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# Power Africa Gender Analysis for Nigeria

November 2017

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## LIST OF ACRONYMS

AEDC	Abuja Electricity Distribution Company
BDS	Business development services
BEDC	Benin Electricity Distribution Company
BUDFOW	Business Development Fund for Women
CDCS	Country Development Cooperation Strategy
CEDAW	Convention on Elimination of all Forms of Discrimination against Women
COR	Contracting Officer's Representative
CSO	Civil Society Organization
DFID	Department for International Development
DISCO	Power Distribution Company
DO	Development Objective
ECOWAS	Economic Community of West African States
EGE	Economic Growth and Environment
EKEDC	Eko Electricity Distribution Company
EPSRA	Electric Power Sector Reform Act
EU	European Union
GIZ	German Corporation for International Cooperation
GoN	Government of Nigeria
IBEDC	Ibadan Electricity Distribution Company
ICEED	International Research Center for Energy and Economic Development
IDIQ	Indefinite Delivery Indefinite Quantity
IDP	Internally Displaced Person
IR	Intermediate Results
JICA	Japan International Cooperation Agency
LAPO	Lift Above Poverty Organization
ME&L	Monitoring, Evaluation and Learning
MSMEs	Micro, Small and Medium Size Enterprises
MSTAS	Management Support and Technical Assistance Services
MW	Mega Watt
NBET	Nigerian Bulk Electricity Trading
NEEAP	National Energy Efficiency Action Plans
NEEDS	National Economic Empowerment and Development Strategy
NEMP	National Energy Master Plan
NEP	National Energy Policy
NERC	Nigerian Electricity Regulatory Commission
NESP	Nigeria Energy Support Program
NGO	Non-Government Organization
NIAF	Nigeria Infrastructure Advisory Facility
NPSP	Nigeria Power Sector Program
NREEEP	National Renewable Energy and Energy Efficiency Policy
NSP	Nigeria Support Project
PATRP	Power Africa Transactions and Reforms Program
PIRS	Performance Indicator Reference Sheet
PWC	PricewaterhouseCoopers
REA	Rural Electrification Agency
REEEP	Renewable Energy and Energy Efficiency Project
REPG	Renewable Electricity Policy Guidelines

RESIP	Rural Electrification Strategy and Implementation Plan
RUWES	Rural Women Energy Security Initiative
SAG	Senior Advisors Group
SMEs	Small and Medium Enterprises
SSA	Sub-Saharan Africa
STEM	Science, technology, engineering and math
TCN	Transmission Company of Nigeria
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USADF	United States African Development Foundation
USAID	United States Agency for International Development
USG	United States Government
VAPP	Violence against Persons Prohibition
WAAW	Working to Advance Science and Technology Education for African Women
WAPIC	West African Power Industry Convention
WB	The World Bank
WiAP	Women in African Power
WIMBIZ	Women in Management, Business and Public Service

## Executive Summary

### Methodology

The Power Africa gender analysis provides an overview of gender issues relevant to Nigeria's power sector. The analytical approach was developed in accordance with USAID's gender equality framework<sup>1</sup> and the Power Africa Monitoring, Evaluation and Learning (ME&L) framework. The analysis was initiated with a literature review of Nigeria's energy sector policies, as well as project reports and academic studies addressing gender and energy issues. The literature review informed the design of field research, which included 39 Key Informant Interviews with representatives from civil society, government, private sector, and multilateral and bilateral institutions. Findings were applied to develop a set of recommendations that can be utilized by USAID and other donors to inform the design of energy sector activities.

### Findings and Recommendations

The lack of a reliable and affordable supply of electricity impacts every facet of life in Nigeria. Some 95 million Nigerians—more than half of the population—do not have access to electricity,<sup>2</sup> while even those who are connected to the power grid are adversely affected by extensive outages. Businesses routinely cite the cost of electricity as the principal drain on profitability and competitiveness, while schools and clinics often go without electricity or rely on costly diesel generators.

Given these challenges, gender issues are not seen as a priority for most stakeholders in the sector. Efforts to promote the consideration of gender issues in energy sector policy, planning and project development must be oriented toward demonstrating their positive impact on the sector. Unless gender integration is understood as a net positive, there will be reluctance on the part of sector stakeholders to undertake activities seen as tangential to their primary goals.

A growing evidence base correlates gender diversity in the workforce and management with improvements in a company's performance (see box). Data across multiple sectors demonstrates that gender diversity leads to better decision-making, improved adherence to corporate governance, less insolvency, and greater innovation; all of which can lead to improved performance.<sup>3</sup> For energy sector stakeholders to accept the adoption of more gender sensitive approaches as best practice, the business case needs to be socialized and strengthened within the Nigerian context.

#### The Business Case for Gender Diversity

- A return on investment analysis of 200 utilities found that the top 20 gender-diverse utilities significantly outperformed the bottom 20 in terms of return on equity, with a 1.07% difference between the two groups. Given that utilities are so asset-heavy, this difference is significant as it could result in millions less in profit.
- Companies with three or more women in senior management outperform companies with no women at the top. In Africa, companies in the top quartile with regards to women's representation in management outperform peers by 14% on average.

#### Sources:

- 1) Ernst and Young, Talent at the Table: Index of Women in Power and Utilities, 2014 and 2016
- 2) McKinsey, Women Matter Africa, 2015

<sup>1</sup> Documents consulted include: USAID Gender Equality and Female Empowerment Policy, ADS Chapter 205, USAID/Nigeria Mission Order on Gender and USAID/Nigeria CDCS 2015-2020.

<sup>2</sup> Nigeria Power Africa Fact Sheet. <https://www.usaid.gov/powerafrica/nigeria> (Accessed November 1, 2017).

<sup>3</sup> Source: Ernst and Young, Talent at the Table: Index of Women in Power and Utilities, 2014

A strong case must be made demonstrating that Nigeria can best address its energy crisis if it meets the energy needs of male and female customers and capitalizes on the talents of Nigerian men and women in the workforce.

The Enabling Environment: Nigeria's National Gender Policy recognizes energy poverty as an obstacle to women's economic empowerment. However, addressing this challenge is not a part of the policy's accompanying Implementation Plan.

As for the energy sector laws, policies and regulations, there has been a noted effort to develop gender-sensitive energy framework over the past few years. More recent policies, such as the Draft Revised National Energy Policy (2013), the National Energy Master Plan (NEMP) (2014), and the National Renewable Energy and Energy Efficiency Policy (NREEEP) (2015) and its accompanying National Energy Efficiency Action Plans (NEEAP) offer, to varying degrees, strategies for increasing women's participation in the sector – through policy discussions, project development, and energy entrepreneurship. Coupled with this positive national trend is the adoption of regional level Economic Community of West African States (ECOWAS) Policy for Gender Mainstreaming in Energy Access in 2015 and the Directive on Gender Assessments in Energy Projects in 2017.

Increasing gender-sensitive national energy frameworks and a robust regional gender and energy framework provide a solid basis for USAID/Nigeria and other donors' promotion of the gender equality agenda in the sector.

- **Recommendations** for strengthening the enabling environment include: Provide technical assistance to the Government of Nigeria (GoN) in accordance for their request for support to:
  - Develop energy laws and policies from a gender perspective; and
  - Build the capacity of key public institutions to support the implementation of existing policies.

Participation in the energy sector: The energy sector is highly male dominated, with women underrepresented as policy makers, implementers, and representatives of public and private energy institutions.

Traditional gender norms generally discourage girls from studying science, technology, engineering, and math (STEM). However, the gender analysis found that a STEM background is not the only way to enter the sector. While it is important to invest in programs that encourage girls to study STEM and link them with jobs in the sector, it is equally important to recognize that the scarcity of women in STEM does not need to translate to a scarcity of women in the sector.

The **public sector** is perceived to be less open to gender mainstreaming, possibly as a result of the rules and regulations dictating the civil service operations. The **private sector** is perceived to be more open to change, yet the current statistics do not support that perception.

Respondent consensus indicates the **off-grid sector** is much more open to women's participation than the on-grid sector. This may be due to the dynamic nature of the nascent and innovative off-grid sector, which continues to create new, non-traditional jobs opportunities. Respondents indicated that the fast-paced development of the off-grid sector may be driving a demand for a workforce that avoids the gendered division that is entrenched in the more established "traditional" on-grid sector and in the overall economy. In this regard, the private sector has a key role in shaping the off-grid sector, with pro-active and forward-looking inclusive approaches that recognize diversity as an asset.

Data on female **entrepreneurship** in Nigeria's energy sector is scarce and, to a large extent, anecdotal. The literature review and interviews demonstrated that women are underrepresented as energy entrepreneurs. There are however a growing number of SMEs in the off-grid sector that are recognizing the potential of women as sales agents and building a new generation of female energy entrepreneurs.

- **Recommendations** for increasing women's participation in the energy sector include:
  - 1) Build a pipeline of skilled women who can meet the labor demands of the energy sector. Activities might include supporting civil society organizations or private sector companies that are championing girls' participation in STEM; facilitating workforce opportunities via internships, mentorships and job matching for students and entry level women in the workforce; and supporting capacity building opportunities for women already employed in the sector;
  - 2) Support the development of a gender-balanced workforce (in public and private energy institutions). Activities may include socializing the Engendering Utilities model, and creating platforms for sharing the business case for gender integration in the workforce; and
  - 3) Support female energy entrepreneurs. Activities might include capacity development of female entrepreneurs in marketing, sales, and financial literacy; collaborating with financial institutions to create lending options tailored for women (for example, character based and cash flow based lending); and developing partnerships with gender-lens investors who are equipped to share their strategies and experience with traditional investors.

Access to Energy: Many respondents believe that issues around energy access are gender neutral; however research shows that the way men and women use and access energy is based on their socially constructed gender roles which determine their domestic, agricultural, community or commercial responsibilities.<sup>4</sup> Availability of energy has a particularly positive effect on women and girls, and can contribute to their increased school attendance, decreased maternal mortality rate, and increased income-generating opportunities. However, there is a lack of data on household level decision-making and energy usage from a gender perspective in Nigeria. This absence of data makes it difficult to design programs that can measure the impact of interventions on women's access to energy.

