

## Myanmar's Energy Sector: Poised for Boom?

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Myanmar is one of the fastest growing countries in Asia, with annual GDP growth now over 6%. McKinsey, a leading management consultancy, has stated that the country could potentially grow at 8% annually until 2030, more than doubling the size of the economy from about US\$80 billion today to about US\$200 billion in 2030. This acceleration in economic growth is attributed to the political and economic reforms that the country has carried out over the last few years.

Today, Myanmar has reinvented itself as an attractive investment destination. Foreign direct investment grew from US\$860 million in 2008 to over US\$1 billion in 2013.

Myanmar is blessed with abundant energy resources. The country has proven hydrocarbon reserves of about 11.8 trillion square feet (predominantly natural gas), which places the country in 34th position globally among countries endowed with oil and gas resources. The country also has an estimated 488 million tons of coal, although this is not yet proven, but production has risen significantly over the last decade or so. Myanmar also has massive hydropower potential, with an estimated capacity of 100,000 megawatts of electricity. The country also has abundant carbon-neutral biomass, potentially a clean and renewable fuel that could be harnessed for operating low-carbon energy systems.

Yet, the country faces serious energy challenges in both the near and long term. Its ranking in the International Energy Agency's Energy Development Index, a measure of countries' energy deprivation, stands at 61 out of 64 countries assessed. The overall electrification rate in Myanmar is only 13%, the lowest in the ASEAN region, with rural electrification at only 10%. In all, there are about 43 million people without access to electricity.

The hydrocarbons sector, both the upstream and downstream sub-sectors, has been largely state-controlled since the nationalization of Burmah Oil Company and other operators in 1962. The Ministry of Energy today oversees the sector through three 100% owned 'enterprises' focused on the upstream, downstream and retailing of hydrocarbon products, respectively.

In the first couple of decades after nationalization, the state-owned enterprises avoided all international collaborations and focused on functioning independently. Since 1988, however, and especially in the last 5-8 years, the government has encouraged collaboration with international oil companies (IOCs) through production-sharing contracts, with the objective of gaining access to cutting edge exploration and production technologies and techniques.

Most recently, the Ministry has invited foreign companies to conduct offshore petroleum exploration and production activities in shallow and deep waters on a production sharing basis. Winning bids are to be announced in November 2013. Ministry statistics from 2012 indicate that there are already 8 and 12 IOCs working in onshore and offshore blocks, respectively.

In the electricity sector, Myanmar has about 3,500 MW of installed peak capacity, of which 76% is generated from hydropower with the rest coming from gas and steam (using coal). It is reported, though, that much of this capacity is largely unavailable for most of the year due to the vagaries of the monsoon, resulting in chronic shortages of power and inability to meet demand.

The Ministry of Electric Power expects the demand for electricity to grow by about 15% annually over the next few years, imposing further strain on the generation system. Ambitious investment plans in generation, transmission and distribution infrastructure over the next few years have been announced and are expected to address the deficit situation in the electricity sector.

Investment and co-operation from international investors and governments will play a big role in whether Myanmar can achieve its goals. Myanmar is preparing to assume the ASEAN Chairmanship in 2014. This will require the country to play an important role in leading ASEAN towards the ASEAN Economic Community (AEC), due to be established by 2015. Key energy components of the AEC are the ASEAN Power Grid and Trans-ASEAN Gas Pipeline, both ambitious projects launched to improve energy interconnectivity among the ASEAN countries.

Despite the surge of foreign investment into the country in recent years, problems remain. The country's poor financial infrastructure does not have the capacity to absorb the influx of dollars. Most financial transactions within the economy are conducted in cash and the banking sector remains a marginal actor. Endemic institutional corruption is also a deterrent to foreign investors. It remains to be seen whether Myanmar can reform its institutions and rules fast enough to keep pace with growth.

In the short term, Myanmar's development strategy includes the creation of special economic zones (SEZs). There are currently three SEZs under development in Myanmar: Dawei SEZ, Thilawa SEZ and Kyaukpyu SEZ with investments from Thailand, Japan and China, respectively. Most recently, India has offered US\$150 million to begin establishing a fourth SEZ in the city of Sittwe.

A report by *ASEAN Briefing* notes that the Kyaukpya SEZ will see an oil and gas terminal financed by the China National Petroleum Corporation. It is currently in the final stages of construction, and involves a

800-km pipeline linking Myanmar and China. A container port and gas-turbine power plant are also under development. The Kyaukpyu SEZ has been attractive to Chinese investors due to its strategic location, i.e., the fact that it is the quickest trade route by sea between India and China. Extensive rail and air infrastructure are also being built in the region to increase the linkage between China and Kyaukpyu. Once completed, this SEZ is expected to rival Singapore as the region's petrochemical hub. Due to past sanctions, Myanmar's trade is currently heavily concentrated: 87% of its trade is with its five top trading partners of which Asia forms 60%. To diversify trade, Myanmar must build trade ties with Western countries and at the same time strengthen existing ones in Asia so as to improve its market access.

Another important consideration for Myanmar is sustainability. A global vulnerability index ranks Myanmar among the top 30 countries in terms of "extreme risk" with respect to climate change impact when considering constant exposure to climate-related natural disasters, sea level rise, human sensitivity, available infrastructure and the adaptive capacity of the government.

With its increasingly proactive efforts to attract FDI, Myanmar faces the unenviable challenge of balancing its rapid economic growth fuelled by resource extraction along with protecting itself from the adverse impacts of climate change in the long term.