

# Powering up for growth: An assessment of the power sector in Myanmar

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## FORESIGHT

A Global Infrastructure Perspective



Late last year, the Economist published satellite pictures of nighttime in Myanmar. The images reflect not only the country's electrification deficit, but also its economic landscape — "an area of almost uninterrupted blackness, surrounded by seas of light in India's (relatively poor) state of West Bengal, China's (relatively poor) Yunnan province and the north-west of Thailand". This would not have come as a surprise to most people, or at least to those who have not been blinded by the media glare on the rapid opening up of the country. Myanmar's per capita electricity consumption is the lowest among the ASEAN-10 countries, estimated at 100 kilowatt hours (KWh) in 2010 (approximately one-twentieth of that in Thailand).

Data is sparse, but even the most optimistic estimates say that less than 25 percent of the country has access to electric power. As would be expected, cities are better electrified with Yangon at 67 percent, Nay Pyi Taw at 54 percent and Mandalay at 31 percent. This further highlights the plight of the rural poor. Of the already low installed capacity of around 3500 megawatts (MW), only about 60 percent is reliably available. Three-quarters of this is hydropower, subject to the vagaries of rain. It is not surprising therefore that the country has to 'ration' its power supply to industries during the summer, with scheduled and unscheduled power cuts. It is not all doom and gloom though. Electricity consumption in Myanmar has doubled from 3,303 gigawatt hours (GWh) in 2000, to 6,093GWh in 2012<sup>1</sup>.

The Ministry of Electric Power (MOEP), the governing ministry for the sector<sup>2</sup>, has projected a total demand of 5,588MW by 2016. Acknowledging the critical need for industrialization to enable the country to achieve its ambitious growth targets, the government has made the provision of a reliable supply one of the focus areas of its policy framework. Currently 12 thermal power plants aggregating to a capacity of 2,288MW<sup>3</sup> and 7 hydro power plants aggregating to a capacity of 520MW<sup>4</sup> are proposed to be developed within the next 5 years. Of this, the government plans to develop 315MW of gas fired capacity and 180MW of hydro capacity. Wind capacity aggregating to 5500MW and solar of 100MW are also under consideration<sup>5</sup>. The MOEP plans to connect around 12,500 villages to the national grid in the next 5 years.

1 Source: US Energy Information Administration, International Energy Statistics.

2 Source: ADB Myanmar Energy Sector Initial Assessment, Oct 2012.

3 Source: "Demand Mapping for Electric Power & Requirements", 29 January 2013, Myanmar Electric Power Enterprise, Ministry of Electric Power

4 Source: "Strategies for Sustainable Hydropower Development in Myanmar", 29 January 2013, Ministry of Electric Power

5 Source: "Master Plan of Thermal Power to Increase Power Generation and Opportunities for Foreign Investment", 29 January 2013, Myanmar Electric Power Enterprise, Ministry of Electric Power

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### A daunting task

In trying to achieve these rather ambitious targets with limited finances and managerial capacity constraints, the sector is faced with a daunting task. To make matters more difficult, the sector lacks access to private debt, both domestic and foreign. Less than 10 percent of the population uses domestic banks for deposits and these banks are restricted from lending for tenures greater than one year. Domestic debt will remain inaccessible to project developers till the time the people of Myanmar gain more confidence in the banking system and the system itself is enabled to lend for longer tenures. Foreign banks too have not been very forthcoming with loans to the sector, primarily because of lack of clarity around access to property rights and enforceability of contracts. There is also a heightened need to be conscious of social and environmental concerns, especially for large hydro projects. There have been recent reports of the President’s office halting the development of the 800MW hydro power project at Dawei citing flooding risk to 61,000 acres of farms and lands in the area.

### Pulling itself up by its bootstraps

Great though the challenges may be, the MOEP is forging ahead with its generation and Transmission and Distribution (T&D) targets.

Multilaterals including the World Bank and the Asian Development Bank (ADB) have been actively providing assistance. The ADB together with funding support from the Norwegian government has initiated a reform and restructuring process to make the sector commercially viable. Friendly governments such as Japan are lending a helping hand. On the first visit by a Japanese leader to the country in 36 years, Mr. Abe waived off Japan’s existing loan to Myanmar, and announced a new loan of USD\$504 million to aid infrastructure development in the country. Japanese majors such as Marubeni are setting up new capacity as well as working with the government to extract more from the installed capacity. MOEP is already in talks with countries in ASEAN for their help to bring down the T&D losses, estimated around 26 percent.

Most of the upcoming generation capacity is currently being financed through BOT structures or through vendor financing. Ongoing financial sector reforms in the country are expected to progressively make it easier for domestic banks to begin providing non-balance sheet loans to infrastructure projects. Japanese, South Korean, Chinese and Thai developers are working with leading lenders in their home countries to devise financing

options for their Myanmar projects. As and when these banks have sufficient clarity to be able to price risks and begin lending, projects in the power sector would be one of the first beneficiaries. Myanmar becoming a signatory to the New York Convention in March this year was a step in this direction. Private capital is also scouting for opportunities, with specialised infrastructure funds offering mezzanine funding with some take-out arrangements post-commissioning.

The country should also look at reducing its overdependence on hydropower. Not only would this help stabilize supply, it would also help manage environmental concerns and public mistrust of large land acquisitions. Retaining a larger share of its substantial natural gas resources for its own gas fired plans and sourcing coal from the region to offer base load at relatively low costs could be possible alternatives.

Myanmar’s relatively simple industry structure under one government ministry is an advantage that the country can exploit to quickly put in place an independent regulatory framework. At the same time, the country needs to provide an enabling environment for private finance, and strengthen its T&D network.

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