POWER MEDIUM TERM SECTOR STRATEGIES (MTSS) 2018-2020

HEINRICH BÖLL STIFTUNG NIGERIA

CSJ
Centre for Social Justice (CSJ)

A Memorandum from Civil Society Organisations (CSOs) Working in the Power Sector
POWER MEDIUM TERM SECTOR STRATEGIES (MTSS) 2018-2020

HEINRICH BÖLL STIFTUNG
NIGERIA

Centre for Social Justice (CSJ)
(Mainstreaming Social Justice in Public Life)

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<tr>
<td>ANED</td>
<td>Association of Nigerian Electricity Distributors</td>
</tr>
<tr>
<td>ATC&amp;C</td>
<td>Aggregate Technical and Commercial Collection Losses</td>
</tr>
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<td>CBN</td>
<td>Central Bank of Nigeria</td>
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<tr>
<td>CBOs</td>
<td>Community Based Organisations</td>
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<td>CCGT</td>
<td>Combined Cycle Gas Turbines</td>
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<td>CEF</td>
<td>Clean Energy Fund</td>
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<td>CRF</td>
<td>Consolidated Revenue Fund</td>
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<td>Centre for Social Justice</td>
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<td>Civil Society Organisations</td>
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<td>DISCOs</td>
<td>Electricity Distribution Companies</td>
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<td>Debt Management Office</td>
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<td>DSA</td>
<td>Debt Sustainability Analysis</td>
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<td>EMSP</td>
<td>Energy Management System Protocol</td>
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<td>ERGP</td>
<td>Economic Recovery and Growth Plan, 2017-2020</td>
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<td>Executive Council of the Federation</td>
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<td>Federal Government of Nigeria</td>
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<td>Federal Ministry of Budget and National Planning</td>
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<td>FMoE</td>
<td>Federal Ministry of Environment</td>
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<td>FMPWH</td>
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<td>FRA</td>
<td>Fiscal Responsibility Act</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>INDC</td>
<td>Intended Nationally Determined Contributions</td>
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<td>Acronym</td>
<td>Full Form</td>
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<td>MoU</td>
<td>Memorandum of Understanding</td>
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<td>MRV</td>
<td>Monitoring, Reporting and Verification</td>
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<td>MTEF</td>
<td>Medium Term Expenditure Framework</td>
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<td>MTPY</td>
<td>Million of Tonnes Per Year</td>
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<td>MTSS</td>
<td>Medium Term Sector Strategies</td>
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<td>NASPA-CCN</td>
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<td>NASS</td>
<td>National Assembly</td>
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<td>Nigeria Electricity Supply Industry</td>
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<td>NESP</td>
<td>Nigerian Energy Support Programme</td>
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<td>NGC</td>
<td>Nigeria Gas Company Limited</td>
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<td>NIIMP</td>
<td>National Integrated Infrastructure Master Plan</td>
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<td>Non-Performing Bank loans</td>
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<td>NREEP</td>
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EXECUTIVE SUMMARY

This Memorandum is divided into 2 parts of 9 sections. The first section is the introduction which deals with the background, the rationale for the exercise and outlining linkages between the Medium Term Sector Strategies (MTSS), Medium Term Expenditure Framework and the annual budget. It identified high level national and international policies and standards on power especially within the context of a low carbon framework.

Section 2 is on the key challenges of the sector and laying out goals, objectives and targets based on the high level national and international policies and standards. Section 3 reviews existing budget commitments 2013-2017 and identifies low budgetary allocation to the sector, late and partial release of appropriated funds and interrogates the idea of incurring further debts for energy sector financing. Section 4 is on key Power Sector achievements in recent times whilst section 5 is on MDA projects and activities that should be sustained. Section 6 is on the sector projects that are performing poorly and should not be sustained. Section 7 deals with other Power Sector challenges. This is stated to be poor collaboration between the tiers of government, poor research and development; too many capital projects which spreads resources too thin and absence of monitoring, reporting and verification.

Part 2 contains sections 8 and 9. Section 8 is about activities and interventions proposed for the medium term. This includes the review of the windows for Energy financing, issuance of green bonds, tapping into the climate change financing mechanisms, changing ownership of the TCN or inviting private sector operatives to invest. Others are the need to correct the liquidity challenges of the sector, ensuring cost reflective tariffs, addressing the questionable capacities of NESI operators, correcting the issue of gas shortage and vandalism, promotion of cooperatives, It further discusses the policy, plan, budget continuum; formation of sector teams for future budget planning, adoption of best practices in public procurement and renewable energy and value chains. Part 9 is the concluding part which is about the summary of policy recommendations. The recommendations are detailed as follows.

1. FUNDING

(i) Allocate not less than 4% of the total annual national budget to the Power Sector to meet the demands of the sector.

(ii) The bulk of the new resources should go to capital expenditure for renewable energy and strengthening of the transmission grid. In view of the paucity of public funding, FGN should seriously consider inviting private sector investments for the transmission grid.
(iii) DISCOs should be made to get listed on the Stock exchange and new investors should be invited to put new resources into the companies. Available evidence indicates lack of financial capacity for new investments or even to pay accrued debts

(iv) FGN should consider the establishment of Clean Energy Fund to be deployed to promote the use of solar and other renewable energy, energy efficiency appliances like LEDs, clean cook stoves and LPG, mini grids and off grid energy projects, etc. Funding for this can come from a part of the Ecological Funds and other FGN, state and local government sources. The Fund will be revolving since monies taken from it for any purpose will ultimately be paid back.

(v) Review the present tariff to a more cost reflective one in a bid to guarantee the sustainability of the sector.

(vi) FMPWH to ensure that Power Sector produces bankable projects to be funded under the FGN Green Bonds issuance scheme.

(vii) Build capacity in the FMPWH and tap into international Climate Financing Mechanisms to raise more funds for renewable energy and other low carbon power initiatives.

(viii) Consider a moratorium on brand new capital projects not associated or linked with existing ones unless the project is of utmost priority. This will avoid the thin spread of available resources which produces no results. Money should be spent on completing, equipping and making functional the existing projects.

(ix) If foreign borrowing is to be raised for the Power Sector, ensure that it is tied to an exchange rate hedging mechanism.

(x) Government should consider incentives and subsidies (pioneer status, tax holidays, etc.) on the value chain of the production of renewable energy and other low carbon inputs to the energy sector. Consumption subsidies will only encourage importation and defeat the local content campaign.

(xi) Strengthen the Monitoring, Reporting and Verification (MRV) System to enable Nigeria actively participate in earning carbon credits and build data and statistics for planning.

2. OPERATIONAL ISSUES

(i) Mini and small scale renewable energy projects including solar lighting should be tied to a Memorandum of Understanding with states and local governments to ensure that
their running costs are borne by lower tiers of government after completion and commissioning.

(ii) Strengthen research and development and give relevant institutes grants based on performance, such that institutions that have good power inventions will be given preference. This will naturally spur competition between them to come up with research findings.

(iii) There is need for structured and coordinated energy data collection so as to enable informed target setting as regards low carbon budgeting and project implementation. This will also be a springboard for setting up an Energy Management System Protocol in the sector as what is not measured cannot be managed. The Energy Management System Protocol could be adopted in the industrial sector to provide data which will serve as a benchmark for a scaled up adoption of energy efficiency in the industrial sector on one hand. On the other hand, it will promote an energy efficiency network concept\(^1\) whereby companies (manufacturers) from different sectors using cross-cutting technologies meet in a moderated session to share ideas on how energy efficiency could be promoted.

(iv) The Power Sector in collaboration with Industry should set compliance targets for the replacement of inefficient motors, boilers, etc. in the industrial sector with more efficient ones to promote energy efficiency. Leaders and captains of industry should be the real drivers of energy efficiency\(^2\).

(v) For industries (and SMEs), the biggest motivation for energy efficiency would be cost savings as against energy savings. As the cost factor drives entrepreneurship, the audit component of cost savings is crucial here\(^3\).

(vi) Set compliance targets for Minimum Energy Performance Standards for household appliances e.g. for air conditioners, light bulbs, electric irons, etc. Ghana banned the imports of incandescent light bulbs and other high energy consuming lamps in a bid to promote efficiency in housing. Nigeria could follow in her footsteps to ramp up her energy efficiency actions.

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1. This is currently being supported by Nigerian Energy Support Programme (NESP). It has been found that a great deal of learning takes place amongst peers.
2. If the leaders and owners of companies are energy efficiency conscious, then trainings would be organized for members of staff to key into energy efficiency practices and conservation in industries. It will also inform procurements that are energy efficiency compliant. Same goes for residential homes.
3. The government could embark on energy audit interventions in specific locations and industries to establish what the energy flow is in these areas, where it comes from, where it goes to and what consumes what amount of energy etc. So that energy savings points could be identified and disseminated across industry.
(vii) FGN to ensure that MDAs pay off debts accruing to DISCOs and other actors in NESI.