- **Recommendations** for promoting increased access to energy for women include:
  - 1) Support women-to-women marketing and distribution of off-grid solutions;
  - 2) Provide energy access to institutions that directly benefit women such as schools, health clinics and GBV response centers, and street lighting;
  - 3) Build government capacity to collect and analyze sex-disaggregated data on energy usage and energy service delivery at the household level in order to support evidence-based policy making.

Donor Community: Multi-lateral and bi-lateral donors reported increasing attention to gender issues in their programming, primarily due to an increase in awareness about the potential impact of gender inclusive approaches to energy access and participation in the energy workforce. The majority of donors expressed a strong interest in collaborating with USAID/Nigeria on gender and energy issues. This presents an opportunity for USAID to serve as a thought leader in the donor community and to facilitate the design of collaborative interventions that leverage bilateral and multilateral assistance.

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<sup>4</sup> ECOWAS, "Draft ECOWAS Policy for Gender Mainstreaming in Energy Access."

- **Recommendations** for harnessing donor community interest include: Establish a working group to coordinate responses and share lessons learned in advancing gender integration in donor programming.

## I. Introduction

### I.1. Purpose of Power Africa’s Gender Analysis

The objective of the gender analysis is to describe both the gender issues that may impact the success of Power Africa activities, as well as the potential differential impact of the activities on men and women. It must be noted that while gender analyses look at issues affecting women and men alike, this analysis found women to be particularly disadvantaged in the energy sector, therefore the majority of recommendations focus on increasing women’s empowerment.

### I.2. USAID Gender Equality Framework

The gender analysis is guided by USAID’s gender equality framework. The key document within this framework is the *USAID Gender Equality and Female Empowerment Policy*, which outlines USAID’s commitment to gender equality as an outcome of development assistance. The policy has three overarching outcomes: 1) Reduce gender disparities in access to, control over and benefit from resources, wealth, opportunities and services economic, social, political, and cultural; 2) Reduce gender based violence and mitigate its harmful effects on individuals and communities; and 3) Increase capability of women and girls to realize their rights, determine their life outcomes, and influence decision-making in households, communities, and societies.<sup>5</sup>

#### Gender Statistics at a Glance

- Nigeria ranks 118 out of 144 countries in the 2016 World Economic Forum’s Global Gender Gap Index
- The literacy rate is under 50% for women, compared to over 69% for men, with significant regional differences (The World Factbook)
- Women are primarily employed in the low-skilled, low-paid informal sector and represent 48% of participants in the formal employment sector, compared to 64% of men (UNDP)
- At every educational level, women earn less than their male counterparts, and in some instances, men with less education earn more than better-educated female peers (USAID/Nigeria CDCS)
- Only 6% of the members of the Parliament are women (World Bank)
- It is estimated that over 65% of Nigerians living in extreme poverty are women (DFID)
- Female Genital Mutilation (FGM) prevalence at 24.8 percent across Nigeria, with the south-east and south-west having the highest prevalence rate of 47.5 percent, respectively (USAID/Nigeria CDCS)

Three documents provide practical guidance on how to implement the above policy. The first document, *ADS Chapter 205: Integrating Gender Equality and Female Empowerment in USAID’s Program Cycle*, provides guidance to USAID staff on how to integrate gender equality and women’s empowerment in all phases of programming, budgeting, and reporting. The second document is the *USAID/Nigeria Mission Gender Order*, which establishes how to implement the policy in Mission programs, projects, and activities. The Mission Order also provides guidance and defines roles and responsibilities of Mission management teams, technical teams, and implementing partners for gender integration in planning, design, implementation, monitoring, and evaluation of development assistance.<sup>6</sup> The final document considered is the *USAID/Nigeria Country Development Cooperation Strategy (CDCS) 2015-2020* which provides background on key gender issues in key development assistance sectors. The energy sector is not singled out as a

<sup>5</sup> USAID. 2012. “Gender Equality and Female Empowerment Policy.”

<sup>6</sup> USAID/Nigeria. 2012. “Mission Order on Gender.”



particular focus in any of these documents; however, the broader approach of recognizing women both as beneficiaries of USAID programs, and as active participants and contributors to their country's economic growth and development is cross-sectoral.

### **1.3. USAID/Nigeria Office of Economic Growth and Environment (EGE) ME&L Framework**

Within USAID/Nigeria, the Economic Growth & Environment (EGE) Office oversees Power Africa activities. In the Mission's ME&L Framework, Power Africa indicators are under Development Objective (DO) I: Broadened Economic Growth; Intermediate Result (IR) 1: Agriculture, and IR 1.3: Energy Access Increased. IR 1.3 performance indicators have two people-level indicators, *Number of beneficiaries with actual access to connections* and *Number of new direct connections*. Per ADS 205 guidance, people-level indicators should be disaggregated by sex. However, collection of this data is problematic two reasons: 1) the government doesn't collect household level sex-disaggregated data (i.e. male vs. female headed households) and 2) as female heads of households, women could be the primary users of the connection, but if the house they live in is not registered in their name (often houses are registered in the name of their husband or a male relative), a sex disaggregated count would be incorrect.

The Power Africa indicators collected at the Mission level feed into global Power Africa measurements, which consist of 30 indicators. Out of these, one requires disaggregation by sex: "*Training and Capacity Building Activities: Person hours of training completed in technical energy fields supported by USG assistance*".<sup>7</sup> A second, "*Number of energy sector laws, policies, strategies, plans or regulations formerly revised, adopted or implemented as a result of USG assistance that enhance energy sector governance and/or facilitate private sector participation and competitive markets, and/or encourage investment in clean and cleaner, small scale and off-grid options, and/or support gender integration in the energy sector*" allows for reporting on reforms with a focus on gender equity.

In sum, current M&E frameworks offer limited opportunities to report on the impacts of gender sensitive activities. This could potentially limit incentives for meaningful integration of gender issues. Annex 5 provides examples of gender-sensitive indicators that may be considered when developing and implementing energy-related activities.

## **2. Findings**

### **2.1. Gender and the Donor Community**

The gender analysis team found that multilateral and bilateral donors are reporting an increased attention to gender equality issues in the energy sector. Several key donors – WB, DFID, EU, and GIZ – indicated their intent to focus on gender issues in key programs which are slated to start in the coming year. These include the EU's Nigeria Support Project (NSP) 2; the World Bank's Power Sector Recovery Program's Rural Electrification Program; the DFID's Nigeria Infrastructure Advisory Facility (NIAF) 2; and GIZ's Nigeria Energy Support Program 2 (NESP 2). Donors report that the increased attention to gender issues is primarily due to an increase in awareness about the potential impact of gender inclusive approaches affecting women's access to energy and participation in the workforce (see Annex 4 for a mapping of gender and energy initiatives).

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<sup>7</sup> USAID. 2016. "Power Africa Performance Indicator Reference Sheet (PIRS)."

## 2.2. Gender and Energy Legal Framework

The analysis examined the national level gender equality framework and the energy sector legal framework, as well as the regional framework under the Economic Community of West African States (ECOWAS).

### 2.2.1. National Gender Equality Framework

The centerpiece of the Nigerian gender equality framework is the 2006 National Gender Policy, which is guided by the Convention on Elimination of all Forms of Discrimination against Women (CEDAW) and its optional Protocols. The policy is accompanied by a Strategic Framework (Implementation Plan) 2008-2013 and addresses systematic inequalities between women and men; recognizes that empowerment of women is an entry point for achieving gender equality; and views balance of power as beneficial to both men and women.<sup>8</sup> The policy identifies energy poverty as an obstacle to women's economic empowerment:

*Declining supplies of electricity is a major problem throughout Nigeria. Inconsistent supplies and high costs, especially in rural areas for domestic use and small-scale food processing, also increase women's dependence on fuel wood. Energy availability and affordability has time and poverty implications for both women and men. However, due to the preponderance of women for cottage production and informal domestic purposes, there exists a need for interventions to be guided towards reducing women's drudgery; and increasing productivity and thereby family incomes.<sup>9</sup>*

Despite a recognition of the relationship between energy access and economic opportunity for women, the monitoring and evaluation framework for the policy's implementation plan lacks energy-related indicators, outputs or outcomes. Furthermore, description of the implementation team does not include the Federal Ministry of Power, Works, and Housing, which is responsible for formulating energy policy in accordance with the National Electric Power Policy. Feedback received about the gender policy was limited with many of the respondents were not even aware of its existence. The institution in charge of the policy implementation, the Ministry of Women's Affairs and Social Development, did not authorize a representative to participate as a respondent for this analysis.

Perhaps as a result of the perceived ineffectiveness of the National Gender Policy, the Gender and Equal Opportunities Bill was drafted. The bill, which was intended to strengthen gender equality already enshrined in the Nigerian Constitution, failed to become law after an unsuccessful second reading in the Senate. Passing of the bill into law would have superseded existing discriminatory laws, policies and practices, such as those impacting inheritance and sexual abuse of women and girls by men in position of power and authority (police officers, for example).<sup>10</sup>

Two additional policies contribute to the gender equality framework. The 2004 National Economic Empowerment and Development Strategy (NEEDS) recognizes that men and women have different opportunities for economic empowerment. NEEDS calls for increased participation of women in national development. The 2015 Violence against Persons Prohibition (VAPP) Act prohibits various types of violence, including "physical, sexual, psychological, domestic, harmful traditional practices, and

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<sup>8</sup> Federal Ministry of Women's Affairs and Social Development. 2006. "Nigeria National Gender Policy," [http://www.aacoalition.org/national\\_policy\\_women.htm](http://www.aacoalition.org/national_policy_women.htm) (accessed October 16, 2017).

<sup>9</sup> Ibid.

<sup>10</sup> Amnesty International, "Nigeria: Help end discrimination by passing Gender and Equal Opportunity Bill," <http://www.refworld.org/docid/58c008654.html> (accessed October 16, 2017).

discrimination against persons”. If effectively implemented, the Act would protect victims of violence and punish the perpetrators.<sup>11</sup>

### 2.2.2. National Energy Legal Framework

The Gender Analysis Team reviewed a number of policies regulating the energy sector, which have been enacted in Nigeria over the years. The analysis found the older policies to be largely gender blind, except for The National Energy Policy (NEP) (2003), which proposes establishment of micro-credit facilities for entrepreneurs. This includes a focus on women’s groups to establish and operate commercial fuelwood lots and enterprises providing renewable energy services and products.

