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ELECTRICITY POWER TRADING COMPANY (SINGLE BUYER)

At recent time, the Vietnamese electricity industry has received special attention from all classes in society as blackouts have been continuously occurring everywhere, and a mass of investors in all sectors have built power plants. Most recently, the Electricity Corporation of Vietnam (EVN) has proposed to create an Electricity Power Trading Company (EPTC), also known as the Single Buyer, in an effort to develop the national electricity market.

EVN contends that the development of Single Buyer model will be in compliance with the development route of a competitive power market in Vietnam, which was specified in the spirit of the Electricity Law in 2005 and the Electricity Development Plan for 2006-2010 of the government. The EVN's proposal, however, is opposed almost immediately by the World Bank, who provided substantial amounts of ODA to EVN during the last few decades. In an official letter to the Ministry of Industry and the Ministry of Planning - Investment, the World Bank office in Hanoi warned that this profit-seeking, joint-stock company model would create a conflict of interest, as the power sellers, i.e. the power plants, are shareholders in the power buyer. Even the Ministry of Industry also reveals its concerns about the structure of the Single Buyer proposed by EVN.

The electricity industry in Vietnam

The Ministry of Industry is responsible for the comprehensive management of the power system in Vietnam, ranging from zone planning, development planning, market regulation, auction implementation, to the negotiation of generation investment contracts. The retail rates of power are proposed by the Ministry and approved by the Prime Minister.

The Electricity Corporation of Vietnam (EVN) plays the central role in power production, transmission, and trading activities in Vietnam and is a state-owned enterprise. EVN is organized as a vertically consolidated firm controlling the generation, transmission, and distribution of power. As a corporation, EVN owns and runs the power plants belonging 100% to the state ownership, and has shareholdings in some independent power plants. All four transmission companies and the National Co-ordination Center under the management of EVN own and run the transmission system, including 3,500 kilometers of 500 KV wire. Finally, EVN has seven utilities, whose function is to sell power directly to customers, including three regional utilities (1, 2, and 3) and four city utilities (Ha Noi, Hai Phong, HCM City, and Dong Nai).

In 2006, the total power capacity in Vietnam was 12,200 MW, a triple increase from 4,435 MW ten years ago.[1] Beside the generation system belonging to EVN, independent power plants have been

[1] VietnamNet, "10 nam phat trien, tong cong suat dien chi tang... 8.000MW", http://vietnamnet.vn/kinhte/2007/07/719075/.

This case was written by Nguyen Xuan Thanh, lecturer in Public Policy at Fulbright Economics Teaching Program, based on publicly available information and FETP's research. Fulbright Economics Teaching Program's cases are intended to serve as the basis for class discussion, and not to make policy recommendations.

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developed since 2002 to sell power to EVN under long-term power purchase contracts.[2] They are the investment projects in the form of Building - Ownership - Operation (BOO) such as Hiep Phuoc or Building - Ownership - Transfer (BOT) such as Phu My 2.2 and 3. As of 2004, the total capacity of independent power plants was as much as 2,400 MW, accounting for 22% of the total system capacity.[3]

Representing the highest generation source in many years, hydroelectricity has yielded its dominant position to gas and oil thermoelectricity since 2003. At present, gas and oil thermoelectricity pooling in the South (prominently Phu My in Ba Ria-Vung Tau) account for 49% of the total capacity. Hydroelectricity – with large plants such as Hoa Binh in the North, Yali in the Middle, and Tri An in the South – accounts for 38% of the total capacity. Coal thermoelectricity gathering in the North takes the remaining of 13% of the generation source.

Electricity production in Vietnam has been rapidly increasing in recent years. The output increased by 14.2% per year on average in 2001-2006, while GDP increased by 7.6% per year. (See Appendices 1 and 2.) However, with the total output of 59.1 kWh in 2006, and a loss ratio of 12%, the average consumption was only 610 kWh per year per capita. In 2002, the average power consumption in China and Thailand was 987 and 1,626 kWh/year, respectively.[4]

Although the generating capacity has expanded, the potential demand by residential and industrial customers is more rapidly increasing. Furthermore, since hydroelectricity takes 38% of total capacity, the imbalance in supply and demand occurs in reverse directions during the wet and dry seasons. In the wet season, power is relatively enough and sometimes redundant as hydro plants run their full capacity. In the dry season, supply shortage is serious when hydro plants are perfunctorily operating.

