IEEJ e-NEWSLETTER

No. 30
(Based on Japanese No. 124)
Published: January 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

Summary

【Energy Market and Policy Trends】

1. Natural Gas

In the natural gas market in 2014, it is important to watch the progress in nuclear restart and the outcome of gas market reform discussion in Japan, the extent of shift to pipeline gas imports in China, , the timing of new LNG projects start up in Asia and Oceania, and the recovery of demand in Europe.

2. Coal

In the coal market, the prolonged oversupply situation is gradually ceasing, and supply and demand are likely to become balanced. Consequently, the prices of both steam coal and coking coal are expected to rise somewhat from current levels.

3. Renewable Energies

In 2014, the revision of the FIT system will gain momentum. Europe will face the difficult task of achieving a balance between meeting EU environmental targets and the excessive incentives. For Japan, the binding law and lack of targets for introducing renewables are major challenges in revising the system.

4. Nuclear Power

The prospects for restarting the nuclear power plants are still unclear. The Nuclear Regulation Authority should clarify the items needed to comply with the requirements and conduct the reviews efficiently, with safety as the highest priority.

5. Energy Conservation

The amended "Energy Conservation Act" was passed into law in the Diet, and will go into effect in April 2014. Currently, specific policies and systems for implementing the Act are being drawn up. In particular, there are high expectations for the effectiveness of demand-side efforts.

【Global Watch】

6. Activities Related to Global Warming in 2014

2014 is an important year for each country to formulate global warming countermeasures and agree on a new international framework. Japan, too, needs to establish a GHG reduction target that is compatible with its energy policies.

7. China Watching

2014 marks the beginning of comprehensive reforms. Aiming to achieve stable growth of just over 7%, the extent of improvements in quality and efficiency of growth must be closely monitored. Stronger energy and environmental measures as well as global warming countermeasures are expected.

8. Russia Watching

President Putin's annual state-of-the-nation address revealed his frustration in solving the many domestic problems. The progress of newly proposed measures for improving the investment environment must be closely monitored.

9. EU Watching

Europe's energy demand is expected to remain flat in 2014 as the economic recovery of the area remains slow. The situation for fossil fuels will remain tough as renewable energies continue to expand.

1. Natural Gas

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

The key issues for natural gas in 2014 include progress in restarting the nuclear power plants and the outcome of gas market reform discussion in Japan, the extent of shift to pipeline gas imports in China, the timing of new LNG projects start up in Asia and Oceania, and the demand recovery in Europe.

In its short-term energy supply and demand outlook published last December, IEEJ forecasted that, in the medium scenario, nuclear restart will begin after the second quarter of 2014. As evidenced by the increase in demand for LNG since the Fukushima Daiichi accident, the timing and scale of restarting will significantly impact Japan's imports of LNG. Furthermore, developments in gas market reform discussion are crucial since these involve not only the future gas regulatory and industry structure, but also may affect the future LNG procurement framework.

In China, Pipeline B from Central Asia, the pipeline from Myanmar, and the LNG receiving terminals such as Dongguan, Zhuhai, Tangshan, Tianjin and Qingdao will enter full-scale operation in 2014. China is likely to minimize its imports of expensive LNG and shift increasingly toward importing relatively cheap pipeline gas; in 2014, the extent of the shift to pipeline gas imports and its impact on LNG demand are important issues to analyze.

Another issue in 2014 is whether the LNG demand in Europe will bottom out. The demand for natural gas itself is recovering in Europe, driven by the increase in demand in Germany. However, whether the decline in demand - particularly for gas for electricity generation - will stop in southern Europe where economic recovery is delaying and LNG dependency is higher, will affect not only Atlantic but also Asian LNG market.

In 2014, a group of new LNG projects will be launched in the Asia and Oceania regions, namely QC LNG of Australia, Donggi Senoro LNG of Indonesia, and PNG LNG of Papua New Guinea. However, their impact on the total LNG supply for 2014 will be limited, as all these projects are due to start in the latter half of the year. Nevertheless, the timing of these launches must be watched closely to see how the current problem of delays in new projects will develop.