More recent policies have been more inclusive of gender considerations. The Revised NEP (2013) provides strategies to create awareness on gender issues in the energy sector, and provides a better basis for incorporating gender in energy project design and implementation at the micro- and macro-policy levels.<sup>12</sup> The National Energy Master Plan (NEMP) (2014) includes a gender action plan, which assigns strategies and activities identified in the Revised NEP to corresponding implementing agency and collaborating agencies, along with funding sources and a timeline.<sup>13</sup> Additionally, the 2015 National Renewable Energy and Energy Efficiency Policy (NREEEP)<sup>14</sup> calls for the active participation of NGOs, civil society, and women’s groups in the implementation of the policy. The solar power development strategy in the policy proposes to establish micro-credit facilities for entrepreneurs—and women’s groups in particular—for commercial solar energy facilities in remote and off-grid areas. The policy also proposes gender mainstreaming in the planning, design and construction of micro, mini, and large hydropower stations. The accompanying National Energy Efficiency Action Plans (NEEAP) aim to realize these strategies by engaging women in policy development and the implementation of energy production activities.

#### **Energy laws, policies and regulations**

- National Energy Policy (NEP), 2003
- Electric Power Sector Reform Act (EPSRA), 2005
- Renewable Energy Master Plan, 2005
- Renewable Electricity Policy Guidelines (REPG), 2006
- The Draft Revised NEP (2013)
- National Energy Master Plan (NEMP), 2014
- National Renewable Energy and Energy Efficiency Policy (NREEEP), 2015
- National Energy Efficiency Action Plans (NEEAP), 2015-2030
- Rural Electrification Strategy and Implementation Plan (RESIP), 2016

### 2.2.3. Regional Gender and Energy Framework

In 2015, the fifteen Economic Community of West African States (ECOWAS) member states, including Nigeria, adopted the Policy for Gender Mainstreaming in Energy Access. Its specific objectives are to: 1) achieve widespread understanding of energy and gender considerations at all levels of society; 2) ensure that all energy policies, programs and initiatives, including large energy infrastructures and investments, are non-discriminatory, gender-inclusive, gender-balanced and directed towards addressing inequalities differentially affecting men and women in the region; 3) increase women’s public sector participation in energy-related technical fields and decision-making positions; and 4) ensure that women and men have

<sup>11</sup> Oxfam. 2017. “Inequality in Nigeria: Exploring the Drivers.”

<sup>12</sup> “USAID. 2015. Inventory of Policy Interventions – Nigeria (draft): Power Africa Transactions and Reforms Program (PATRP).”

<sup>13</sup> Ibid.

<sup>14</sup> The gender language in NREEEP was drafted with the support of GIZ. Interview with GIZ, October 5, 2017.

equal opportunities to enter and succeed in energy-related fields in the private sector.<sup>15</sup> Additionally, in July 2017, ECOWAS adopted its Directive on Gender Assessments in Energy Projects, which aims to ensure that vulnerable and marginalized persons participate in and benefit from energy programs.

Respondents see potential windows of opportunity for improving gender integration as a result of the creation of gender-sensitive energy sector policies and regulations over the past few years. Coupled with a robust gender and energy ECOWAS framework, which calls for harmonization with national level frameworks these newer policies are a cause for renewed optimism. Both national and regional level energy and gender frameworks are in line with Power Africa's gender commitments; furthermore, the increased interest and relative newness of these activities represents an underserved area of donor assistance that could be catalyzed with USAID/Power Africa leadership.

### **2.3. Gender Equality in Participation in the Energy Sector**

A growing evidence base correlates gender diversity in the workforce and management with improvements in a company's performance. Encouraging women's participation in the sector, in the face of this evidence, represents a potential avenue for strengthening the sector's performance. Taking this into account, the gender analysis examined gender gaps in participation in three areas related to the energy sector value chain: education, employment, and entrepreneurship.

#### *2.3.1. Education*

Individuals interested in energy sector careers typically study science, technology, engineering and math (STEM) in school. Worldwide, only 28% of STEM professionals are female. In Sub-Saharan Africa the share of STEM professions is slightly higher at 30%.<sup>16</sup> In Nigeria, women hold 38% of the bachelor's degrees and 30% of PhD degrees in science, and they make up 23% of scientific researchers.<sup>17</sup> Reasons for this type of gender disparity are primarily due to cultural interpretation of gender roles, which encourage boys to be inquisitive and to explore, and discourage girls from such pursuits, since their life paths frequently involve being groomed for marriage and motherhood.

Several Nigerian civil society and private sector stakeholders have been active in addressing gender gaps in education and skills in STEM fields. For example, Women Working to Advance STEM Education for African Women (WAAW) provides opportunities for young people (mostly girls) to use technology to address energy and clean water challenges in Africa via integrated inquiry based and hands-on learning experience.<sup>18</sup> Eighty percent of the girls who participated in WAAW's programs choose to study STEM in university.<sup>19</sup> The organization also educates parents and teachers on how to provide support to girls in STEM. Another organization, Power for All, provides information to Catholic women's groups about the energy sector as a viable career path for their daughters.<sup>20</sup> Solar Sister provides schools with "STEM in a Box," compendium of tools and methods that teachers use to develop science lessons (solar kits,

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<sup>15</sup> Kappiah, Mahama, "ECOWAS policy for gender mainstreaming in energy access," Africa Policy Review, <http://africapolicyreview.com/ecowas-policy-for-gender-mainstreaming-in-energy-access/> (accessed October 26, 2017).

<sup>16</sup> Akwei, Ismael, "The future of African women in science, technology, engineering and mathematics careers," Africa News, <http://www.africanews.com/2016/02/16/the-future-of-african-women-in-science-technology-engineering-and-mathematics/> (accessed October 29, 2017).

<sup>17</sup> "Education and Research Careers: Leaks in the Pipeline? Nigeria," UNESCO, <http://uis.unesco.org/apps/visualisations/women-in-science/#details!region=40540&country=NGA&panel=pipeline> (accessed October 29, 2017).

<sup>18</sup> "Impacts, Outcome & Where We Work," WAAW Foundation, <http://waawfoundation.org/impact-where-we-work/> (accessed September 9, 2017).

<sup>19</sup> Interview with WAAW, October 4, 2017.

<sup>20</sup> Interview with Power for All, September 29, 2017.

biology beakers, and charts). This approach promotes hands-on learning and stimulates girls' interest in STEM.<sup>21</sup>

All-girls schools may provide a learning environment where girls' interests in STEM can be nurtured. In such a setting, there is no competition between boys and girls, and no opportunity for teachers to inadvertently or purposefully apply their own gender bias when interacting with students. Science is presented through an objective lens and within reach for anyone, regardless of sex.<sup>22</sup> Energy clubs are another way to introduce STEM to children. As a part of their participation in USAID Engendering Utilities Program,<sup>23</sup> two DISCOs, Ibadan Electricity Distribution Company (IBEDC) and Eko Electricity Distribution Company (EKEDC), support energy clubs in local primary schools. Subject matter experts educate club members on topics such as technology, engineering, health, safety environment, and introduce them to energy sector careers. IBEDC currently supports energy clubs in three schools in Ibadan, while EKEDC supports energy clubs in three schools in Lagos.<sup>24</sup> These activities are considered corporate social responsibility investments that add value to the utilities' brand.<sup>25</sup>

The next step in the energy talent pipeline is the provision of internships or short-term paid employment to students who are near graduation or recently graduated. There is a reported absence of internship and mentorship opportunities linking graduates to opportunities to gain work experience in the energy sector and receive guidance on how to navigate the job market. There are a few examples of organizations working in this area, but the demand far exceeds the supply. These include:

- WAAW connects their program participants with African Women in Tech members who serve as mentors. In addition, the organization works to secure internships for their program participants with private sector technology companies.<sup>26</sup>
- GIZ plans to address the gap between STEM education and employment in two ways: 1) securing internships for female engineering or environmental management students with German private sector companies operating in Nigeria (for example, Siemens); and 2) providing internship opportunities with NESP for female university students during their summer holiday.<sup>27</sup>
- IBEDC has an internship program for young university graduates for boys and girls, which aims to achieve a 50/50 gender balance in participation. The program is currently planning a mentorship program targeting women throughout the organization (although men will be able to participate as well).<sup>28</sup>

While the efforts of enhancing the pipeline of young women with STEM background into the energy sector are necessary, it should be noted that the majority of female respondents currently employed in the sector do not have a STEM background. Their educational background includes accounting, business, law, sociology, finance, and even aviation. This is an indication that the demand for skilled labor in the energy sector extends well beyond employees with a STEM background and presents an array of employment possibilities that could be leveraged to increase female employment in the sector through targeted job matching and skills gap training. In other words, the scarcity of women in STEM does not have to lead to the overall underrepresentation of women in the sector.

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<sup>21</sup> Interview with Solar Sister, October 3, 2017.

<sup>22</sup> Ibid.

<sup>23</sup> Engendering Utilities is aimed at increasing female workforce in energy distribution companies across 14 utilities in Eastern Europe, South Asia, the Middle East, and Africa (including Nigeria).

<sup>24</sup> Interview with EKEDC, October 3, 2017.

<sup>25</sup> Interview with IBEDC, October 3, 2017.

<sup>26</sup> Interview with WAAW, October 4, 2017.

<sup>27</sup> Interview with GIZ, October 5, 2017.

<sup>28</sup> Interview with IBEDC, October 3, 2017.

### 2.3.2. *Employment in the Energy Sector*

Women are underrepresented as employees in public energy sector institutions, electric distribution companies and in the off grid/renewable sector. The respondents from the public and private sector generally had three answers when they were asked to explain why this is the case: 1) The Constitution provides equal rights to women and men; women have equal access to participate but chose not to; or 2) women are underrepresented in STEM education, which leads to their absence from the sector; or 3) some technical positions in the sector are “too dangerous” for women. These explanations are simplistic and do not fully reflect reality. Certainly, the lack of girls in STEM contributes to the problem, but as discussed in this section will show, additional factors contribute to the current situation. Off grid/renewable sector has been identified as the most hospitable for women’s employment.

