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Different energy mix options were discussed. IEEJ Chairman & CEO Masakazu Toyoda commented that “it is essential to present numerical evidence of the feasibility of the optimal combination of power sources. With regard to calls for the complete abandonment of nuclear power, the feasibility of introducing large amounts of renewable energies and energy conservation must be explained.”

2. Reform of the electric power system

At the Third Expert Committee on Electric Power System Reforms, the diversification of power supplies and the utilization of distributed energy systems were discussed. Care is required in terms of power security, the impact of separating power generation from transmission, and of forcing utilities to contribute electricity amid the current power shortages. By combining appropriate systems, it is essential to design a system that allows the industry to function stably and efficiently.

3. Latest developments concerning the restarting of nuclear power stations

The nuclear power stations in Japan are facing a decisive moment in the path to restarting. The definition of “plant-hosting communities and municipalities” is becoming obscure as the governors of Kyoto and Shiga Prefectures issued proposals requesting the government to be cautious about restarting the Ohi Nuclear Power Plants No. 3 and 4 in Fukui Prefecture, adding to the complexity of the problem. There is concern about electric power shortages this summer, and the situation remains unpredictable.

4. Change of leading players in wind power: Rumors of TOB of Vestas

Two major Chinese wind turbine manufacturers are reportedly considering a takeover bid for Vestas, the world leader in wind turbines. The purchase of Vestas, which is suffering in the stagnant European market, by Chinese firms would be a repetition of what happened in the solar panel market in which the Chinese took over the leading role.

5. China Watching: General energy policy of China

In its general energy policy, the Chinese government is setting energy conservation and per-unit GDP carbon-dioxide emission reduction targets for each region, and introducing subsidies and tax benefits. However, they are having difficulties drawing up the overall energy supply and demand plan, including renewable energies and nuclear power.

6. ME Watching: Middle East unlikely to stabilize soon

The situation remains volatile in the entire Middle East and North Africa. The outlook for Iran remains unclear despite the temporary easing of tensions at the P5+1 meeting in Turkey, while the turmoil in Syria is worsening. The presidential election in Egypt could trigger another demonstration by malcontents.

7. Russia Watching: Can Russia improve its investment environment to attract foreign capital?

One of the most urgent issues for Russia in remaining a major crude oil and natural gas producer in the long run is to develop regions including the far east, eastern Siberia and the far north, where exploration and production costs are high. To attract the large amounts of foreign investment needed for development, Russia must improve its investment environment, including curbing the spread of corruption.

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

Shigeru Suehiro, Manager, Senior Economist
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Deliberations by the Fundamental Issues Subcommittee on the revision of the Basic Energy Plan are still ongoing. Both the 18th (April 11) and 19th (April 16) meetings discussed the energy mix options, including the combination of power sources.

In the 18th meeting, the five energy mix options which were formulated by summarizing the options proposed by the participants were discussed. The five options can be summarized as follows: Option A - to let the end-users decide the optimal combination of energy without citing numbers; Option B - to abandon nuclear power completely as soon as possible (0% nuclear power, 35% renewable energies); Option C - to reduce the dependency on nuclear power (20% and 30%, respectively); Option D - to keep nuclear power generation as a core power source (both 25%); and Option E - to maintain the ratio of nuclear power generation at the current level (35% and 25%, respectively).

The discussion on the options was characterized by a dichotomy between nuclear power and the feasibility of renewable energies. In response to opinions indicating that “options C through E are unrealistic since the ratio of nuclear power would only be 10% or so in 2030, assuming that the plants are decommissioned after 40 years of operation”, several participants countered that “the plant life can be extended to 60 years based on the government’s proposition” and that “it is technically possible to achieve the percentages both in terms of plant life and availability based on international standards”. Some participants questioned the feasibility of introducing large amounts of renewable energies, requesting “specific means for renewable energies to achieve a ratio of 35%”. Requests for “an either/or discussion between the two options” was countered by many who stated that a broad range of options should be presented. One participant questioned the feasibility of “denuclearization while staying under the nuclear umbrella of the United States”.