In 2013, global attention on the Asia Premium of LNG intensified. In 2014, LNG prices for Asia are generally expected to remain at the same high level as in 2013, although physical supply availability is not a major concerns. This is a serious problem for the macro economy of the importing countries, and could slow the LNG demand growth in Asia. For Japan, it is critical to reduce the cost of imported LNG by promptly restarting those nuclear power plants that have been proven to be safe.

2. Coal

Atsuo Sagawa, Senior Research Fellow
Coal & Gas Subunit
Fossil Fuels & Electric Power Industry Unit

Due to the oversupply of coal since the latter half of 2011, the prices of both steam coal and coking coal remained low in 2013. The spot price of steam coal shipped from Newcastle, Australia dropped below 80 dollars/tonne at the end of June 2013 from the low 90s range at the beginning of the year, and stayed in the high 70s range thereafter. The price then picked up from October with the start of the high-demand winter season, and is currently at around 85 dollars. The CCQ (Coking Coal Queensland) Index rose to 170 dollars in February from the low 160s at the beginning of 2013, but then dropped and remained at around 140 dollars after June. The Index is currently at around 140 dollars.

In the Asian market, China's imports from January to October 2013 increased year-on-year by 12.6 million tonnes (+16%) for steam coal and 20.6 million tonnes (51%) for coking coal. India's imports from January to September 2013 increased by 34.1 million tonnes (+58%) for steam coal and decreased by 2.5 million tonnes (-9%) for coking coal, year-on-year. In general, demand and imports by Asia remain strong. Meanwhile, coal imports by Europe (imports by 15 EU countries from January to August) remained flat, with imports of steam coal increasing by 0.9 million tonnes (+4%) and those of coking coal decreasing by 0.9 million tonnes (-1%), year-on-year.

On the supply side, the increase in imports and decrease in exports of coal in the US stopped in 2013 due to the recovery of steam coal consumption, resulting in a year-on-year decrease in exports of 3.4 million tonnes for coking coal and 3.2 million tonnes for steam coal (including subbituminous coal) from January to October. This means that the growth in supply of American coal to the international market since 2010 has stopped. In Australia, production is being adjusted due to low coal prices by closing unprofitable mines and revising development plans.

With the economy expected to recover moderately in 2014, steam coal imports are expected to increase in Asian markets, particularly India and China, as are imports of coking coal in the Asian and European markets. For Japan, steam coal imports are expected to increase as Tokyo Electric's thermal plants (600 MW Hirono and 1000 MW Hitachinaka) went into commercial operation last December (in test operation since April 2013), and Tohoku Electric's Haramachi coal-fired power plant (two 1000 MW units) was restarted in April. With regard to coal exports, there should be enough supply to cover demand as new mines are due to be developed in Mozambique and Mongolia, in addition to the expansion of supply from existing exporters such as Indonesia, Australia, Russia and South Africa.

The prolonged oversupply in the coal market is gradually easing, and supply and demand are expected to balance in 2014. Consequently, the prices of both steam coal and coking coal could rise somewhat from current levels as described above.

3. Renewable Energies

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

In 2014, the revision of the Feed-In-Tariff (FIT) system is expected to gain momentum.

In Europe, Italy and Spain have already stopped the FIT system, unable to withstand the social burden caused by the system. In Germany, where 7.5 GW of solar power capacity has been introduced for three consecutive years between 2010 and 2012, the soaring premium is becoming a major political issue. In February last year, the German government announced a policy that it would block further rises in premiums, but the government is deadlocked as the policy was rejected by the Upper House. Talks on revising the system should start again once the new coalition government settles in. Ironically, in November last year, the European Commission admonished its member countries for granting excessive incentives, and commented negatively on the "full amount purchase system". However, with the obligation of meeting the EU target of raising the renewable energy ratio to 20% by 2020, Europe will find it difficult to meet this target while also curbing the excessive incentives.

