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1. Trends in the Global Natural Gas and LNG Markets

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On May 21, in the presence of Chinese President Xi Jinping and Russian President Vladimir Putin, CNPC Chairman Zhou Jiping and Gazprom Chairman Alexey Miller signed a long-term agreement for Gazprom to deliver Russian pipeline gas to China. The deal will supply China with 38 billion m^3 (28 million tonnes in LNG-equivalent) of gas per year for 30 years starting from 2018. The gas price reportedly is 350 dollars/1,000 m^3 ($10/MMBtu) at the border. Considering the transportation cost within China, the delivered price to Beijing would be $13–14/MMBtu, which is cheaper than the current LNG import prices of Japan and South Korea.

As this gas export project will involve large-scale development of gas fields in Eastern Siberia (mainly Chayanda and Kovykta) and the construction of long-distance pipelines in a harsh climate, it will not be easy to start supplying the gas in 2018. Also, as gas from Sakhalin might feed this export at least in the beginning, it could have an impact on securing feed gas for the new Russian LNG projects.

However, the agreement may not necessarily disadvantage Asia for three reasons. First, it will curb the growth of LNG demand in China, and hence ease the balance between supply and demand for LNG in Asia in the medium to long term. Second, the agreement could kick-start the long-delayed development of natural gas fields in eastern Siberia, and open the way for LNG projects such as Vladivostok LNG, and potentially China-Korea pipeline. Third, the agreement will accelerate the shift to natural gas in northeast China, Beijing, Tianjin and Hebei, and help mitigate air pollution in the country.

China is strengthening its price bargaining power toward exporting countries by diversifying its supply sources for both pipeline gas and LNG. In contrast, despite its high dependence on LNG, Japan has not yet managed to import pipeline gas from Sakhalin despite its cost-competitiveness. Diversifying supply sources is fundamental not only for energy security, but also for strengthening price bargaining power. Further, setting up a gas import pipeline would incentivize domestic gas infrastructure developments at least in eastern Japan. Despite the country risk of Russia as a natural gas exporter, the Japanese government, as well as importing companies, should recognize the advantages of importing pipeline gas and address this issue with a strategic medium- to long-term vision.

2. Australian Government Releases White Paper on CO2 Emissions Reduction Fund

Hiroki Kudo, Senior Research Fellow
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On April 24, the Australian government released a White Paper outlining the Emissions Reduction Fund (ERF) as part of the Direct Action Plan which the current administration puts at the heart of its climate change policy. The current conservative coalition government won the general election last year by criticizing the climate change policies of the then labor government, and promising to abolish the carbon tax (which will eventually migrate to an emissions trading system) that the labor government had introduced and replace it with a new policy. The Direct Action Plan was announced by the government as the key policy to replace the coal tax, and ERF has been studied as the centerpiece of the Plan.

One of the characteristics of the Direct Action Plan is that it is driven by the voluntary efforts of target parties such as companies. That is, the Plan aims to build a mechanism that encourages the companies themselves to take measures to prevent global warming by lifting penalties and offering appropriate incentives. Although such measures may be less effective than taxes, there is growing interest in the details of the new system.

According to the White Paper, the ERF requires 130 selected companies to develop their own CO2 emissions reduction plan (project) in line with the government guidelines. The amount of emissions reduction will be estimated as the difference from the amount emitted assuming no measures had been taken. The target companies will then offer to the government for reverse auction (the buyer chooses the seller) the amount of reduction and the cost involved. The government selects those reduction measures that it considers are effective, and signs an agreement to purchase the reductions from the companies that implemented those measures. The government will pay the contract price if and when the company actually implements the measures and achieves a reduction.

This system is similar to the coal tax and emissions trading system in the sense that it aims to tackle emissions reduction more cheaply by using the price mechanism. It differs from the other two, however, in that the reduction measures will be funded by the government, emphasizing the shift in incentive from the regulatory approach of the former administration to a voluntary one. However, there could be problems with the voluntary approach, such as lower effectiveness and difficulties in securing funds. It may also be necessary to consider providing assistance such as offset credits in case a company's output exceeds plans. The feasibility of the creating the system for addressing these issues and winning public acceptance while coordinating discussions in parliament is not clear so far.

3. No Time to Sit Back for Japanese Panel Makers Despite High Availability Factor

Hisashi Hoshi, Board Member, Director
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Japan's Sharp Corporation returned to the top as the world's largest shipper of solar PV modules (Q1 of 2014). This is the first time since five years ago when it fell behind the European, American and Chinese manufacturers after reigning supreme for 45 years from 1963 to 2008. Further, Solar Frontier's thin-film panel business has reportedly made a significant contribution to the business recovery (FY 2013) of Showa Shell Sekiyu, its parent company.

The main reason, of course, is the Feed-in-Tariff (FIT) system for renewable electricity. Introduced in July 2012, the FIT system caused the domestic solar power market to explode and brought bounty to Japanese panel manufacturers. Domestic panel shipments for FY 2013 are estimated at 8 GW, a massive increase from 4 GW in FY 2012.

The breakdown of the shipment, however, is rather more complicated. According to the figures currently available, till December 2013 (Q3), domestic shipments of Japanese panels have hardly increased from last year's figure of 2 GW, despite the rapid growth of the domestic market. On the other hand, imports have more than doubled from 1.5 GW last year to above 3 GW. However, most of the imports are OEM products of Japanese companies and products manufactured in the overseas plants of Japanese companies, that is, "made-by-Japan" products, and so the old image of cheap imports dominating the Japanese market does not apply. What the figures really mean is that Japanese manufacturers are operating their plants at full capacity and are making up for insufficient capacity by importing their own products, while any remaining demand is being met by overseas manufacturers.

