

## *Electricity System Reform in Japan*

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### **Overview**

On November 13, 2013, the Amended Electricity Business Act (the “Act”), which relates to a substantial reform of the electricity system in Japan (the “Electricity System Reform”), was enacted. The Electricity System Reform, a part of which is enforced by the Act, involves, among other things, the establishment of an organization to promote wide-area electrical grid operation in 2015, full liberalization of the retail sale of electricity in 2016 and the separation of power generation and power transmission in 2018-2020.

This newsletter provides an overview of the Electricity System Reform and briefly considers how the implementation of the Electricity System Reform may affect the energy business in Japan.

### **Background**

Over the years, the Japanese electricity market has been almost completely monopolized by the ten local electricity companies (the “General Electricity Utilities”) who operate in their respective regions of the country. Although the retail market has been partially liberalized since 1995, the market share of the newcomers (the “Power Producers and Suppliers”, or the “PPSs”) is still very limited (3.53% of the liberalized sector in 2012). Besides, there has been almost no competition across regional boundaries, and the generation and delivery of electricity has generally been bundled together by the same General Electricity Utilities.

Looking at major advanced countries around the world such as the nations of Western Europe and the US (excluding some states), the separation of power generation and transmission has been promoted. They have facilitated the participation of newcomers and market competition in the power generation sector, while they regulate the power transmission sector, which is more public in nature, in order to maintain the stability of the electricity supply.

Since 2001, the Japanese government has also considered the possibility of separating electricity generation and transmission, but it has been strongly resisted by the electricity industry.

On March 2011, the Great East Japan Earthquake and the accident at the Fukushima Nuclear Power Plant occurred, which added weight to arguments that Japan’s power system has significant problems. These include:

(i) The reliability of nuclear power plants, which had been regarded as a major source of energy in the future, was significantly reduced. The accident at the Fukushima Nuclear Power Plant forced the Japanese government to suspend the operations of the existing nuclear

power plants and reconsider its policy for Japan's energy mix, especially taking into account the necessity of increasing the market share of renewable energy;

(ii) Supply and demand of electricity has basically been managed and controlled by the General Electricity Utility operating in each region, and has not been planned on a nationwide basis. There is also the fact that Japan's power line frequency differs between eastern Japan (50 hertz) and western Japan (60 hertz) and the capacity of frequency converters is insufficient. As a result, if one area suffers a shortage of electricity, it is not easy for the other area to supply its surplus electricity to the affected area; and

(iii) The current approach – to supply electricity abundantly according to demand – will be impossible in the future. It is more important to restrain electricity costs by controlling demand. However, the measures required to save electricity have not been implemented sufficiently strictly. Promoting a demand response to reduce electricity consumption at peak times and installing smart meters in households should be considered.

In January 2012, the Expert Committee on Electricity Systems Reform (the “Committee”) was formed under the METI (Ministry of Economy, Trade and Industry), to consider the future electricity generation system in Japan.

In July 2012, after having several meetings, the Committee compiled the Basic Policy on Electricity System Reform.

In February 2013, after having additional meetings, the Committee compiled a report on Electricity System Reform.

On April 2, 2013, the Japanese Cabinet decided to approve the Policy on the Electricity System Reform (the “Policy”) based on the report, and the Bill for the Act for Partial Revision of the Electricity Business Act (the “Bill”) was submitted to the Diet on April 12, 2013.

After the Bill failed to pass the Diet due to a political conflict in the Diet, the Japanese Cabinet resubmitted the Bill to the Diet on October 15, 2013.

On November 13, 2013, the Bill was finally passed at the Diet and the Act was enacted on the same day.

### **Details of the Electricity System Reform**

According to the Policy, the Japanese government will review the previous energy policy from scratch in the light of providing a stable supply of electricity and reducing energy costs, with promotion of the use of renewable energy.