(viii) NERC to enforce performance agreements entered with NESI operators especially on metering, reduction of ATC&C losses and full remittance of funds raised from energy sold by DISCOs.

(ix) Revert to and fully implement the Nigerian Gas Master Plan. There is no need for a new plan as the extant plan is a master piece that demands full implementation, especially its appropriate gas pricing and domestic supply obligations.

(x) Encourage the formation of cooperatives and organize communities as this will improve their chances of accessing credit for renewable energy and energy efficiency projects from the special funding windows.

(xi) Renewable energy should be utilised in agriculture including solar boreholes, solar lighting, drying, the development of automated solar powered agriculture machines including planters, harvesters, etc. This is cheaper in terms of fuelling in the long run and the whole life cycle costs will also be cheaper. It also has the prospect of generating more jobs in the localities where they are sited.

(xii) Take steps in collaboration with other MDAs, states and local governments to increase the number of households transiting from kerosene to cooking gas (LPG) to 20 per cent by 2020 and increase the number of households replacing kerosene lanterns with solar lamps by 20 per cent by 2020. Promote solar cookers. Provision of alternative domestic fuel for rural dwellers - revisit the clean cook stoves, more use of cooking gas and solar cookers. This is cheaper in the long run because of the skyrocketing cost of kerosene. This will also help in reducing deforestation that is done for the purpose of getting firewood for cooking.

3. TRANSPARENCY AND ACCOUNTABILITY

(i) The specific annual contributions of donors and development partners should be identified and captured in the budget to ensure transparency, accountability and prevent double budgeting and duplication of efforts.

(ii) Increase the efficiency of Power Sector spending through greater value for money strategies. Ensure strict and efficient utilisation of the resources allocated to the sector by implementing open contracting standards as part of an open government strategy.

(iii) The Minister of Finance should prepare and publish a Disbursement Schedule within 30 days of the enactment of the Appropriation Act as stipulated in section 26 of FRA
and ensure full and timely release of the capital budget of the FMPWH every financial year.

(iv) The Budget Office of the Federation should resume the timely publication of Quarterly Budget Implementation reports on its website and in national dailies. The FMPWH should likewise publish details of budget releases and expenditure on quarterly basis. This will help to promote transparency and accountability.

(v) The FMPWH should embrace the civil society as a critical partner in achieving greater value for money in a bid to improve national power outcomes. Future preparation of the MTSS should rely on a full Sector Team including the civil society and other relevant stakeholders. The FMPWH should engage CSOs for budget monitoring and tracking expenditure of borrowed sums in the sector.
PART ONE: FOR 2018 AND THE MTSS/MTEF 2018-2020

1. INTRODUCTION

1.1 Background
The Medium Term Expenditure Framework (MTEF) for the period 2018 - 2020 is in the process of preparation by the Federal Ministry of Budget and National Planning (FMB&NP). When finalized, considered and endorsed by the Executive Council of the Federation (EXCoF), it will be transmitted to the National Assembly (NASS) for approval.

The Power Sector Medium Term Sector Strategy (MTSS) 2018-2020 which should inform the Power Sector component of the MTEF including its focus on Low Carbon Energy Production, Transmission and Distribution is expected to:

- Articulate medium-term (three years) Power Sector goals and objectives against the background of the overall goals of high level national power policies, international power standards and the attainment of the Sustainable Development Goals (SDGs);
- Identify and document the key programmes and projects the government plans to embark upon to achieve the national power goals and objectives;
- Cost the identified key initiatives in a clear and transparent manner;
- Phase implementation of the identified initiatives over the medium-term;
- Define the expected outcomes of the identified initiatives in clear measurable terms; and
- Link expected outcomes to the objectives and goals.

1.2 Rationale For The Exercise
Access to energy is very vital for economic growth and development, social well-being and the realization of human rights and fundamental freedoms. However, energy must not be accessed at the cost of human health, lives, the degradation of the ecosystem and increase in global warming. Nigeria lags behind comparator countries in its energy use per capita and the poor energy supply has been identified as one of the factors hindering economic development in Nigeria. The extant state of the power sector

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4 This is as provided by section 14 of the Fiscal Responsibility Act, 2007.
5 About 40% of the Nigerian population has access to grid connected electricity, out of which 72% reside in urban areas and 28% in rural areas. Out of the estimated 16.4 million rural households in the country, only about 4.6 million are connected to the electricity grid - Nigeria SE4All Action Agenda.
presents an opportunity for the country to chart a low carbon pathway for energy delivery considering that today’s decisions will result in a 30-40 year lock-in in whatever systems and processes we adopt for the sector. Nigeria is in a recession with all the major macroeconomic indicators headed south\(^6\). Thus, decisions and policies in such an important sector must look at the big picture of sustainability, lifecycle costs of projects, prospects for job creation, local content and capacity building and how best to target power sector investments so as to catalyze progress in other parts of the economy that depend on power adequacy to flourish.

The Power Sector is therefore an important sector that deserves the attention of all stakeholders. Official preparation of the Power Sector MTSS by the Federal Ministry of Power, Works and Housing (FMPWH) provides CSOs working in the Sector an opportunity to present memorandum articulating key inputs into the MTSS and 2018 federal power budget. The memorandum is therefore focused on mainstreaming a low carbon framework for budgeting, fit and good practices, value for money, accountability for results and evidence led budgeting in the Power Sector whilst responding to the demand for increased generation, transmission and distribution of electricity and energy for the Nigerian population. CSO stakeholders have deliberated and consolidated their inputs into a policy paper framework that seeks sectoral growth whilst cutting down on greenhouse gas emissions (GHG). The memorandum will be submitted to the FMPWH, Ministry of Budget and National Planning, the National Assembly and other stakeholders.

1.3 Outlining Linkages Between MTSS And Annual Budget
Section 18 of the Fiscal Responsibility Act (FRA) stipulates that annual budgets are to be derived from the MTEF. It further provides that notwithstanding anything to the contrary contained in the FRA or any law, the MTEF shall:

1) **Be the basis for the preparation of the estimates of revenue and expenditure required to be prepared and laid before the National Assembly under section 81 (1) of Constitution.**

2) **The sectoral and compositional distribution of the estimates of the expenditure referred to in subsection (1) of this section shall be consistent with the Medium Term Developmental Priorities set out in the Medium Term Expenditure Framework.**

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\(^6\) The inflation rate is at 16.10%; unemployment rate at 14.2% whilst youth unemployment is 47.40%; GDP growth at -0.52% whilst the naira exchanges at about N365 to the United States Dollar.
CSOs therefore seek to make inputs into the Medium Term Developmental Priorities of the Federal Government in the Power Sector considering that this will form the basis for the preparation of the 2018 Federal Power Budget.

1.4 Identifying High Level National and International Policies and Standards

There are so many national and international standards, laws and policies guiding Power and Energy that cuts down on GHG emissions. These include but are not limited to the recently unveiled Economic Recovery and Growth Plan, 2017-2020 (ERGP), Intended Nationally Determined Contributions (INDC), Sustainable Energy for All (SE4ALL), Sustainable Development Goals (SDGs), National Renewable Energy and Energy Efficiency Policy (NREEEP 2015), National Energy Efficiency Action Plan 2015-2030 (NEEAP), and Renewable Energy Master Plan. Others are the Electric Power Sector Reform Act 2005, National Adaptation Strategy and Plan of Action for Climate Change in Nigeria (NASPA-CCN), National Energy Policy 2003, National Policy on Environment. These policies stated the goals of the sector within the context of overall national and international goals.

ERGP seeks inter alia to reduce gas flares by 2 percentage points per year, installing 3000MW of solar systems over the next four years and increasing the number of households replacing kerosene lamps with solar lamps by 20% by 2020. Further, it seeks to increase the number of households transiting from kerosene to cooking gas (LPG) by 20% in 2020. Goal 7 of the SDGs aims to ensure access to affordable, reliable, sustainable and modern energy for everyone. Nigeria is a member of the United Nations and signatory to the Paris Climate Change Agreement and a plethora of international standards that mandate States Parties to be more responsive to the reduction of GHG in all fields of human endeavor. Nigeria’s INDC is now being converted to a Nationally Determined Contribution (NDC).

The Objectives of SE4ALL has been stated as follows:

“*The key objectives of the SE4ALL initiative globally are to ensure universal access to modern energy services; doubling the global rate of improvement in energy efficiency; and doubling the share of renewable energy in global energy mix by 2030 compared to 2010. These objectives are premised around the proposition that national governments* 

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7 By 2030, ensure universal access to affordable, reliable and modern energy services; increase substantially the share of renewable energy in the global energy mix; double the global rate of improvement in energy efficiency; enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology; expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries.
must design and implement a set of integrated country actions to drive transformative change of the world's energy systems; create the right investment environment for the private sector's participation; and the interplay of civil society organizations in identifying, advocating, and monitoring public policy and business action; mobilising social innovation and grassroots action; leading behavioural change; and helping to spread best practices and building capacity at all levels in partnership with governments and businesses.

