1. Power Generation, Tranmission and Distribution (ELP)

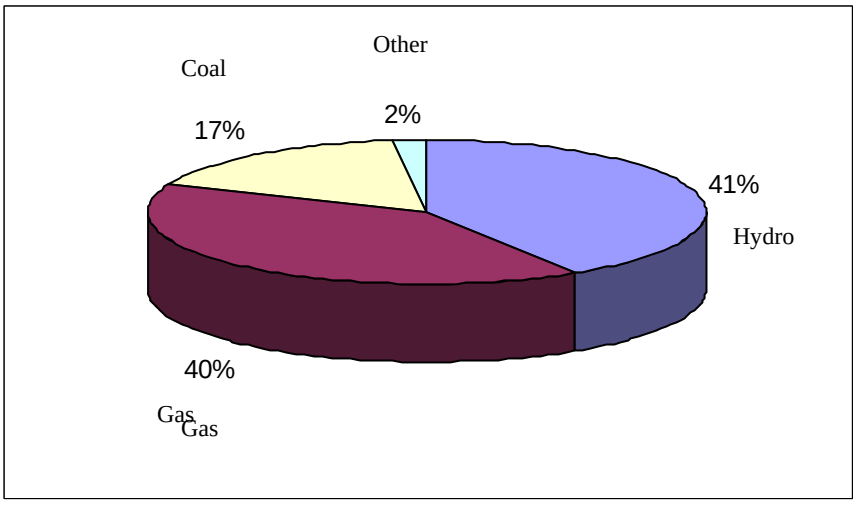
Overview

	2003	2004	2005 (estimated)
Total Market Size	1,670	1,920	1,700
Total Local Production	334	384	400
Total Exports	N/A	N/A	N/A
Total Imports	1,336	1,536	1,300
Imports from the U.S.	65	80	70

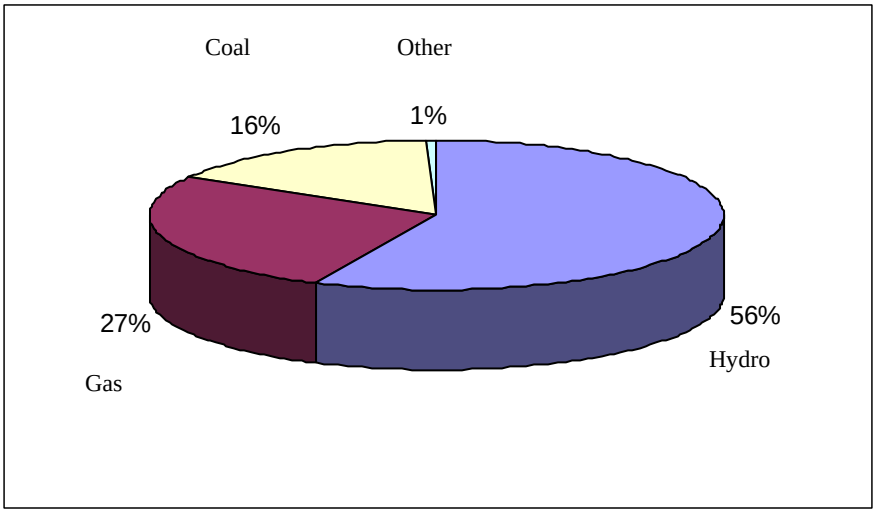
Remarks:
* The above statistics are in USD millions and are unofficial estimates
* Total market equals imports plus local production minus exports
* 2005 figures are down from 2004 due to certain project delays

The power sector represents one of the most promising areas for U.S. commercial interests in Vietnam. The Government of Vietnam is seeking to encourage foreign investment in electric generation projects, although the sector remains largely under the control of Electricity of Vietnam (EVN), a state-owned monopoly with 52 subsidiaries, which is in turn overseen by the Ministry of Industry (MOI).

During the period from 2001 – 2005, demand for electricity grew faster than projected, achieving average annual growth of 14.7 percent. Based on continuing strong energy demand, combined with forecasted annual GDP growth rates of about 7 – 8 percent over the period of 2005 – 2010, Vietnam's Ministry of Industry estimates the demand for electricity will grow annually by 15-17 percent over the next five years. Economic expansion, rising living standards, increasing consumerism, accelerating industrialization, and Vietnam's plan to increase the electrification rate in rural areas from the current 91.25 percent to nearly 100 percent by 2020 is fueling strong energy demand.



Composition of Power Generation Capacity in 2004



Composition Forecast of Power Generation Capacity for 2010

In 2005, Vietnam's total power output was estimated at 53 billion kWh, an increase of 13.73 percent in comparison to 2004. This figure is expected to rise to over 61 billion KWh in 2006. As of early 2005, there were 28 major power plants with a total capacity of 11,200 MW in operation in Vietnam. EVN estimates that the total power loss rate in the industry was about 13 percent in 2005. EVN is striving to improve its efficiency by reducing the total power loss rate to ten percent in 2010 and eight percent in 2020.

According to the Vietnamese Government's Power Development Master Plan V, to meet the growing demand for power estimated at 53 billion kWh in 2005, 89-93 billion kWh in 2010, and 160-220 billion kWh in 2020, an investment of $19-20 billion from 2005 –2010 will be needed. Achieving this goal would require development of approximately 32 to 37 new power generation projects, totaling 12,400 MW in capacity, including up to 20 hydroelectric plants with 4,000 MW in generating capacity; eight gas or oil power plants (5.200 MW); and seven coal-fired plants (3,200 MW). Implementation of these projects would also require construction of about 400 km of 500kV transmission lines; 2,639 km of 220 kV transmission line; eight 500 kV substations with a total capacity of 4.200 MVA; 43 220 kV substations with a combined capacity of 7,689 kVA,; together with 300,000 km of low and medium voltage distribution lines.

