

Restructuring Taiwan's Electric Power Industry

Oliver Yu

Taiwan Power Company (TPC) is the only electric power utility for the island of Taiwan. It is a state-owned, vertically integrated monopoly. In the last fifty years, there has been strong electricity demand growth in Taiwan, averaging over 10% per year. However, TPC's operations have met increasing challenges in recent years.

First, following rapid economic growth, there has also been growing public resistance to the construction of new power plants and transmission lines. Then, as a result of government promotion of cogeneration to counter the global energy crisis in the 1970s, there has been a rise of independent power producers (IPPs), which have exerted strong pressures on the government to open the electric power market.

At the same time, there has been an increasing geographic separation of generation and load. The generation is increasingly concentrating in southern Taiwan, where population density is lower and more land is available, while the load is concentrated in northern Taiwan. This separation has stretched the geographically constrained transmission system almost to its physical safety limits.

As the island is devoid of indigenous energy resources, the government is highly concerned with energy security. Moreover, the strong interest in participating in international organizations, such as the World Trade Organization, for a variety of political and business reasons has prompted the government to develop a policy for promoting a proportional quota on all energy resources, including fuel inputs for power generation.

MOTIVATION FOR RESTRUCTURING

The current government has expressed a strong interest in restructuring the electric power industry mainly for the following reasons:

- ideological belief in economic liberalization and market economy
- successful experience in the liberalization of the telecommunication industry
- pressure from IPPs and high-tech industrial customers to lower the electricity rates and increase supply availability.

MAJOR CONCERNS ABOUT ELECTRIC POWER RESTRUCTURING

There has also been much concern about electric power industry restructuring in Taiwan, mainly because of:

- lack of general understanding and experience in economic regulation of the electric power industry by both the government and the public
- lack of appropriate legal support systems for industry restructuring
- lack of professional understanding of electric power markets and how they function
- government concerns about energy security, which conflicts with true market competition
- government and public concerns about global environmental pressures, which also go against true market competition
- public concerns about major electricity outages and their impact on the economy and the society at large.

The development of the restructuring process has been highly haphazard and political. After many ad-hoc meetings and discussions among government officials, academics, and power producers, a patchwork of modifications of the electricity law, resulting from compromises among participants, was completed in December 1999 for submission to the legislature.

In the revision, restructuring is to start in 2003 with the setting up of the Independent System Operator, and to proceed to 2008 with the liberalization of the generation sector. At the same time, parallel vertically integrated electricity suppliers will be allowed.

To avoid potential confusion, there will be no open electric markets, and transactions will be basically through bilateral contracts. Furthermore, to avoid possible abuse, the retailing function will not be liberalized.

The revised electricity law adopts a unique approach that is very different from the approaches of most other economies. Furthermore, it is devoid of sound theoretical foundation or practical analysis. It may fit the special sociopolitical situation of Taiwan and can serve as a good starting point. However, because of its uniqueness, there is virtually no previous experience. As a result, there should be adequate simulation-based analysis to ensure its practicality and minimize the risks.

On a realistic level, given the change of administration in the year 2000, it is unlikely that there will be much analysis of the proposed revision. Instead, if it is implemented, it will be done on a trial-and-error basis. Given the uniqueness of approach, the process most likely will be significantly modified by experience.