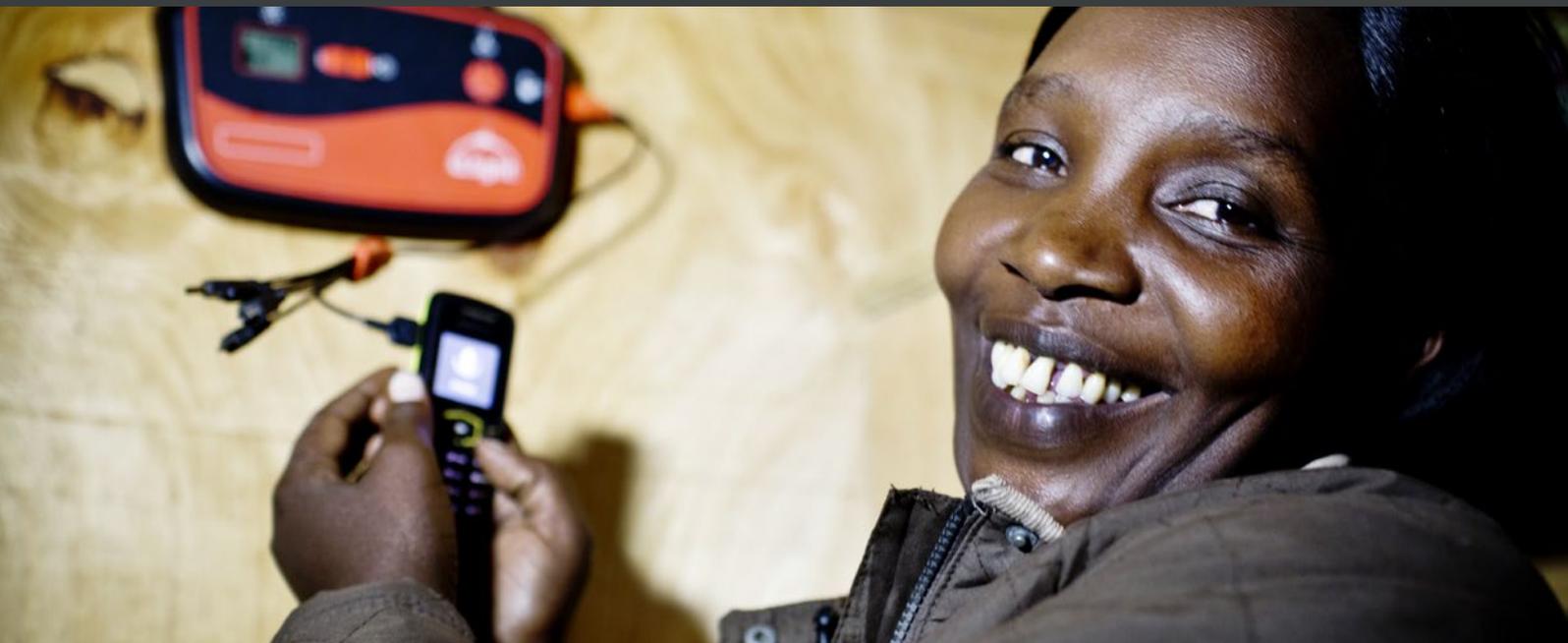


Gender and Social Inclusion in Off-grid Solar: A handbook for Sub-Saharan Africa

MARCH 2020



A lady excited about charging her phone from her house for the first time | Photo credit: AECF ©2020

Introduction

Sub-Saharan Africa has made much progress with electrification. **More than 20 million people gained access to electricity between 2014 and 2018.** However, the region still faces the challenge of providing access to **595 million people who currently do not have access to electricity**, and the growing population in electrified areas. In addition, electrification in the region has been quite uneven. As at 2018, only 25% of households in rural areas had access to electricity compared to 75% in urban areas¹. Moreover, limited access to energy in Sub-Saharan Africa contributes to a gender disparity as women spend three to five times as much time on energy consuming domestic activities than men². According to the United Nations High Commission for Refugees, only one out of ten refugees in camps have access to electricity. In Kakuma, one of the large refugee camps in Kenya, only 12,500 people out of the 250,000 residents have access to electricity³. These gaps point to disparities that need to be at the forefront of electricity access efforts in the region, especially because electricity has been identified as a basic need that is fundamental to the well-being and dignity of all people⁴.

20 Million

people gained access to electricity between **2014** and **2018**

2018

only **25%** of households in rural areas had access to electricity compared to **75%** in urban areas

12,500

people out of the **250,000** residents of Kakuma have access to electricity



Over the past decade, renewable energy technologies like off-grid solar (OGS) have dramatically expanded electricity access options⁵. They have evolved over time and inspired innovations in the energy sector that have made it easier for low-income households and other marginalised groups to access electricity. Sustainable Energy for All identified six global trends in energy access⁶ that are closing the gender and social inclusion gaps in developing countries, as shown in Table 1.