What is the situation in Japan? Last year, more than 20 GW of solar power capacity was licensed within one year after the FIT system was introduced. This unexpected, explosive growth was an exact repeat of Europe's experience. However, due to concern about the burden of higher premiums, there are calls for lowering the purchase price.

The Renewable Energies Act of Japan stipulates in Article 7 of its supplementary provisions that "... to expand its use intensively ... special consideration shall be paid to the profitability (of the renewable electricity producers) for three years ... from the date of enforcement". Thus, it is not possible to change this policy without going through official procedures at least during the next fiscal year which is still the third year since the Act was enforced. Furthermore, the established process for reviewing the purchase price is that it should be based on the electricity generation cost reported by the electricity producers to the Ministry of Economy, Technology and Industry. Thus, "lowering the purchase price to slow the excessive speed of introduction" could be difficult.

Furthermore, before discussing whether the installed capacity of renewable energies is too much or too little, there is an issue peculiar to Japan of no capacity target to aim for. Even if the decision is made to revise the system, it is not clear which target to aim for. The "Opinions on the Basic Energy Plan" released at the end of last year (Strategic Policy Committee of the Advisory Committee for Natural Resources and Energy) states that the energy mix shall be established after "having determined the status of introduction of renewable energies based on the Feed-In-Tariff system", in addition to the restarting of the nuclear power plants and global warming. This is causing a chicken-and-egg problem for the energy mix and the expansion of renewable energies. The lack of a target is like an athlete who has to run without being told whether it is a 100-meter sprint or a marathon. Thus, the discussions in Japan could become awkward.

4. Nuclear Power

Tomoko Murakami, Manager
Nuclear Energy Group, Strategy Research Unit

The prospects for restarting the nuclear power stations of Japan remain uncertain in 2014. In July 2013, the new regulatory requirement stipulating strengthened measures against external incidents including severe accidents, earthquakes and tsunami came into effect, and the reviews for compliance with the requirements were started. At the end of 2014, even though the number of hearings of power companies totaled more than 100 times for Ikata Unit 3, for Tomari Unit 3, and for Sendai Units 1 and 2, the reviews have not been completed for a single plant. The detailed reviews for the items added in the new requirements, such as "systems for responding to a severe accident", are expected to take even longer. Chairman Tanaka of the Nuclear Regulation Authority (NRA) explained that the reviews would take longer than the initially-planned six months due to "the lack of preparation by the power companies". However, it is also true that the NRA has insisted on additional information each time a review meeting was held. The NRA needs to clarify which items must be fulfilled to comply with the requirements, and to conduct the reviews efficiently

Internationally, there is a positive trend toward the construction of new nuclear plants not only in emerging countries but also in developed countries, particularly those with serious energy security concerns. In October 2013, the British government and EDF, which plans to build a new plant, agreed to set the price for the Feed-in-Tariff with Contracts for Difference (FIT-CfD) at 89.5-92.5 £/MWh. The European Commission (EC) is currently investigating if the FIT-CfD for a nuclear power project constitutes an illegal state subsidy prohibited by the European Union (EU), and the reaction of the EC and its possible consequences on other ongoing construction projects in Europe are gathering attention. Thirty to forty percent of this new project by the UK is planned to be funded by the China General Nuclear Power Group and the China National Nuclear Corporation, in addition to EDF, the operator, and Areva, the plant manufacturer. To win a steady stream of orders in the Middle East, Eastern Europe and South East Asia, as well as Europe and the US, the Japanese nuclear power industry must keep an eye on the international expansion of Chinese companies that have built up skills and experience through the active construction of nuclear plants in China.

In South Korea, which has had a new leader since early 2013, the Draft Second Basic Energy Plan was presented to the National Assembly by the government. The Energy Plan includes a target installed capacity for nuclear power of 29% in 2035, showing that the country will continue to actively develop nuclear energy. While facing many unplanned outages due to misconduct and troubles, the country seems to have recognized the importance of continuing its pro-nuclear policy in view of long-term energy security and strategic business development. Whether Korea in 2014 will once again achieve the world's highest utilization rate and win a major contract overseas following the one in the UAE, is being closely watched by industry players in Japan and worldwide.

