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PAPER PRESENTATION AT 2022 INTERNATIONAL CONFERENCE FOR SUSTAINABLE DEVELOPMENT

Title; DEPLOYING RENEWABLE ENERGY TO MARKET PLACES IN NIGERIA

TABLE OF CONTENT

1. Overview of Nigeria Power Sector
2. Roles of Renewable Energy to Market Places in Nigeria.
3. Action plans to achieving Renewable Energy Projects in Market Places.

OVERVIEW OF NIGERIA POWER SECTOR

The serious matter of electricity outfits fashioned out the unbounding law of the land to distribute power to our homes and the industries are afflicted by national malady that renders many public institutions in Nigeria ineffective at the best of times or become worst at all possible times.

The unflattering history of electricity supply in Nigeria has seen determined government efforts to improve the situation and to make it plays an effective role in the country's socio-economic development ended unsuccessfully. But all these good intentions over many decades have had their drawbacks, some little unforeseen factors, mainly corruption would always put spanner in their works.

Our popular episode was the snake in Kanji Dam in the eighties that affected some generating turbines leading to shut down. The nation was plunged into darkness for days. But the ever patient, if not hapless fellow citizens took the episode in their strides, making joke of it.

From Electricity Corporation of Nigeria (ECN) to National Electricity Power Authority (NEPA), it was the same story, prompting a national advisory to the citizens, 'never expect power always'. NEPA, at the height of its glory, when in 1989, it assumed the quasi-commercial organization, embarked on some reforms to make it more efficient. But its power generation capacity- pooling all six major stations under its roof still stood at miserable 350 megawatts at the time when smaller African countries were reaching stratosphere heights in their power generation.

The year 2005 was for the government's thoughts of a formula for dealing with NEPA's (now called Power Holding Company of Nigeria- PHCN) perennial power outages and erratic services. It took a radical step that was designed to be a cure-all panacea for the company's problems.

It enacted the Electric Power Sector Reform Act 2005, which led to the unbounding of octopus into 18 different companies: namely 6 generation companies, 12 distribution companies spread across 36 States and a national power transmission company.

It is fair to say of some of them (18 companies) that their experience with electricity did not go beyond the elementary one of switching on and switching of power in their homes. Many of them, too big or soil their hands, did not even know how to start and stop their personal generators.

Many of those companies retained NEPA staff with their sticky hands on corruption.. Nigerians who clapped for them initially started groaning under heavy weight of over padded estimated bills. But they couldn't complain. Even if they do, their complaints fell on unhearing ears. (1)

Nigerians had expected that power generation, transmission and distribution would significantly improve after the Sector was privatized in 2013.

Unfortunately, the Sector is currently in delusion as the national electricity grid has become a critical cause of concern. After some grids collapsed of about six times between January and April 2019, and also the worst of grid collapsed came in May 2018; with scrunched in 24 hours.

The incident left electricity outputs to a record low of about 230 megawatts as against 4,032 megawatts national average, and left most parts the country in total darkness.

According to the statement of Managing Director, Transmission Company of Nigeria (TCN), Usman Mohammed in July 2019, "Although we have achieved some level of stability on the grid through massive investment over the last two years. It does not mean that our grid has become disturbance-free because the grid is still very fragile. It is a journey that we are in that will take us to have a modern and stabilized grid".

Also he said, "the energy sector will need to have a critical investment in lines and substations projects, so that TCN can easily transmit power across the country". (2)

However, former Chairman of the Nigeria Electricity Regulatory Commission (NERC), Sam Amadi stated that the continuous collapse of national grid was evidence of underlying problems in the electricity policy, adding that the framework and its implementation have been very poor.

Also, the Executive Secretary, Association of Power Generation Companies (GenCos), Dr. Joy Ogaji, said "the market expects efficient and adequate control of the grid network by the System Operations Sub-Sector

of the TCN. This is not evident, given the fact that System Operator (SO) is still using radio and telephone communication systems to control the grid in the 21st century as against deploying SCADA. Poor communication system leads to incessant system outages being experienced today.

Meanwhile, the Federal Government on July 22, 2019 said it has finalized arrangement to facilitate an increase in power supply in the country to 25,000 megawatts by 2025.