Table 1: Global trends shaping energy access in developing countries

Global Trend	Implication for gender and social inclusion
Decentralization	Off-grid solar presents an opportunity for reaching those not served by the grid; mostly lower income and vulnerable groups. For some areas, OGS is the most cost-effective way of achieving electrification. This is especially true for areas that are sparsely populated or quite remote.
Affordability	With the falling cost of solar technology, energy services are becoming less expensive. In addition, options for consumer financing are putting OGS products within reach of people who could not otherwise afford.
Mobile payments	Mobile money and other digital innovations are making it easier for women and men to access OGS and engage in entrepreneurship.
Entrepreneurship	Globally, more women and men are becoming entrepreneurs and expanding access to OGS within their networks and at the bottom-of-the-pyramid. This has made it possible to reach the poor and vulnerable who would be left out by the business-as-usual approaches.
Urbanization	Men and women living in slums and peri-urban areas often struggle with access to clean and reliable lighting. OGS is giving them access to reliable lighting that can also be used to generate additional income e.g. through mobile phone charging
Humanitarian settings	With the growing number of displaced persons, humanitarian agencies are turning to OGS to replace the expensive diesel-generated power.
Climate Change	With the increase in adverse effects of climate change, many governments in Sub-Saharan Africa are turning to renewable energy and OGS to electrify remote areas.

Source: Adapted from SE4All (2018)

The trends above present opportunities for integrating GESI in electrification initiatives. Off-grid solar continues to accelerate access to clean and reliable lighting because it is cheaper compared to the high upfront costs associated with connection to the national grid¹. With advances in technology solar is also providing a range of options that enable consumers to move from one level of energy access to another (e.g. from solar lanterns to solar home systems) as their income improves.

The next section covers what governments, development partners, investors, private sector and non-governmental organisations in the OGS sector can do to integrate GESI in energy access initiatives. Each of these sections has a case study showing how different organisations have integrated GESI and the lessons learnt during the process. The last section presents lessons learnt from selected GESI initiatives, globally.



Futurepump | Photo credit: jeffreymwalcott.com

Gender and social inclusion are widely used in different sectors. The definitions used for purposes of this handbook are explained below.

Key definitions

The following definitions have been adopted for this handbook.

“Gender” is not another word for “women,” it refers to the socially constructed roles and behaviors of males and females. The term distinguishes social roles from the biologically determined aspects of being male and female. Social roles place women’s energy needs at a higher level than those of men since they use energy in cooking and require good quality lighting in their domestic chores. Just like the men, women also require energy for productive uses.

Gender equity refers to fairness of treatment for both women and men, according to their respective needs. It is different from gender equality, as it is one of the steps towards equality.

Gender equality refers to equal rights, equality of opportunity (equal pay for equal work, equality of access to human capital, and other productive resources), and equality of voice (ability to influence and contribute to the development process, including policy discussions on energy).

Empowerment is a process of enhancing an individual’s or group’s capacity to make strategic choices and transform those choices into desired actions and outcomes. In the case of off-grid solar (OGS), this involves enhancing access to assets including financing, skills and jobs. As a

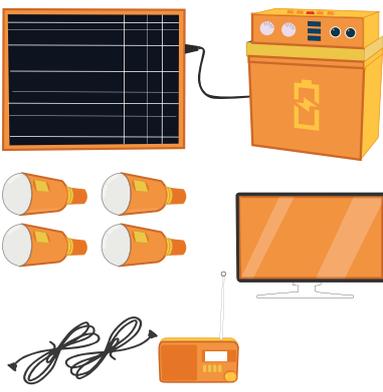
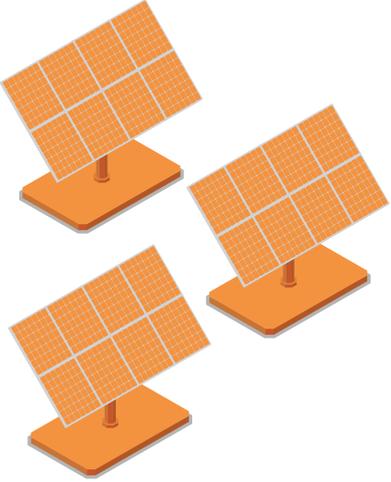
result, youth, women and other vulnerable individuals can become agents of positive social change on their own behalf.

Social inclusion refers to the development of inclusive institutions including; financing, employment, energy policies and behaviors that provide an opportunity for previously marginalized groups to increase their voice and access to assets and opportunities. In this handbook, social inclusion extends the definition of marginalized groups to include youth, people with disabilities (PWDs), extremely poor households often with elderly or terminally ill people, or low-income female or child-headed households. Other context-specific situations such as refugees and internally displaced populations may be categorized as vulnerable groups. Those at the bottom of the pyramid are also found in this category.

Therefore, **gender and social inclusion (GESI)** refers to special consideration and inclusion of the varied energy-specific interests of individuals and groups particularly women, youth, PWDs, internally displaced persons, refugees, nomadic communities, and marginalized households, regarding access to off-grid solar.

