

# **A study on the Competition Regulation in Relation to Domestic Renewable Energy Industry**

## **ABSTRACT**

Keywords : renewable-energy-based enterprise, Electricity Act, Renewable Energy Development Act, competitive neutrality

After the reviewing of the Electricity Act in January 2017, there will be three types of electricity enterprise such as supply enterprise, transmission and distribution enterprise and retailing enterprise in the market. In addition, the renewable-energy-based electricity supply enterprise is permitting to sell electricity to client by direct or transfer way. However, the government continues to increase the penetration of renewable energy may lead to the issue of unfair competitiveness which violating Fair Trade Law. Hence the purpose of the research includes (1) collecting the information and trend of renewable-energy-based enterprise; (2) analyzing the overview of the renewable-energy-based enterprise market and competitiveness; (3) studying the horizontal competition and vertical integration of renewable-energy-based enterprise; (4) discussing the norm and behavior effect of renewable-energy-based enterprise under reviewing of the Electricity Act in different phase and the competition and cooperation with the authority of competition law; (5) collecting the competitive issues of renewable energy-based enterprise; (6) analyzing the anti-competitive behavior in renewable energy-based enterprise and the competitive neutrality of Taiwan Power Company; (7) analysis of the competitiveness under smart grid.

We find out that the renewable energy system mainly belongs to self-usage power generation equipment rather than installing by Taiwan Power Company Independent Power Producer. In addition, the main type of solar photovoltaic system is roof-top and grid-connected. Besides, the large-scale wind turbine is the trend of wind industry. The cost of solar photovoltaic system and wind turbine will continue to decrease in the future because of technology improving, supply-chain integration, lower financing cost, competitiveness and the government policy.

Secondly, because the power generation from renewable-energy-based

enterprise or Taiwan Power Company is homogeneousness for general customers and the market price is regulated by the government, the firms will measure the cost and benefit of sell electricity to general customers rather than Taiwan Power Company even though they are permitting under the Electricity Act and hence the market definition should include traditional energy and renewable energy. In addition, large electricity users must to obey the rule of Renewable Energy Development Act so the market definition must exclude the electricity that doesn't have renewable energy certificates and the self-usage power generation equipment of large electricity user is alternative. Furthermore, the grid is all over the island and hence the scope of geographic market is within the territory. This study adopts the method of cross-elasticity and SSNIP to review the market definition. It is suggested that traditional energy and renewable energy should be one market. However, if we want to analyze the competitiveness of renewable industry, we may have to focus on the type of renewable energy.

The supply-chain of domestic solar photovoltaic industry is complete. But owing to the competitiveness in the market, the firms of up and middle stream is transforming toward down-stream integration. However, the down-stream of solar photovoltaic is highly competitiveness from HHI index. It may show that the performance of integration is not effectiveness. In addition, the supply-chain of wind energy in our country is not completeness. The native firms actively cooperate in order to deal with offshore wind developers but still have no bargain power with developers. It may imply the integration of firms in wind industry have no sufficient influence on the wind market.

Since the amendment of Electricity Act in 2017, the government has established "renewable energy first policy", which only allows renewable energy producer and renewable energy retailer to compete in free market. In chapter 4, we analyzed the merger regulation of electricity enterprise under Electricity Act Article 21 and the non-abuse monopoly power regulation under Article 23. We discovered that there's potential conflicts between Fair Trade Law and Electricity Act, it's necessary for the Fair Trade Commission, the competent authority of Fair Trade Law to coordinate with the electricity industry regulatory authority, and the competent authority of Electricity Act under the rights of Fair Trade Law

Article 6 Section 2. Also, Fair Trade Commission should closely pay close attention on Renewable Energy Certificates (T-REC).

Moreover, we put emphasize on foreign antitrust cases in electricity industry, and how other countries transform energy market through monopoly to competition. In most countries took different approach from our “renewable energy first policy”, by emphasizing on how to break down the larger power conglomerate to allow new competitors entering markets. In most countries promote the development of renewable energy through state subsidy mechanism.

Furthermore, we also focus on what factors might affect defining relevant market of electricity industry. Under “renewable energy first policy” FTC should not only focus on the consumers’ demand of energy, but also take environmental factors into consideration, through T-REC trading. If state-owned power conglomerate (Taiwan Power Corp.) is allowed to join the free renewable energy market competition, it will increase the possibility of restricting competition. FTC should take close look to how to ensure competition neutrality and avoid abuse monopoly power.

Last but not least, smart grids can help to demonstrate the immediate value of electricity. However, due to the imperfect system design, the public sales industry has excessive market power and information advantages, resulting in the risk of unfair competition in the market. This will depend on the intervention of the electricity regulatory agency or the fair, in order to prevent the subsequent effects caused by the defect.