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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

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Discussions on the generation mix options are completed, and those on the primary energy mix have begun. Committee member and IEEJ Chairman & CEO Masakazu Toyoda commented as follows: “It is important to make emergency preparations in planning the shift to natural gas, and the government should play a main role in the preparations, including stockpiling. An international pipeline would effectively mitigate the Asian premium problem in the LNG market”.

2. Reform of the Electric Power System

The sixth Expert Committee meeting continued discussions from the previous meeting on the two options for wide-area transmission and neutrality, namely functional unbundling (ISO) and legal unbundling. The seventh Expert Committee meeting focused on revitalizing the wholesaling market. The organizer’s proposals were approved in general, although the details remain to be decided.

3. Latest Developments and Issues in Restarting Nuclear Power Plants

Work is progressing toward restarting Units 3 and 4 of Ohi Nuclear Power Plant following a political decision, but the situation of other plants remains unclear. Nuclear power plants remain essential not only to meet peak electricity demand but also for the energy security and economy of Japan due to its relatively low cost. The government and parties concerned must continue steady and consistent actions to address the issue.

4. Renewable Marine Energy: Japan Catching Up

The government released its draft action plan to promote the use of renewable marine energy, which focuses on institutional support for the technological development and introduction of marine energy. Further efforts are essential to catch up with Europe and the US who are ahead in developing marine energy.

5. EU’s Energy Efficiency Directive Unlikely to Achieve 2020 Target

The European Parliament and EU negotiators have agreed on the provisions of the draft Energy Efficiency Directive. The agreed provisions, however, are insufficient for achieving the energy efficiency improvement target indicated in the existing directive, and so it will be difficult to achieve the greenhouse gas emissions target.

6. North American LNG Export Projects

Japanese companies are accelerating their involvements in North American LNG export projects. With the demand for LNG soaring in Japan, North American LNG export projects are important not only for securing sufficient LNG, but also for their potential to lower the price through the diversification of pricing mechanism.

7. China Watching: Trends of Nuclear Security Measures

On May 31, the State Council approved the “Report on Comprehensive Security Inspection of Civil Nuclear Facilities” and the “12th Five-Year Plan for Nuclear Security and Prevention and Control of Radioactive Contamination and the Long-term Goals by 2020”, thus making a declaration on safety. They will now have to implement a safety-first policy.

8. ME Watching: Armed Clashes in the Middle East

Though the presidential election has ended in Egypt, the military is seeking to regain lost ground, which could lead to clashes. The situation in Syria is becoming desperate, and the Assad regime is losing more ground to the insurgency. There has been no progress toward resolving Iran’s nuclear development, and tougher economic sanctions are unlikely to lead to concessions from Iran.

1. Discussions at the Fundamental Issues Subcommittee of the Advisory Committee for Natural Resources and Energy

Shigeru Suehiro, Manager, Senior Economist
Energy Demand Supply and Forecast Analysis Group

The Fundamental Issues Subcommittee held its 26th and 27th meetings on June 5 and 19 to discuss revisions to the Basic Energy Plan. At the 26th meeting, the CO_2 emissions in 2020 and a draft interim proposal of options to be submitted to the Energy and Environment Council were discussed (the draft proposal had been presented to the Subcommittee meeting by METI Minister Edano on June 8). This was the last meeting to discuss generation mix options, and the 27th meeting started to examine the primary energy mix, which has not been discussed much so far.

At the 26th meeting, the organizer's calculation of CO_2 emissions in 2020 were presented (between +5% and -10% from 1990 levels; this tentative figure is based on a linear extrapolation from the current value to the 2030 forecast). In response to the opinion that "it is misleading to treat CO_2 emissions as being proportional to the ratio of nuclear power," others expressed views such as "we should recognize that this is the reality" and "there is no more room for reductions in Japan; other countries must reduce their emissions".

At the 27th meeting, the organizer summarized the fossil fuel situation by highlighting the importance of developing and procuring resources, and upgrading the domestic supply infrastructure following the Great East Japan Earthquake. Members commented on the need to reduce sourcing costs, such as through joint procurement, construction of an international pipeline to assist price negotiations in the LNG market, and stockpiling. One member commented that distributed energies such as oil and LPG are useful in a disaster.