The National Electricity Development Plan for 1996-2000 takes into account the prospect of 2010 (Flow Chart V) as approved by the Prime Minister in September 1997 and foresees the possible shortage of power, and hence, estimates an additional capacity requirement of 15,261 MW in 1996-2010 to reach the total capacity of 19,000 MW by 2010. Based on this Flow Chart, Vietnam Net notes that an increase of 8,000 MW in capacity during the ten year period (1996-2006) is too low compared to that proposed by the Plan.[5]

Most recently, the National Electricity Development Plan for 2006-2015 taking into account the prospect of 2025 (Flow Chart VI), as approved by the Prime Minister in July 2007, forecasts an increase of 17% per year in the power demand under the main alternative. To meet the rapidly increasing demand, an additional capacity of 14,581 MW is expected in 2006-2010 and 34.163 MW in 2011-2015.[6] Promoting reforms in the industry to tap the financing channels for investment and enhancing efficiency by strengthening competition becomes a top priority.

Development of power market in Vietnam: A three-phase route

At the end of 2004, the Electricity Law was passed to create the legal framework for comprehensive reforms in the electricity industry focusing on the development of a competitive power market.

According to the Law, the development route of the power market in Vietnam includes three phases. The first phase is to create competition in generation activity. Power plants will have to compete to sell power to a Single Buyer. The Single Buyer then will sell power exclusively to distributors and

[2] Hiep Phuoc Power Plant was invested by Taiwan. Phu My 2.was invested by EDF (France), TEPCO and Sumitomo (Japan). Phu My 3 was invested by BP. At this time, a mass of independent hydro and coal thermoelectricity plants are invested by domestic firms (including state corporations like Song Da, Coal and Mineral, Gas and Oil, and private companies).

[3] World Bank in Vietnam, Electricity Industry Development Strategy: Reform and Growth Management, 2006, p. 14.

[4] World Bank, World Development Indicators, 2005.

[5] VietnamNet, "10 nam phat trien, tong cong suat dien chi tang... 8.000MW".

[6] The Prime Minister, Decision on Approval of National Electricity Development Plan for 2006-2015 taking the prospect of 2025 into account, 110/2007/QĐ-TTg, 18/7/2007.

large industrial customers. Hence, in this phase, there will be neither competition in purchasing by distributors nor competition in purchasing by final users. The first phase is expected to last from 2009 to 2014.

In the second phase, the Single Buyer model will be replaced by the wholesale market. Many distribution companies will compete to buy power from many plants under an open mechanism, whereby all power plants will be able to offer electricity in the national network, and all distributors will bid for power from the network. Thus the wholesale competition will be fully in place, while distributors will be able to hold their monopoly position in the retail market. The competitive wholesale market is expected to be developed between 2015 and 2022.

In the third phase, expected to start in 2023, power plants will compete to sell power to final users directly or indirectly via distributors at their disposal. Competition will be fully in production, wholesale and retail activities. The transmission and co-ordination system characterized by its natural monopoly will be run as an independent state-owned company.

Building a power market: similarities and differences across countries

All countries except the USA, Japan, Germany, and Spain, both developed and developing, built their electricity industries in the first phase as a vertically consolidated model from generation to transmission and distribution in the form of a state-owned monopoly.[7] In the last two decades, many countries reformed their power system in the principle of market-oriented competition. The standard path of reforms is to separate production, transmission, and distribution activities, create markets for potentially competitive operations, and establish independent regulators whose function it is to monitor competition and regulate power rates.

Up until now, only U.K. (and then Chile) has successfully developed all above steps in a short time. The previously state-owned utilities were divided into competing generation companies. Distribution companies were established to sell power in regions. The transmission system has been run by state-owned enterprises. Generators and distributors have to trade power at auctions in a "pool power" or under long-term contracts. Large consumers now can buy power directly from generators through this "pool power". The Electricity Regulation Office was established as an independent agency to monitor collusion by generators and distributors, and regulate power rates in case of business operations being affected by natural monopolies.