#### Employment in Public Institutions

In the public sector, women make up less than a third of employees, primarily in lower level, non-decision-making positions.<sup>29</sup> Another set of data states that between 2010 and 2013, women occupied 35.5% of senior positions in the civil service.<sup>30</sup> Only one of the four government institutions interviewed by the gender analysis team (NERC) provided their sex-disaggregated employment data. NERC reported 118 male and 56 female employees; 20 male and four female employees at the management level; and men holding the seven commissioner positions.<sup>31</sup> According to desk research, the ratio of male to female employees in technical positions in the Ministry of Power is 4:1.<sup>32</sup> At TCN, women are largely underrepresented, except in a few departments, notably the Legal Department.<sup>33</sup>

A few women hold senior positions in public energy institutions: Damilola Ogunbiyi, Managing Director of Rural Electrification Agency (REA), Marilyn Amobi, Managing Director of Nigerian Bulk Electricity Trading (NBET), and Kemi Adeosun, Minister of Finance are widely lauded as evidence of female decision-makers in the sector. A concerning aspect of underrepresentation of female civil servants in high ranking positions is their absence from policy making processes. Research shows that low levels of women’s participation in discussions at the energy policy level mean that potential solutions and decisions are likely to have an inadvertent male bias.<sup>34</sup> In other words, it is unlikely that policies will sufficiently take into account women’s energy needs and concerns if women are not participants in the policy development process.

#### Employment in DISCOs

It should be noted that while DISCOs are private sector companies, they have only been recently privatized and their current workforce is not much different than it was when these entities were government-owned. Women are largely underrepresented as employees—particularly in high level positions. Key respondents were IBEDC, EKEDC, Abuja Electricity Distribution Company (AEDC), and Benin Electricity Distribution Company (BEDC).

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<sup>29</sup> USAID. 2017. “Feed the Future Gender Analysis Report.”

<sup>30</sup> National Bureau of Statistics. 2014. “Statistical Report on Women and Men in Nigeria 2013.”

<sup>31</sup> Interview with NERC, September 27, 2017.

<sup>32</sup> “Status of Gender Mainstreaming in Energy Access in Nigeria.” Power point presentation by M. Sojinka-Onijala, Ministry of Power at the Regional Validation Workshop for ECOWAS Policy for Gender Mainstreaming in Energy Access

<sup>33</sup> “USAID. 2015. Inventory of Policy Interventions – Nigeria (draft): Power Africa Transactions and Reforms Program (PATRP).”

<sup>34</sup> UN Women/UNIDO. “Sustainable Energy for All: The Gender Dimensions: Guidance Note.”

IBEDC and EKEDC are a part of USAID’s Engendering Utilities program. Despite program assistance to increase diversity in their workforce, the gender gap still exists. At IBEDC female employees still represent only 17% of its total workforce (432 out of 2,562).<sup>35</sup>

AEDC and BEDC, despite not benefitting from Engendering Utilities interventions, have leadership open to the value of diversity. At AEDC, women hold three out of seven executive positions, and at BEDC, both the Managing Director and the Chief Corporate Officer are female (although the management team is mostly male). However, at both DISCOs, women are still underrepresented as a portion of the overall workforce. At AEDC, women make up 30% of the 2,799 employees.<sup>36</sup> BEDC has 1,555 employees, of which 12.5% are women.<sup>37</sup> Both DISCOs offer flexible work hours for new mothers and anti-harassment policies. BEDC’s implementation of the policy resulted in the termination of a male staff who was physically violent toward a female employee.<sup>38</sup> BEDC is currently developing a pilot strategy to hire women in the community to serve as payment collectors. Women are recognized as important members of their communities, and BEDC sees a value in working with them to build strong relationships in the communities where it operates.<sup>39</sup>

#### **Engendering Utilities Program: Nigeria Case**

##### **Best Practices:**

- Conducting a gender analysis or audit of the DISCOs gender policies (or lack thereof) was an important benchmark useful for awareness raising
- Offering a menu of intervention options in response to the analysis, and allowing the utilities to select what they wanted to work on allowed for the utilities’ buy-in
- Interventions that affected strong cultural change within the utilities included revisiting their hiring policies and sexual harassment policies
- Interventions that build "brand equity" and employee morale (Energy Clubs, Take Your Daughter to Work Day, and "DISCO for Women" conference)

##### **Areas of Improvement:**

- Limited support from Engendering Utilities was not as effective as was the constant support provided by PATRP
- Less senior buy-in makes program implementation more challenging

Low representation of women in the energy sector, especially in decision-making positions, translates to energy services providers workforces that are not reflective of their customer base, and do not take advantage of the full potential labor force. Both of which are noted factors linked to improved performance.

#### Employment in the Renewable Energy Sector

Many respondents spoke about the growing opportunities in the renewable and off grid energy sectors for women’s employment. The off-grid renewable sector is in the nascent stages of development and the traditional gendered division of labor is not as entrenched as it is in the more established on-grid sector. This creates an opportunity for new jobs, such as solar installers or energy auditors, to become socially acceptable employment options for both men and women. That said, fostering women’s entry into this sector is still necessary.

Recent collaboration between USAID’s Renewable Energy and Energy Efficiency Project (REEEP) and NESP resulted in the establishment of Skill Up, a program which, through several Nigerian training institutions,

<sup>35</sup> E-mail correspondence with IBEDC, October 24, 2017.

<sup>36</sup> Interview with AEDC, September 27, 2017.

<sup>37</sup> Interview with BEDC, October 9, 2017.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

offers accredited training for renewable energy and energy efficiency jobs including: mini grid design; solar PV installation; rural hydropower civil engineering; energy audit; energy efficient building design and energy management.<sup>40</sup> This program is open to all, however it has seen only a few female applicants, attributed to the lack of interest from women.<sup>41</sup>

There are examples from other parts of the world where women have excelled in such positions. Perhaps the most well-known example of female solar installers is that of Barefoot College in India, which trains rural women to install, build and repair solar lamps and water pumps.<sup>42</sup> This program has been very successful and has expanded worldwide, including to several African countries. This initiative shows that women are interested in and capable of physically demanding, even dangerous jobs.

### Elevating the Presence of Women in the Energy Sector

Participation of women in the sector does not only mean employment; it also means visibility. Women in senior positions who have opportunities to participate in conferences, events, and as representatives of the companies they work for, serve as role models for young women who are considering a career in the energy sector, and contribute to a positive perception of women as energy sector experts. Therefore, the opportunities that elevate women as thought leaders and spokespersons for the energy sector are key for promoting women's participation in the sector. Nextier Power, for example, organizes monthly energy forums in Abuja that include at least one female professional on the expert panel.<sup>43</sup> Regionally, the annual Future Energy Conference (formerly the West African Power Industry Convention (WAPIC)), promotes women in the sector in several ways: by featuring female leaders in the industry as speakers; by presenting the regional Outstanding Woman in Power Award (this year, the award categories have changed so this award no longer exists); and by including a Women in Power networking luncheon as a Conference activity, providing an opportunity for participants to connect and share experiences.<sup>44</sup> Similarly, and on a much larger scale (SSA), Power Africa has been supporting the Women in African Power (WiAP) Network. Established in 2015, the Network increases the participation and elevates the presence of women in the power sector, through "...regional platform for networking, information exchange, professional mentorship, and exposure to new business opportunities."<sup>45</sup>

In sum, in the predominately male power sector, approaches promoting gender equality in the workforce include building a business case showcasing economic benefits of women's participation; employing an Engendering Utilities model for internal gender mainstreaming of private energy sector institutions; developing recruitment strategies targeting women for renewable energy jobs; and supporting opportunities that promote women's visibility in the sector.

#### 2.3.3 *Entrepreneurship*

An energy entrepreneur is someone "...who supports the energy economy by doing any one or more of the following: producing, processing, distributing and selling energy or energy resources."<sup>46</sup> According to

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<sup>40</sup> Skill Up Brochure (on file with author).

<sup>41</sup> Interview with REEEP, September 26, 2017.

<sup>42</sup> Barefoot College, <https://www.barefootcollege.org/solution/solar/#stats> (accessed October 26, 2017).

<sup>43</sup> Interview with Nextier Power, September 28, 2017.

<sup>44</sup> Future Energy Nigeria. <http://www.future-energy-nigeria.com/> (accessed October 27, 2017).

<sup>45</sup> "Advancing the Role of Women in African Power," USAID, <https://www.usaid.gov/power-africa/newsletter/feb2016/advancing-roles-of-women> (accessed October 21, 2017).

<sup>46</sup> Khamati-Njenga, Beatrice and Clancy, Joy. "Concepts and Issues in Gender and Energy." *ENERGIA*.



2013 government data, overall, women own 22.75% of small and medium enterprises (SMEs) in Nigeria,<sup>47</sup> making it one of the lowest rates of female entrepreneurship in SSA.<sup>48</sup>

The gender analysis team met with three female business owners in the renewable energy sector: Hannah Kabir, founder of CREEDS Energy, Habiba Ali, founder of Sosai, and Fatima Ademoh, founder of Waste-2-Watt. Two of these entrepreneurs started their businesses with assistance of grants – Hannah started CREEDS through a UN grant (via federal government) and Fatima started through Power Africa’s Off Grid Energy Challenge. Habiba’s business developed out of an NGO (Development Association for Renewable Energy).

