

Asia Power Market: Rebounding at a Pace of Its Own?

Working Together Stimulates Growth Opportunities

Asian economies are still showing remnants of the impact of the Asian Financial Crisis of 1997-98. As these economies bounce back, it is up to their power industries to match the electricity demand required by the current and future economic growth. Lance Hardesty, Vice President of management consulting and engineering firm R. W. Beck's Singapore office, examines the moves being undertaken by countries in the region as they attempt to ramp up their individual power sectors.

Photo: Bloomberg

Just a stone's throw away from the Ratchaburi power complex in Ratchaburi, Thailand; the old and new come together. This complex, one of two near Ratchaburi, stands majestically near a famous Buddhist temple and farm land. This is the 21st century picturesque setting that embodies the dichotomy of how the Asia Power market is taking shape. A culturally and economically diverse region, the Asia power market is steadily blending with the old and new. It is making strides towards progress and, with such developments,

new market opportunities are unfolding.

Following the Asian Financial Crisis in 1997-98, many believed that the region was due to rebound economically. However, it seemed to be progressing more slowly than first thought by economists.

Today the market, although it varies somewhat by each country, shows great promise that is attracting both developers and lenders alike.

Burgeoning privatization programs and

growing demands were two leading indicators impacting the region, which is among the most economically diverse in the world.

The economies in this market range from developing to post-industrial, but a common thread links them all – they are all growing and there is a need for the power to achieve the projected rate of economic growth.

Two of the biggest energy issues for the entire region, spearheaded by the Association of Southeast Asian Nations (ASEAN) (a consortium that includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar (Burma), The Philippines, Singapore, Thailand and Vietnam), involve progress of the Trans-ASEAN gas Pipeline and ASEAN Power Grid.

Proving that there is more power in numbers, the ASEAN organization allows the 10 countries (population 500+ million and collective GDP of US\$750 billion) that are members to pool together their resources to accomplish mutually beneficial projects and programs, such as the reduction of duties/tariffs between ASEAN participating countries and joint naval exercises to make surrounding waterways safer. This trend to work as a unified force bodes well for the countries of Southeast Asia and their future.

It wasn't but five or six years ago when the lack of power and other industrial projects in this region of the world caused many developers to seek projects elsewhere. The present outlook is more optimistic with limited new power projects being initiated to meet economic growth projections plus physical power demand increases in countries such as Thailand, Indonesia and selected areas in the Philippines. On a regional basis, emphasis needs to be placed on construction of electrical transmission infrastructure, not just new power plants. As seen in Indonesia in the late 1990s, construction of new power plants caused transmission constraints.

In addition, each country has its own plans for the energy market. Here's a look at the status of some of the markets:

- China: This country is forecast to be the largest market for power equipment in the world. Industry experts concur that, with the basic balancing of power supply and demand in the coming years, investment in T&D

in its six regional grid systems spread out among 20 provinces must become a priority. Investment in power grid construction during 2004 was estimated at 110bn yuan (US\$13.2billion), and increased to 140 billion yuan in 2005. This year, the amount of investment in power grid construction will surpass money spent on building power plants. However, due to the sustained power development program implemented with China's continued independent outlook. China is expected to face a supply surplus in the next five years. Look for China to turn their exporting towards both power plants and power. Rapid development of new power sources has significantly inflated the prices of power plant equipment by as much as 30-40 percent. The rise in cost and the accelerated competition in the future power market will cast a foreboding shadow over the benefits that investors could derive. Since the early 1980s, growth in demand, in China, has averaged 8 percent per year, which equates to an annual addition of about 15 GWe, but still almost 100 million rural people still have no power. This growth is a significant driver for China's interest in renewable energy technologies, such as wind and solar. With production volumes in each grid now relatively large, challenges include: supplying power to rural customers; managing the operational problems associated with large dispatching systems; and delivering the supply reliability required by industrial customers. This growth has physically manifested itself in that China is now a net coal importer rather than exporter. As China's demand for raw materials such as natural gas, coal, steel, copper, aluminum and crude oil increases, the impact to international markets is yet to be manifested, especially if China chooses to start exporting power plant components.