Nigeria’s Policy on the Environment also has clear mandates on Energy.

**Box 1: Energy Sector Mandates of the National Policy on the Environment**

<table>
<thead>
<tr>
<th>Mandates</th>
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<tbody>
<tr>
<td>a) Implementation of detailed environmental impact assessment of all planned energy projects backed by detailed baseline ecological data against which subsequent environmental changes and/or impacts can be measured;</td>
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<td>b) developing a rational National Energy Utilization Master Plan that balances the need for conservation with the utilisation of premium energy resources for premium socio-economic needs;</td>
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<td>c) encouraging the use of energy forms that are environmentally safe and sustainable, particularly solar energy;</td>
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<tr>
<td>d) establishment of stringent safety standards in all national energy production processes while promoting safe and pollution-free operations in energy production and use;</td>
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<tr>
<td>e) prescribing and enforcing stringent standards for the disposal of radioactive and toxic wastes from energy production processes and controlling the level of human exposure to nuclear radiation at mines, power plants and reactors through periodic audit checks of ambient radiation levels at such environments;</td>
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<tr>
<td>f) monitoring and controlling the levels of particulates, toxic chemicals and noxious gaseous effluents of energy production and use, such as CO, CO2, NOx, SO, and non-methane hydrocarbons;</td>
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<tr>
<td>g) monitoring the ambient temperatures and other physical and chemical properties of cooling effluents of energy plants to prevent or reduce their severe impacts on human health and the aquatic plants and animals;</td>
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<tr>
<td>h) ensuring that the site selection for energy construction projects emphasizes the right of way (R.O.W.) of transmission lines in such a way as to ensure minimal loss or disturbance of habitats, vegetation, wetlands, wildlife, and human habitation;</td>
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<td>i) adoption of a multi-sectoral approach to the monitoring and control of environmental problems associated with energy production and use;</td>
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<td>j) licensing and periodic inspection and monitoring of all energy waste disposal sites;</td>
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<td>k) encouraging research and development programmes that promote environmentally sound utilization of the abundant coal resources as a domestic energy source through the reduction of the ash and noxious chemicals content;</td>
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<td>l) establishment of standards for the control of fuel additives especially with respect to trace metals such as Pb and Zn compounds;</td>
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<tr>
<td>m) promotion and encouragement of research for the development and use of various locally available energy sources especially non-conventional resources such as geothermal, solar, wind, biomass, and bitumen or tar sands;</td>
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<tr>
<td>n) preparation of guidelines for energy production and use in consonance with the environmental implications of the National Energy Policy;</td>
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<tr>
<td>o) ensuring a mandatory environmental audit of all major existing energy projects;</td>
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<tr>
<td>p) ensuring capacity building to enhance sustainable use and monitoring of energy resources;</td>
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<td>q) improve public awareness of energy efficiency measures.</td>
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*Source: National Policy on the Environment, 1999*

A good part of the provisions of the National Policy on Environment are in tandem with sustainable energy production and distribution.

NASPA-CCN strategies are focused on increased protective margins in construction and placement of energy infrastructure through higher standards and specifications; risk assessment and risk reduction measures to increase the resilience of the energy sector;

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8 Taken from the Executive Summary of Nigeria’s SE4ALL.
9 However, the Policy is overdue for revision considering recent developments in environment and climate change.
integrating climate change concerns into the implementation of the current energy master plan, including climate change impacts on future energy demands caused by excessive heat and developing policies for decentralised renewable energy resources\textsuperscript{10}.

Nigeria is a State Party to the International Covenant on Economic, Social and Cultural Rights (ICESCR). The ICESCR in article 11 (1) states inter alia:

\begin{quote}
(1) The States Parties to the present Covenant, recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions….\textsuperscript{11}
\end{quote}

The right to adequate housing provided above includes the availability of services, materials, facilities and infrastructure including energy for cooking, heating and lighting, etc\textsuperscript{12}. Again, the continuous improvement of living conditions is not possible without energy and electricity. The state’s duties are specifically to respect, protect and fulfill the right to adequate housing and this can only be possible if there is sufficient energy to make the house liveable. As part of the minimum core obligation of the state, there is a duty to provide information, disseminate knowledge of standards and practices that will guarantee the continuous improvement of living conditions.

2. KEY CHALLENGES OF THE POWER SECTOR AND LAYING OUT GOALS, OBJECTIVES AND TARGETS BASED ON HIGH LEVEL NATIONAL AND INTERNATIONAL POLICIES AND STANDARDS

2.1 Challenges of the Nigerian Power Sector

Various standards identified above have stated the challenges to include the following:

- \textit{Limited access by the population to grid and off grid electricity.}
- \textit{A Power Sector challenged by huge liquidity and financial viability problems.}
- \textit{High transmission and distribution losses\textsuperscript{13} including other capacity deficits in all segments of the Electricity Industry.}
- \textit{Undiversified energy mix, especially the poor penetration of renewable energy.}
- \textit{Gas and associated infrastructure issues including gas flares, inappropriate pricing and vandalism.}

\textsuperscript{10} NASPA at page 48 and page 7 of the IDC.
\textsuperscript{11} Underlining supplied for emphasis.
\textsuperscript{12} See the Seven Functional Parametres in General Comment No.4 of the Sixth Session (1991) of the United Nations Committee on Economic, Social and Cultural Rights on the Right to Adequate Housing.
\textsuperscript{13} Aggregate Technical, Commercial and Collection (ATC&C) losses.
- Non cost reflective tariffs
- A legal framework that is unsuitable to the demand for electricity
- Low local content which guarantees that major inputs are imported.
- Lack of research into strategic energy solutions.
- The silo approach - lack of cooperation and synergy among key tiers of government, MDAs and other stakeholders.
- The sector is not mainstreamed in overall national planning considering its strategic importance.
- Lack of awareness on climate change and its effects on the Power Sector.

Other challenges undergirding the poor performance of the sector include insufficient financing, weak supply chain management for inputs, limited human resource capacities and insufficient coordination, cohesion and accountability.

2.2 Sectoral Goals, Objectives, Targets and Strategies

The policy objectives for the power sector as stated in the ERGP\(^\text{14}\) are as follows:

- Improve energy efficiency and diversify the energy mix, including through greater use of renewable energy.
- Facilitate private sector investment in generation, transmission, and distribution and improve access to electricity to all Nigerians.
- Increase rural electrification through the use of off-grid renewable solutions.
- Restore financial viability in the electricity market.
- Implement a data-driven approach in power sector development planning.
- Eliminate sabotage of gas and power infrastructure.

The strategies for achieving the above stated objectives were given to include the following:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Key Activities</th>
<th>Lead</th>
</tr>
</thead>
</table>
| Increase power generation by optimizing operational capacity, encouraging | ■ Optimize the existing installed capacity available for generation  
■ Restore lost gas supply through the Gas Flare Commercialization Programme | Ministry of Power, Works and Housing |

\(^{14}\) Page 75.
| small-scale projects, and pursuing long-term capacity | Produce strategy towards elimination of gas infrastructure vandalism  
Complete major gas infrastructure lines to plants and main trunk lines to facilitate gas supply for power generation  
Improve NBET’s financial capability to support the electricity market  
Strengthen governance and capacity of sector agencies  
Introduce strategy for capital market and banking programmes that ensure all upstream industry operators get paid for each contract  
Review the gas pricing structure to recover all prudent costs as services improve and give willing developers access to underdeveloped gas resources  
Ensure strict contract compliance both for the public and private sector  
Enable and encourage new generation (especially small-scale) projects  
Encourage electricity distribution companies (DISCOs) to procure embedded generation directly  
Reach financial close on the 15 solar plants that have recently signed power purchase agreements (PPPs)  
Accelerate standardization of the process for executing independent power projects (IPP), including defining pricing, to encourage private-sector participation  
Deploy a clear, legal and commercial framework for investments in power projects  
Mobilize investments to execute renewable off-grid power solutions to improve energy mix  
Reduce transmission and distribution losses/energy theft  
Restructure the Transmission Company of Nigeria to improve management and operational efficiency  
Achieve privatisation of NIPP generation assets  
Implement the Rural Electrification Strategy and Implementation Plan  
Implement the National Renewable Energy and Efficiency Policy (NREEP)  
Implement Power Sector Recovery Plan | Ministry of Petroleum Resources  
Ministry of Science and Technology  
Ministry of Federal Capital Territory |
| Improve the commercial viability of GENCOs and DISCOs | Resolve MDAs debts to Discos no later than 2017  
Establish central payment system for MDAs electricity bills and tie payment of bills to DISCOs to their commitments to install meters in MDAs  
Ensure strict contract compliance both for the public and private sector | Ministry of Power, Works and Housing  
Nigerian Electricity Regulatory Commission |
Introduce cost-reflective electricity tariffs

Undertake nationwide customer enumeration and energy audit exercise

Support the roll-out of a nationwide metering programme

Identify sources of funding to resolve accumulated payment deficits

Develop mitigation mechanisms to address future payment deficits

Design public communication and stakeholder engagement strategy to enlighten public on key policies

Review the disbursement and management of the N213 billion Nigeria Electricity Market Stabilization Facility

Enforce existing laws that criminalize power theft and ensure prompt payment by heavy public defaulters

Source: The ERGP, page 76.

