

Chapter 18

Financing Green Electricity in Nigeria for Economic Growth

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ABSTRACT

Green finance connotes the financial activities designed to aid the recovery of the environment from degradation. In Nigeria, the danger posed by solid waste to the environment is enormous. In particular, refuse collection and disposal mechanisms have not been adequately executed. The urban landscapes in the country are littered with plastics, polythene, and various non-degradable materials. In this chapter, the authors present an efficient way to clean up the Nigerian environment of solid wastes through a waste-to-energy strategy by exploring the green finance options or sources and structure to deliver renewable and clean electricity for Nigeria. The authors concluded by highlighting that green finance is useful for efficient waste management and the generation of green electricity to the Nigerian national grid.

INTRODUCTION

Green energy, otherwise known as renewable energy, is defined as energy derived from sources such as wind, solar, hydro geothermal, biomass, biofuel and other sources, which are replenished on a human timescale like geothermal heat, rain, sunlight etc. (Duru, 2014). The harm done to the environment by the non-renewable resources manifested in air and water pollution, harmful waste disposal of non-degradable substances like plastics and industrial materials, among others.

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According to the World Economic Forum (WEF, 2020), “Green finance is any structured financial activity that has been created to ensure a better environmental outcome.” Broadly, there are two ways a government can regulate green finance: by taxing emission-related activities to discourage violation and incentivize green investment by allowing tax rebates. The tax rebates given to investors on green investments is an incentive for developing economies to attract huge financing for infrastructure and growth activities. One of the biggest Nigerian developmental necessities is electricity.

Power generation is especially very crucial for industrialisation, ICT development and innovation, transportation, research and development (R&D) and other economic activities. Experts projected that with the estimated population of Nigeria of about 200 million, the country would need over 100,000 megawatts (mw) of electricity supplied from the national grid to be able to build the economy it deserves (Osueke & Ezech, 2011; Association of Nigerian Electricity Distribution Companies, 2016). About 55 per cent of the Nigerian population is not connected to the national grid of electricity, while the connected part lacks constant and regular power supply (Advisory Power Team, Office of the Vice President of Nigeria & Power Africa, 2015).

The highest electricity generated by all the power plants in Nigeria is a little above 7,000mw, while total installed capacity is about 12,500mw (Ukoima & Ekwe, 2019; PwC, 2016). Nigerians, over the years, have resorted to generating their own power by acquiring petrol/diesel powered generating sets to power their homes and businesses. This arrangement has proven to be inefficient due to the attendant financial and environmental costs. The non-renewable nature of the fuel makes it hazardous to human health and the environment. Many of the households in cities and suburban areas lack financial capacity to acquire high-capacity generating sets thereby settling for small-capacity ones. The consequent proliferation results into high noise pollution and increased carbon emission through smoke. The renewable systems that are being introduced are marketed as alternatives to the environmentally hazardous generating sets, such as public electricity-powered as well as solar-powered inverter systems for homes and wind-powered turbine systems for industrial and public generation, are pricey, beyond the reach of average consumers.

The issue of inadequate public power generation is linked to obsolete laws and regulations concerning grid management, inadequate power plants and non-renewable power generation systems such as the gas-powered plants currently being used across the country.

STATEMENT OF THE PROBLEM

Nigeria, like most developing countries around the world, is confounded with intractable problem of environmental degradation because of inefficient solid waste management mechanism as well as inadequate electricity to power the economy for growth and development. These concurrent problems have defied solution over the years in the face of rapid population growth and urbanisation. Many of the urban centres across the country lack proper waste disposal infrastructure, which results into improper disposal of solid wastes with a huge toll on physical health of the populace and the economy (Faniran, Afon & Dada, 2016). Besides, regular electricity supply has been a major issue in Nigeria. With an unstable and unpredictable power supply from the national grid, citizens are left to generate their own power from low-capacity generating sets that are not environmental-friendly because of dangerous gaseous emission and noise pollution. In this chapter, we examined the use of solid waste as low-cost feedstock to power electricity producing turbines, thereby clearing the environment of the dirt that litter the Nigerian landscape and also increase the capacity of electricity generated for the populace.

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