In the 19th meeting, the discussion on the options continued, focusing on thermal power and renewable energies. While many supported the shift to LNG for thermal power, there was discussion on the challenges in securing a stable supply of gas, and an opinion that “carbon-dioxide reduction should be done abroad” (through the transfer of coal-thermal technologies to other countries). Regarding renewable energies, the bearing of costs including those of transmission lines were discussed. The “extent of feasibility” of renewable energies will continue to be an important topic in the upcoming discussions.

The opinions of IEEJ Chairman & CEO Masakazu Toyoda expressed at both meetings can be summarized as follows: For the discussion on the optimal combination of power sources, it is essential to present numerical evidence of feasibility. With regard to calls for the complete abandonment of nuclear power, the feasibility of introducing large amounts of renewable energies and energy conservation must be explained. Japanese citizens will not understand pretentious discussions.

Each option will be quantitatively analyzed using economic models to evaluate its impact on economy.

2. Outline of the discussions on reform of the electric power system

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

At the Third Expert Committee on Electric Power System Reforms held on April 3, the diversification of power supplies and the utilization of the dispersed energy system were discussed. Among the topics raised in the preceding meetings, the following topics were discussed in this meeting: Topic 3: revision of regulations in the power generation area and revitalization of the wholesale electricity market; Topic 4: utilization of the distributed energy system including renewable energies, co-generation and on-site power generation, and measures to promote users' choice; and Topic 5: ensuring large-scale power supplies and reserve capacities, and a mechanism to promote the necessary investments. Although the participants expressed a broad range of opinions, they were not summarized due to lack of time. As a member of the Committee, I summarize my key views below.

Regarding the measures taken in Europe and the US to promote competition as was introduced in the meeting, my view is that a certain level of reliability is needed to win users, and in that sense, systems such as VPP (virtual power plant) that utilize the excess power supply of general power utilities are desirable. However, separating power generation from transmission and forcing utilities to provide power to the electric power exchange under the current power shortage situation resembles the design of the power market in California, which experienced a crisis. In order to prevent a similar problem, we must take into account the experience of California in deciding how to act.

Among the different distributed energies, co-generation, which takes little time to build, is important as a means to prevent supply shortages. However, as most of the electricity from co-generation that is sold is excess power with low power value, it is necessary to enhance its value by using individual co-generation systems aggregated together, enhancing their control functions by adding smart features, and combining with other electricity demands.

The target reserves to be secured is 8 to 10% in the mid- to long-term, and 3% on a day-to-day basis. To secure the necessary installed capacity (kW), paying incentives (capacity payment) for owning power supplies and building a capacity credit market based on prior supply security commitment are effective. Although there is no consensus among experts on what mechanism the government will finally adopt to secure reserve capacity, forcing utilities to provide power sources to the power exchange will discourage the general power utilities from having excess supply, and may result in power shortages in the long-term. In that case, the government should perhaps ultimately be involved in securing reserve capacity. It is important to design an appropriate system by combining the systems above.

3. Latest developments concerning the restarting of nuclear power stations

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

The nuclear power stations in Japan are facing a decisive moment in the path to restarting. Among the fifty commercial nuclear power plants in Japan (excluding Units No. 1-4 of the Fukushima Daiichi Nuclear Power Station), none is in operation after the shutdown of Tomari Unit 3 of the Hokkaido Electric Power Company (912 MW) on May 5. The government has started attempts to persuade the Japanese public and the nuclear plant-hosting municipalities by pointing out "various inconveniences including disruption of the Japanese economy if the plants are not restarted". So far, two steps have been taken toward restarting, namely (1) stress tests on the safety measures taken after the Fukushima Daiichi accident and (2) evaluation of the stress test results by the Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission of Japan (NSC). However, the third and final step, that is, making a political decision and gaining the consent of the plant-hosting municipalities, is the most difficult challenge.