The success of the power market development in this standard model is measured by decreases in power rates as a result of competition enhancement. Although there were many external impacts such as decreases in fuel (coal and gas) costs, researchers agreed that sharp decreases in U.K. power rates in the 1880s were attributable to market-oriented reforms.

The U.K. experience suggest that reform success depends heavily on the development of a legal framework and new institutions, especially independent and competent regulators. The power crisis occurring after reforms in California, USA in 2000-01 and in Europe in 2004 shows that even developed countries have a difficult time holding to all these conditions.[8]

The reality of reforms in various countries also suggests that conditions of and pressures on the power system are different between developed and developing countries. The electricity industry in developed countries runs a surplus of generating capacity while the demand is only moderately increasing. A target of the power market development is to ensure that the power rates are competitive.

In developing countries, institutional capacity is often not able to meet the requirements for regulating the power market. Furthermore, their conditions are quite different. For rapidly growing economies like China and Vietnam, the power system is always overloaded due to high speed

[7] World Bank, Infrastructure Reform: Privatization, State Regulation, and Competition, 2004, p. 134.
[8] Ibid.

industrialization and increasing income levels. In other countries like India and Brazil, power rates are set by the government below the level sufficient to cover the cost of power development in the long term. Reforms in developing countries, thus, should be carried out step by step depending on the specific conditions of the industry, rather than in only one step.

For countries where the power rates are heavily subsidized, and hence, need to be adjusted upward to cover the long-term investment costs, the route of reforms usually starts with privatization of distributors to remove their monopoly position and create an upward pressure on efficiency. In contrast, for countries with excess demand, competition in generating activities should be given with top priority.

An electricity trading company: the Single Buyer model to promote competition in generating

According to EVN, the Electricity Power Trading Company model it proposed is the first step in the first phase of the power market development. This firm will play the role of the so-called Single Buyer in reform terminology, buying power from generators and selling it to distribution companies. When negotiating purchase contracts with generators, the firm will help generating investors to reduce the market risk and the risk of unreasonable price regulation. This model can be quickly developed without difficult adjustments in institutions or operations of the power system. Most importantly, recent years have witnessed the operations of independent foreign-invested power plants in the forms of BOT and BOO. Recently, EVN has also promoted equitization in their plants, while many new generators have been developed by local investors. The engagement of independent power plants in generating activity creates the demand for and the foundation of the competitive generating market development with the Single Buyer model.

In its initial proposal, EVN wants to create an electricity power trading company (EPTC) for profit seeking. Beside EVN holding 51% of charter capital, other shareholders include Gas and Oil Corporation, Mineral Coal Industry Corporation, Song Da Corporation, Postal Telecommunication Corporation, Machinery Installation Corporation, Cement Corporation, and Steel Corporation.

Thus, EVN and many power plants behind it have not only shareholdings but also dominant shareholdings in EPTC. As both a buyer and a seller of power, EPTC has incentive to buy power favorably from generators which its main shareholder owns, rather than competitively in the market. As a result, not only may existing dependent power plants be unfavorably discriminated against but also the structure may discourage potential investors. That is why a new trading company should be separated from EVN and power plants. (See Appendix 4.)

Moreover, the join-stock company model often secures the market competitiveness and keeps the single buyer's financial stability only if the generating capacity runs a surplus and the demand increases moderately as they are in high income countries (Italy or United Arab Emirates as illustrated by EVN for its proposal is the case.) For countries in serious shortage of supply, the power trading companies hold a very weak position in negotiation for power rates with generators, especially in long-term purchasing contracts. Even California, USA, where the demand for power increased sporadically at the beginning of the 21st century, fell into escalation of power rates while blackouts were pervasive after a period of developing a competitive market.

In a meeting held by the Electricity Regulation Office, Ministry of Industry, in the middle of July to collect comments from central agencies on the EPTC project, EVN posed another alternative to avoid a conflict of interest whereby ETPC, still being a joint-stock company, would have none of EVN's stakes.