The President, Mohammed Buhari said the target would be realized in a three phase collaboration between the Federal Government and Siemens, a German-based private Company. He directed the Electricity Distribution and Transmission Companies in Nigeria to work assiduously towards achieving

7,000 megawatts by 2021; additional 11,000 megawatts by 2023 and overall grid capacity to 25,000 megawatts in 2025.

Currently, power generation remains low at 2,400 megawatts as outages across the country persisted in June, 2022. (3)

ROLE OF RENEWABLE ENERGY IN NIGERIA MARKET PLACES

Access to electricity is vital for socio-economic development. But power cannot be extended to everyone, society through national grid, more especially when power generation is so low.

Off-grid Renewable energy solutions are crucial to achieve universal access to electricity. Most of these will involve mini-grids, community-level power grids, which can eventually be absorbed into the main grid or continue to operate autonomously.

Nigeria is blessed with abundant Renewable energy resources, such as hydroelectric, solar, wind, tidal and biomass. Therefore there is need to harness these resources and chart a new energy future for Nigeria.

The Renewable Energy Master Plan (REMP) seeks to increase the supply of Renewable electricity generation starting from 2015 to 2025, by 23%, and additional 36% by 2030. Renewable energy would then account for 10% of Nigeria total energy consumption by 2025. (4)

The plan also encompasses installed capacity targets for a set of suitable Renewable energies as follows:

- > Small hydroelectric: 600 megawatts in 2015 and 2,000 megawatts by 2025;
- > Solar PV: 500 megawatts by 2025
- > Biomass based power plants: 50 megawatts in 2015 and 400 megawatts by 2025;
- > Wind: 40 megawatts for wind energy by 2025.

Simultaneously the REMP targets if achieved would increase power supply. Also, the REMP implements a set of fiscal market incentives to support Renewable energy development.

On the short term, the plan includes a moratorium on import duties for Renewable energy technologies. On the long term, advisory role to the government for further tax credits capital incentives and preferential loan opportunities for renewable energy projects.

The global shift to Renewable source of energy is bound to have a ripple effect on Africa. Renewable Energy would have a significant role to play in power generation, although it is important to note that developmental costs of Renewable energy projects have dropped due to advancement in research and technology. The costs of executing such projects at short term remain high in comparative to fossil energy technologies.

However, to mitigate the effect of air pollution, energy Experts have called for the use of renewable energy solutions. Indeed, they agreed that government, industries, communities, and individuals should come together and explore renewable energy and green technologies to improve air quality in the society.

Leading to the call, the President of Renewable Energy Association of Nigeria (REAN), Segun Adaju, said research has proven that renewable technology is affordable in meeting required energy needs especially in market places. Also, the Renewable energy is capable of addressing the air pollution problems rampant in Nigeria cities.

Contributing, the Chairman, Manufacturers Association of Nigeria (MAN), Ikeja Chapter, Lagos, Francis Meshioye, said although Renewable energy is proficient source of generating power, there would be need to reconsider factors such as the costs, its installation and educating the people who already have a misconceived mindset about Renewable energy.(5)

ACTION PLANS ON ACHIEVING RENEWABLE ENERGY PROJECTS IN NIGERIA MARKET PLACES

The Federal Government, Sterling Bank, and Virtus Energy Solutions Limited, on July 22, 2019 partnered to enhance power production for small businesses in the Country.

The project aims to provide electricity access to over 80,000 shops across 16 economic clusters, empower over 340,000 micro, small and medium size enterprises,, and create over 2,500 jobs while serving over 1.8 million Nigerians. (6)

Furthermore, shops owners in Sura Shopping Complex in Lagos have lauded the Independent Power Project (IPP) in partnership with private sector for provision of 1.5 megawatts to their market. Describing it as aiding improved power supply and productivity in their businesses.

It would be recalled that Sura Shopping Complex was part of the market clusters that benefitted from the Federal Government, Energizing Economics Initiatives (EEI), implemented by the Rural Electrification Agency (REA) to boost Micro, Small and Medium Enterprises (MSMEs). These projects were achieved by rapid deployment of off-grid electricity solutions through private developers. (7)

Herofat Enterprises is a registered Company in Nigeria since December 2008. The Company is currently working on Renewable Energy Projects.

In order to effectively deploy renewable energy to Nigeria Market Places, the Company aims at partnerships with other Renewable Energy Companies, Institutions, Associations and other relevant Organizations..

The Herofat Enterprises would also seek for projects financing from banks, local and international donors on Renewable energy related projects.

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Thank you.

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