is an active fault. The JAPC had already submitted on July 11 a final report denying the "assumption", and has stated that the NRA's order "is an unlawful administrative disposition based on a misjudgment and involving a serious error in administrative procedure". On July 24, the NRA rejected the request to suspend the analysis itself, but announced that it will study the objection in detail, and hold a separate meeting to discuss the evaluation of the fracture zone with the participation of the JAPC. We must closely monitor how this meeting will affect the evaluation of the active fault.

In July, there was some overseas news which was disappointing for the Japanese nuclear power industry which is trying to strengthen its presence abroad. On July 3, the Finnish power company Fennovoima signed an agreement with the Russian nuclear energy corporation Rosatom to work on a new project for its nuclear power plant Hanhikivi Unit 1. Consequently, despite having the right to hold direct negotiations, Toshiba became less likely to win the business. Further, on July 18, Edison of Southern California in the US sent a notice to Mitsubishi Heavy Industries claiming damages for design and manufacturing defects in the steam generators of San Onofre Units 2 and 3. Japanese manufacturers have earned a high reputation among overseas clients for their design and manufacturing abilities, quality, and ability to solve problems and make proposals. In these tough circumstances, it is important for the Japanese nuclear industry to draw lessons even from negative experiences, such as losing orders and being liable for damages, and to continue efforts to expand abroad.

3. European Parliament Adopts Revisions to the EUETS Auction Rules following Modification

Hiroki Kudo, Assistant to Managing Director
Global Environment and Sustainable Development Unit

On July 3, the European Parliament adopted proposed revisions to the EUETS auction rules by a narrow margin. The revisions were designed to shore up the floundering EU emission allowance (EUA) prices and attract investment, but were rejected by the parliament on April 16. The revisions managed to be adopted this time by adding provisions to appease the industrial sector based on the lessons learned from the rejection last time.

The proposed revisions aim to boost EUA prices by postponing the plan to supply 900 million tonnes of EUA through auctions until 2019, thereby tightening the supply of EUA.

The revisions were initially rejected due to concerns over their economic impact as the European economy remains sluggish, but the search for concessions continued as the EU continues to put priority on raising the price of EUA in its fight against global warming. The modified revisions expressly acknowledge the need to avert carbon leakage (overseas transfer) arising from the economic impact on industry, and to provide a mechanism to allocate the profits from auctioning 600 million out of 900 million tonnes of EUA to industry. Specifically, the profits will be used to set up a fund to support development and demonstration projects of innovative low-carbon technologies, as well as the development of ways for energy-intensive industries to reduce their GHG and carbon emissions.

While the revisions have been adopted by the European Parliament, some still question their effectiveness. As there is an abundance of excess EUA to be transferred from the Second Period (2008 to 2012) and the prospects for economic recovery remain unclear, the near-term restrictions on the supply of EUA enabled by the revisions may not be enough to raise the EUA price level significantly. Further, the EUETS is now facing additional uncertainties, as the amount of funds allocated to industry will depend on the EUA price as of the end of 2019, and the details of the support measures are left to future discussions.

Having passed the European Parliament, the proposed revisions will now be discussed in the “Trialogue”, among the European Commission, the European Parliament and the European Council. However, as the votes were very close in the parliament and there are issues such as the uncertainties in the allocation of the funds, it is not clear whether the revisions will ultimately go into effect. Meanwhile, the events concerning the revisions to the EUETS have sparked discussions both inside and outside the EU on the pros and cons of the emissions trading system. The political decisions made by the EU in the future are likely to impact those countries that have already introduced an emissions trading system, or are considering doing so.

4. Trade-off between Renewable Energies and Thermal Power: Closure of Thermal Power Stations Increasing in Germany

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

There is a rush of applications for closing thermal power plants in Germany as the operating rate of thermal power stations falls with the expansion of renewable energies (“renewables”), making them unprofitable.

In early July, Germany’s major power utility, EnBW, reported to the Federal Network Agency and TSO (power grid operator) the closure of its four thermal power stations that produce 688 MW in total in southern Germany. Further, another power utility, E.ON, also announced that it would close its coal-fired thermal power plant (323 MW) in the north. Furthermore, yet another major utility, RWE, announced that it is reviewing the economic efficiency of its power plants with total capacity of several thousand mega-watts of electricity in total. It is reported that 15 applications for closing power stations had been received by mid-July by the Federal Network Agency.