Female entrepreneurs may avail themselves of networking opportunities and entrepreneurship events available through organizations such as Women in Management, Business and Public Service (WIMBIZ) ([www.wimbiz.org](http://www.wimbiz.org)) and She Leads Africa ([www.sheleadsafrica.org](http://www.sheleadsafrica.org)). Additionally, young women interested in starting a socially oriented renewable energy business can apply to participate in SME Funds’ Women Green Fellowship Program. Currently in its 4<sup>th</sup> season, this 6-month mentor-led social business accelerator program matches program participants with challenging projects and provides training, internship and funding opportunities for best social business ideas.<sup>49</sup>

Rural areas, where on-grid energy access is largely absent, are particularly suitable for women’s entrepreneurship. In general, rural women and female-headed households are the most chronically poor since their access to productive resources (inputs, land, labor, and other technologies), markets, and information, as well as control over income earned from their labor are disproportionately lower than that of men.<sup>50</sup> However, women are starting to play an increasingly important role in their rural communities as men are migrating to urban areas for work.<sup>51</sup> Many of the women entrepreneurs in the rural areas operate informally as small-scale tree farmers, producers, distributors and sellers of fuelwood, charcoal, kerosene, as well as related equipment such as stoves and lanterns.<sup>52</sup> In general, informal sector entrepreneurs are unable to access legal and policy structures afforded to formal businesses.<sup>53</sup> Additionally, many the entrepreneurial women are uneducated and live in the areas of the country where discriminatory social and religious gender norms are practiced (in the North, for example), resulting in additional obstacles not faced by educated entrepreneurs in the formal sector.

Civil society organizations and donors are increasingly recognizing the power of these informal “one-woman-show” entrepreneurs as builders, marketers and distributors of off-grid solutions. Women’s local knowledge and their ability to bypass social norms preventing male-female interaction are key to both increasing women’s participation in the sector as entrepreneurs and also to ultimately increasing the number of connections. For example, Solar Sister trains women in rural communities in sales of portable solar lights, cook stoves and water filters.<sup>54</sup> SME Funds received a USADF grant to develop cold kiosks (solar freezers) and employs women to put together their components, and trains them weekly in

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<sup>47</sup> SMEDAN and National Bureau of Statistics. 2013. “Collaborative Survey: Selected Findings.”

<sup>48</sup> British Council and UKAid. 2012. “Gender in Nigeria Report 2012: Improving the Lives of Girls and Women in Nigeria: Issues, Policies, Action (2<sup>nd</sup> edition).”

<sup>49</sup> “Women Green Fellowship Programme,” SME Funds, <http://fellows.smefunds.com/about> (accessed November 1, 2017).

<sup>50</sup> USAID/Nigeria. “Country Development Cooperation Strategy 2015-2020.”

<sup>51</sup> Ibid.

<sup>52</sup> Khamati-Njenga, Beatrice and Clancy, Joy. “Concepts and Issues in Gender and Energy.” *ENERGIA*.

<sup>53</sup> Ibid.

<sup>54</sup> Women who are recruited for the program must have enough capital to invest in start-up inventory, and are advised to sell products at 15-20% profit margin. Interview with Solar Sister, October 3, 2017.

installations and sales (80% of sales representatives are women). Research shows that women are more effective at distribution than men.<sup>55</sup>

The discussion above makes a distinction between challenges and opportunities for formal and informal energy sector entrepreneurs. Another point of comparison is between male and female energy entrepreneurs. The majority of respondents perceived men and women as having experienced similar obstacles in the sector. However, the respondents who worked directly with female entrepreneurs, including Eko Bank and several CSOs, disagree with this perception – as does the literature review. As is the case with entrepreneurs in many other countries, social and gender norms are a hindrance to women’s economic empowerment. For example, although Nigerian men and women have equal property and inheritance rights,<sup>56</sup> in practice, due to customary norms, only 18% of Nigerian women own a house, and 15% own land.<sup>57</sup> In the North East, only 5% of women own a house and 6% own land.<sup>58</sup> This is a significant obstacle for women who are interested in obtaining a business loan from a financial institution, which requires collateral (land or property). However, it should be noted that due to generally unfavorable loan terms, only a small percentage of entrepreneurs takes this approach - 6.5% of women and 9.4% of men; the overwhelming majority of entrepreneurs - 91.1% of women and 84.3% of men report relying on their own money or loans from family or friends for business start-up.<sup>59</sup>

Support for the formation of women’s energy sector cooperatives was identified by respondents from the donor community, civil society, and private sector as an approach that is consistent with Nigeria’s energy sector legal framework and could be expanded to help women access credit. In Nigeria, LAPO Microfinance Bank provides collateral free loans to savings groups comprised of at least 10 women for start-up renewable energy businesses in rural and urban communities.<sup>60</sup> Increasing the availability of these type of character and cash-flow based lending products can have a major impact on the ability of women entrepreneurs to finance their energy business operations.

Women owned energy SMEs can also benefit from increased access to investors. The majority of respondents identified the new, dynamic and still evolving off-grid sector as an entry point for gender lens investing—investing that delivers financial returns to investors while simultaneously advancing gender equality. Gender lens investing targets three types of investments: 1) women-led businesses; 2) gender-diverse companies; and 3) companies whose product or service offering helps advance gender equality.<sup>61</sup> Gender lens investing early stage and growth businesses in Africa was a major topic among investors and entrepreneurs during the 2017 Sankalp Africa Summit. Identifying opportunities for expanding gender lens investing can have a profound impact on investing in early stage and growth businesses in Nigeria.

To recap, female entrepreneurs face a number of challenges to starting and growing successful business. These include lack of access to finance (loans and investment), limited education and training opportunities, and insufficient access to business networks. Key opportunities for intervention include supporting women’s cooperatives, building entrepreneurs’ capacity, working with financial institutions to create favorable lending environment for women, and supporting gender lens investing.

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<sup>55</sup> Interview with SME Funds, October 4, 2017.

<sup>56</sup> The World Bank. 2015. “Women, Business and the Law 2016: Getting to Equal.”

<sup>57</sup> National Population Commission. 2013. Nigeria Demographic and Health Survey 2013.”

<sup>58</sup> Ibid.

<sup>59</sup> Kew, Jacqui. 2015. “Africa’s Young Entrepreneurs: Unlocking Potential for a Brighter Future.” *IDRI*.

<sup>60</sup> Interview with PATRP, October 3, 2017.

<sup>61</sup> BNY Mellon and UN Foundation. 2017. “Return on Equality: Investment opportunities that help close global gender gap.”

## 2.4. Gender Equality in Access to Energy

The interview respondents were largely of the opinion that there were no gender dimensions related to access to energy, and that benefits of energy availability are equal for men and women. However, the literature review found that energy poverty, i.e. lack of access to modern energy services, has multiple dimensions and affects people differently, depending on factors such as gender, location, disability, etc.

Desk research identifies the following gender dimensions of energy access:

- Women make up 70% of Africans without access to electricity.<sup>62</sup>
- The majority of Nigerians use petroleum products (kerosene,<sup>63</sup> petrol and diesel) and biomass (wood and charcoal) for cooking. Exposure to pollution resulting from these energy sources causes approximately 600,000 annual deaths (mostly women and children) across Africa.<sup>64</sup> In Nigeria alone, more than 98,000 women die annually of ailments related to indoor and outdoor pollution.<sup>65</sup>
- Insufficient energy supplies in health clinics affect women and girls in particular. Unreliable access to power in hospitals can affect the provision and access to critical often life-saving services related to maternal and newborn care.<sup>66</sup>
- Based on their gender roles and responsibilities, men and women may have different preferences in regarding what type of energy is more important to them. For example, in internally displaced persons (IDP) camps in the North, men preferred solar lamps and generators while women wanted cook stoves; women also valued streetlights (for safety) over household solar lights.<sup>67</sup>

Despite these statistics, there is nevertheless an absence of reliable data that would help us learn about gender dynamics at the household level related to decision-making (i.e. who in the household is making energy-related decisions) and energy usage (how different household members are using energy, for what purposes, and when). Anecdotal evidence suggests that most times, men make decisions about where a single source of energy within a household should be placed.<sup>68</sup> In the North, decision-making is especially skewed in the favor of men, as women are in purdah (seclusion) and do not make decisions related to any significant matters, including their own healthcare.<sup>69</sup>

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<sup>62</sup> Power for All brochure. On file with author.

<sup>63</sup> Some research on benefits of kerosene subsidies targeting women has been done by a Lagos-based NGO, Spaces for Change. However, it should be noted that none of the interview respondents identified kerosene subsidies as a way to increase women's access to energy. In fact, organizations such as Power for All, Solar Sister and RUWES are taking active steps to educate people about harmful effects of kerosene and to replace kerosene dependency with renewable sources of cooking energy, primarily solar. Solar Sister's program expands rural electricity access by providing solar power at a rate that is equivalent to or cheaper than other light sources, such as kerosene.

<sup>64</sup> Ngum, Sohna Aminatta Ngum, "Empowering women and girls in the quest for universal energy access for all," AFDB. <https://www.afdb.org/en/blogs/investing-in-gender-equality-for-africa%E2%80%99s-transformation/post/empowering-women-and-girls-in-the-quest-for-universal-energy-access-for-all-15625/> (accessed September 9, 2017).

<sup>65</sup> The Renewable Energy Programme Office. 2015. "Federal Ministry of Environment of Nigeria Submissions to the United Nations Framework Convention on Climate Change (UNFCCC) on the Lima Programme on Gender."

<sup>66</sup> Power for All. 2017. "Factsheet: Decentralized Renewables: Empowering Women As Sustainable Energy Leaders."

<sup>67</sup> Interview with ICEED, September 26, 2017.

<sup>68</sup> Interview with EU, September 26, 2017.

<sup>69</sup> Interview with PATRP, September 25, 2017.

A pilot study of energy usage and decision-making among low-income households in two urban slums in Lagos State (Badia East and Ebutte Metta) found that in the households with the lowest income, women lacked decision-making power. In these households, men were decision-makers about which energy source to use for cooking or lighting. In cases where women had their own earnings, they made decisions on what type of energy to use for cooking. The study found that women who make financial decisions related to their family's spending also decide which type of fuel the household should use for cooking.<sup>70</sup> Similarly, the lack of energy-related household data prevents insights on how men and women are using energy. One respondent suggested that energy utilization for women is low because using as little energy as possible is seen as virtuous, and using electricity is seen as being "lazy."<sup>71</sup>

Finally, it should be noted that access to reliable and affordable energy contributes to gender equality, "...through releasing female domestic labor for market work and carrying gender empowerment messages via media. Additionally, gender equality has been demonstrated to improve energy access, in particular through inclusive policy making, planning, and program design."<sup>72</sup> While we usually think about beneficiaries when we talk about access to energy, it is important to note that women's participation at the policy level can lead to increased access to energy for other women.

