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The decline in demand for natural gas is accelerating in Europe. Natural gas is unlikely to regain its competitiveness in the near future, and the trend toward diverting Europe-bound LNG to Asia and other areas is likely to continue.

1. Discussions on Energy Policies in the General Subcommittee Meeting

Akira Yanagisawa, Senior Economist
Energy Data and Modelling Center

The fourth meeting of the General Subcommittee was held on June 27. The discussions continued to focus on: (1) the main issues in the production (purchase) and consumption stages of energy, and (2) renewable energies and energy conservation.

Regarding (1) the main issues, there are innumerable points noted under this topic since they have been updated each time a member has made a comment. To avoid overlooking the key points, members suggested prioritizing the points. However, Subcommittee Chairman Mimura decided that it is preferable to list as many items as possible for the moment, and prioritize them later on.

Regarding (2) energy conservation, there were few differences in opinion among the members. On the other hand, regarding renewable power generation, which has expanded sharply since the launch of the Feed-in Tariff (FIT) system in July 2012, some members support promoting the system unconditionally whereas others emphasize the need to consider the various aspects of the system and their pros and cons, and to review the system as appropriate. Most members agreed on the need to focus more on heat in the area of renewable energies.

Regarding the rise in energy cost under the FIT system, one member commented that energy should no longer be considered as a cheaply available product, and that we should stop pursuing low prices. In response, however, many members commented on the importance of pursuing this goal. Notably, Dr Akimoto presented a highly-organized view that the rise in domestic energy prices stemming from issues and systems peculiar to Japan should be handled separately from the rise in international energy prices, which affect all countries, and that measures to deal with the rise in domestic energy prices should be sought individually. His detailed explanation was particularly impressive as it appeared to address not only the committee members and the secretariat but also the general public both at the venue and across the broadcasting network.

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

Regarding the main issues, we need to clarify which of the items will or will not be changed in the new Basic Energy Plan.

The FIT system has produced some clear effects (promotion of renewable energies), but there are also various issues. The early adopters of the system are facing rising costs and some are being forced to freeze the system. Germany is also suffering high costs, and is considering limiting the installation of new capacity and adopting the Renewables Portfolio Standard (RPS). It is important to review the purchase price in a flexible manner.

Wind and geothermal power have not expanded as much as expected. Would relaxing the environmental assessment be enough to accelerate their expansion? For geothermal power, a system for settling disputes and redressing any unforeseen damage may be necessary.

Regarding energy conservation measures in the residential sector, it is necessary to analyze and quantify the effects of the measures based on categories such as energy-consuming appliances, buildings and plants, lifestyles, utilization of ICT, and region-wide response, and to share the results with the public together with the price policies.

Under the former administration, the Growth Strategy Council and the Energy and Environment Council used different values for the reference economic growth rate. The values should be unified, and we expect substantial growth in energy consumption if the economy grows by 2% (per annum).

Due to the upcoming restructuring of the committees, the General Subcommittee will be renamed as the Basic Policy Subcommittee from the next meeting.

2. Developments in Nuclear Power: Implementation of the New Safety Regulatory Requirements and the Outlook for Restarting the Power Plants

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

On June 19, the new safety regulatory requirements incorporating the lessons learned from the Fukushima Daiichi accident were finalized in the eleventh meeting of the Nuclear Regulation Authority (NRA). Accordingly, on June 21, the Cabinet approved the revisions to the Act on Regulation of Nuclear Source Materials, Nuclear Fuel Materials and Reactors as well as the Electricity Business Act, which made the new regulatory requirements mandatory, to go into effect on July 8. After 23 study team meetings in ten months, the new safety regulatory requirements containing new countermeasures for severe accidents are now set to be implemented starting July 8. Accordingly, nuclear power plants that wish to restart will be reviewed based on applications received from electric power companies.

There are currently ten plants which the electric power companies "consider are in compliance with the new requirements and for which they are preparing to apply promptly for restart", including Takahama Units 3 and 4 (Kansai), Ikata Unit (Shikoku) and Tomari Units 1-3 (Hokkaido). NRA Chairman Shunichi Tanaka has stated that the "review period, which normally takes around six months, will be shortened as much as possible", while Hideka Morimoto, Deputy Secretary-General of the Nuclear Regulatory Agency has announced plans to increase the number of review personnel from the current 80 to about 130 in three teams. Thus, the NRA is ramping up its organization to respond promptly to an expected rush of applications for restart after the new regulatory requirements take effect on July 8. However, in the rush to restart the plants, anything other than a full review of compliance with the new requirements would naturally be unacceptable. For the power companies that have had to cope with unplanned purchases of large amounts of fossil fuels, the brighter prospect for restarting their nuclear power plants is good news. However, the actual timing of restart remains unclear and unforeseeable, considering the long review period and the subsequent responses of the local communities.