The INDC in 2015 stated the key mitigation measures and potential GHG reduction in millions of tonnes per year (MTPY) as follows: economy wide energy efficiency 179MTPY; efficient gas stations 102MTPY; ending gas flaring 64MTPY; reduce transmission losses 26MTPY and deployment of renewable energy 31MTPY. In the unconditional contribution of 20% reduction of emissions, it proposed inter alia to improve energy efficiency by 20%, 13GW of renewable energy provided to rural communities currently off grid and ending gas flaring. In the 45% conditional contribution based on international support, it sought increased levels of energy efficiency and a significant reduction in the use of generators while providing access to energy for all Nigerians. The specific measures included renewable energy which is decentralized, multi cycle power stations, scalable power stations of 20-50MW, enforced energy efficiency, use of natural gas rather than liquid fuels, provision of efficient cook stoves and alternative heating sources. Others include development of gas-to-power plants at gas flare sites (micro grid) and blending 10 percent by volume of fuel-ethanol with gasoline (E10) and 20 percent by volume of biodiesel with petroleum diesel (B20) for transportation fuels.

The INDC’s criteria for project selection include cost effectiveness, mitigation potential, poverty alleviation and job creation and feasibility of implementation. Others include short terms results, gender and inclusion, health and air quality and land degradation, water quality and deforestation. Thus, these projects are expected to contribute to economic growth and development whilst providing energy and reducing GHG.

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15 Page 11 of the INDC
16 Page 11 of the INDC.
The SE4ALL targets are as stated in Table 2 below.

### Table 2: SE4ALL Targets

<table>
<thead>
<tr>
<th>Targets until 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Access</strong></td>
</tr>
<tr>
<td>- To increase electricity access from the current aggregate level of 40% (urban= 65%, and rural= 28%) in 2015 to 75% (urban= 90%, and rural= 60%) by 2020</td>
</tr>
</tbody>
</table>
| - By 2030, the population share living without electricity supplies will drop from the current 60% in 2015 of the total population down to about 10%.
| - To replace 50% of traditional firewood consumption for cooking by improved cook stove technology by 2020 and 80% by 2030; |
| - Working together with the private sector to rollout LPG at affordable cost for Nigerians by 2020 and subsequently up to 2030; |
| - By 2025 and 2030, nuclear energy is expected to contribute about 2.5% and 4% to available electricity mix |
| - The electricity generation will increase from the present grid supply of 5000 MW in 2015 to at least 32,000 MW by 2030 |
| **Energy Efficiency** |
| - By the end of 2015, efficient lighting (at least 5 times more efficient than incandescent lamps) will be used by 20% of the households, 40% by 2020 and almost 100% by 2030. |
| - For high-energy consuming sectors (transport, power and industrial sectors), efficient energy technologies will be progressively introduced as well as other demand side management measures such as peak load management when possible. Compared with the current 2015 level, energy efficiency will increase by at least 20% by 2020 and 50% by 2030. |
| - By 2016, energy audits will be compulsory for all high energy consuming sectors and public buildings |
| **Renewable Energy** |
| - Nigeria’s electricity vision 30:30:30 is to achieve a technology-driven renewable energy sector that harnesses the nation's resources to complement its fossil fuel consumption and guarantees energy security. Specifically, Nigeria's target for renewable energy is: |
| - By 2030, renewable energy is expected to contribute about 30% share in the available electricity mix; |
| - To achieve a 27% and 20% contribution of hydroelectricity (both large and small hydro) to the nation's electricity generation mix by 2020 and 2030 respectively; |
| - To achieve a 2.5% contribution of wind energy to the nation's electricity generation mix by 2030; |
| - To achieve a 20% and 19% contribution of solar energy (PV and Solar thermal) to the nation's electricity generation mix by 2020 and 2030 respectively; |
| - To achieve a 4% power generation. |

*Source: SE4ALL*

NEEAP seeks inter alia to improve energy efficiency in the residential, public and services sectors. Its policy targets are stated below.
Table 3: NEEAPS Targets on Energy Efficiency

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of new large private buildings that implement energy efficient building designs and methods.</td>
<td>6%</td>
<td>30%</td>
<td>Percentage of new public buildings that implement energy efficient building designs and methods.</td>
<td>10%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Source: NEEAP Document, Page 9

The National Energy Efficiency targets and trajectories are summarized as follows:

By 2020:
- Efficient lighting will be used by 40% of the households.
- For high-energy consuming sectors (transport, power and industrial sectors), efficient energy will increase by at least 20% compared to baseline.
- Achieve 10% biofuel blends.
- Improve the efficiency of the bioenergy sector.
- Distribution loss reduction target to 15-20%.

By 2030:
- Efficient lighting will be used by almost 100% of the households.
- For high-energy consuming sectors (transport, power and industrial sectors), efficient energy will increase by at least 50% compared to baseline.
- Curb the firewood demand below supply capacity.
- Distribution loss reduction target to less than 10%.

In view of the foregoing, the overall purpose of this exercise is to mainstream a low carbon framework for budgeting; fit and good practices, value for money, accountability for results and evidence led budgeting framework in the Energy Sector whilst responding to the massive energy needs of the population. However, targets based on nuclear energy and coal powered energy cannot stand the climate smart agenda of energy generation and use and needs to be discontinued if the sector is to contribute to the reduction of GHGs and Nigeria meets her targets under the INDC and NDC. Thus, economic growth needs to be decoupled from carbon intensification processes.


3.1: Low Budgetary Allocation
A review of the budgetary allocation to the FMPWH between 2013 and 2017 will reveal the commitment of FGN to the sector. The National Integrated Infrastructure Master Plan (NIIMP) sets out the financial requirements of the Power Sector. It is admitted that by NIIMP’s projections, some part of the funding will come from the private sector and
borrowing. However, FGN needs to lead the way. If FGN had implemented the financial requirements of the NIIMP through the deployment of the maximum of available resources, the energy indices would have probably been better. Table 4 shows the state of allocations.

**Table 4: FGN Power Budget and Variance from NIIMP**

<table>
<thead>
<tr>
<th>Year</th>
<th>National Budget (N Bn)</th>
<th>Power Sector Budget (N Bn)</th>
<th>US$ Value of Power Sector Allocation</th>
<th>$4.60bn NIIMP Requirement in Naira</th>
<th>Variance between NIIMP and Power Allocation (N bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>4,987,220,245,601</td>
<td>77,565,547,652</td>
<td>484,784,673</td>
<td>736,000,000,000</td>
<td>658,434,452,348</td>
</tr>
<tr>
<td>2014</td>
<td>4,695,190,000,000</td>
<td>63,212,100,633</td>
<td>395,075,629</td>
<td>736,000,000,000</td>
<td>672,787,899,367</td>
</tr>
<tr>
<td>2015</td>
<td>4,493,363,957,158</td>
<td>9,606,813,831</td>
<td>50,562,178</td>
<td>874,000,000,000</td>
<td>864,393,186,169</td>
</tr>
<tr>
<td>2016</td>
<td>6,060,677,358,227</td>
<td>105,095,466,577</td>
<td>533,479,526</td>
<td>906,200,000,000</td>
<td>801,104,533,423</td>
</tr>
<tr>
<td>2017</td>
<td>7,441,175,486,758</td>
<td>175,960,735,850</td>
<td>576,920,445</td>
<td>1,403,000,000,000</td>
<td>1,227,039,264,150</td>
</tr>
</tbody>
</table>

*Source: Budget Office of the Federation*

From Table 4 above, power enjoyed a total allocation of the sum of N431.44 billion constituting an annual average of N86.288 billion being 1.44% of the total approved federal budgets. The variance between NIIMP requirement and the actual allocations is the sum of N4.223 trillion being an annual average of N844.75 billion. Thus, there is a huge gap between sector benchmarks and actual appropriation. The Power vote is just about 9% of the NIIMP requirement.

Table 5 shows the allocation to the Power Sector at the federal level for 2013 -2017 and its real value in Naira and United States Dollars.