### 3. Recommendations

There is great opportunity for USAID to integrate the consideration of gender issues in its programming, resulting in positive impacts for the energy sector as well as women's empowerment.

- **Require Development of Gender Action Plans at the project level.** This review demonstrates that there are multiple gender issues that impact the energy sector. A single sector wide gender strategy is a good starting point; however, the next step is to have recommendations translated into practicable, achievable and measurable activities via the activity level **Gender Action Plan**.
- **Collaboration within USAID.** Identifying and developing mutually beneficial linkages with USAID/Nigeria's projects in Education, Health, and Agriculture (i.e. sectors that are known to benefit women's livelihoods) will ensure that Power Africa contributes to advancing multiple Agency goals – including gender commitments outlined in the CDCS.
- **Collaboration with the Donor Community.** The analysis uncovered a growing interest in the donor community to address gender issues in the sector. There is an opportunity for Power Africa to demonstrate thought leadership on gender and energy by leveraging the donor community's increased attention to gender issues and interest in cooperation. A couple of donors, AFD and UNIDO, provided concrete examples of collaboration. AFD sees an opportunity to replicate Engendering Utilities model through their support to the National Power Training Institute which provides technical trainings to Nigerian DISCOs. UNIDO is currently working on its 2018-2022 strategic plan with a sizable energy portfolio and expressed an interest to collaborate on a common program focusing on gender and energy. To demonstrate this leadership role, USAID might consider forming a Donor sub-group on Gender and Energy.

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<sup>70</sup> Spaces for Change. "Survey Results: Energy Use in Urban Slums." <http://www.spacesforchange.org/2017/03/survey-results-energy-use-in-urban-slums/> (accessed September 20, 2017).

<sup>71</sup> Interview with PATRP, September 25, 2017.

<sup>72</sup> ECOWAS, "Draft ECOWAS Policy for Gender Mainstreaming in Energy Access."

- **Collaboration with the GoN.** GoN representatives expressed interest in collaborating with USAID to better address gender considerations.
  - **Elevate gender champions.** Elevate the issue of gender and energy through the voice of powerful women in the sector, including REA MD, NBET MD and the Minister of Finance. Note that gender champions can be male, and men are critical for the implementation of the gender equality agenda.
  - **Provide gender expertise to the GoN in future reviews of energy-related policies.** All relevant sector laws, regulations and policies should be reviewed from a gender perspective.
  - **Support implementation of the gender components in the National Energy Master Plan (NEMP) and the National Energy Efficiency Action Plan (NEEAP)** through the provision of technical expertise in gender integration and capacity building to the Energy Commission of Nigeria and other key stakeholders.
  - **Provide capacity building to the GoN to translate ECOWAS Gender Mainstreaming Policy in Energy Access and Directive into action.** Build the capacity of the government entities tasked with enforcing this policy to ensure that they understand the policy and the directive and have the tools and skills to enforce it.
  - **Provide expertise to the GoN to collect sex-disaggregated data on energy usage and energy service delivery.** For example, Ministry of Power requested assistance in collecting sex disaggregated data and expressed a willingness to integrate gender considerations in future policy development.
  - **Support nuanced tariff structure to promote access to energy for the poorest of the poor.** The discussions about restructuring the current tariff structure are currently under way. Build the capacity of technical experts and policy makers to assess how tariffs may impact women's access to electricity.
  - **Support off-grid enhancement policies that may benefit women directly.** Given the importance of off grid solutions to women as customers and as actors in the value chain, any efforts that strengthen the enabling environment for the provision of off-grid solutions will likely benefit women.
- **Collaboration with the private sector.** Multiple opportunities exist for increasing women's participation in the energy sector through collaboration with existing partners that leverages private sector initiatives – both in transmission and distribution of power and in fostering opportunities for investors, entrepreneurs, and energy workforce to contribute to Power Africa's goals.
  - **Future technical assistance package provided to DISCOs should include gender expertise to develop a gender strategy or gender action plan at the organizational level (based on the “Engendering utilities” model).** Sample activities here would include development of organizational gender strategies and action plans, including targeted interventions designed to improve human resources and employee life cycle processes (recruitment, selection, training, pay equity and leadership opportunities for women), events, networking opportunities, etc. Engendering Utilities is currently developing a framework that offers evidence based best practices along the employee life cycle. This framework could allow for much stronger guidance for engagement with other Nigerian DISCOS. Beyond the Engendering Utilities model, support

could include training, conferences, exchanges, study tours, and support of women's inclusion in high-level decisions.

- **Act as a facilitator between financial institutions and women's groups interested in starting a renewable energy business.** Female financial outreach specialists could be contracted, on a performance basis, to help sculpt loan proposals and source funding. It should be noted that the NREEEP policy emphasizes women's groups as micro-finance beneficiaries, so this recommendation is in line with specific GoN guidelines on gender and energy.
- **Support individual female energy entrepreneurs.** This support may include assistance with financing by working with financial institutions to create women-specific packages which may include incentives such as flexible requirements for collateral, creative alternative financing mechanisms tailored for women such as character based and cash flow based lending, as well as capacity development in marketing, sales, and financial literacy.
- **Develop partnerships with investors who use a gender lens in their investment strategies to catalyze investments in female entrepreneurs and energy products and services that increase access to energy.** Gender lens investing means investing in companies that are run by women, offer equal opportunities to women and men, or have a positive impact on women and girls in some other way. Gender lens investors should be sought out when identifying Power Africa investment partners; and their experiences and approach should be shared with traditional investors.
- **Provide support to women-to-women marketing and distribution of off grid solutions.** Structure support in a manner that increases women's access to energy and advances Power Africa's connections goal, while simultaneously supporting expansion of opportunities for start-up and development of female renewable energy entrepreneurs who can reach underserved communities.
- **Support energy access to institutions providing services targeted at women.** These institutions may include Sexual Assault Resource Centers, schools and clinics. Collaboration with a private sector partner as well as with USAID health and education projects is recommended for this activity.
- **Facilitate relationships between the private sector and STEM students.** The existing relationships between Power Africa and private sector leaders can be leveraged to position NPSP to facilitate internships with energy firms. USAID/Nigeria's education sector programs could also play a role in creating these opportunities. These partnerships should be structured in a manner that institutionalizes efforts to build a pipeline of qualified entry level women via internships, mentorships and job matching to establish careers in the energy sector (similar support could be provided to civil society organizations who support girls in STEM).

**Illustrative Additional Activities:** The Gender Analysis Team received numerous ideas for stand-alone activities aimed at increasing gender equality in the sector and access to energy. Not all of these may be appropriate for Power Africa. A "menu" of these activities can be found in Annex 2. Additionally, general recommendations for other sectoral stakeholders (donors, government, and civil society) are in Annex 3.

## Annex I: Sample Checklist for Gender Integration in USAID Energy Programs (Activity Level)

Action	Completed
<b>Program Design</b>	
Conduct consultations (baseline) with male and female community members to solicit their input into program design. This will help identify whether men and women have different needs and priorities.	√
Conduct a gender analysis. This should include perspectives from women and girls, men and boys about social and cultural aspects relevant to energy usage at the household level and/or participation in the energy sector. Analysis should be focused on energy aspects which are most closely aligned with the program's statement of work. USAID ADS 205 provides guidance on how gender analysis should be conducted; however, there are multiple approaches to gender analysis. Gender experts involved with gender analyses should decide which approach is the best fit for the program in question.	√
Secure support of community leadership, government counterparts or any other relevant stakeholder around gender integration in all aspects of the program.	√
A specified amount of the total program budget should be earmarked for gender integration activities.	√
<b>Program Implementation</b>	
<b>Operational/Administrative</b>	
Hire a full-time gender specialist. In order to elevate the project's commitment to gender integration, this position should be reporting directly to the Chief of Party or program director in order to avoid unnecessary bottlenecks frequently associated with multiple levels of organizational hierarchy.	√
Ensure that all key personnel have experience working in programs which have successfully promoted gender equality and social inclusion.	√
Ensure gender balance in program staffing, including in key decision-making positions.	√
Where feasible, integrate gender requirements into terms of reference, procurements and contracts for program's subcontractors and partners.	√
Develop an internal gender policy which will operationalize gender at the institutional/administrative level (for example, sexual harassment policy; gender-sensitive hiring practices; women in decision-making positions, etc.). This is not to be confused with Gender Action Plan.	√
Integrate periodic training and awareness sessions for project personnel on gender issues. All staff should know that gender integration is the responsibility of the entire team, not just of the gender specialist.	√
Participate in any relevant working group on gender and energy. This will enable the program to be one of the key players in the field; to have an input in any joint strategies or initiatives; and to work jointly with others on select gender activities, which is also friendly for the budget.	√
<b>Programmatic</b>	
Develop Gender Action Plan (GAP) based on the gender analysis findings. GAP should contain practical, measurable and achievable activities aimed at promotion of gender equality and women's empowerment that the project in question can accomplish within the framework of its scope of work. GAP should be fully in line with program's work plan for Year I.	√

Action	Completed
Use female team members for relevant field work so they can directly seek input from community women, therefore bypassing cultural restrictions which may prohibit their interactions with unrelated men.	√
Identify key “gender” partners and take advantage of their knowledge and expertise in order to expand program’s reach.	√
Strive for equal participation of men and women in program activities.	√
Gender awareness is a part of capacity building packages for relevant program stakeholders.	√
Program Monitoring and Evaluation	
<p>The monitoring framework should include gender-sensitive indicators. Sex disaggregated data will help determine how program interventions impact gender inequality in the sector. The following points should be considered:</p> <ul style="list-style-type: none"> <li>• Are indicators capturing inputs, processes, outcomes and impact?</li> <li>• Is data disaggregated by sex, age and any other relevant categories?</li> <li>• Are resources allocated by the program to monitor gender integration in the project cycle? Does M&amp;E staff understand gender-sensitive M&amp;E?</li> <li>• Are lessons learned and best practices related to implementation of specific gender equality targets being documented?</li> <li>• Are changes being made to project activities if gender-sensitive indicators show gender gaps in benefits?</li> </ul>	√
Use gender-sensitive indicators which go beyond sex disaggregation but are also addressing aspects such as quality of participation, men’s acceptance of women in leadership and decision-making, and changes in gender norms and women’s status.	√
Field-level M&E spot checks include discussions with men and women in the community.	√
If the program requires community monitoring, both women and men should be engaged in this activity.	√
Institute a knowledge management system for collection and dissemination of gender best practices and lessons learned from the program.	√
Program evaluation is conducted from a gender perspective in order to ascertain whether there was a differential impact on women and girls and men and boys.	√
Reporting requirements for grantees (subcontractors) have a gender component.	√



## Annex 2: Illustrative Activity Level Interventions for Gender Integration

Following is an illustrative list of activity level interventions, approaches, and ideas the majority of which were identified by the key informants during the interview process. This list provides a “menu” that may be considered when designing interventions aimed at promoting women’s increased access to energy, participation in the energy value chain, as well as supporting an enabling environment for gender integration.