Besides the group of plants that are expected to apply for restart first, attention must be paid to the progress in discussions between the regulators and the power companies regarding (1) Tsuruga, Higashidori and Shika Nuclear Power Stations where there will be inspections of the fractured zones in the plant premises, and (2) Hamaoka and Onagawa Nuclear Power Stations where large structures such as tidal embankments are now under construction. Regarding the inspection of the fractured zones in the plant premises, the power companies are arguing that there is no geological activity in any of the target sites, disagreeing with the NRA inspection team which claims that the possibility of activity cannot be completely denied. In particular, the fracture zone in the premises of Tsuruga Unit 2 is the only reason stopping the Japan Atomic Power Company, which owns the power plant, from applying for restart immediately. If JAPC decides to apply for restart, it will be interesting to see the NRA's response and potential impacts on the review for restart.

Internationally, the leading US power company Southern California Edison (SCE) announced on June 7 that it would close Units 2 and 3 of the San Onofre Nuclear Power Station. This management decision was based on the unexpected time and cost needed to deal with the extensive tube degradation identified in the steam generator of Unit 3 and to restart the plant, taking into account the cost of fossil fuel that would be required. Even though the regulators did not order the power station to close for safety reasons, San Onofre is the third nuclear power plant in the US to be closed down by the power company after the Fukushima Daiichi accident for reasons of economic efficiency. The situation must be monitored closely as similar cases could occur in Japan and other countries depending on the safety regulatory requirements that apply.

3. Launch of the "Council for Comprehensive Evaluation of the Voluntary Action Plans" against Global Warming

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

On June 17, the Ministry of Economy, Trade and Industry held the first meeting of the "Council for Comprehensive Evaluation of the Voluntary Action Plans". With the migration of the Voluntary Action Plan to Action Plan for Achieving a Low-Carbon Society in 2013, the Council will summarize and evaluate the achievements of the voluntary action plans implemented from 1997 to 2012, and provide the results as input to the studies and analyses on the voluntary action plans in Japan and abroad.

In Japan, the voluntary action plan of each industry has been reviewed each year since 2001 by a government-organized council to assess the volume of GHG emissions and the reasons for any increase or decrease, and the possibility of achieving the target. As a result, many industries are close to achieving the target by 2012. The new Council will comprehensively evaluate the voluntary action plan program, as well as its effectiveness and problems, by gathering and analyzing the data from the voluntary action plans to date.

The global warming countermeasures implemented in each country are selected from various measures such as direct regulations on GHG emissions, economic policy measures (subsidies, environmental taxes, emissions trading schemes), and voluntary efforts, depending on the situation and decisions of each country. Voluntary measures were widely used in Japan, Europe and the US in the 1990s in the early stage of the fight against global warming. However, the effectiveness of Japan's voluntary action plans has been widely debated both within the country and abroad since, unlike their European counterparts, they are not based on any agreement with the government.

There are two possible benefits in evaluating this program now. The first is that the voluntary policy measures implemented by each country have attracted attention in the discussions of the UN climate change framework. In the so-called Pledge and Review-type framework, the effectiveness of the policy measure of each country is reviewed together with the country-specific target. In future negotiations, Japan will need to clearly evaluate the program, which plays an important role in the country's global warming countermeasures, and to objectively substantiate its effectiveness. The second benefit is the opportunity to confirm the program's effectiveness with other parties inside the country in time for a study of domestic policies in the future, and to identify any problems in the program. Voluntary efforts are likely to become increasingly important in the process of formulating the policy measures to achieve the target for 2020, which is due to be announced before COP19, and the domestic targets beyond 2020. In particular, at the first council meeting, experts cited the adequacy and impartiality of target setting and ensuring transparency as key issues for the program in the future.

In reality, there have been few comprehensive evaluations of the voluntary action plans so far. Based on the two benefits noted above, we hope that the evaluation by this Council will encourage the sharing of the functions, effectiveness and issues of the program among experts and negotiators both in Japan and abroad.