Regarding the Kansai Electric Power's Ohi Units 3 and 4, which are currently the focus of the issue of restarting, on March 23 the NSC evaluated that both the process and the results of the stress tests implemented at the plant were adequate. Subsequently, government leaders including Prime Minister Noda expressed the "need to restart the plants promptly". Meanwhile, Governor Nishikawa of Fukui Prefecture, which hosts the Ohi nuclear power plant, has been requesting "the establishment of a new safety standard based on the lessons of the Fukushima Daiichi accident" since last year as a pre-requisite for restarting. In response, NISA presented a 30-item safety improvement measure as a provisional safety standard under the Prime Minister's instructions, for which the Nuclear Safety Task Force of Fukui Prefecture indicated its intention to give general approval.

Nevertheless, the situation remains uncertain, as the neighboring municipalities of Kyoto and Shiga Prefectures claimed that the provisional safety standard had been drawn up too quickly and the decision to restart was premature. On April 23, Senior Vice Minister Makino of the Ministry of Economy, Trade and Industry visited Kyoto Governor Yamada and Shiga Governor Kada to request their understanding of the government's view that the plant should be restarted, but the governors maintained their cautious stance. Regarding the restart, Mayor Hashimoto of Osaka City is also becoming more critical, adding to the complexity of the issue. Deciding the scope of the local communities and municipalities whose approval is needed for the restart is becoming a decisive factor for restarting the plants.

Looking back, the conditions for restarting have never been clear. The issue became complicated when stress tests, which in Europe are used to demonstrate the robustness of nuclear plants when hit by extreme incidents, were adopted as a requirement for restarting the plants after a periodic inspection. The new nuclear regulatory agency, which was planned to start in April, has not yet been established. The safety regulators approved the restart without any permanent, clear standard, and left the final decision to the politicians. The matter has been made worse by the unclear distinction between political judgment and the consent of municipalities. Nevertheless, the summer when electricity supplies will tighten is rapidly approaching. Japanese policy chiefs must remind themselves that the whole world is watching how Japan deals with this issue.

4. Change of leading players in wind power: Rumors of TOB of Vestas

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

In mid-April, there was dramatic news in the wind power generation market. According to a report, two major Chinese wind turbine manufacturers, Gold Wind and Sinovel, are considering a takeover bid for Denmark's Vestas, the global leader in wind turbines. The news was surprising, but sounds credible.

A major factor behind the rumored takeover bid could be the plummeting share price of Vestas. Following two downward revisions of revenues (in October 2011 and April 2012), the share price of Vestas has fallen nearly 60%. As the governments in Europe and the U.S. are revising their subsidies to renewable energies in particular, and at the same time, the spread of wind power generation suddenly slowed, the company made matters worse by moving against the market direction and expanding production capacity in 2009 through an increase in capital.

Meanwhile, the Chinese companies have reasons to be attracted to this established wind power firm. The Chinese wind power market has been expanding rapidly, adding nearly 20 GW of new capacity each year during the last two years. However, the Chinese government recently shifted policy in order to control the unruly expansion, including depriving local governments of licensing rights. While China is expected to maintain its size as a wind turbine market, the upward trend is clearly leveling off. For China to grow while keeping its vast production capacity, the brand and overseas sales network of Vestas is extremely attractive for the two Chinese companies.

Another attraction of Vestas to China might be its technology. The Chinese government is planning to increase its offshore wind power capacity by 5 GW by 2015 and 30 GW by 2020. The on-shore wind power facilities built so far are located inland with good wind conditions, such as Inner Mongolia, and the North East region, but require long transmission lines to carry the power to consumers in the eastern part of the country. In comparison, good wind conditions and shorter distances to consumers make offshore wind power the optimum means of power generation for China, but the country has suffered a string of problems. For example, in an offshore (shallow waters) project in Jiangsu Province, each turbine is reportedly breaking down once every two months on average. Chinese manufacturers therefore want to purchase the technology and experience of Vestas, which has almost a 40% share of the total offshore wind turbine installations.

The truth remains unclear as Vestas has declined to comment on the report, and comments from the Chinese are not available. Furthermore, the two Chinese companies may not have the muscle needed for the takeover bid, as their businesses are also having difficult time due to intense competition.

In photovoltaic power generation, we have already witnessed that Chinese Suntech Power took the world's leading position in the industry, while the former champion, Q-cells of Germany, went bust this April.. It is highly likely that the Chinese players will take a leading role in the wind turbine industry as well.