5. Energy Conservation

Koichi Sasaki, Senior Researcher, Manager
Energy Conservation Group
Global Environment & Sustainable Development Unit

In 2013, amended "Energy Conservation Act" were passed into law in the 183rd regular Diet session (after once being scrapped due to dissolution of the Diet). The revised Act will go into effect from April 2014, based on the interim report released in February 2012 by the then Energy Efficiency and Conservation Subcommittee of the Advisory Committee for Natural Resources and Energy. There are two main revisions to the Act: (1) consumer measures at peak electricity consumption, and (2) the "Top Runner" system for construction materials.

The "consumer measures at peak electricity consumption" was drawn up to tackle the electricity shortage due to the Great East Japan Earthquake, and evaluates consumer-side countermeasures at the peak of electricity consumption. Specifically, peak electricity conservation measures taken by power companies in addition to the measures taken so far, such as installing batteries and energy management systems to curb the consumption of electricity during peak hours (for example, 8 am to 10 pm in summer and winter), are counted as measures to meet the energy saving target set by the Energy Conservation Act.

The second measure newly applies the Top Runner System to construction materials such as glass and sashes for windows and heat insulators in the residential sector where energy consumption is on the rise. The system aims to reduce the energy consumption of entire buildings by using highly efficient materials not only for construction but also renovation. Furthermore, regarding the mandatory compliance of new buildings with the energy conservation standards, which were fully revised, the roadmap for its implementation was presented in the interim report "Efforts in residences and buildings to create a low-carbon society".

In addition to the revisions to the Act on Rational Use of Energy described above, (1) AC motors and (2) LED lamps were newly added to the Top Runner System. Furthermore, the Top Runner requirements for (1) routers and switches, (2) showcases, (3) gas and oil water heaters and (4) LED lights are being considered. Furthermore, promising new efforts that go one step further include consumer-side smart systems such as Demand Response, and improvement of the efficiency of energy consumption such as Smart Cities.

The policies are due to be implemented based on the "Recommendation to Basic Energy Plan" finalized at the end of last year. The supply-side and demand-side measures described above are expected to play an important role in energy conservation.

6. Activities Related to Global Warming in 2014

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

COP19 held at the end of 2013 decided that each country must present, by the beginning of 2015, its target (contribution) for the international framework for global warming countermeasures, aiming to reach agreement by the end of 2015. Thus, 2014 is an important year which will determine how each country addresses global warming, and whether international society can collaborate and continue negotiating toward reaching an agreement by the end of 2015. The international negotiations are facing the new situation of developing countries demanding further funding and technical assistance from developed countries, which is rather like a new North-South divide. As pressure mounts for building an effective global framework that includes emerging countries such as China and India, the negotiations this year will be key to determining under what conditions both the developed and developing countries would be willing to agree on a new framework.

Regarding individual cases, the EU is about to start discussions on setting the goal for 2030, alongside the discussions for revising its ETS emissions trading system. The key points in setting the goal are whether or not to maintain the current strategy structure, which is a three-area package consisting of GHG, energy conservation and renewable energies. In particular, regarding the renewable energy target, which many countries are likely to oppose due to different conditions among the countries, one option being proposed is not to set a renewable energies target for 2030, but to focus on the GHG emissions target. Furthermore, as not many countries can accept the additional cost burden under the current tough economic situation, the wisdom of setting an ambitious target for the EU to maintain its stance as a global leader will be questioned.

The US is contributing, at least superficially, to reducing GHG by successfully switching to gas in the electricity sector thanks to the Shale Gas Revolution. However, to achieve a more ambitious goal, the country must significantly reduce the share of coal thermal power in electricity generation, and there is growing interest in whether the Environmental Protection Agency's regulations on coal thermal power plants, which have been a highlight of the second Obama administration, will indeed be implemented. Due to strong opposition by Republicans and objections from Democrat lawmakers from coal-producing states, it is still uncertain whether the regulations can be implemented. As the US's position in international negotiations is closely tied to its domestic policy, it will be interesting to see whether the EPA's regulations are actually implemented in 2014.