The high availability factor of domestic factories reflects the unexpected competitiveness of Japanese products compared to overseas products. This is a remarkable achievement, considering that there is still a global glut of panels. This result is backed by the reliability and reputation of Japanese products among Japanese users.

However, overseas manufacturers are also strengthening their strategies regarding reliability and safety. One example is First Solar of the US, which completed a 1.3 MW mega solar plant in Kita-kyushu in March. Despite having low cost and high efficiency, the company's chemical compound-based thin-film modules were considered unlikely to penetrate the Japanese market due to their use of a cadmium compound (CdTe). But the company is working to overcome this issue by constructing a mega solar plant in Japan using its own panels, while establishing a recycling system for collecting the modules. Further, Chinese manufacturers, often criticized for low quality, are proceeding with strategies to raise reliability. Last November, Jinko Solar acquired JIS Q8901 certification (a standard established in February 2012 for the quality assurance of solar panels).

While Japanese panels are keeping up their high reliability and safety, overseas companies are reinforcing their efforts and are steadily catching up.

4. US Watching: Expansion and Challenges of Exporting Wood Pellets

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In 2012, the expansion of US coal exports to Europe attracted attention. Since 2013, due to growing tensions over Ukraine, there has been increasing pressure in the US to accelerate the approval of LNG exports to help Europe reduce its dependency on Russia. In May 2014, the US Department of Energy announced that exports of American wood pellets doubled in FY 2013 to 3.2 million short tonnes, of which 98% were headed for Europe. 59% were exported to UK power companies, which burn them together with coal in thermal power plants.

In April 2013, a Czech company reportedly turned to mesquite, a strong-growing bean plant abundant in the south of the US, and launched a business in Texas to make pellets out of the plants for export to Europe. Encouraging such move is the goal of the European Union (EU) to "raise the ratio of renewable energy in final energy consumption to 20% by 2020" and the action plan that aims to supply 50% of renewable energy with biomass. Anticipating increased demand in Europe, in September 2013 a US wood pellet industry group and a Canadian forestry organization released a forecast on the sustainability of timber resources in North America and the amount of GHG emissions reduction that he pellet export to the EU would achieve, as one of a series of studies by forestry and renewable energy organizations. Turning to timber as a promising resource is natural for Canada, for which timber has traditionally been a core export commodity, the southeastern US states which seek to diversify their local industry, and the EU, which is facing the multiple difficulties of a prolonged recession, ambitious environmental policies, and the influx of cheap American coal.

However, there is a cloud on the horizon of the promising wood pellet market: environmental issues. In November 2013, a British newspaper, The Guardian, reported that despite the government's triumphant announcement that forest resources could supply 11% of domestic energy in 2020, there is a serious risk of deforestation and loss of biodiversity, which European environmental groups are becoming increasingly aware of. Further, in the US, groups such as the Sierra Club, which is at the forefront of the non-use of fossil fuel, is calling for "restoration and preservation of forests" while campaigning for Beyond Coal, Beyond Oil, and Beyond Natural gas. Forest in this context does not mean a plantation with only one type of tree for producing pellets, but primary forest. If the US environmental groups turn against wood-fired power generation, protection of primary forests may easily gain the support not only of the environmentally-aware Democrat support base, but also the Republican support base by being linked with the wildlife of those forests and the hunting culture, and hence the National Rifle Association.

Heading into the midterm elections due on November 4, the Democratic Party is becoming aware of the mounting frustration among the liberal groups, including environmentalist, that have supported the Party in the recent elections. Considering his plans to double exports and for tackling climate change, the President might support the growing presence of wood pellets as an export commodity. Placed in an awkward position, the President must be hoping that the pellet industry does not take off to become a campaign issue.

5. EU Watching: EU's Efforts for Cutting Energy Consumption of Buildings

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Last month, an energy conservation ordinance was revised in Germany to further reduce energy consumption in the residential sector. The key points of the revision are: (1) strengthening the energy efficiency requirement for new buildings by 25% on average, (2) requiring indication of the energy performance of buildings, and (3) stopping the operation of heating boilers, which are inefficient. In Europe, all buildings built from 2021 will be required by the Energy Performance of Buildings Directive (EPBD) to be net zero-energy buildings, and the revision of the ordinance in Germany is an important step to achieve this.

A net zero-energy home is generally defined as one that produces enough renewable energy to offset its energy consumption, thus achieving net zero annual primary energy consumption. However, major European cities are characterized by many apartments and few detached houses, many old houses which often more than 100 years old, and few new houses, as well as higher demand for heating than for hot water and lighting; these are considerable barriers to achieving net zero-energy housing. There are various ways to cut the energy consumption of a house, such as more efficient insulation, higher efficiency of heating appliances, and introducing high-efficiency lighting; however, expanding the use of renewable energies is very hard to achieve for apartments as there is physically no space for installing solar panels and solar water heaters. The difficulty of turning "existing" buildings of large cities to net zero-energy houses is recognized by policy makers and architects, which is probably why the new higher energy efficiency standard targets only "new" buildings.

However, reducing the energy consumption of the residential sector cannot be achieved while ignoring existing houses. Accordingly, the other point in the revised ordinance, indicating the energy performance of the building, is one of the few measures that can be taken for existing apartments. Requiring indication of the energy performance of a building when selling or buying one and informing the general public, who have not been interested so far, of the energy consumption and running cost of something they are about to buy could inspire them to try to save energy after making the purchase. Further, indicating the energy performance of a building could influence the trading price and add value to high-performance buildings. European real estate agencies have started to display large signs in their stores, showing the energy performance of the properties based on standardized criteria, and this practice is gradually spreading. While making the existing houses of large cities net zero energy consumers is an extremely high target, Germany's revision of the ordinance is a step forward for promoting energy conservation and approaching the target.

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