### Enabling Environment

- Support a gender audit of the national energy framework, including an in-depth analysis of energy, planning strategies, and budgets, as well as the institutional capacity of key public energy institutions.
- Seek out energy sector investors with a history of gender lens investing.
- Build government capacity to collect and analyze energy-related sex-disaggregated data at the household level that can be used to inform constructive policy dialogue and program design.

### Participation in the Energy Sector

- Facilitate partnerships between private sector firms and local organizations promoting young women in STEM that result in the creation of internships and job opportunities for women.
- Support the development of a scholarship fund promoting the study of STEM among girls and young women.
- Support and promote women’s participation and representation in high-level sectoral meetings and working groups.
- Develop a database of women with energy sector expertise in the private and public sector who can serve as mentors/coaches.
- Profile and showcase energy businesses led by women.
- Partner with energy sector leaders to support an awards program for women in energy aimed at recognizing, promoting and encouraging the contributions of women leaders and organizations to the transformation in the power industry. The Nigeria “Future of Energy” awards program may serve as an example of a model/opportunity for partnership.
- Utilize female technical experts as embedded advisors and consultants to serve as role models and mentors to junior female staff of host organizations.
- Encourage equal participation of men and women in public consultations during project planning.
- Support and coordinate with activities of the ECOWAS Women’s Technical Exchange Program and ECOWAS Youth Leadership Development in Energy.
- Support development of career advancement programs for women in public and/or private energy sector institutions.
- Work with the private sector to develop recruitment strategies targeting female candidates for employment and procurement opportunities.
- Utilize small scale energy projects as catalyst for creating employment, boosting income, and providing self-reliant solutions for village communities. Design recruitment initiatives to attract women into technical energy positions, such as solar installers. Consider international best practices and lessons learned for industry and workforce training programs, such as Barefoot College (India).
- Apply lessons learned and recommendation from USAID’s Engendering Utilities study to design interventions that mitigate gender disparities and increase operational efficiencies by strengthening the human resources practices of DISCOs. This may include interventions aimed at strengthening HR policies and processes for workforce development, recruitment, hiring, as well as career development (including management and technical training), mentoring, and performance evaluations.
- Conduct a study to identify challenges and opportunities for female energy entrepreneurs in the informal sector.

- Support studies on best international practices for increasing women's participation in off grid solutions.
- Conduct studies that build a business case for participation of women in the energy sector in Nigeria. Using Nigerian examples of success is key.
- Build the capacity of existing female entrepreneurs on energy businesses/technologies and energy-finance.
- Conduct a feasibility study for producing certain renewable energy products (solar lamps, clean energy cook stoves) in Nigeria. The ability to make these products in country would make another entry point for women's participation and income creation in the off-grid sector.

### **Access to Energy**

- Promote awareness about various aspects of energy usage to impact behavior change — for example, why electricity is not a free good/service provided by the Government; dangers of using biofuel for energy (health and pollution consequences), benefits of using renewable energy. Select messages should be aimed at women.
- Conduct gender and poverty analysis of the current tariff structure to understand how changing the tariff would impact the access to energy by vulnerable groups.
- Develop marketing strategies to market off grid energy to women, who are primary household energy managers.
- Support research and data collection on decision-making around energy usage at the household level in order to understand how gender dynamics impact men and women's access to energy
- Support a study on identifying and analyzing the linkages between access to energy and women's participation in agriculture.

### Annex 3: Recommendations for Energy Sector Stakeholders

The table below outlines practical recommendations that can contribute to increasing women's empowerment and gender equality in the energy sector. Many of these recommended activities would be most efficient if implemented through a collaborative process between all three groups – government, donors and civil society.

Recommendation	Government of Nigeria	Donors	Civil Society
<b>Enabling Environment</b>			
<ul style="list-style-type: none"> <li>Streamline the multiple roles of the government ministries and agencies in the energy sector.</li> </ul>	x		
<ul style="list-style-type: none"> <li>Include gender lens in future revisions of the overall national energy framework. This means not only ensuring that the language of these policies takes into account differential impacts it may have on men and women, but also that the process includes men and women, civil society organizations and donors</li> </ul>	x	x	x
<ul style="list-style-type: none"> <li>Revise National Gender Policy and Implementation Plan so that they not only acknowledge gender and energy nexus, but also provide practical solutions how to best address identified issues. Hold relevant Ministries, Agencies and Departments accountable for policy implementation.</li> </ul>	x		
<ul style="list-style-type: none"> <li>Support and promote transparency and accountability in the energy sector. Accountability systems (such as gender budgets) and oversight processes (such as gender audits) are key to increasing gender equality in the sector.</li> </ul>	x		
<ul style="list-style-type: none"> <li>Include gender dimension in procurement announcements and terms of references for implementing partners and project developers.</li> </ul>	x	x	
<ul style="list-style-type: none"> <li>Actively participate in dialogues and consultations among key actors from government, civil society, the private sector, and donors on gender equality in the energy sector.</li> </ul>	x	x	x
<b>Participation in the Energy Sector</b>			
<ul style="list-style-type: none"> <li>Increase women's educational opportunities and professional development in STEM fields. This may be achieved through scholarships for university and vocational education; development of internship and mentorship links between universities and private sector companies; and incorporating gender and energy issues in school curriculum from primary through the university level.</li> </ul>	x	x	
<ul style="list-style-type: none"> <li>Implement public awareness campaigns to inform the public about employment opportunities available in the energy sector. Use visual images to break down gender stereotypes (for example, use a photo of a woman working with power lines, which is a job usually associated with men).</li> </ul>	x	x	x
<ul style="list-style-type: none"> <li>Build capacity of both women and men to engage with gender issues in energy solutions. This involves training of</li> </ul>	x	x	

<b>Recommendation</b>	<b>Government of Nigeria</b>	<b>Donors</b>	<b>Civil Society</b>
both female and male energy practitioners, researchers and policymakers on gender issues in the sector.			
<ul style="list-style-type: none"> <li>Support women's role as energy managers and their empowerment to become energy entrepreneurs. This involves training women on technical aspects of sustainable energy technologies as well as building their entrepreneurial skills and access to capital and markets in the energy sector. Clearly communicating the benefits of sustainable energy for productive uses, and the potential implications for income generation, will also be important to encourage entrepreneurship.</li> </ul>	x	x	x
<ul style="list-style-type: none"> <li>Support generation, collection and use of quantitative and qualitative sex-disaggregated data on energy sector employment and impacts of energy development.</li> </ul>	x	x	
<b>Access to Energy</b>			
<ul style="list-style-type: none"> <li>Support research to identify, through gender analysis, where social and economic groups are chronically excluded from access to energy.</li> </ul>	x	x	x
<ul style="list-style-type: none"> <li>Collect sex-disaggregated data on energy use and decision-making around energy at the household level. This will serve as a baseline for evaluation purposes and be instrumental in defining gender-sensitive targets and indicators. It will also facilitate understanding of gender and energy linkages.</li> </ul>	x	x	x
<ul style="list-style-type: none"> <li>Implement public awareness campaigns to inform the public about the significance of energy, energy saving techniques, types of tariffs and alternative sources of energy. Use TV and radio to reach rural areas and illiterate individuals, the majority of whom are women.</li> </ul>	x	x	x

## Annex 4: Mapping of Gender and Energy Initiatives in Nigeria

Initiative/Activity	Implementer	Description
The Rural Women Energy Security (RUWES) Initiative	The Renewable Energy Program Office, the Ministry of Environment	Launched in 2013, RUWES targets under-served rural women who are usually off grid, energy-poor, and have the highest incidence of health-related issues from harmful energy practices. RUWES makes access to energy easier and more cost effective for rural women. Additionally, RUWES facilitates the creation of a financial value chain for rural women, by developing viable business models that provide women with the necessary tools (access to capital, skill and capacity development) to create successful and sustainable businesses.
Solar Entrepreneurships for Women	Solar Sister	Solar Sister combines the potential of solar and clean cooking technology with a woman-centered direct sales network to bring light and opportunity to remote communities in rural Nigeria. The “business in a bag” start-up kit provides women entrepreneurs with inventory, training, and marketing support. About 180,000 customers spanning three countries (Nigeria, Rwanda, and Tanzania) benefited from the energy products and services provided by approximately 1,000 women entrepreneurs in 2014.
Female entrepreneurs in energy efficient cook stoves	ICEED	ICEED works with rural women to develop them as local mobilizers and entrepreneurs who can introduce cleaner, energy efficient cook stoves to women in their communities. Women receive training to build and sell clean cook stoves. In addition, ICEED works with female IDPs in the North to produce, distribute, and provide training on the use of fuel-efficient cook stoves.
Women Green Fellowship Program	SME Funds	This 6-month Social Business accelerator program, which is mentor-led, is for young women and professionals who participate, engage and collaborate to identify and proffer Social and Sustainable Solutions to various problems confronting the poor, the communities, ecosystem and economy. SME Funds, working with financial institution partners, impact investors and venture funds will accelerate a mix of grant, equity and loans to help catalyze best social business ideas from the program on a rotational basis. The program plans to accelerate the creation of green jobs for young graduates seeking professional career path in the social sector and willing to work as green fellows; empowering low-income households, marginalized groups, schools and businesses with alternative renewable energy solutions.