5. China Watching: General Energy policy of China

Li Zhidong, Visiting Researcher
Professor at Nagaoka University of Technology

The Chinese government announced its 12th Five-Year Plan in March, 2011. As the targets of its binding energy policies, it plans to reduce per-unit GDP carbon-dioxide emissions by 17% between 2010 and 2015, reduce energy consumption per GDP by 16%, and increase the ratio of non-fossil fuel energy to 11.4%. This report describes the progress so far.

In August last year, the State Council of China announced the "Comprehensive work Plan for Energy Conservation and Emission Reduction" and the "Work Plan for Greenhouse Gas Emission Control". Based on the "principle of common but differentiated responsibilities", the 31 regions of China were divided into five energy conservation groups and nine carbon-dioxide emission reduction groups according to economic development criteria, etc., and each region was assigned a goal to meet in order to achieve the overall target. Then, in December, twelve ministries and agencies, including the National Development and Reform Commission, formulated the "Action Plan for Energy Conservation and Low Carbon Activities for 17,000 Key Enterprises". As of 2010, there are 17,000 factories and businesses with energy consumption of more than 5,000 tce (Ton of coal equivalent), accounting for 60% of the national energy consumption. The Action Plan aims to reduce energy consumption by 250 million tce in five years by assigning energy conservation targets to these 17,000 enterprises , and introduces a rigorous censure system. Further, in February this year, the Ministry of Industry and Information Technology formulated the 12th Five-Year Plan for energy conservation in industry, whose energy consumption accounts for more than 70% of the national energy consumption, setting a target reduce energy consumption per-unit Value Added of 21%, which is greater than the national target.

Support measures have also been established. In March last year, the National Development and Reform Commission and the Ministry of Finance decided to expand the financial assistance available for improving the efficiency of electric machinery, which consumes 60% of the country's electricity and 80% of that in industry. They also announced in June that any company that successfully reduces its energy consumption by 5,000 tce or more per year will receive a subsidy of 300 to 360 Yuan/tce jointly from the central and local governments. The Ministry of Finance decided in March this year to cut the vehicle tax on energy-saving cars to 50% and that on new energy cars, such as electric vehicles, to zero. Further, the National Development and Reform Commission has been taking the initiative to run a national low-carbon experimental projects in eight cities and five provinces since July 2010, as well as an experimental project for introducing regulations on the total amount of emissions and the trading system for carbon emission quotas in five cities and two provinces since November last year.

As explained above, the policy measures focusing on energy conservation are progressing steadily, but many issues remain. Policy measures defined in the 12th Five-Year Plan, such as adjusting the sale price of coal-fired electricity, which is the main power source, to fairly reflect the generation cost, and raising the coal resource tax, still have no prospects for realization. Regarding the development of renewable energies, while individual measures such as project bidding, setting a standard purchase price (equivalent of FIT) for photovoltaic electricity and waste-generated electricity, and increasing the surcharge rate are progressing, the formulation of the overall plan is lagging. Regarding nuclear power, although safety measures have been strengthened following the Fukushima Daiichi accident and in addition to starting up new plants, the policy of "promoting construction with safety as a pre-requisite" was affirmed at the National People's Congress in March this year, future plan is still under consideration. Consequently, the creation of an overall energy demand and supply plan is not progressing smoothly. A new empowered comprehensive government agency with strong authority and adjustment functions needs to be established.

6. ME Watching: Middle East unlikely to stabilize soon

Koichiro Tanaka, Board Member
Director of JIME Center

The situation in the Middle East and North Africa remains mixed, with some temporary improvements but also increased mid- to long-term uncertainty and instability.

Iran resumed nuclear talks with the P5+1 countries in Istanbul after a 15-month hiatus. To prevent an Israeli military attack on Iran, the suspension of 20% uranium enrichment by Iran became a main topic of discussion, in which Iran's goal was the lifting or easing of increasingly harsh economic sanctions. As Iran's preliminary announcement of a "new proposition" met the intentions of European countries and the U.S. who wish to avoid armed conflict, the parties announced that the discussion was "constructive and fruitful" even though there was no substantial progress in the objectives of any of the parties. The parties also agreed to continue trying to resolve the problem through diplomacy during the next meeting in Baghdad in late May.