The opinions of IEEJ Chairman & CEO Masakazu Toyoda expressed at both meetings can be summarized as follows:

- Our CO_2 emission target for 2020 is not sufficient for us to take the international initiative.
- Reducing CO_2 emissions in other countries is important but could lead to higher costs, thus accelerating industrial hollowing-out.
- In planning the shift to natural gas, emergency measures should also be considered. The government should play the main role in the planning, including stockpiling.
- An international pipeline would help mitigate the Asian premium problem in the LNG market, but first pipelines should be thoroughly connected within Japan.

At the Energy and Environment Council meeting, nuclear fuel cycle options, energy mix options and global warming countermeasures will be included in several scenarios to be presented in June and opened for public discussion in July, in order to finalize an "Innovative Strategy for Energy and the Environment" in August. The Fundamental Issues Subcommittee will clarify the key points in reviewing the Basic Energy Policy, and discuss the primary energy mix. The revised proposal will be formulated in August.

2. Reform of the Electric Power System

Junichi Ogasawara, Senior Economist, Manager
Electric Power Group, Electric Power & Coal Unit

On May 31, the Expert Committee on Electric Power System Reforms held its sixth meeting to discuss options for wide-area transmission and neutrality, and revitalization of the electricity wholesaling market. As the Q&A session on the present situation and challenges concerning wide-area transmission and neutrality took longer than expected, no clear conclusion was reached. The opinions expressed at the meeting are summarized below.

The discussions focused on the two options suggested by the organizer. The first option is the ISO-type, in which a nationwide organization for the power transmission department is newly established, the transmission function of each power company is then separated from the respective companies, and a branch of the nationwide organization is set up in each area to operate the transmission system. The second option is legal unbundling, in which the transmission department of each power company is separated and placed in a subsidiary of the company to enhance neutrality and independence. As both these options still lack the details needed to evaluate the actual effects and challenges, no conclusion was reached, although there were no objections to the options.

On June 21, the Expert Committee held its seventh meeting to discuss revitalizing the electricity wholesaling market and the two papers submitted by the Federation of Electric Power Companies: (1) Answers to questions on the neutrality of the existing transmission and distribution department, and (2) Concerns over the organizer's proposals regarding wide-area transmission and neutrality.

Firstly, discussions focused on revitalization of the electricity wholesaling department, the near-real-time and real-time supply-demand markets, the review of the supply-demand balancing rule, and the final direction of power source construction (to secure supply capacity and reserve margin) and the regulators. As a result, the direction presented by the organizer was approved in principle. While the details are yet to be worked out for any of the topics, the importance of introducing measures to solve new entrants' lack of base power supply, for example, was highlighted. Concerning the regulator, opinions were split between those demanding an individual regulator and those who doubt the need for one, and no consensus was reached.

Regarding the future direction of the transmission and distribution department, the Federation of Electric Power Companies noted that the study must consider the speed, cost performance and balance between neutrality and supply stability. While these factors will need to be designed in detail, the participants generally agreed to proceed with the studies based on option 1 or 2 presented by the organizer.

In response to a request from METI Minister Edano at the beginning of the seventh meeting to reach a conclusion by early July, an interim wrap-up is expected in the next meeting. Although the basic direction has been approved in general, the details have not been thoroughly discussed and a common understanding has not been reached. Deciding the detailed design is a looming challenge.

3. Latest Developments and Issues in Restarting Nuclear Power Plants

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

On June 16, based on the government's decision to restart the reactors, preparations were begun to activate Units 3 and 4 of Ohi Nuclear Power Plant of the Kansai Electric Power Company (KEPCO). Unit 3 reached its full power on July 9 and Unit 4 will start operation on July 19. Once rated thermal power is reached, the combined output of both units of 2.36 GW is expected to help prevent power shortages in the Kansai area. Regardless, since the peak power consumption in the past was recorded in mid-July, KEPCO is asking customers to continue to reduce electricity usage in this summer.

It is still uncertain which other nuclear power plants will be restarted and when, as there are no fixed criteria for restarting. On June 20, a bill to create a new independent safety regulatory commission was passed by the Diet. The new regulatory commission, together with its secretariat the nuclear regulatory agency, will be responsible for reviewing the nuclear power plants to be restarted. As this commission will not be launched until September at the earliest, the review of stress test results, which is currently pending, will not resume until September. Although it took five months for the Nuclear and Industrial Safety Agency and the Nuclear Safety Commission of Japan to review Ohi Units 3 and 4 after the report was submitted by the licensee, it is not clear if the next review will take as long. Furthermore, discussions and acceptance by local municipalities and a decision by the prime minister could take any length of time, partly due to political uncertainty.