- Indonesia has been battling a power crisis since the end of the Asian Financial Crisis. The state-owned electric utility, Perusahaan Listrik Negara (PLN), operates more than 600 separate, unconnected T&D systems that produce approximately 21.4 GW, to service Indonesia's many islands. PLN has been

trying to connect 100 percent of villages, but has an enormous debt of US\$5 billion, which is now three times larger in Indonesian rupiah since the 1997 exchange rate collapse. PLN is committed to pay several billion U.S. dollars annually to Independent Power Providers (IPPs), some of which have “take or pay” contracts for 30 years. Progress has been made in several areas of infrastructure development including: adopting laws that have strengthened the legal framework for oil/natural gas and electricity, raising tariffs for electricity from 2 cents/kW to 7 cents, and renegotiating 27 IPP contracts without disputes. A key problem for Indonesia is not lack of demand, only 53 percent of the nation has electricity – this is among the lowest percentage in Southeast Asia. However, the problem is the reluctance of foreign investment due to PLN power purchase agreements not being guaranteed by the Indonesia government. In addition, a large percentage of Indonesian power is generated by fuel oil, which is one of the most expensive fuels by which electricity can be generated. To cover this high cost, PLN is forced to subsidize power sold to consumers. Indonesia is looking to develop more natural gas and coal-fired power projects to take advantage of indigenous natural gas and coal resources rather than exporting these to other regional consumers. However, the prices received in recent Purchased Power Adjustment (PPA) bids have been very low resulting in lessened interest by foreign investment, with the possible exception of China and a few regional bidders. Ironically, while Indonesia holds significant coal and natural gas resources, the majority of its energy needs are met by a more expensive and imported sources of fuel.

- The Philippines’ energy sector has been consumed with privatization matters in recent years. Plans were in place to privatize transmission assets (called Transco and owned by the National Power Corp. aka Napocor) on a cluster or plant-by-plant basis without giving a single owner too much controlling interest. That plan was put in place

to encourage competition and to reduce the debt Napocor incurred, which was reported to be more than \$700 million annually. The target date published for completion was 2009. Privatization may be an answer for the Philippines to resume construction of the much-needed power facilities. The Philippines is also seeing a renewed interest in bio-fuels associated with the sugar cane industry.

- Singapore, much like neighboring Japan and Australia, has privatized its system. There are six retailers in place (all ultimately owned by Temasek, which owns and manages the Singapore Government’s direct investments), but competition between retailers is fierce for market share due to Singapore’s overbuild situation. In 2007 this market may also see the first “non-Temasek” power generator enter in the form of Intergen’s Island Power. The one constant that can be counted on in the Singapore power market will be continued competition.
- Thailand: Thailand trades electricity with neighboring Laos, Myanmar (Burma) and Malaysia. There were agreements to expand electricity trade to the equivalent of more than 6 GWe of capacity. The electric utility structure is essentially a state-owned generation/monopoly transmission company, the Energy Generating Authority of Thailand (EGAT), selling wholesale to two state-owned distribution companies, the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA). The generation sector has seen some liberalizing reform with the introduction of IPPs, small power producers, a partially privatized subsidiary of EGAT and interconnections into Laos and Malaysia. Thailand reported over-capacity that was more than sufficient to meet demands until about 2007, when plans were in place to transfer funding needs to the private sector. More than 98 percent of Thailand’s villages were electrified and new power projects had begun and were expected between 2006 and 2009. In the late 1990s Thailand enjoyed substantial foreign investment in IPPs, with the bidding process being managed by EGAT. The Thai

government had planned to privatize EGAT in 2005 or 2006, but this effort was overturned in the courts. While the next round of IPP bids has seen significant delays, EGAT has stepped in and begun building power plants to fill the demand. The role of EGAT and EGAT subsidiaries in the IPP process is not finalized at this time. Due to the majority of power generation being generated by natural gas, EGAT is looking to promote hydroelectric power utilization from Laos and Myanmar, in addition to state-of-the-art coal power plants and renewable energy. The power project financing market in Thailand has seen an increased utilization of "in-country" banks and export credit agencies to meet funding requirements. Depending on levels of in-country funding resources consumed by the re-construction effort, this may open Thailand to greater levels of participation for foreign investment institutions. In the meantime, developers and financiers alike are waiting for the "second wave" of IPP projects with anticipation.

- Vietnam has made considerable increases in power generation with a portfolio of coal, hydroelectric and natural gas power generation. The resounding reason for the growth is to meet energy requirements for in-country manufacturing. Since trade laws were passed in 2000, doing business in Vietnam has become easier and, as such, the power sector has prospered. Based on the needs for power in the country, Vietnam is cautiously being viewed as an area for foreign investment. The main challenge for Vietnam will be to balance investment in transmission infrastructure with new power generation, especially with regard to connecting the northern and southern portions of the country with a power grid "backbone."

Overall, if you look at the diverse nature of the Asian power market, each area has its own challenges ranging from oversupply to under supply and residential need versus industrial demand. As new development takes place, those participants with the greatest level of patience and open-mindedness with regard to project structure will find the greatest level of success.

Those positioned in the Asian market and willing to work and assist with the goals and objectives of the host country could see Southeast Asia become a robust center for new projects.

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