This adjusted model helps separate the buyer from the seller. However, a potential risk of the joint-stock company model is the financial risk when the buyer negotiates to buy power from generators. Recall that one target of market development is to encourage new generating investments. A joint-stock buyer may hardly have creditworthiness and financial strength like EVN so that generating investors would be confident to enter into long-term sales contracts.

Furthermore, the Electricity Law stipulates that the government should hold the monopolistic position in transmission and co-ordination. The creation of a Single Buyer is likely to result in the duplication of the co-ordination and balancing functions. Will generators have incentive to negotiate truly with EPTC or ignore the firm and arrange directly with EVN, the controller of transmission and co-ordination system and distributors? Will EVN, not holding shares in EPTC, want to help EPTC enhance its capacity or let it be an entity in name only?

Unlike EVN, the structure of the power trading company recommended by the World Bank is a non-profit state-owned enterprise (SOE) controlling the transmission and co-ordination system. This structure will enable EPTC to be strong enough to negotiate power purchases from generators and avoid form duplication in co-ordination and balancing. Other concerns about the legal document system, policies, human training, and infrastructure not being sufficient to run the joint-stock company model as pointed out by the Ministry of Industry will be overcome.

What advantages does the non-profit SOE model have compared to the existing one? EVN is now the de facto single buyer. Looking at experiences in other countries, the reason for the creation of a new buyer is that the existing national utility running as a consolidated firm will be divided in the market development path.

Power plants will be taken out from its parent to sell power competitively in the market. Next, distributors will be separated in the route of reforms. The single buyer model is simply to prepare for the development of a competitive wholesale market where distributors are able to negotiate directly with producers. Then, the parent company has no reason to exist. The function of government capital management in separated companies will be transferred to a government capital management agency, while the function of governance will belong to the Electricity Regulation Office.

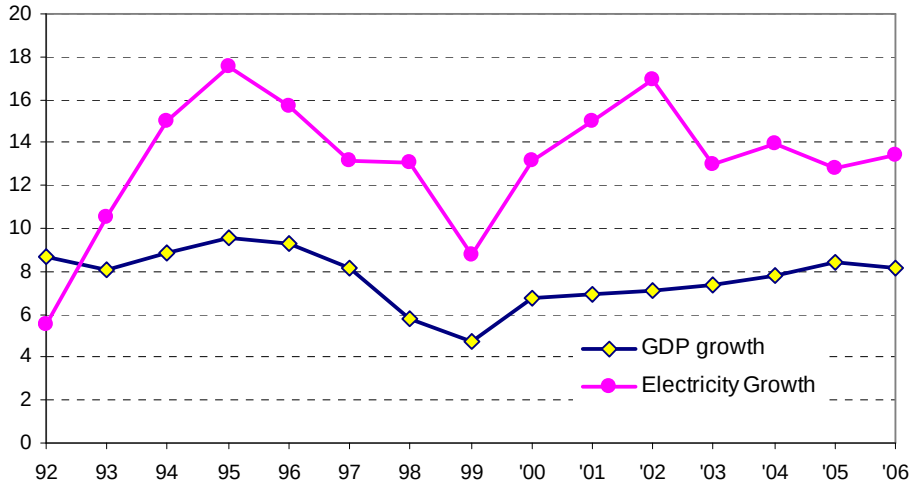
It is what China did in 2002 with the disintegration of the State Power Company (SPC) and the creation of generators and distributors under the control of the Asset Management and Monitoring Committee belonging to the State Council. In Poland, as put forward by EVN as an illustration for its proposal, the single buyer Polskie Sieci Elektroenergetyczne was established from the state-owned consolidated utility after generators and distributors had been separated and privatized

As to further perplex the matter, comments from government agencies are in contrary about the number of buyers. Many industries and the public opinion propose many buyers are needed to have true competition. Another solution is to create a buyer in parallel with EVN, and both will be entitled to trade power. Then the Electricity Regulation Office will be responsible for regulating price and output delivered to regional distributors.