In addition to large power generation plants, since 2002 the government has encouraged the development of small- and medium-sized hydropower plants by both the private and state sectors. To date, MOI has received about 173 applications for building small- and medium-sized hydropower plants, mainly from local developers, with a total capacity of 2,296 MW. As of 2004, about 111 projects of this type had been implemented.

In 2006, EVN is planning to invest about $2.38 billion in a number of electric power projects, including Se San Hydropower 3 (commissioning turbine 1); Tuyen Quang Hydropower (commissioning turbine 1); Phu My and Ba Ria Power Complex (increasing the capacity); and a 220 kV Transmission Line to China (completion).

The primary sources of finance for investment in the power sector are official development assistance (ODA) grants and loans committed by such international donors as the World Bank (WB), Asian Development Bank (ADB), as well an from various foreign governments and the Vietnamese government's budget and government bonds. Other crucial sources of finance over the next decade may include foreign suppliers' credits and EVN's retained earnings. Recently, local commercial banks have been active in providing finance for power generation projects developed by EVN and other state-owned enterprises.

Another source of finance is from the privatization of several EVN power plants and power distribution companies and power engineering firms. During 2005 – 2007, EVN is planning to privatize or sell its stake in a number of its power plants, including Vinh Son, Song Hinh, Pha Lai, Ninh Binh, Uong Bi, Baria, Thac Ba, Ham Thuan – Da Mi, Thac Mo, Se San 3, Quang Tri, A Vuong, Buon Kuop, Buon Tua Srah, Dong Nai 4, Hai Phuong, Quang Ninh and others to raise about $900 million.

While the Vietnamese Government's plans for developing the power sector are quite ambitious, firms seeking opportunities in this sector should be aware that actual implementation has lagged behind the planned number of projects due to a shortfall in investment capital, as well as lengthy delays in the bidding and construction process.

Vietnam's current financial capability only meets 30 percent of the required total investment capital for the power sector. To attract the necessary capital, the power generation sector will be opened to foreign and domestic investors to develop Independent Power Producers' (IPP) projects under various forms of investment such as Build-Operate-Transfer (BOT), Build-Transfer (BT), Build-Transfer-Operate (BTO), Joint Stock Companies, and Joint Ventures (JVs). IPPs currently generate only about 6.9 percent of total power supply output. The Government has decided to allow up to 35-40 percent of the national total generation capacity to be in the hands of IPPs, among which foreign owned plants are permitted to generate at most 20 percent.

This program of liberalization could present significant sales and investment opportunities for U.S. companies. Implementation, however, is expected to progress slowly. In 2005, EVN established a list of 15 BOT power plant projects with a combined capacity of 11,776 MW calling for foreign investment. These power plants will be located in the following power complex: Nghi Son Coal Power Complex (3,000 MW), Nhon Trach Gas Power Complex (2,400 MW), Mong Duong Coal Power Complex (2,000 MW) and Vung Ang Coal Power Complex (2,000 MW) and some others.

To date, only a few foreign BOT and IPP power plants have been developed in Vietnam including Hiep Phuoc (375 MW), Phu My 3 (720 MW), Phu My 2.2 (720 MW), Nomura (58 MW), Vedan (72 MW), Amata (12 MW), Holcim Cement (33 MW), Bourbon (24 MW), and Formosa (150 MW), generating about 13.46% of the total national power output in 2004. In 2005, several American companies have shown an interest in developing coal and gas fired power plants.

Best Products/Services

The power generation market may be divided into five main segments: (1) consulting and engineering services, as well as project management, (2) installation and

construction services, (3) machinery, equipment and materials, (4) supply of equipment, spare parts, materials, consumables, and overhaul and maintenance services (aftermarket), and (5) investment in new IPP power projects in the form of BOT, BT, BTO and JV.

The power transmission and distribution market may be divided into four main areas: (1) consulting and engineering services, project management, (2) installation and construction services, (3) high, medium, and low voltage electrical equipment for the national grid, and (4) medium and low voltage electrical equipment for industrial, institutional and household users.

American companies will find significant business opportunities in the above market segments.

Specific Opportunities

- Sales opportunities in 33 ongoing and 28 upcoming power generation and transmission projects (a specific list of these projects will be provided upon request).

- $327.8 million Second Transmission and Distribution Project II funded by the World Bank ($200 million) and the Vietnamese government (approved in July 2005 and to be completed in December 2010). For more information, please visit: www.worldbank.org.am/external/default/main?pagePK=64027221&piPK=64027220&theSitePK=301579&menuPK=301612&Projectid=P084871

- $380 million Northern Rural Power Project funded by ADB ($120 million), AFD (EUR0 40 million) and the Vietnamese government ($103 million). This project was approved in August 2005 and is to be completed in June 2009. For more information, please visit: www.adb.org/Documents/Profiles/LOAN/32273013.ASP

Resources

The following websites might be valuable resources for U.S. companies interested in exploring business development opportunities in Vietnam's electric power industry.

Electricity of Vietnam Corporation (EVN)
http://www.evn.com.vn

Ministry of Industry (MOI)
http://www.moi.gov.vn