4. Rush for the Licensing of Solar Power Generation Plants and Issues of the FIT System

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

The licensed capacity of solar power plants as of the end of February caused a stir when it was announced in May. While the estimated cumulative operating capacity at the end of 2012 was 7 GW, as much as 12 GW of additional capacity had been licensed for purchase at the full amount since July last year. Although the extremely generous purchase price of 42 yen/kWh had been expected to attract much investment, the figure of 12 GW was a shock. The 5.6 GW increase in licensed capacity in February revealed a surge of last-minute applications.

However, not all the plants that have been licensed will start operating within this year. In addition to the larger projects which naturally will not start until at least next year, bottlenecks such as the shortage of power conditioners (AC/DC converters) and skilled manpower are also hampering installation. Moreover, applications are not always made based on secured land; in one case, the same plot of land had been used for as many as three applications. Further, some power companies are setting capacity limits on grid connection, which could also reduce the new capacity to be installed. Overall, of the newly licensed capacity (12 GW), only 5 to 6 GW are likely to start operating within this year, although even this is an unprecedented scale of installation in Japan.

The problem is what lies ahead. The Feed-in Tariff system has without doubt driven the expansion of renewable energies, but various issues related to the FIT system have arisen in European countries. In many of these cases, the amount of solar power connected to the grid exceeded the expected levels, causing the authorities to stop or revise the system repeatedly due to concern over the rising social burden. The current rush for licensing in Japan echoes the situation in Europe.

Furthermore, for renewable energies, installed capacity is not the only issue. To use a new power source, transmission lines connecting the power to areas of consumption may need to be built. In addition, the technology for absorbing the output fluctuations peculiar to renewable energies is still not mature. Renewable energies cannot be used effectively without these other features.

It would be extremely difficult to control the installed capacity using economic incentives such as the purchase price. The FIT system is like a strong medicine that works dramatically, but could cause severe side effects if misused. To suppress an excessive rush of new installations, considering the availability of the complementary features noted above, it may become necessary to introduce restrictions such as setting an annual limit on the amount of new capacity.

The law requires a “fundamental review” of the full amount purchase system before the end of 2020. According to the legal system, revisions could be made at any time if necessary.

5. Demand for Natural Gas Continues to Fall in Europe

Tetsuo Morikawa, Manager
Gas Group, Fossil Fuels & Electric Power Industry Unit

The decline in demand for natural gas is accelerating in Europe. According to Eurogas, an organization of European gas companies, the demand for natural gas in the EU dropped from 522.1 billion m^3 in 2010 to 476.9 billion m^3 in 2011 and 466.3 billion m^3 in 2012. According to the IEA, the amount of pipeline gas and LNG imported from outside the EU from January to April 2013 were 98.4 billion m^3 and 13.3 billion m^3 (approx. 9.8 million tonnes), respectively, down by 4% for pipeline gas and by as much as 38% for LNG year-on-year.

The main causes of the decline in demand and import of natural gas in Europe are the economic slowdown of the region and the loss of price competitiveness of natural gas in the power generation sector. The European Commission forecasts real GDP growth of the EU for 2013 at minus 0.1%, and the economy as a whole is likely to remain sluggish, though the situation varies among the member countries.

The drop in price competitiveness of natural gas in the electricity generation sector is the flip side of the rise in price competitiveness of coal fired power caused by the falling prices of emissions credit and coal. Further, as the share of renewable energies continues to expand thanks to measures such as the FIT system, natural gas is being forced out in power generation by both coal and renewables.

With the rejection of the draft revision for propping up the price of EUETS emissions credits (proposal to reduce the short-term supply of emissions credits), and the slow economy, the price of emissions credit is unlikely to recover dramatically. As the shift from coal to natural gas looks set to continue in the power sector in the US, albeit depending on the relative prices of the two fuels, the flow of coal from the US to Europe is likely to continue. Although investment in renewable is slowing, the existing capacity will continue to account for a proportion of the electricity source portfolio as it requires no fuel cost.

The European Commission expects the EU economy to pick up gradually in 2014. However, due to the above reasons, natural gas is unlikely to regain competitiveness so easily in the power sector. The demand for natural gas remains generally flat in the industrial and residential sectors. On the supply side, decreasing gas production within the EU and decreasing LNG production in Egypt, Nigeria and Oman have not tightened the European gas market. The current trend of diverting Europe-bound LNG to areas such as Asia and South America is likely to continue, at least till the end of the year. It is important to watch the impact of LNG cargo diversion from Europe onto LNG balance in Asia.

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