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A review of energy sector of Bangladesh

Saiful Islam*, Md. Ziaur Rahman Khan

Bangladesh University of Engineering and Technology, Dhaka 1000, Bangladesh

Abstract

A brief overview of current electricity generation status and energy scenarios in Bangladesh has been presented in this paper. Being a developing country, the electric energy demand in Bangladesh has been increasing at a significantly high rate. This demand is fuelled by the sustained growth in GDP in recent years. Bangladesh Government has undertaken various projects to meet this rapidly growing demand. New policies have been drafted to cope with the challenges in the energy sector. These policies are also briefly discussed in this paper. The energy pricing issues are also touched. These policies will play a major role in ensuring energy security and in turn sustainable development of the country.

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1. Introduction

With a population of 160 million, Bangladesh is one of the world's most populated countries. Agriculture used to be the main source of income for the people of this country. However the Gross Domestic Product (GDP) in Bangladesh was 7.05% percent in 2016. Bangladesh Bank forecasts that on 2017 the economic growth will be more than 7% [1]. Rapid urbanization fueled by stable economic growth has created a huge demand of energy.

It is well known that energy plays a vital role in poverty eradication, economic growth, sustainable infrastructure development and security of any country. In Bangladesh, electricity is the most widely used form of energy. So, future economic growth significantly depends on the availability of electricity. Bangladesh Government should ensure

* Corresponding author.

E-mail address: sislamk@yahoo.com

affordable and environmentally friendly source of electrical energy for the people. However, since its independence from Pakistan in 1971, the country has struggled to generate adequate electricity to meet the demand. The state-owned electricity utilities suffer from large energy shortages. Moreover, due to poor pricing policies and other bottlenecks, the energy sector has also failed to attract adequate private investments in power business. This shortage of investment is a contributing factor toward energy crisis.

The present government is committed to ensuring access to affordable and reliable electricity for all citizens by 2021[2]. At present, only about half of the population has access to electricity. The supply is also not adequately reliable. The per capita energy consumption in Bangladesh is one of the lowest (311 kWh in 2014) in the world [3]. To improve the situation, the Government has adopted a comprehensive energy development strategy to explore supply-side options along with demand management that conserves energy and discourages inefficient use [4]. The key facts and reform in the energy sector of Bangladesh is explained here. Section 2 provides a history of the electricity generation and growth in Bangladesh. Section 3 elaborates the country's electricity sector plans, energy pricing policy and other issues. Finally, Section 4 provides conclusions and recommendations.

2. Electricity Generation

Electrification of the capital city Dhaka began in 1901, only 19 years after New York and 13 years after London, by the then Nawab Khwaja Ahsanullah [5]. Later, an Electricity Directorate was established in East Pakistan in 1948. There were few Steam Turbines in Siddhirganj (maximum size 10MW), Chittagong and Khulna area at that time.

In 1962, 40 MW Kaptai hydro-electric project was installed a 132kV transmission line between Dhaka and Chittagong was commissioned. In 1971, after the independence of Bangladesh only 3% of the population had access to electricity. It has been increased to 59.6% in 2012 [6]. However, 79 % percent of the connected consumers suffer from load-shedding, and 60% of the consumers face low voltage supply [7].

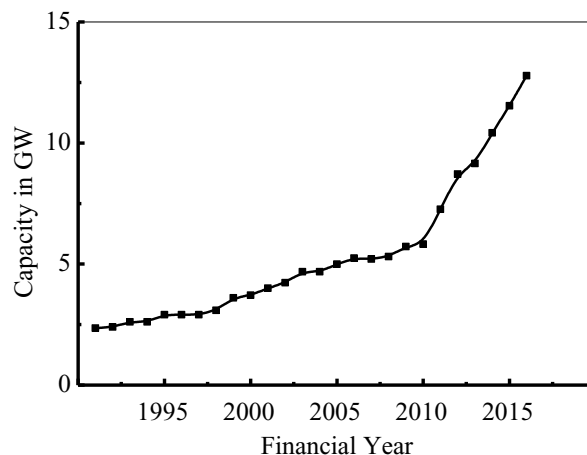


Fig.1. Installed power generation capacity [10]

2.1. Installed Capacity in Bangladesh

The present installed electricity generation capacity in the country is just meeting the demand which is in ever growing mode. This has happened after the strong efforts of the Government to raise the generation capacity through installing new power stations through both public and private sectors.

In 1974-75, the installed electricity generation capacity was 667 MW [8] whereas in August 2016 it was 12780 MW including the 600 MW power import from India [9]. Fig. 1 shows the increase in installed capacity from 1990-91 to 2015-16. It is evident from the figure that the capacity has grown rapidly over the last few years. Favorable Government policies have attracted private investment and Independent Power Producers (IPP). They are now producing 46% of total power in Bangladesh [10]. The country is also importing power from India.

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