The Electricity System Reform has three purposes it seeks to achieve: (i) securing a stable supply of electricity, (ii) suppressing electricity prices to the maximum extent possible and

(iii) providing consumers with choice, as well as business operators with opportunities to expand their businesses.

To achieve these goals, the Japanese government declared that dramatic reforms will be carried out, focusing on the following three pillars:

### **Pillar 1 – Expanding the operation of wide-area electrical grids**

The “Organization for Promoting the Operation of Wide-area Electrical Grids” is to be established to strengthen the nationwide supply-demand adjustment function. The role of this organization would be, (i) organizing supply-demand plans and power system plans to strengthen the transmission infrastructure, such as the construction of frequency converters and inter-region power lines, (ii) at normal times, controlling operations of wide-area electrical grids to balance the supply of and demand for electricity and adjusting power line frequency in each region, (iii) in emergency situations, ordering an increase of power generation and the provision of electricity between regions, and (iv) accepting new electricity sources and publishing power system information neutrally.

It was also emphasized that strengthening electricity transmission infrastructure, such as frequency converters and inter-region power lines, would be necessary in order to expand the operation of wide-area electrical grids.

### **Pillar 2 – Fully liberalizing the retail market and power generation**

Full liberalization of the retail electricity market will be implemented so that all electricity users, including households, will be able to choose the electricity supplier they prefer. The government and utility companies will proactively provide appropriate information and publications for electricity users to appropriately choose an electricity company, based on price and power source. The government will also promote installation of smart meters to facilitate free competition in the market.

On the other hand, the current price regulation will be maintained even after the full liberalization of the electricity retail market until the government confirms that the competition in the market has actually increased. Even after the cancellation of price regulation, the government will take measures to require power transmission companies to guarantee electricity supplies to end-users and stable electricity supplies to remote islands on the same terms as with the mainland.

The government will also consider the full liberalization of the power generation market (i.e. the cancellation of the electricity wholesale regulations), promotion of transactions in the electricity wholesale market and the establishment of an electricity futures transaction market.

### **Pillar 3 – Further securing the neutrality of the power transmission/distribution sector**

The government will make sure that the neutrality of the power transmission/distribution sector is further secured so that power generation companies and electricity retailers are able to use the power transmission/distribution network fairly. Specifically, the power transmission/distribution department of each General Electricity Utility will be carved out to a separate company, although these will not be prohibited from maintaining capital ties (a legal structural separation method).

On the other hand, the government will formulate necessary rules so that even after the implementation of the legal structural separation, power transmission/distribution companies will be able to take countermeasures against emergency situations, and conduct supply-demand adjustments and power line frequency adjustments in concert with power generation companies.

The power transmission/distribution sector will continue to consist of regional monopolies. The government will guarantee a system in which the power transmission/distribution companies can recoup their investments in transmission/distribution power lines by a certain method of price regulation such as a fully distributed cost (FDC) method, a methodology to allocate the full cost of a service provider to individual services. The government will also impose an obligation on each power transmission/distribution company to maintain a supply-demand balance in the whole system so that a high quality electricity supply, which is fundamental to economic activity, can be secured.

#### **Reform program under the Act**

Under the Act, these three pillars will be implemented by dividing the process into three phases.

#### **Phase 1 - Establishing the Organization for Promoting the Operation of Wide-area Electrical Grids**

The Organization for Promoting the Operation of Wide-area Electrical Grids is scheduled to be established in 2015.

As phase 1 of the Electricity System Reform, the Act provides for the establishment and outlines the above organization in line with the aforementioned role under pillar 1.

In addition, the Act makes several improvements to the current system. For example, the Act strengthens the electricity supply orders issued by the METI. The METI is able to issue electricity supply orders to the utilities in certain very limited cases, such as emergency situations including natural disasters. The Act expands the situation in which the METI may issue such orders, to include when there is, or threatens to be, an obstacle which prevents the stable supply of electricity.