Germany is a renewables giant. It has added 7.5 GW of new solar power capacity for three consecutive years, now operating 32 GW (the highest in the world) in total as of the end of 2012. It also ranks third in the world after China and the US in wind power with 30 GW. In 2011, the ratio of renewable electricity in the country’s entire electricity portfolio reached 20.3% (including approx. 3% from hydropower). The applications for shutting down thermal power plants are the direct result of this trend.

Not all the applications above, however, will necessarily be approved unconditionally. As is well known, renewables (wind and solar power in particular) are unstable in output and thus require adjustable power sources such as gas-fired thermal power as backup. If thermal power plants continue to be shut down because they are unprofitable while renewable electricity increases, it will be impossible to keep the electricity system running stably. Indeed, after receiving the applications, the Federal Network Agency has commented that “further shutdowns would be unacceptable”.

The amendment to Germany Energy Act was made last November with this situation being anticipated. The new rule prohibits shutdowns of power stations if TSOs find them “system relevant” for ensuring the reliability of the electricity system, and pays for the cost of maintaining them, as so-called “capacity payment”. Although the need for backup power associated with introducing renewables has long been recognized, in reality, thermal power became sidelined by the active installation of new renewable capacity. The applications for shutting down thermal plants can be seen as objections by conventional power sources, and the revised energy business act has finally answered such objections for the first time.

Once launched, renewables are far more competitive than thermal power as they do not require any marginal cost. However, without thermal power, renewables lose much of their value. In that sense, renewables and conventional thermal power should be considered as a pair in which both elements work best when used together. Thus, when calculating the cost of installing additional renewables capacity, the cost of maintaining thermal power plants should be included in the calculation as part of the renewables system.

5. Short- to Medium-term Outlook for the Supply and Demand of LNG

Tetsuo Morikawa, Manager

Gas Group, Fossil Fuels & Electric Power Industry Unit

2012 was a historic year in which the global demand for LNG decreased by as much as 2%, or 4.49 million tonnes, year-on-year to 236.31 million tonnes. Behind this drop, in terms of demand, were the sluggish economy and the over-supply situation of natural gas in Europe and the US, which caused the LNG imports of those regions to fall by 36% (20.49 million tonnes) year-on-year to 57.27 million tonnes. In terms of supply, the weak European demand and lesser availability of feed gas for LNG plants resulted in decreased LNG exports from Algeria, Egypt and Yemen.

Despite falling 17% (4.3 million tonnes) from 2011, the drop in exports from these three countries did not affect the global LNG demand significantly because of a far greater plunge in demand in the Atlantic market. Consequently, in 2012, as much as 2.7 million tonnes of excess LNG were re-exported from Europe.

How will the short-term global supply and demand of LNG from this year into next year look like? In 2013, the global demand for LNG is expected to drop further from last year's level to 233 million tonnes due to the slow demand in Europe and the lack of feed gas in some exporting countries. Demand, however, is expected to turn around in 2014 to reach approx 250 million tonnes as demand picks up in Europe while remaining robust in Asia. On the supply side, however, supplies are sufficient to meet the global demand for both 2013 and 2014, which are 244 million tonnes and 254 million tonnes, respectively, even considering restrictions such as the shortage of feed gas.

How about in the medium to long term? There is no doubt that the global demand for LNG will grow steadily, possibly to as much as 350 million tonnes in 2020. In terms of supply, a series of LNG projects are planned for launch between 2015 and 2020. The plant construction projects currently under way in Australia have a liquefaction capacity of approx. 60 million tonnes/year in total. In the US, meanwhile, the liquefaction capacity of those projects that have or are likely to obtain a license for exporting to non-FTA countries within this year amount to approx. 50 million tonnes/year. Despite possible delays, there is no doubt that these new capacities, totaling approx. 110 million tonnes/year, will start to operate by 2020.

Besides Australia and the US, there will be additional liquefaction capacity from LNG projects being planned in countries like Canada, Russia and Mozambique, totaling nearly 100 million tonnes/year. Even if some of the projects in these three countries do not materialize, considering the vast additional capacities noted above, the supply-demand balance of LNG is likely to ease considerably towards 2020 even if demand grows.

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