**Table 5: Power Sector Vote as a Percent of Overall Budget 2013-2017 and its Real Value**

<table>
<thead>
<tr>
<th>Year</th>
<th>National Budget</th>
<th>Power Budget Sector</th>
<th>Percentage to Power</th>
<th>Exchange Rate</th>
<th>US$ Value of Power Sector Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>4,987,220,245,601</td>
<td>77,565,547,652</td>
<td>1.56</td>
<td>@1USD=N160</td>
<td>484,784,673</td>
</tr>
<tr>
<td>2014</td>
<td>4,695,190,000,000</td>
<td>63,212,100,633</td>
<td>1.35</td>
<td>@1USD=N160</td>
<td>395,075,629</td>
</tr>
<tr>
<td>2015</td>
<td>4,493,363,957,158</td>
<td>9,606,813,831</td>
<td>0.21</td>
<td>@1USD=N190</td>
<td>50,562,178</td>
</tr>
<tr>
<td>2016</td>
<td>6,060,677,358,227</td>
<td>105,095,466,577</td>
<td>1.73</td>
<td>@1USD=N197</td>
<td>533,479,526</td>
</tr>
<tr>
<td>2017</td>
<td>7,441,175,486,758</td>
<td>175,960,735,850</td>
<td>2.36</td>
<td>@1USD=N305</td>
<td>576,920,445</td>
</tr>
</tbody>
</table>

17 Calculated at 23% of the overall vote of the Ministry - as stated by the Minister of Power, Works and Housing, Babatunde Fashola - see Vanguard Newspaper of February 16, 2016.
18 Calculated at 30% of the overall Ministry’s (FMPWH) vote.
From Table 5, it is clear that the Power Sector vote of 2017 has been the highest over the five years. It declined in 2015 and started an upward swing in 2016.

3.2 Late And Partial Release Of Appropriated Funds
Due to the persisting late passage and assent to the Appropriation Act, Power Sector votes are usually released late. Budget Implementation Reports of the Budget Office of the Federation showed partial release of allocated funds; partial cash-backing of released funds while utilization has been low due to late disbursements and poor absorptive capacity. This has to improve in the medium term and beyond. Table 6 tells the story.

### Table 6: Power Sector Capital Budget Implementation 2013-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Allocation to Power Sector (₦)</th>
<th>Total Amount Released (₦)</th>
<th>Total Cash backed (₦)</th>
<th>Total Utilized (₦)</th>
<th>As% of Annual Appropriation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>73,347,958,463</td>
<td>49,213,422,043</td>
<td>49,213,422,043</td>
<td>39,554,121,008</td>
<td>53.93</td>
</tr>
<tr>
<td>2014</td>
<td>59,814,290,389</td>
<td>48,326,791,710</td>
<td>48,326,791,710</td>
<td>47,589,473,150</td>
<td>79.56</td>
</tr>
<tr>
<td>2015</td>
<td>5,130,000,000</td>
<td>7,923,000,001</td>
<td>7,923,000,001</td>
<td>7,174,439,405</td>
<td>139.85</td>
</tr>
<tr>
<td>2016</td>
<td>422,964,928,495&lt;sup&gt;19&lt;/sup&gt;</td>
<td>307,411,749,682</td>
<td>307,411,749,682</td>
<td>300,993,411,071</td>
<td>71.16</td>
</tr>
</tbody>
</table>

*Source: Budget Implementation Reports, Budget Office of the Federation*

Table 6 shows that capital budget implementation (as a percentage of annual appropriation) was 53.93%, 79.56%, 139.85% for 2013, 2014 and 2015 respectively. That of 2016 which comprises the allocation to Power, Works and Housing was 71.16%. Utilization rate for 2015 was above 100% as additional Authority to Incur Expenditure (AIEs) of N2.79 billion was approved and released to the Federal Ministry of Power during the year from the Service Wide Votes to augment the capital appropriation. This is expenditure beyond appropriation which is illegal and unconstitutional. Thus, the average utilization rate for the period (excluding the outlier year of 2015) was 68.22%.

3.3 How Sustainable Is Incurring Debts For Energy Sector Financing?
The 2016 Debt Sustainability Analysis of the Debt Management Office (DMO) acknowledged the fact that the country’s debt position experienced some level of deterioration – went from low risk of debt distress to a medium risk of debt distress<sup>20</sup>. There are usually the baseline, optimistic and the pessimistic scenarios of debt

<sup>19</sup> This is the un-disaggregated budget for the three sectors of Power, Works and Housing.

sustainability analysis. However, the pessimistic scenario was not done as DMO stated that the baseline scenario was “pessimistic enough”. According to the baseline scenario which was deemed “pessimistic enough”, it was shown that the Debt to GDP ratio of Nigeria stood at 15.9% in 2016 below the peer country threshold of 56% and a country specific threshold of 19.39%. A look at the debt to revenue ratio of the country however, reveals unsustainability in the country’s debt stock as the present value (PV) of debt to revenue was projected at 395.5% in 2016 and 437.9% in 2018, all above the country specific threshold of 350%.

Caution should be exercised in incurring debts and efforts should be made to ensure that proceeds of borrowing are used for infrastructure and human capital development as stipulated in the Fiscal Responsibility Act (FRA). Alternative financing options should be explored. All the options for accessing bilateral and multilateral climate funding\textsuperscript{21} should be explored to fund investments in renewable energy and in the sector. However, if foreign debts have to be raised, they must be tied to some exchange rate hedging mechanism to avoid the challenges of currency volatility.

4. KEY POWER SECTOR ACHIEVEMENTS IN RECENT TIMES

At the policy level:
- INDC and NDC
- Electric Power Sector Reform Act.
- SE4ALL, NASPA-CCN.
- The Gas Master Plan, etc.

At the financing level:
- Establishment of special funds and windows for financing electricity challenges, etc.

At the implementation level:
- Privatization of generation and distribution components of the Nigerian Electricity Industry.
- Solar and other renewable energy projects
- Introduction of clean cookstoves

Evidently, the achievements have been more about crafting policies and intentions of government while implementation has fared poorly.

\textsuperscript{21} See CSJ’s Publication titled “Financing Options for Climate Change Interventions” for more details.
5. MDAS POWER PROJECTS/ACTIVITIES THAT SHOULD BE SUSTAINED

The below listed provisions from 2013-2017 are some projects of the FMPWH and other MDAs that facilitate the establishment of a power sector that takes cognizance of sustainability issues. The reasons for this position are stated immediately after Box 2.

Box 2: Some Climate Change Friendly Power Projects of the FMPWH and other Ministries

| Solar street lighting; solar powered boreholes; small scale renewable energy power plants and their feasibility studies; solar mini grid electrification projects; unspecified research and development; procurement of clean cook stoves; training of artisans on clean cook stoves; greenfield development of a few public buildings; biomass and biofuels development for renewable energy; development of small and medium scale hydropower plants; erosion control on transmission lines; national grid and transmission lines rehabilitation; systems operation and network management; Mambila and Zungeru large hydro power projects, etc. |

Source: Budget Office of the Federation of Nigeria

Solar powered street lighting reduces the pressure on grid electricity and offers a low carbon approach to expanding access to electricity. But there is a preponderance of solar for street lighting which gives the impression that solar is only good for the streets and may be unsuitable for other purposes. At the same time, the rate of investment is small compared to the 20:30:30 Vision. Procurement of clean cook stoves and training artisans on their use and maintenance is good for forest conservation and reduces emissions. However, the rate of penetration is low and clean cook stoves are not yet popular in poor households where they will facilitate emission reduction, help retain good air quality and minimize health related challenges. Ultimately, this should be driven by the private sector after sufficient awareness has been created and possible subsidies offered to enable increased uptake.

Strengthening the national grid, systems operation and network management is relevant to emission reduction considering the waste that the present state of the grid facilitates. Also, the development of small and medium scale hydro and other renewable energy plants will facilitate the achievement of set emission reduction targets. But care must be taken in handling large scale hydro projects because of the numerous ecological, livelihood and social challenges they pose.

6. MDAS POWER PROJECTS/ACTIVITIES THAT SHOULD NOT BE SUSTAINED

The major projects that seek to encourage emission of GHGs and have harmful environmental footprints from the Power Sector and other MDAs include:

- Generator purchase, maintenance and fueling
- Support to coal to electricity projects

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22 The annual consumption of fuel wood in Nigeria is estimated at 50million metric tonnes - SE4ALL.
- Support to acquisition of nuclear electricity generating power plant
- Aggravated air travel

Purchase, maintenance and fuelling of diesel and petrol powered generators are not only supportive of emissions; they are also expensive and do not deliver value for money when all the externalities and whole lifecycle cost are taken into account. Coal to electricity projects seek to lock the country into a 30-40 year emission chain at a time other countries are leapfrogging into the age of renewables. Acquisition of nuclear power generating capacity comes with its risks and cost escalations. Coming at a time other countries have expressed their targets of de-commissioning nuclear electricity plants and have indeed started scrapping some; it is obviously a misplaced priority. Air travel comes with its high emissions; although it is a necessity, it should be reasonably limited.