The restarting of Ohi Units 3 and 4 and power-saving efforts are likely to make power outages unnecessary. Thus, some consider it is no longer necessary to rush to restart other power plants, and that nuclear power plants should be used only for the period of peak demand in summer. However, Japan has used nuclear power to reduce its dependence on fossil fuels and strengthen its energy security, due to its low energy self-sufficiency. With the increase in imports of natural gas and oil for power generation, fuel costs have been steadily rising, increasing by 2.5 trillion yen in 2011 and an estimated 3.5 trillion yen in 2012. When considering the impact of nuclear power, it is important not only to look at the supply and demand of electricity, and the supply-demand measures during peak periods, but also to consider the impact of higher fuel costs of approximately 0.7% of GDP on people's lives and on the competitiveness of Japanese industry in the global market.

Regarding restarting nuclear power plants, even though Ohi Units 3 and 4 are being restarted, policy-makers and others concerned must continue to study and take appropriate action for the energy security and entire economy of Japan. Uncertainty and delays in making decisions may affect people's lives and the energy security of the country, and thus, policy-makers must take faithful and steady actions.

4. Renewable Marine Energy: Japan Catching Up

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

Japan is starting to promote renewable marine energy, with the government releasing its draft action plan on May 25.

The use of low-density energy sources such as solar and wind power requires a vast footprint, but Japan has a small land area of which 67% is covered with forest. Japan has therefore drawn up a plan to encourage the use of marine energy, namely offshore wind power, wave power, tides, ocean currents, and sea temperature difference, which have hardly been developed.

The action plan focuses on institutional support for R&D and introduction of marine energy. Firstly, the plan calls for establishing demonstration sites, citing Europe and the US as examples. However, even demonstration sites need to be located in suitable places. There are numerous considerations when choosing an appropriate location, including natural conditions, safety and environment for navigation, landscape, adjustment with existing users of the sea area and infrastructure development. In the commercialization phase, measures should promote co-existence and co-prosperity with the local community, establish rules for using the waters, facilitate various procedures, and reduce costs which tend to be more expensive than on land.

The government plan reflects the lead of Europe and the US, acknowledging its delay with expressions of frustration such as "…far behind in (technological development) compared to Europe and the US" and "…learning from Europe which is ahead".

The development system in Europe is impressive. The 28 marine energy research centers of Europe are mutually connected in a marine demonstration network called MARINET, and any project that passes a screening can use the facilities without charge. This is supported by the R&D budget of the EU. In particular, the European Marine Energy Centre (EMEC) located in the Orkney Islands in northern Scotland hosts a large number of demonstration tests of important marine power facilities (wave and tidal power), and has spawned many businesses.

In addition to Europe and the US, last August Korea launched Sihwa Lake Tidal Power, the world's largest tidal power generation plant (254 MW), and is planning two tidal power generation projects by 2015 with a total output of 1.8 GW.

Renewable marine energy technologies will take much time and cost to mature, but this means that there is an opportunity to catch up. Last year, the New Energy and Industrial Technology Development Organization (NEDO) started demonstration research on power generation using waves, currents, and sea temperature difference, launching new activities in this area. Hopefully, this government policy will drive the research and introduction of renewable marine energy in Japan.

5. EU's Energy Efficiency Directive Unlikely to Achieve 2020 Target

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

On June 14, the European Commission announced that the European Parliament and the negotiators of the EU member states had agreed on the provisions of the draft Energy Efficiency Directive and will start working on its enactment. The agreed provisions, however, are insufficient for achieving the energy efficiency improvement target for 2020 set by the European Commission, and greenhouse gas emissions may therefore rise.

The European Commission has followed an energy and environment strategy of "20/20/20": to improve the energy efficiency of the EU by 20% and raise the ratio of renewable energies to 20%, by the year 2020, thus reducing greenhouse gas emissions by 20% from 1990 levels. The European Commission has therefore sought a 20% reduction of greenhouse gases in international negotiations on climate change.

In March 2011, the European Commission emphasized its commitment to both inside and outside the EU by announcing a plan to reduce greenhouse gas emissions by 80-90% from 1990 levels by 2050. This plan, in which the internationally-announced emissions reduction target was raised to 25% by 2020, was thought to be achievable if energy efficiency can be improved by 20%. The European Commission considered that the existing directives relating to energy conservation were too weak in terms of enforceability, and could not achieve even half the target for 2020. The draft directive was therefore proposed to enhance the viability of energy conservation policies.