In its part, EVN insists on creating only one buyer to be sure of its financial strength. The creation of many buyers as proposed by public opinion requires prerequisites of the legal document system, policies, human training, infrastructure... The existence of many buyers may lead to struggling for trading. As for EVN, this can be done only after a competitive wholesale market is fully in place in 2014.

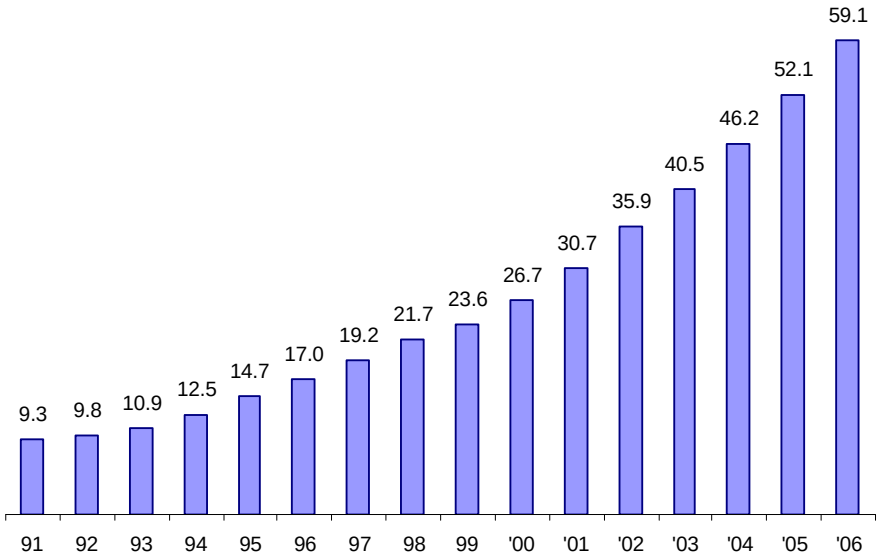
Facing contrary comments, the Prime Minister has asked the Ministry of Industry to preside and co-ordinate with competent agencies to consider the Single Buyer project to submit for his proposal at the end of July, 2007.

Appendix 1: Electricity and GDP Growth Rates (%)



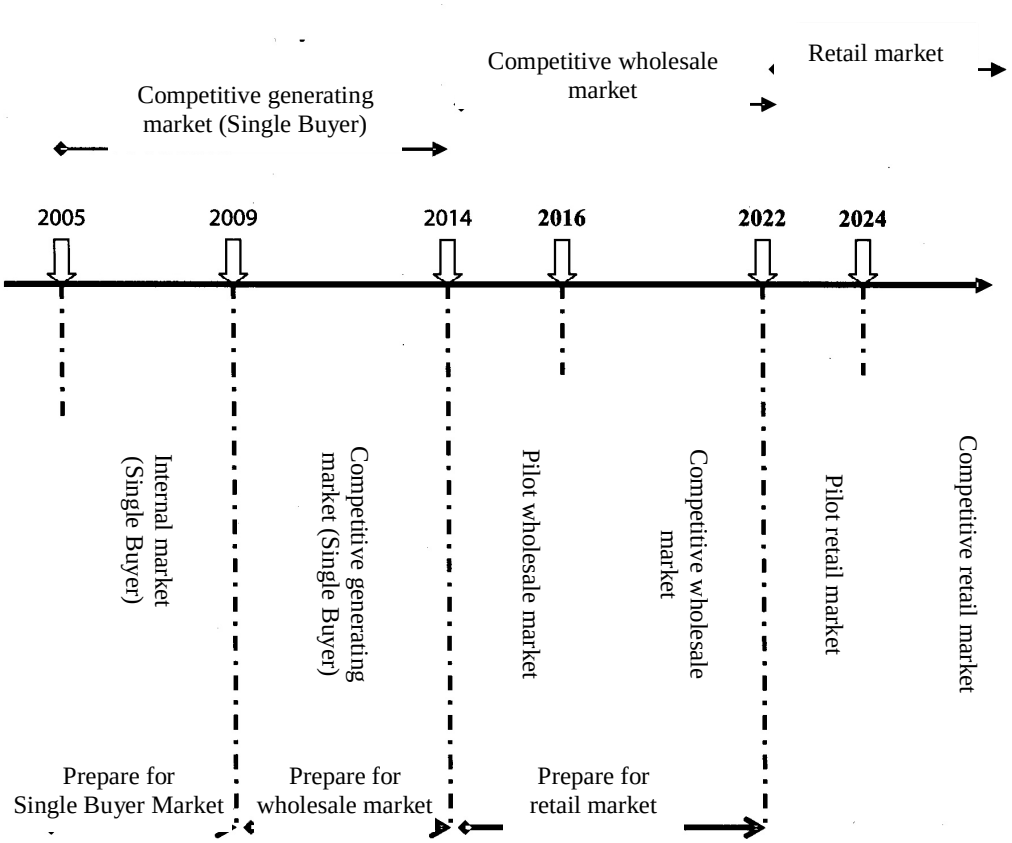
Source: General Office of Statistics, Vietnam Statistic Yearbook, many years.