7. OTHER POWER SECTOR CHALLENGES

7.1 Absence of Collaboration Between The Tiers Of Government

A lot of resources have been invested by various MDAs on renewable energy especially solar lighting in so many states of the Federation. However, the investments are not coupled with agreements between the Ministry, states and local government or communities for the maintenance of the projects. Thus, projects become non-functional within months of completion and commissioning and no one has a clear mandate for its maintenance. This is not value for money and wastes the available resources.

This raises posers about the propriety of the mandate of a federal agency domiciled in Abuja as the one in charge of responding to the challenge of providing street lights or lighting up far flung communities - a task the states and local governments are most suitably positioned to undertake. The FMPWH and indeed, any other federal agency needs to enter a memorandum of understanding with the state and local governments for such low level projects. The MOU will ensure that the project is handed over to the local authorities upon completion who now take over its recurrent, running and maintenance costs. The MOU can also facilitate the promotion and uptake of solar lamps, cook stoves and similar facilities.

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23 Germany will no longer use nuclear power for electricity generation by 2022; 8 out its 17 nuclear power plants have already been shut down.
25 Whether it is the Rural Electrification Agency; the National Assembly through its members or indeed, any other federal agency - the propriety of the mandate is questionable.
7.2 Poor Research and Development
Research and development votes in the sector are usually for unspecified purposes and this leaves the sector with little Nigerian contribution to the development of new products and services. Thus, most of the materials for use in the sector are imported thereby increasing costs due to the declining value and volatility of the Nigerian currency. Research and development should be properly funded, demand driven and respond to the needs of the power sector within the context of massive low carbon energy provisioning. Faculties of universities and other higher institutions that run courses related to the sector should be supported to generate products and services that satisfy local demand. Also, there is the need to strengthen research institutes and give them grants based on performance, such that institutions that have good results will be given preference. This will naturally spur competition between them to come up with research findings.

7.3 New Capital Projects
Resources are so thinly spread in the sector across so many uncompleted renewable energy and other projects that were due for completion so many years ago\textsuperscript{26}. Other projects are begging for maintenance, equipment and overheads to make them functional. This has not guaranteed value for money and improvement of power supply. A moratorium on brand new capital projects, not related to existing projects has become necessary unless the new project is of utmost priority. Otherwise, money should be spent on completing, equipping, rehabilitating and making functional the existing projects.

7.4 Poor Monitoring, Reporting and Verification (MRV)
The FMPWH hardly provides resources for monitoring, reporting and verification of the sectors mitigation and adaptation measures. This has led to data gaps which frustrates evidence led planning for reduction of emissions. Poor MRV also denies Nigeria of the opportunity of participation in emission trading schemes. It is therefore imperative for funding to be made available for this purpose from the 2018 budget onwards, either for the FMPWH alone or jointly with the national ministerial focal point in the Federal Ministry of Environment.

7.5 Standards Setting
FGN through collaboration between Standards Organisation of Nigeria, NERC, Consumer Protection Council, etc. should lead the way through introducing Minimum Energy Performance Standards and also enforce same. The deadline fixed for this in NEEAP is the end of 2017. This will include standards for lighting, air-conditioning, etc.

\textsuperscript{26} Examples include the Katsina Wind Farm scheduled for completion in 2012 and several transmission projects that have not been completed many years after the initial time frame set for their completion.
PART TWO: FOR ACTION IN THE MEDIUM TERM

Part Two is dedicated to action needed to improve budgeting for a low carbon emitting power sector after the passage of the 2018 budget vis - in the medium term, before the end of the tenure of the current Executive and National Assembly. Action (in terms of bills, motions and oversight activities) is expected from the legislature and a multiplicity of action from the executive and other stakeholders. Other key actions are expected from the FMPWH. However, the provisions should start from the 2018 budget of the FMPWH.

8.1 Review the Windows for Energy Financing

The special windows for financing small and medium scale enterprises should be reviewed. They need to be strengthened so that they can reach a larger segment of renewable energy entrepreneurs and households who want to engage in the transition to renewables. The funds should also be made available for the acquisition of clean cook stoves by poor households who may apply by way of registered cooperatives. These funds should still be made available at single digit rates and spread over a reasonable period of time, may be extending up to five years. The National Housing Fund through primary mortgage institutions may also consider extending loans for the acquisition of renewable energy products and clean cook stoves as part of their mandate.

FGN should consider the establishment of a Clean Energy Fund to be deployed to promote the use of solar and other renewable energy, energy efficient appliances like LEDs, clean cook stoves and LPG, mini grids and off grid energy projects, etc. Funding for this can come from a part of Ecological Funds and other FGN and state sources. The Fund will be revolving since monies taken from it for any purpose will ultimately be paid back.

A review of the reasons for the failure of previous intervention funds should form the basis of the design of new ones. First, the 2009 N300 billion Power and Airline Intervention Fund (PAIF)\(^\text{27}\) which was approved by the Central Bank of Nigeria (CBN) to be administered by the Bank of Industry did not achieve its objectives. Next was the 2014 N213 billion Nigeria Electricity Market Stabilisation Fund (NEMSF). This was established by the CBN to improve liquidity in the industry by seeking to put NESI on the path of economic viability and sustainability. The facility was to address the settling of outstanding payment obligations due to market participants, service providers and gas suppliers that accrued during the Interim Rules Period (IRP Debts) and also for

payment of Legacy Gas Debts of the PHCN generation companies owed to gas suppliers and the Nigeria Gas Company Limited (NGC). Out of the N213.41 billion facility, N120.2 billion was disbursed to various qualified market participants. On cumulative repayments, the Financial Stability Report of December 2016 stated that as at the end of 2016, the repaid sum since inception stood at N6.26 billion out of the disbursed sum\(^{28}\). Again, the objectives were not achieved.

Most recently in May 2017, the FGN announced an intervention of N702 billion to the power sector through the CBN as a loan to the Nigerian Bulk Electricity Trading PLC (NBET) to securitize the operations of the GENCOs. The approved intervention is a payment assurance guarantee for the power sector as part of the step being taken to tackle the liquidity challenges of the sector. The idea is to ensure that whatever power generated by the GENCOs and supplied to the Transmission Company is paid for in full. The objectives of the Payment Assurance Guarantee (PAG) include: to ensure that level of generation to the grid is stable; to enable NBET to meet its payment obligations under Power Purchase Agreements (PPA) with GENCOs; to give assurance to GENCOs and their gas suppliers for energy generated; and finally, to instill/restore confidence for investments in the GENCOs and gas producers who supply gas to the sector.

However, this initiative have been criticized in some quarters as a partial solution, because it ensures that the GENCOs are paid for power generated and supplied without addressing the retail pricing of power by making it cost reflective. It is like finding a short term solution to an age long problem. It also leads to the question of how FGN hopes to get the loan back if the retail end does not collect the true cost of power produced and supplied. This seems like throwing money at a challenge.

### 8.2 Issuance of Green Bonds

Projects that will benefit from the issuance of Nigerian Green Bonds should fit into the NDC targets of 2% per year energy efficiency, work towards off grid solar PV, work towards ending gas flaring, etc. Such projects should create jobs, be cost effective and make reasonable returns on investment, mainstream gender and social inclusion and have great mitigation potential. Any project that does not fit into these criteria should not be funded by the Green Bond. Also, the reporting of the project implementation must show energy savings, GHG reductions, renewable energy production, etc. Clearly, the Green Bond provides good opportunity for renewable energy and low carbon framework mainstreaming.

8.3 Tapping into Climate Financing Mechanisms
The FMPWH should consider tapping into international climate financing mechanisms. Capacity building may be imperative for building the critical skills needed to access these funds. The Financing Mechanisms include the Green Climate Fund, Clean Technology Fund, Special Climate Change Fund, International Climate Fund, etc. A combination of green bonds, climate financing mechanisms and other funding windows can be used to convert Single Cycle Gas Turbines (SCGT) to Combined Cycle Gas Turbines (CCGT) for greater efficiency and reduction of GHG emissions.

8.4 Governments Ownership Of Transmission: Invest Or Let Go
FGN still retains ownership of transmission facilities through the Transmission Company of Nigeria. The grid collapses after 5,500 megawatts which is not up to one third of the demand of energy by Nigerians. However, FGN seems not to have the resources to invest for the needed improvement of transmission facilities. It is therefore imperative that FGN stops continuing acting like the proverbial dog in the manger. It must let go and invite the private sector to invest in transmission or come forth with alternative funding sources that still retains transmission in its custody. Energy losses from transmission (7% of generated energy) create new GHG emissions. In the first instance, we do not have enough energy to go round and the little that is generated is lost calling for another round of generation that emits new GHGs. Again, FGN should consider decentralizing the grid which in its present form is faced with intractable challenges.