Japan, which revised at COP19 the 2020 target it had set based on the Cancun Agreements, must finalize its GHG emissions target beyond 2020, due in early 2015, in a timely manner. As the discussions on the actual supply and demand structure of energy begin in 2014 in the review of the Basic Energy Plan, Japan must engage in intensive discussions, while taking into account the schedule for global warming negotiations, in order to solve the many issues and establish a GHG emissions target that is compatible with the country's energy policy.

7. China Watching

Li Zhidong, Visiting Researcher
Professor at Nagaoka University of Technology

2013 was the first year of the Xi Jinping and Li Keqiang leadership team. The economy remained sluggish for two consecutive quarters but picked up thereafter, and eventually achieved a growth of 7.7%, narrowly over the government's target of 7.5%. However, PM2.5 air pollution shows no sign of stopping, and while managing to maintain a stable supply of energy, China is highly likely to become the world's largest net energy importer.

In 2013, the government released a series of measures for energy conservation, the environment, and industrial structure transformation: "Opinions of the State Council on Accelerating the Development of Energy-Saving and Environmental Protection Industry" in August, "Action Plan for Preventing Air Pollution (2013-2017)" and "Regarding the Continuous Promotion and Application of New Energy Vehicles" in September, and "Guiding Opinions of the State Council on Resolution of Contradictions Concerning the Serious Excess Production Capacity" in October. Meanwhile, in November, the Communist Party held the third plenary session of its five-year Central Committee, and pledged to step up the reforms for migrating to a market economy. In December, the government revised the performance review criteria for regional government executives from economic scale and growth rate, to the "quality and efficiency of growth", and decided to investigate executives' responsibility for environmental destruction and huge debts even after their dismissal.

2014 marks the beginning of this overall reform, and is the fourth year of the twelfth five-year plan, which will determine whether the target can be achieved.

Regarding economic management, the government is expected to set the growth rate target at just over 7%, in order to "maintain a rational growth rate" "at a pace with few aftereffects". The top priorities for achieving this target are: (1) dismantling the excess production capacity of heavy industries such as steel, (2) fostering strategic emerging industries such as new-energy vehicles, and (3) carrying out the deregulation needed to attract private funds into energy conservation, environmental protection, resource development and infrastructure upgrading. The progress of each measure must be closely monitored.

Under such circumstances, energy, environmental and global warming prevention measures, particularly energy conservation and the expansion of non-fossil fuels, are likely to be reinforced. Coal consumption will be reduced and the improvement of auto fuel quality and introduction of new energy vehicles will be accelerated mainly in regions where air pollution is severe, such as Beijing, Tianjin and Hebei (the Jing Jin Ji belt), the Yangtze delta and the Zhujiang delta. Quality standards for coal will be raised, and the production, import and use of low quality coal with high ash and sulfur content will be banned. The development of wind power and centralized solar power will be promoted by improving the transmission network and strengthening grid connections, while the development of distributed solar power will be encouraged through the spread of the FIT system. In particular, the annual installed capacity of solar power could reach as much as 14 GW. The development of nuclear power is likely to be "accelerated" again, and around six new units are expected to be constructed.

As imports of oil and natural gas continue to expand, foreign capital inflows and overseas expansion in the energy area are likely to accelerate. Regarding institutional aspects, while natural gas prices are expected to increase, the progress of reforms such as introduction of the carbon tax, separation of electricity transmission and distribution, liberalization of electricity prices and deregulation of the oil and natural gas industries must be closely monitored.

8. Russia Watching

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

On December 12, 2013, the twentieth anniversary of the Russian Constitution, President Putin delivered the annual state-of-the-nation address. Overall, the address reflected the current gloomy situation of the country. As the Ministry of Economic Development announced a downward revision of the country's GDP for 2013 (from 1.8% to 1.4%), most of the 70-minute address focused on the most urgent domestic issues, including the need to resolve the lack of transparency in the economy including bribery, low labor productivity compared to international levels, and backwardness in science and technology, as well as the need of educational reforms and human source development..