Appendix 2: Electricity Production (millions of kWh/year)



Source: General Office of Statistics, Vietnam Statistic Yearbook, many years.

Appendix 3: Vietnam's Electricity Market Development Roadmap



Source: Proposal for reform path by the Ministry of Industry, April 2005. Quotes from the World Bank, Electricity Industry Development Strategy: Reform and Growth Management, 2006, p. 40.

Appendix 4: Letter from Martin Rama, Acting Representative of the World Bank in Vietnam to the Ministry of Industry and the Ministry of Planning – Investment

We would like to express to you our reservations about the recent proposal by Electricity of Viet Nam (EVN), in concert with several other State-owned enterprises, to create Single Buyers for electricity as profit-seeking joint-stock companies.

At this time, it is important not to lose sight of the objectives of reform behind the creation of Single Buyers. We understand them to include the development of a power market, ensuring security of supply, attracting investment in generation, exerting downward pressure on tariffs and reducing the burden of the State in financing the power sector. A suitable Single Buyer design is central to the achievement of these aims.

Single Buyers are centralised purchasing agencies, acting on behalf of the State. They buy power from generators for users, which are typically the power distribution companies and large consumers. The Single Buyer model has been chosen for Viet Nam because the distribution companies are not expected to have the capacity or experience to deal in the wholesale market during the early stages of market development. Single Buyers are also intended to give generators confidence that they will be paid for electricity delivered to the power buyers, which may not be creditworthy in their own right. It is a transitional phase, expected to last eight years at most between 2009 and 2017 before wholesale competition is fully in place.

There are two main reasons to believe that a profit-seeking Single Buyer owned by companies that also own or operate generation plants is undesirable. The first is that it creates a substantial conflict of interest. The same entities will have interests in both the sale of power, through ownership of generation, and the purchase of power, through ownership of a Single Buyer. One consequence of this conflict of interest may be to discourage new entrants to the electricity generation sector in Viet Nam as they may perceive a Single Buyer will give preferential treatment to the power plants belonging to its owners. A company that does decide to invest in generation would most likely require a long-term power purchase agreement to mitigate the effects of the conflict of interest.

A second consequence is that an existing generator not also an owner of a Single Buyer will be at risk of discrimination in favour of generators that are. A third consequence of the conflict of interest will be that owners of a Single Buyer may be able to collude in bidding to supply new power generation, especially if other potential investors do not bid. We believe the outcome will be to drive up the price of power for consumers while failing to obtain the much-needed investment in the sector.

The second reason to believe that EVN's proposal is of questionable merit is that the Single Buyer is proposed to be a for-profit entity independent of the other services such as market and system operation and transmission services. This is likely to result in duplication of some functions, such as dispatch co-ordination, thus adding to costs. Yet a Single Buyer should seek to minimise costs. Moreover, in seeking a profit for its owners, a private Single Buyer will pass extra costs on to consumers and having incentives to maximise profits may go beyond the nominal 5 per cent proposed.

Last, a joint-stock company with limited liability might not give generators sufficient confidence of being paid and they would again seek guarantees from the State, thus adding further to cost. Taken together these points to the distinct possibility that any reduction in electricity prices for consumers will fail to materialise.