8.5 Correct NESI Liquidity Challenges
The Nigeria Electricity Supply Industry (NESI) is bedeviled by liquidity challenges. Liquidity challenges constrain new investments and the ability of the sector to respond to climate change. There is a huge backlog of debts in the industry. The structure of NESI permits for all segments of the industry to be paid for their services from the Distribution Companies level collections. Thus, failure of collection and transparent accounting of revenues by DISCOs simply spells danger for the entire sector. There is a backlog of debts for power consumed overtime to the extent that DISCOs claim that MDAs owe them in excess of N809 billion. The ERGP states that FGN aims to resolve MDAs debts to DISCOs no later than 2017. The Minister of Budget and National

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31 They include: the Gas Suppliers, Generation Companies (GENCOs), Transmission Companies and Distribution Companies (DISCOs).
33 Power Sector Strategy of the ERGP to ‘Improve the commercial viability of GENCOs and DISCOs’.
Planning also stated during the public presentation of the 2017 Appropriation Act\textsuperscript{34} that there is N40bn provision for clearing the MDAs bills under Service Wide Votes (SWVs).

Also, a contributor to revenue shortfalls is the ATC&C losses. Power generated is often lost either through technical inefficiency of the power plants and of the power infrastructure through transmission and distribution losses; commercial, as some distributed power are not billed but are stolen (illegal connections for e.g.); and collection losses as some consumed power bills are not collected by the DISCOs for one reason or the other.

There is also the issue of the DISCOs not remitting the full worth of power supplied by GENCOs and the grid. A previous study carried out by the Centre for Social Justice\textsuperscript{35} showed that an average of 36.24% was the amount paid by the DISCOs to the Market Operator in the first quarter of 2016. It has also been reported that out of N37.38 billion worth of electricity supplied by the GENCOs in February 2017, only about N12.69 billion was paid for by DISCOs\textsuperscript{36}, representing a 33.95% remittance performance.

In addition to the foregoing, the situation is such that the new owners rely on bank loans to run their acquisitions. To buttress this point, the current Non-Performing Bank loans (NPL) of the power, oil and gas sector have been reported to be in excess of N4 trillion\textsuperscript{37}. This begs for a speedy action to halt accumulation of these NPLs.

\subsection*{8.6 Address The Questionable Capability Of NESI Operators}

There is currently an overwhelming need for investments by the PHCN successor companies into the new acquisitions. Most buyers, especially the DISCOs have neither demonstrated the technical, financial nor managerial capacity to turn around the fortunes of the privatized agencies. The DISCOs seem not to have the financial capability to drive investment in the sector as it regards metering, network extension and improvement, etc. to enable a more effective billing across the country. Estimated billing is still the order of the day in most parts of the country. DISCOs are also reported to be refusing to take energy supplied through transmission at a time Nigerians are coping with darkness\textsuperscript{38}. The DISCOs claim that this is due to transmission challenges

\textsuperscript{34} He said this during his presentation speech on the 19/6/2017 at the Ministry of Foreign Affairs Building, Central Area Abuja.
\textsuperscript{37} The Nation Newspaper of 20/2/2017 “Banks’ Loans to Oil, Gas, Power Firms hit N4tr”. Available via http://thenationonlineng.net/banks-loans-oil-gas-power-firms-hit-n4tr/
\textsuperscript{38} http://www.nigeriainstituteshub.com/2017/04/12/discos-reject-10200-megawatts-in-1-month/. The DISCOs through ANED’s Director of Research and Advocacy, Sunday Oduntan explained that TCN often
and poor load allocation by TCN which delivers energy to where it is not needed. Capacity deficits cut across the entire value chain. Nigeria has about 12.5GW installed capacity and generates only 3.5GW which implies a capacity loss of 8.5GW being 68% of total installed capacity. New partners may have to be brought in to inject new resources into the companies. Making these companies publicly traded on the stock exchange may be the answer if private strategic investors are not available.

8.7 Ensure Cost Reflective Tariffs
There is the issue of non-cost reflective tariffs. The DISCOs claim that the tariffs being charged for power is below the cost of generating the power and so makes it difficult for operators to break even. The Association of Nigerian Electricity Distributors (ANED) maintains that expecting the DISCOs to buy power at N68/kilowatt and then sell at N31/kilowatt is not possible. This view has also been corroborated by some experts who posited that for necessary private investments to take place in the power sector that the FGN ought to make the tariffs cost-reflective. Making the tariffs cost-reflective coupled with appropriate metering will go a long way towards resolving the financial issues challenging the sector. But a caveat is necessary. While Nigerians are willing to pay for improved services; they may not be willing to pay for stagnated services at higher costs. Thus, improvements are necessary to drive cost reflective tariffs. At the same time, the tariff reviews can start from the more affluent sections of the community to provide cross subsidies to other less affluent sections.

8.8 Correcting the Issue Of Gas Shortages And Vandalism
The Nigerian Gas Master Plan makes clear provisions for making gas available whilst the challenge of vandalism is political and can be solved by the goodwill of an administration. The problem of gas shortages attributable to non cost reflective local price and pipeline vandalism has affected electricity generation. GENCOs owe gas suppliers in excess of N155billion whilst many of the completed power projects do not yet have gas supply. This challenge made power production to hit its lowest ebb in 2016 and have just recently improved given the restoration of relative peace in the Niger Delta region. Power generation has actually gone from over 2,600 MW in January 2017 to 3,688 in April 2017. The administration must summon the political will to defies the daily load schedules of the DISCOs by transmitting electricity to where DISCOs have low distribution needs, leaving out the high areas of electricity demand.

40 Supra; THISDAY Newspaper of 30/6/2017.
42 See Guardian newspaper, August 11, 2017; “N4.633trillion power plants with 6000 MW capacity idle”
address the vandalism challenge through mechanisms that give the people a sense of belonging and improve transparency. The full implementation of the Gas Master Plan especially its Domestic Gas Supply Obligations and Real Time Monitoring of Gas Pipelines will resolve extant challenges\(^44\).

8.9 The Need for Cooperatives and Engagement of Communities- Exploiting The Not For Profit Alternative

Considering the need for installation and use of renewable energy in its off-grid format in far flung communities and the larger question of cost, it is imperative that communities be organized into CBOs and cooperatives to either fully finance or part finance and manage their renewable energy facilities. Many of the electricity installations (on-grid) in the South East of Nigeria were built by community efforts. Communities mobilized and tasked their members or the rich members did it as part of charity and at the end of the day, they were taken over by the DISCOs after privatization. This community engagement model can be replicated across the Federation, this time with the introduction of renewable energy. When credit facilities (single digit loans) are available; community based organisations and cooperatives are best suited to manage their energy affairs (using credit facilities) in a not for profit manner.

8.10 Reduction of Distribution Losses

Distribution losses account for 12% of generated energy\(^45\). This reinvigorates the demand for new generation and emission of GHGs. The generated and transmitted energy is very low per capita and cannot meet the energy demand. To lose some part of the energy due to the inefficiency of distribution can be curtailed by NERC insisting that DISCOs keep their part of the bargain of reducing losses as guaranteed in their contracts. Sanctions should be brought to bear on DISCOs that do not meet the minimum standards.

8.11 The Continuum: Policy, Plan, Budget Cycle

Previous and current experience in the implementation of national plans reveals a lot of disarticulations. From Vision 20:2020, National Economic Empowerment and Development Strategy, Seven Point Agenda, Transformation Agenda to the current Economic Recovery and Growth Plan; projections were more than appropriations; appropriations more than releases; cash backed sums are less than releases and actual expenditures are less than cash backed sums. Expenditures are therefore far less than projections thereby making the planning exercise an exercise in futility. It is recommended that Power Sector budgets should be backed by a clear Medium Term

\(^44\) Gas producers prefer to export and get their returns since domestic buyers have no capacity to pay-this is ongoing despite the Domestic Supply Obligations.

\(^45\) Nigeria Power Baseline Report 2015, BMI Research, PwC Analysis.
Sector Strategy which is linked to high level national and international standards; fully
costed and progressively allocates more resources to Power based on increased
availability of resources. There should be an inseparable link between policy, planning,
budgeting, performance, monitoring and evaluation continuum. This continuum should
be reflected in the Power Sector specific budget template to be devised by collaboration
between the executive and legislature. The legislature should insist on the
establishment of the link between policies and appropriation during the consideration of
the budget. Clarity of the budget template will dictate that projects are clearly and
properly described in the budget and repetition of budget heads and items should be
avoided.

8.12 Formation of Sector Teams for Future Budget Planning
The executive is enjoined to collaborate with the stakeholders in GENCOs, TCN,
DISCOs, civil society, professional associations, organized labour, the academia, etc. to
ensure that the preparation of Power Sector Medium Term Sector Strategies is done by
a team that represents all stakeholders including the MDA and its parastatals. This will
guarantee comprehensiveness of future budgets and the fact the budget votes will
target programme results and goals of the sector.

8.13 Adopt Best Practices in Public Procurement
Good and fit procurement practices should be adopted by FMPWH; with a standard
price database to remove price differentials for the same projects, programmes and
activities and to enhance value for money in energy operations. Adoption of open
procurement and contracting should be encouraged through legislative oversight.