Initiative/Activity	Implementer	Description
Matan Arewa Sosai Initiative (MASI) Project	Sosai Renewable Energies Company	The project currently works in 10 wards of Kaduna State and plans to expand in northern Nigeria. MASI strengthens the capacity of women to produce, sell, service, and install renewable energy products; thereby empowering them to financially contribute to the support of their families.
Empowering young women in STEM	WAAW Foundation	Works to increase the pipeline of African women entering into STEM fields and ensure they are engaged in technology innovation and entrepreneurship to benefit Africa. Initiatives include: STEM boot camps, mentoring programs, scholarships, teachers training programs, and after school programs.
The ECOWAS Program on Gender Mainstreaming in Energy Access (ECOW-GEN)	ECOWAS (regional)	The program was established in 2013 to support the implementation of the Sustainable Energy for All (SE4ALL) goals in West Africa. This was done with an understanding that, in the ECOWAS region, women's potential as producers and suppliers of energy services is under-utilized and that empowering them to make significant contributions in the implementation of the adopted regional renewable energy and energy efficiency policies is key to achieving these goals. The program has several key initiatives, such as Women's Business Fund, Women's Technical Exchange Program, Women's Economic Empowerment through Energy for Productive Uses, Mainstreaming Gender in Energy Programs and Projects, and Youth Leadership Development in Energy.

## Annex 5: Sample Gender Sensitive Indicators for Energy Sector Interventions<sup>73</sup>

### Enabling Environment

- Level of institutional and staff capacity to mainstream gender in the energy sector
- Proportion of men and women participating in public consultation during project planning and sectoral meetings
- Proportion of policy validations inclusive of external gender experts and women's groups' participation
- Number of senior civil servants involved in energy sector policy making/revisions, disaggregated by sex
- Number of enabling policies and regulations for small and medium enterprises that include provisions supporting gender equality
- Number of sectoral policies, strategies and reforms that include gender equality objectives based on gender analysis of need, demand and supply
- Proportion of energy policies revisions that include gender
- Proportion of energy projects where gender is fully mainstreamed

### Education

- Increase in number of female STEM students as a result of program intervention
- Number of female STEM graduates obtaining internships in the energy sector
- Number of female STEM graduates obtaining employment in the energy sector
- Number of schools teaching gender and energy courses
- Number of training institutions offering training in energy-related fields
- Number of schools with energy clubs

### Employment

- Number of individuals in key decision-making positions in public energy institutions, disaggregated by sex
- Number of individuals in key decision-making positions in private energy institutions, disaggregated by sex
- Percentage of new hires in technical and managerial positions, disaggregated by sex
- Number of individuals promoted to a decision-making position over the last year, disaggregated by sex
- Number of incentives designed to recruit women, increase their capacity and provide career development in targeted sector agencies
- Number of industry events with at least one female key speaker
- Number of solar installers, disaggregated by sex

### Entrepreneurship

- Number of energy sector SMEs, disaggregated by sex of owner
- Number of jobs created by energy SMEs, disaggregated by sex
- Number/proportion of women with improved access to financial mechanisms (equity investment, affordable loans, etc.) in the renewable energy sector
- Number of start-up business loans accessed by women's cooperatives, as a result of project intervention

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<sup>73</sup> Indicators are largely adapted from ECOWAS' Draft Policy on Gender Mainstreaming in Energy Access and Green Climate Fund/UN Women's Mainstreaming Gender in Green Climate Fund Projects

- Number of SMEs benefitting from energy efficiency financing provided through the project, disaggregated by sex of the owner
- Number of financial institutions with a gender-sensitive credit/lending policy
- Number of gender-sensitive financial incentives used to encourage women's entry into the off-grid market supported by the project
- Number of women reporting benefits from participation in women's business networks, as a result of project intervention

### **Access to Energy**

- Number of households with year-round access to on-grid power, disaggregated by sex of head of household
- Number of households with year-round access to off grid power, disaggregated by sex of head of household and type of energy source
- Number of individuals reporting improvement in overall well-being and livelihoods as a result of improved access to energy, disaggregated by sex
- Changes in level of women's mobility as a result of improved street lighting in their community
- Changes in level of gender-based violence as a result of improved street lighting in their community
- Changes in school attendance as a result of improved energy access, disaggregated by sex
- Percentage of women with new/improved income-generating opportunities due to improved access to energy
- Number of people paying their monthly electricity payments as a result of awareness raising campaign, disaggregated by sex
- Number of hours spent on household duties



## Annex 6: List of Informants

### POWER AFRICA GENDER ANALYSIS ORGANIZATIONS/INDIVIDUALS INTERVIEWED

September 25 – October 11, 2017

Nigeria

Total Organizations/Contacts: 36

#### USAID and Implementing Partners

1. USAID/Nigeria Power Africa  
Roseann Casey, Director, EGE  
  
James G. Lykos, Deputy Director, EGE  
  
Michael Jordan  
  
Oladele Kolade, Agriculture and Environment Specialist, EGE office  
  
Pamela Foster, Gender Advisor
2. Power Africa Transactions & Reforms Program (PATRP)  
Brian Baltimore, Lead Transaction Adviser  
  
Monica Samec | Nigeria Off-grid Advisor  
  
Eme Kponu, BTG Advisor  
PATRP Office in Lagos, Nigeria
3. Senior Advisors Group, Tony Blair: Institute for Global Change,  
Ms. Yomi Ogedegbe, Resident Advisor  
Address: Constitution Avenue, CBD
4. Renewable Energy and Energy Efficiency Project  
Javier Betancourt, Chief of Party  
Address: Maitama, Abuja, Nigeria

#### Government Agencies

5. Ministry of Power Works and Housing  
Eng. Tope Dina, Assistant Chief Electrical Engineer Renewable and Rural Power Access Department  
Address: Maitama, Abuja, Nigeria
6. Nigerian Electricity Regulatory Commission  
Regina Osagwu, Principal Manager, Consumer Enlightenment  
Address: Abuja, Nigeria
7. Transmission Company of Nigeria  
Hajiya Fatima Lawan Muhtar, General Counsel  
Address: Wuse, Abuja, Nigeria
8. Rural Electrification Agency  
Anita Otubu, Special Assistant, Special Projects

Address: Wuse 2, Abuja, Nigeria

### **Electric Distribution Companies**

9. Benin Electricity Distribution Company  
Kunbi Labiyi, Chief Corporate Officer  
Address: Benin, Nigeria
10. Eko Electricity Distribution Plc  
Sheri Adgeberno  
Address: Lagos Island, Nigeria
11. Abuja Electricity Distribution Plc  
Ernest Mupwaya, Managing Director / CEO  
Address: Abuja, Nigeria
12. Ibadan Electricity Distribution Company (IBEDC)  
Angela Olanrewaju, Head and Branding Communication  
Address: Ibadan, Oyo State, Nigeria

### **Civil Society**

13. Power for All  
Ify Malo, Campaign Director  
Address: Asokoro, Abuja, Nigeria
14. Rural Women Energy Security (RUWES) Initiative  
Victor Ogala, Technical Officer  
Address: Apo Abuja, Nigeria
15. WAAW Foundation (Working to Advance STEM Education for African Women)  
Tolu Owajoba, Program Director for Africa  
Address: Isolo, Lagos
16. International Institute for Sustainable Development (IISD)  
Christopher Beaton, Associate
17. International Centre for Energy, Environment & Development (ICEED),  
Folake Salawu, Policy Advocacy and Communication Officer  
Address: Abuja, Nigeria
18. Stakeholder Democracy Network  
Chris Newsom, Programs Advisor  
Garth McKenzie, Consultant  
Address: Port Harcourt, Rivers State
19. Solar Sister  
Olasimbo Sojinrin, Nigeria Country Manager  
Address: Gbagada, Lagos
20. Women in Clean Tech  
Grace Ogolo, CEO

Address: Abuja, Nigeria

21. All-On  
Wiebe Boer, CEO  
Stella Obot, External Relations Advisor  
Address: Lagos, Nigeria

22. Waste-2-Watt  
Fatima Ademoh, Project Developer  
Address: Kuje

### **Multilateral and Bilateral Donors & Donor-Funded Programs**

23. Agence Francaise de Development  
Adesoji Ademola, Senior project manager for energy  
Address: Abuja, Nigeria

24. European Union  
Godfrey Ogbemudia, Economic Cooperation and Energy  
Address: Abuja

25. GIZ / Nigerian Energy Support Program  
Ene Macharm, Project Coordinator, Energy Efficiency in buildings  
Address: Asokoro, Abuja

26. World Bank  
Kyran O'Sullivan, Lead Energy Specialist  
Address: Asokoro, Abuja, Nigeria

27. Japan International Cooperation Agency (JICA)  
Mr. Gabriel Agidani, In-House Consultant: Infrastructure Development, JICA Nigeria Office  
Address: Asokoro, Abuja

28. United Nations Industrial Development Organization (UNIDO)  
Alhaji Mustapha, Energy Expert  
Address: Garki, Abuja

29. DfID Nigeria  
Keith Hammond, [Keith-Hammond@dfid.gov.uk](mailto:Keith-Hammond@dfid.gov.uk)  
Address: Abuja

### **Private Sector**

30. CREEDS Energy  
Hannah Kabir, MD/CEO

31. Sosai Renewable Energies Company  
Habiba Ali, Managing Director  
Address: Kaduna, Nigeria

32. SME FUNDS  
Myke Ologunoye, Vice President of Engineering and Caleb Adeyeni – Accountant  
Address: Ikeja, Lagos  
Caleb

33. United Bank for Africa  
Helen Brume, Head, Power and Project  
Address: Lagos
34. Ecobank  
Theresa Lawal,  
Ndubuisi Emekalam,  
Address: Victoria Island, Lagos
35. Nextier Power  
Mr. Emeka Okpukpara Principal Partner,  
Address: Abuja, Nigeria
36. Cassandra Siemens  
Business Development & Marketing Director  
Manitoba Hydro International  
Address: Canada

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