However, as energy conservation policies may be affected by the economic crisis, some member states and industries took a more flexible stance instead of a mandatory one. For example, the UK, which has been a leading force in Europe's commitment to global warming countermeasures, is reportedly taking a negotiating position, demanding that many of the action targets in the directive be made voluntary instead of legally binding. Also regarding the Renewable Energy Directive, the UK government is not planning to accept any further tightening of targets for 2020 and beyond. Consequently, the recently agreed directive is not evaluated to be sufficient to achieve the energy efficiency improvement target of 20%.

According to a press announcement by the European Commission, the directive was "tentatively" agreed and will be reviewed by the energy commission in July, to be voted and enacted into law at the European Parliament in September. With many European Commission members still seeking to achieve the 20% target and strengthen greenhouse gas emissions targets, it is important to monitor later discussions on the new directive.

6. North American LNG Export Projects

Tetsuo Morikawa, Gas Group Manager
Oil & Gas Unit

Since April 2012, Japanese companies have increasingly participated in LNG export projects in the US and Canada. On April 17, Mitsui and Mitsubishi each signed a Commercial Development Agreement with Cameron LNG to liquefy approximately 4 million tonnes of natural gas per year at Cameron LNG terminal in Louisiana. On April 27, Tokyo Gas and Sumitomo Corporation started negotiations with Maryland's Cove Point LNG project for the procurement of 2.3 million tonnes of LNG per year. Then, on May 16, Mitsubishi announced a plan to develop an LNG export project of approximately 12.00 million tonnes per year in British Columbia, Canada (named LNG Canada), jointly with Shell, Korea Gas Corporation and Petro China.

Japanese companies did not conclude long-term contract with Sabine Pass, which is the front runner of LNG export projects in the US lower 48, while KOGAS and India's GAIL did. However, Japanese players are now catching up rapidly.

The North American gas market is currently oversupplied. It is therefore natural that a number of LNG export projects are planned so that producers can have outlet for their natural gas and exporters can take advantage of high LNG prices in Asia. The combined liquefaction capacity of all the announced export projects exceeds 100 million tonnes per year. However, LNG supply from the US to Japan requires a export license to non-FTA countries. The US Department of Energy is currently investigating the impact of LNG exports on the domestic gas market, but the policy is unlikely to be fixed before the presidential election in November. For Canada, although it is not as difficult to obtain an export license, it will be necessary to develop gas fields and build pipelines to liquefaction facilities from scratch. Thus, LNG export projects in North America have varied uncertainties and challenges.

Since the Great East Japan Earthquake, the demand for natural gas in Japan especially for power generation has surged and LNG export prices have remained high due to soaring oil prices. Therefore, there are great hopes for the LNG projects in North America, not only for securing the physical supply of LNG, but also for lowering the import price. LNG from Sabine Pass will be priced in relation to Henry Hub price. A similar pricing is expected to be introduced for those projects with Japanese involvements. Thus, the introduction of a new LNG pricing mechanism in Asia that is not linked with oil prices would have major implications, though these projects will not have immediate effects on import price as exports are due to start at the end of 2016 for Cameron LNG, in 2017 for Cove Point LNG, and at the end of the decade for Canadian LNG. However, the potentially enormous volume of North American LNG exports could change the LNG pricing system of the Asian market.

7. China Watching: Trends of Nuclear Security Measures

Li Zhidong, Visiting Researcher
Professor at Nagaoka University of Technology

In response to the Fukushima Daiichi accident on March 11, the State Council drew up emergency security measures on March 16 last year, focusing on security evaluations of all nuclear facilities, formulation of security plans and a review of nuclear power generation plans, and a freeze on new building licenses. Fourteen months later, on May 31 this year, Prime Minister Wen Jiabao convened a State Council executive meeting to check all the actions taken since, and approved, in principle, the "Report on Comprehensive Security Inspection of Civil Nuclear Facilities" and the "12th Five-Year Plan for Nuclear Security and Prevention and Control of Radioactive Contamination and the Long-term Goals by 2020".

