

The Market for Renewable Energy in Nigeria



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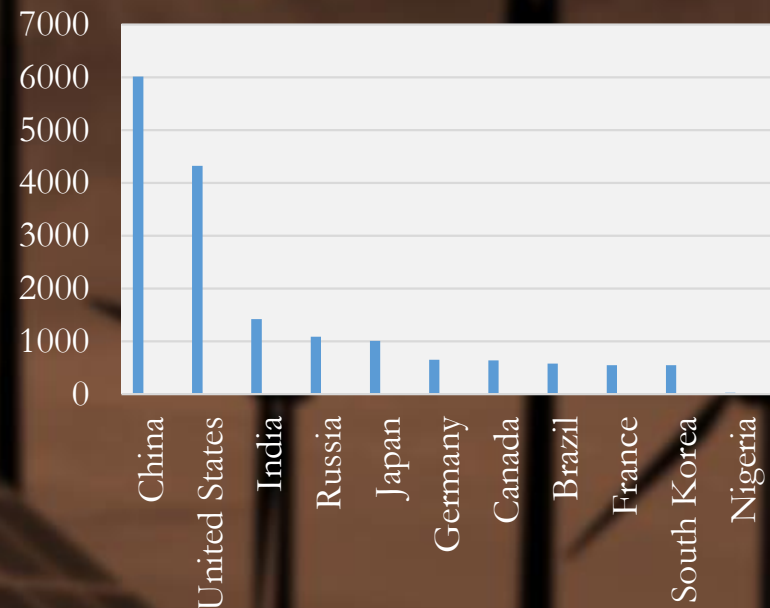
Nigeria has one of the largest populations in Africa with an estimated 182 million people in 2017 (population.gov.ng). In Nigeria, approximately 60% of the population does not have access to stable or any electricity, and those that do only have a per capita electricity consumption of 151kWh per year. Ghana, on the other hand, has a per capita electricity consumption 3 times higher than Nigeria while South Africa's electricity consumption is 30 times higher (Heinrich Böll Stiftung Nigeria, 2017).

In benchmarking against the top 10 fastest growing economies, Nigeria's power generation and distribution capacities are a far cry from levels that can fast-track the level of economic and industrial development required as a nation.

With this alarming shortfall on the supply of electricity, increasing electrical power generation

distribution as one of the critical elements in the growth of the Nigeria economy has been top of every policy debate in recent times.

Electricity production (in bn KWh)



Renewable Energy in Nigeria

This has spurred the Federal Government to initiate significant developments in regulatory and legal frameworks to improve investor confidence and foreign direct investment in the energy market. A number of policies and plans such as the Electric Power Sector Reform Act (EPSRA) have been put in place by the government. The realization of 14 signed Power Purchase Agreements (PPAs) in 2016 were off-shoots of this mission. However these attempts have barely scratched the surface and are still a far cry from creating the enabling environment for the growth of the sector.

With this in view, discussions to facilitate investments around alternatives to usage of fossil fuels such as renewables, which are derived from natural processes that are replenished constantly, have started gaining traction. Nigeria has varying temperatures and natural and

physical features within its 923.78 thousand sq. km landmass. The country has huge potentials for solar and wind energy among other forms of renewable energy. Resources in the Northern part of the country provide viable potentials for photovoltaic or concentrated solar use, with insulation of up to 7 kWh/ m/day; whilst with its massive population, there exists huge volumes of organic wastes which portend more than enough opportunities for conversion of waste to electric energy.

Benefits of Renewable Energy

There is an abundance of wind energy prospects within Nigeria, especially in the coastal states, with about 700-800km of coastline, where there are strong winds that could be utilized in generation of power. Globally, the benefits of the renewable industry are obvious with some European countries already generating energy in excess of required usage. Also, an improved public health system, rural development, a more reliable and resilient energy system amongst numerous others are some identified advantages. Further growth of the global renewable industry is expected to increase due to the recent drive to reduce carbon emissions as a means to ensure a safer and more sustainable planet for everyone.

In 2015, over 140 countries including Nigeria submitted to the UN's Framework Convention on Climate Change (UNFCCC) secretariat their Intended Nationally Determined Contributions (INDCs) to combat climate change. Together, it is

projected that the nations' CO₂ reduction initiatives would lead to an 8% per capita reduction in CO₂ emissions by 2025 and 9% by 2030. Despite the apparent resource endowment in Nigeria, which makes it the ideal renewable energy producers' hub, the renewable energy sector development has remained limited. Nigeria's renewable energy resource potential has not been fully exploited, mainly due to the low investment levels as a result of several factors ranging from poor policy implementation to lack of knowledge by the policy makers and regulators and the absence of an enabling environment.

There are also problems around high vulnerability and the weak national grid which is unable to wheel sufficient energy to the distribution companies. Apart from these, there is the concern that start-up capital costs of renewable power projects in Nigeria are high, relative to other places.

Conclusion

There is no question of the importance of renewable energy to economic growth. However, these challenges have to be addressed to ensure Nigeria can meet its “30:30:30 electricity vision” target which aims to generate 30 GW of installed on-grid electricity capacity by 2030, of which 30% of total energy capacity is to be covered by renewables. The largest source and potential to meet its target lies with solar energy. For the opportunities in this sector to be fully realized, the government will have to take some critical decisions that will require major investments in the form of research and should also facilitate an environment that promotes ease of doing business that can guarantee an influx of required financing to fast-track the growth of the industry. Investors also should key into the varied forms of renewable energy sources.

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