Part of the address was used to criticize the US's deployment of missile defenses (MD) in Europe and to warn the EU, which is hurrying to negotiate and conclude an alliance accord with Ukraine; nevertheless, criticism of Europe and the US was restrained overall. Desperately in need of attracting large foreign investments, Russia can no longer afford to stir up enmity just to stimulate patriotism. In his address, President Putin even stated that Russia aims to become a global leader, but does not wish to be called a superpower.

As national finances tighten due to the slowing economic growth, private-sector investment and foreign funds hold the key to improving the economic system and achieving long-term development. For both sources of investment, it is essential to improve the investment environment, a major index of which is the state of capital flight from Russia, which continues to worsen. It is difficult to attract long-term, large-scale foreign investment to a market which is shunned by even domestic investors. According to the Central Bank of Russia, as of the third quarter of 2013, 48.1 billion dollars, or more than 12% of the 2012 budget of the Russian Federation, have fled the country. In his address, President Putin expressed strong dissatisfaction with the lack of progress in increasing the country's tax revenues and investment in socioeconomic infrastructure, while offshore investment by Russian funds continues to expand.

As the national focus of regional development, this year's state-of-the-nation address only named Eastern Siberia and the Far East, and emphasized the need for unconventional measures to overcome the unprecedented difficulties. Specifically, the establishment of a special economic zone with a five-year exemption on corporate, natural resource extraction, land and property taxes was proposed, and the President ordered the Medvedev administration to select the target region by July 1, 2014. The introduction of a rating system for the regional investment environment within 2014 was also proposed. Based on this overall policy, Russia is expected to introduce timely and drastic measures for attracting investment, in order to capitalize on the current momentum for stronger economic ties between Japan and Russia.

9. EU Watching

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

In the latter half of 2013, the EU economy showed signs of emerging from the recession, and GDP is expected to grow by approx. 1.4% in 2014. These signs of recovery from the economic recession which started with the European sovereign debt crisis in 2010 are good news. The outlook, however, varies depending on the country: Germany and the UK remain relatively robust, France is struggling, Iceland has managed to pull out of financial assistance from the European Union (EU), while Spain, Italy and Greece continue to suffer from the economic crisis and expect small positive growth.

The southern European countries have only just stemmed the rot by tightening their budgets; for full-scale economic recovery, they need to earn money by exporting to outside the EU and to robust economies within the EU such as Germany and the UK, although they have little to sell. Furthermore, while theoretically they could attract investment and tourists, their hands are tied by the single Euro currency since they no longer have their own currency to devalue. The unemployment rate remains high in the Euro zone, reaching 25% in Spain and Greece. Based on these economic trends, Europe's energy demand is expected to remain flat in 2014.

One certainty regarding European energy is that renewable energies will continue to expand. The EU aims to increase the ratio of renewable energies in primary energy to 20% by 2020 as part of its "Triple 20" policy and is currently on track to achieve the goal. The ratio of renewable energies is even higher in the power generation sector at 21.8% as of 2011, and even higher than 50% in some countries. If the share of renewable energies propped up by the FIT system increases while economic recovery remains slow and energy demand remains flat, competition with coal and natural gas will occur in the power generation sector, and with the current imports of cheap North American coal into Europe, natural gas is likely to get squeezed out of the market. Among the suppliers of gas to Europe in 2014, Norwegian natural gas production is expected to remain robust, and so the demand for Russian pipeline gas could drop even further than in 2013. With Europe offering little hope in terms of natural gas sales, Russia will be forced to target Asian markets. This could assist Japan in negotiations to purchase natural gas.

Recently, Russia's Gazprom and a European company reportedly agreed to lower the gas price to below the conventional petroleum-linked price and closer to the European market price. Japan should take advantage of this situation and Russian interest in Japan to secure a lower LNG purchase price.

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*