The Security Inspection Report judged that nuclear facilities, including the 44 reactors in operation, under construction, or waiting for construction, satisfy both national nuclear security laws and the latest IAEA security standard, are protected against severe accidents, and could handle accidents. The report thus concluded that risks are controlled and security is ensured. Although the report pointed out that the inundation countermeasures of some plants do not meet the new standard and that some plants have insufficient measures against severe accidents, lacking abilities to evaluate and prepare for tsunami, it concluded that improvements are gradually being made. This might be a de facto declaration of safety.

Regarding future security measures, the five-year plan stipulates that safety is the top priority, and aims to maintain excellent security levels in the international community by enhancing measures centered on prevention, improving security through technological development, strictly applying relevant laws, strengthening monitoring and inspection, disclosing information, and improving transparency, in order to raise the overall security and protect against and remove radioactive contamination caused by contingencies.

As of the end of June, China had 15 nuclear power stations in operation with a combined output of 12.44 GW, and 26 plants under construction with an output of 29.24 GW. For the future, the policy of promoting construction while assuring safety was reconfirmed at the National People's Congress in March this year. The "Security Plan for Nuclear Power Generation (draft)" and the "Mid- to Long-term Plan for the Development of Nuclear Power Generation for 2020 (draft)", which the National Energy Administration prepared particularly for nuclear power generation and are currently pending review, were not reviewed at this Council meeting. Meanwhile, the "Proposition for the Development of Nuclear Power Generation in China under New Circumstances" prepared by the Chinese Academy of Engineering, a think tank reporting directly to the State Council, was discussed. The Academy pointed out that nuclear power in China is at the initial phase of development, is weak in fundamental research, and technological aspects need to be strengthened, based on a far-sighted policy while enhancing risk awareness. It modified its estimate of February last year for installed capacity of nuclear power generation for 2020 down from 70 GW to 60–70 GW, and suggested approximately 30 GW as an appropriate construction volume.

How will China ensure the safety of its nuclear power stations? We must monitor their choice of sites and reactors, as well as goals.

8. ME Watching: Armed Clashes in the Middle East

Koichiro Tanaka, Board Member
Director of JIME Center

On June 24, Egypt opened a new chapter in its history as the Muslim Brotherhood's Mohammed Mursi became the country's first democratically-elected president. However, the Supreme Council of Armed Forces (SCAF) continues to intervene to secure its interests gained under the old regime, and the revolution could be overturned.

On June 14, the Supreme Constitutional Court appointed under Hosni Mubarak's regime judged that the parliamentary elections held at the end of last year were unconstitutional. This was immediately followed by an order from SCAF to dissolve the parliament which was dominated by the Muslim Brotherhood, throwing constitutional politics into confusion. Then, on June 17, SCAF amended the Constitutional Declaration, making SCAF untouchable and limiting presidential authority. Amid the growing anti-military sentiment, the news of Mursi's victory should ease the dissatisfaction of Brotherhood supporters who are at the heart of the protest. However, the tense situation is expected to continue as SCAF, alarmed at the expanding influence of the Brotherhood, may suddenly turn "Spring" into "Winter".

The situation in Syria is deteriorating further. The fighting in cities and "the driving out of terrorists" continue as the truce proposed by UN Special Envoy Anan becomes a mere gesture, exposing the ineffectiveness of the UN ceasefire observers, which had once considered withdrawing. Russia, which is criticized for providing Syria with military assistance, set up a meeting between Syrian President Assad and Russian Foreign Minister Lavrov, but has not found a solution. The differences in positions of the countries were highlighted by the US-Russia presidential talks in the G20 Summit, and there are still no positive prospects of bringing the civil war to an end.

Then, Syria shot down a Turkish military jet above the Mediterranean, citing airspace violations. Turkey responded by stating that it will "take necessary measures" against this hostile behavior. The incident has pushed Turkey, a NATO member, to adopt even more hostile approach to the conflict in Syria.

The third round of Iranian nuclear talks held in Moscow ended without agreement as expected, due to the gulf in views between the countries, but the parties did agree to meet again in early July in Istanbul for a technological meeting. This move was intended to prevent any premature military action by Israel. Despite the further stress that will be caused by full sanctions on Iranian oil, Iran is unlikely to concede or change its policy.

In Saudi Arabia, following the sudden demise of Crown Prince and Interior Minister Nayef, Defense Minister Salman, full brother to the late Crown Prince (76), and Deputy Interior Minister Ahmad (71), were named Crown Prince and Interior Minister, respectively. The fact that major positions are still occupied by the second generation of princes indicates the difficulty of generation change, which will inevitably arrive.

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