It is not clear whether the meeting will succeed. Many parties and individuals may attempt to destroy this framework which has cooled the tension, including Israel, the U.S., the GCC, and even Iran. Meanwhile, President Ahmadinejad, whose influence is rumored to be weakening since losing the legislative election in March, visited the island of Abu Musa in the Persian Gulf, to which the UAE stakes a claim. This triggered a strong reaction from the GCC, which is already highly concerned over the nuclear issue.

The turmoil in Syria is entering another phase as both the Syrian government and the opposition accepted a proposal for a cease-fire from Kofi Annan, the UN-Arab League envoy to Syria. The cease-fire should reduce the killings and pave the way for a soft landing, but eventually shorten the term of the Assad regime. However, the Syrian military continued its attacks on the opposition after the cease-fire deadline, leading to strong accusations against Syria by the international community. Consequently, Russia and China, which had preferred to remain cautious, finally agreed to support the denunciation of Syria by the President of the UN Security Council, and agreed to significantly increase the number of UN truce monitors. At a meeting of the Friends of Syria Group, which is a coalition of the willing, there were calls for strong economic sanctions through the Security Council, especially from Europe, the U.S. and Turkey, which is a neighbor of Syria, and the tide is turning against Assad. Thus, the cease-fire is accelerating the downfall of the Assad administration.

In Egypt, the High Election Commission rejected the candidates closely related to the previous administration, as many had expected. However, the disqualification of a prominent Muslim Brotherhood member and another Salafist candidate due to superficial reasons is causing controversy and concern that the malcontents may call another angry protest.

7. Russia Watching: Can Russia improve its investment environment to attract foreign investment?

Shoichi Itoh, Senior Researcher
International Strategy Analysis Group, Strategy Research Unit

On May 7, a ceremony will be held to inaugurate Vladimir Putin for his third term as president. When he took office as prime minister four years ago, he faced the urgent task of rebuilding the Russian economy which had been severely struck by the global financial crisis that had started in the autumn of that year. The real GDP in 2011 ended up slightly higher than that in 2008 only because oil prices remained high since the summer of 2010.

The collapse of Lehman reminded the Russian government of the need to correct its energy resource-dependent economic system and to reduce its economic vulnerabilities in order to attract foreign investment. However, Russia has little choice but to depend on the oil and natural gas industries to support its economy for the time being. The new challenge for Russia is to gradually expand the scale of development in the east (the far eastern region and eastern Siberia) and the far north (including the continental shelf area) of the country, where exploration and production costs are high, in order to maintain crude oil and natural gas exports at current levels. To explore these less-developed regions, large-scale foreign investment and technological support are essential. One example of such investment is the establishment of a joint venture by Rosneft and Exxon Mobil announced on April 16 for joint development in the Kara Sea (a part of the Arctic Ocean) and the Black Sea.

Drastic improvement of the investment environment is essential to promote foreign investment in the country not only in the energy sector but also the entire Russian economy, as Putin frankly acknowledged in his last annual report as prime minister at the lower house on April 11. The need to secure transparency of the legal system and to simplify the complicated and time-consuming administrative procedures of the country is widely acknowledged. In addition, widespread corruption, which was highlighted during the lower house election last December as the biggest source of dissatisfaction of the Russian people, is one of the most serious deterrents to foreign investment.

Eradication of corruption was a major policy when the Medvedev administration was launched in 2008, but efforts have virtually faded away. According to an international comparison of the corruption of public institutions released annually by Transparency International, an NGO headquartered in Berlin, the transparency of the Russian bureaucracy as of 2011 ranked 143rd among more than 180 countries (while China ranked 79th). As the next President, Putin announced that stronger measures against corruption are one of the administration's public promises, and immediately after the presidential election, signed a government order for the current President and the next Prime Minister Medvedev to combat corruption. Whether the measures are effective this time will determine the reputation of Russia's investment environment.

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