The Act further amends the self-use wheeling system so that the METI may order the General Electricity Utilities to provide their power transmission/distribution services to those who make use of self-use wheeling systems.

### **Phase 2 - Fully liberalizing the electricity retail market**

Under the Act, full liberalization of the electricity retail market is scheduled to be implemented in 2016, save that the deregulation of the electricity price regulation is scheduled to be implemented during phase 3 below (2018-2020). It should be noted that, unlike Phase 1 above, the Act does not make any amendments or revisions and rather just places an obligation upon the government to submit another bill for this reform to the ordinary Diet session in 2014, in line with the outline of the reform as set forth in the Act. This means that the Act allows the government certain flexibilities regarding how to structure this reform and also the timing to implement it.

### **Phase 3 - Further securing the neutrality of the power transmission/distribution sector; Fully liberalizing electricity rates**

Under the Act, further securing the neutrality of the power transmission/distribution sector through legal structural separation and fully liberalizing the electricity rate are scheduled to be implemented within 2018-2020. As with Phase 2 above, the Act just obliges the government to aim to submit another Bill to the ordinary Diet session in 2015, in line with the outlines set forth in the Act.

### **Impact on the energy business**

There seem to have been some difficulties breaking into the electricity retail market in Japan. For instance, (i) the PPSs are only permitted to sell electricity to large and medium sized users, excluding small electricity users such as households, (ii) it would be difficult for those PPSs which do not have their own power generation capacity to procure electricity from other electricity producers or the market due to the small amount of extra electricity, and (iii) the wheeling rate of electricity which the PPSs have to pay to the power transmission companies for the use of their power lines remains high.

However, if the proposed full liberalization of the retail market is implemented, the PPSs would be able to sell electricity to households, which would be a great expansion of their potential customers.

Also, if the electricity wholesale market is invigorated and the amount of transactions in the market increases, it would become much easier for the PPSs to procure electricity through such a market.

Furthermore, if as a result of the separation between the power generation sector and the power transmission/distribution sector, the latter sector becomes more neutralized and the wheeling rate of electricity is reduced, the PPSs would be able to sell electricity at a more competitive price.

Accordingly, it can be expected that more and more companies which have not been engaged in the electricity business would consider entering the electricity retail market to seek new business opportunities.

The proposed separation between the power generation and transmission sectors would change the electricity generation market as well. Since the partial liberalization of the power generation sector was implemented in 1995, some trading houses, gas companies and manufactures have launched renewable energy businesses and cogeneration businesses. However, the high wheeling rate of electricity has discouraged the development of the renewable energy businesses and the cogeneration businesses. If such companies' accesses to the power transmission/distribution network became easier, it would help them sell electricity at more competitive prices.

As a matter of fact, the number of the PPSs has jumped from 53 at the end of March 2012 to 121 as of December 12, 2013, seemingly because of the expectations for electricity system reform.

## **Conclusion**

Although we have to watch carefully whether and how the Electricity System Reform will be implemented, the direction of this Electricity System Reform would be appreciated by those who have made or are considering investments in the energy industry of Japan.

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**Contact Information:**

Tomoaki Ikenaga  
Partner, Chair of the Energy Practice Group  
Email: [tomoaki.ikenaga@amt-law.com](mailto:tomoaki.ikenaga@amt-law.com)  
Telephone: +81-3-6888-1070

Eiji Kobayashi  
Partner  
Email: [eiji.kobayashi@amt-law.com](mailto:eiji.kobayashi@amt-law.com)  
Telephone: +81-3-6888-1096

Takao Shojima  
Associate  
Email: [takao.shojima@amt-law.com](mailto:takao.shojima@amt-law.com)  
Telephone: +81-3-6888-5826

Yoshitaka Kato  
Associate  
Email: [yoshitaka.kato@amt-law.com](mailto:yoshitaka.kato@amt-law.com)  
Telephone: +81-3-6888-4714