8.14 Renewable Energy, Value Chains, Value Addition And Job Creation
Opportunities
The unavailability of energy in rural farm settlements is usually one of the key
challenges militating against storage and preservation of farm products. It is also one of
the key challenges to the informal and crafts sector as well as the formal sector. The
deployment of grid and off grid renewable energy should be attached to quick wins that
strengthen the value chain in agriculture, crafts, informal sector, job creation, etc.

8.15 The Public Sector Should Lead the Way
FGN should lead the way through the use of renewable energy in its offices across the
federation and ensure that all new public buildings are built with energy efficient building
designs. All new private building designs should be made to comply with the energy
efficiency standards which should be mainstreamed in the building code.
9. SUMMARY OF POLICY RECOMMENDATIONS

The Memorandum Makes the Following Policy Recommendations:

9.1 FUNDING

(i) Allocate not less than 4% of the total annual national budget to the Power Sector to meet the demands of the sector.

(ii) The bulk of the new resources should go to capital expenditure for renewable energy and strengthening of the transmission grid. In view of the paucity of public funding, FGN should seriously consider inviting private sector investments for the transmission grid.

(iii) DISCOs should be made to get listed on the Stock exchange and new investors should be invited to put new resources into the companies. Available evidence indicates lack of financial capacity for new investments or even to pay accrued debts.

(iv) FGN should consider the establishment of Clean Energy Fund to be deployed to promote the use of solar and other renewable energy, energy efficiency appliances like LEDs, clean cook stoves and LPG, mini grids and off grid energy projects, etc. Funding for this can come from a part of the Ecological Funds and other FGN, state and local government sources. The Fund will be revolving since monies taken from it for any purpose will ultimately be paid back.

(v) Review the present tariff to a more cost reflective one in a bid to guarantee the sustainability of the sector.

(vi) FMPWH to ensure that Power Sector produces bankable projects to be funded under the FGN Green Bonds issuance scheme.

(vii) Build capacity in the FMPWH and tap into international Climate Financing Mechanisms to raise more funds for renewable energy and other low carbon power initiatives.

(viii) Consider a moratorium on brand new capital projects not associated or linked with existing ones unless the project is of utmost priority. This will avoid the thin spread of available resources which produces no results. Money should be spent on completing, equipping and making functional the existing projects.

(ix) If foreign borrowing is to be raised for the Power Sector, ensure that it is tied to an exchange rate hedging mechanism.

(x) Government should consider incentives and subsidies (pioneer status, tax holidays, etc.) on the value chain of the production of renewable energy and other low carbon
inputs to the energy sector. Consumption subsidies will only encourage importation and defeat the local content campaign.

(xi) Strengthen the Monitoring, Reporting and Verification (MRV) System to enable Nigeria actively participate in earning carbon credits and build data and statistics for planning.

9.2 OPERATIONAL ISSUES

(i) Mini and small scale renewable energy projects including solar lighting should be tied to a Memorandum of Understanding with states and local governments to ensure that their running costs are borne by lower tiers of government after completion and commissioning.

(ii) Strengthen research and development and give relevant institutes grants based on performance, such that institutions that have good power inventions will be given preference. This will naturally spur competition between them to come up with research findings.

(iii) There is need for structured and coordinated energy data collection so as to enable informed target setting as regards low carbon budgeting and project implementation. This will also be a springboard for setting up an Energy Management System Protocol in the sector as what is not measured cannot be managed. The Energy Management System Protocol could be adopted in the industrial sector to provide data which will serve as a benchmark for a scaled up adoption of energy efficiency in the industrial sector on one hand. On the other hand, it will promote an energy efficiency network concept whereby companies (manufacturers) from different sectors using cross-cutting technologies meet in a moderated session to share ideas on how energy efficiency could be promoted.

(iv) The Power Sector in collaboration with Industry should set compliance targets for the replacement of inefficient motors, boilers, etc. in the industrial sector with more efficient ones to promote energy efficiency. Leaders and captains of industry should be the real drivers of energy efficiency.

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46 This is currently being supported by Nigerian Energy Support Programme (NESP). It has been found that a great deal of learning takes place amongst peers.

47 If the leaders and owners of companies are energy efficiency conscious, then trainings would be organized for members of staff to key into energy efficiency practices and conservation in industries. It will also inform procurements that are energy efficiency compliant. Same goes for residential homes.
(v) For industries (and SMEs), the biggest motivation for energy efficiency would be cost savings as against energy savings. As the cost factor drives entrepreneurship, the audit component of cost savings is crucial here.\textsuperscript{48}

(vi) Set compliance targets for Minimum Energy Performance Standards for household appliances e.g. for air conditioners, light bulbs, electric irons, etc. Ghana banned the imports of incandescent light bulbs and other high energy consuming lamps in a bid to promote efficiency in housing. Nigeria could follow in her footstep to ramp up her energy efficiency actions.

(vii) FGN to ensure that MDAs pay off debts accruing to DISCOs and other actors in NESI.

(viii) NERC to enforce performance agreements entered with NESI operators especially on metering, reduction of ATC&C losses and full remittance of funds raised from energy sold by DISCOs.

(ix) Revert to and fully implement the Nigerian Gas Master Plan. There is no need for a new plan as the extant plan is a master piece that demands full implementation, especially its appropriate gas pricing and domestic supply obligations.

(x) Encourage the formation of cooperatives and organize communities as this will improve their chances of accessing credit for renewable energy and energy efficiency projects from the special funding windows.

(xi) Renewable energy should be utilised in agriculture including solar boreholes, solar lighting, drying, the development of automated solar powered agriculture machines including planters, harvesters, etc. This is cheaper in terms of fuelling in the long run and the whole life cycle costs will also be cheaper. It also has the prospect of generating more jobs in the localities where they are sited.

(xii) Take steps in collaboration with other MDAs, states and local governments to increase the number of households transiting from kerosene to cooking gas (LPG) to 20 per cent by 2020 and increase the number of households replacing kerosene lanterns with solar lamps by 20 per cent by 2020. Promote solar cookers. Provision of alternative domestic fuel for rural dwellers - revisit the clean cook stoves, more use of cooking gas and solar cookers. This is cheaper in the long run because of the skyrocketing cost of

\textsuperscript{48} The government could embark on energy audit interventions in specific locations and industries to establish what the energy flow is in these areas, where it comes from, where it goes to and what consumes what amount of energy etc. So that energy savings points could be identified and disseminated across industry.
kerosene. This will also help in reducing deforestation that is done for the purpose of getting firewood for cooking.

9.3 TRANSPARENCY AND ACCOUNTABILITY

(i) The specific annual contributions of donors and development partners should be identified and captured in the budget to ensure transparency, accountability and prevent double budgeting and duplication of efforts.

(ii) Increase the efficiency of Power Sector spending through greater value for money strategies. Ensure strict and efficient utilisation of the resources allocated to the sector by implementing open contracting standards as part of an open government strategy.

(iii) The Minister of Finance should prepare and publish a Disbursement Schedule within 30 days of the enactment of the Appropriation Act as stipulated in section 26 of FRA and ensure full and timely release of the capital budget of the FMPWH every financial year.

(iv) The Budget Office of the Federation should resume the timely publication of Quarterly Budget Implementation reports on its website and in national dailies. The FMPWH should likewise publish details of budget releases and expenditure on quarterly basis. This will help to promote transparency and accountability.

(v) The FMPWH should embrace the civil society as a critical partner in achieving greater value for money in a bid to improve national power outcomes. Future preparation of the MTSS should rely on a full Sector Team including the civil society and other relevant stakeholders. The FMPWH should engage CSOs for budget monitoring and tracking expenditure of borrowed sums in the sector.

THIS MEMORANDUM WAS ADOPTED BY THE FOLLOWING ORGANISATIONS

1. Centre for Social Justice (CSJ)
2. Environmental Rights Action
3. African Green Movement
4. National Association of Nigerian Traders
5. Women Environmental Programme
6. Foundation Against Desert Encroachment
7. Foundation for Human Development
8. ACERDEN
9. Good Governance Team
10. Citizens Trust Advocacy Development Centre
11. Global Initiative for Leadership and Good Governance
12. Peoples Empowerment Forum
13. Nigerian Conservation Foundation
15. Campaign for Good Environment
16. RRDC
17. Foundation for Environmental Research and Development
18. Centre for Research, Advocacy, Women and Youth Development
19. Green Transact
20. Advocacy for Change Initiative
21. Society for Sustainable Development in Africa
22. ANWAI
23. LENF
24. Development Association for Renewable Energies
25. Global Rights
26. Lexville Foundation
27. Basic Rights Watch
28. Climate Transformation and Energy Remediation Society
29. CLAIN Initiative
30. Life Impact Centre
31. Community Centre for Development
32. KIF
33. National Unity Movement
34. Association for the Reduction of Carbon Emission
35. Michael Adedotun Oke Foundation