Source: ENERGIA, IFC and ESMAP - World Bank

Off-Grid solar consists of:

Pico solar 0-10W	Solar Home Systems 10-350W	Mini-grids < 10MW
<p>Solar Lanterns</p> 	<p>Solar Systems with multiple lights, radio, charge controller, TV, battery etc</p> 	



Solar PV will provide the cheapest source of electricity for many of the **595 Million** people across Africa without access to electricity¹.

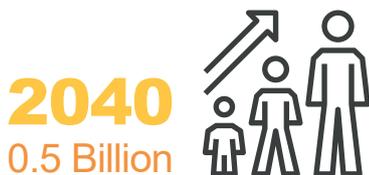


90% Refugees

Globally, **9 out of 10 refugees** have no access to electricity⁴

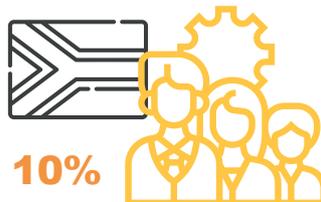


A study in Brazil showed that chances of **concluding primary school** by the age of **18 are 60%** higher for girls with access to electricity than those without¹



2040
0.5 Billion

More than **half a billion people** are likely to be added to Africa's urban population by **2040**⁵. What is the implication for lighting especially in the rural areas, peri-urban areas and informal settlements?



10%

In South Africa, **female employment** in newly electrified communities rose by almost **10%** because of the improved efficiency in carrying out domestic tasks³



Using solar to illuminate public spaces, such as streets, marketplaces, boarding schools, and refugee camps has a **positive impact on women's security** because it decreases the crime rate, and physical and sexual violence .

Globally, governments play a strategic role in expanding electricity access for citizens in their countries. Governments use energy policies and national electrification plans to define how universal access to electricity will be achieved. According to the report Energizing Equality, as at 2016, Sub-Saharan Africa was leading on

making gender considerations in national energy frameworks (policies, strategies and plans) . However, only Kenya has a Gender Policy for the energy sector. The case study below highlights how Kenya developed the Gender Policy for the Ministry of Energy.

A Gender Policy for the Ministry of Energy in Kenya

For a long time, the Ministry of Energy in Kenya did not pay much attention to gender issues, until 2017 when the State Department of Gender seconded Phoebe Makungu to the Ministry. The Ministry was operating from a gender-neutral stance. Many of the technical staff were male engineers with no interest in gender-related issues.

However, when Phoebe joined the Ministry, she established a Gender Committee. The committee was responsible for gender sensitization and influencing other departments to pay more attention to gender issues. Phoebe, says;

'I discovered that my new colleagues had limited understanding of gender. For them gender meant women's issues, which they did not perceive to have any relationship with energy matters. I realized that besides continuous sensitization, the best way to safeguard gender issues in the Ministry was by institutionalizing gender through a policy'. That way, a budget could be assigned for gender activities.'

For almost two years, Phoebe worked with staff from the State Department of Gender while consulting the Gender Committee at the Ministry of Energy to develop the first draft of the Gender Policy. The draft Policy was presented for validation in late 2019, where organizations active in gender and energy such as Practical Action, Power Africa, ENERGIA and USAID provided inputs. The publication of the Gender Policy and the national launch was also supported by these organisations. The Gender Policy for Ministry of Energy in Kenya was launched on 1st November 2019. Phoebe is currently the Assistant Director, Gender and Development at the Ministry of Energy.

The goal of the Gender Policy is to achieve gender equity and equality within the energy sector in Kenya. The objectives of the Policy are: to strengthen institutional frameworks for gender equality in energy at both national and county levels, ensure compliance with the constitution on gender, to increase awareness on gender in the energy sector, to integrate gender in programs, monitoring and evaluation, to promote clean cooking solutions and environmental sustainability.

The Gender Policy is available online on: <https://energy.go.ke/wp-content/uploads/2019/10/Gender-Policy-in-Energy.pdf>

A gender policy for energy sets out what the government plans to achieve. Other levels of government and other actors in the energy sector can then adopt the national policy and develop gender responsive programs at their level. However, for impact to be achieved, action must be taken both at the national and sub-national levels.

Besides setting the policy agenda, governments are instrumental in driving access and affordability of electricity especially among the poor. Pro-poor programmes that subsidize electricity access for low-income households, people with disability and displaced persons go a long way in creating social inclusion. Other areas where governments can integrate GESI are identified in the points of reflection below.

Points of Reflection



Is there a national gender and social inclusion policy for the Ministry of Energy? Where such a policy exists, does it recognize the multiple identities of women and men, such as age (youth or elderly persons), disability, internally displaced, refugee status, etc?



Do the national energy and gender policies make any recognition of the disparities and inequalities in access to energy resources?



Are there special provisions for the socially excluded groups, that can be used in advocacy platforms to push for special consideration among stakeholders?



What is provided for in the social protection strategies and policies? Is there room to plug-in to ongoing programmes in order to provide OGS to the extremely vulnerable households?



Are there tariff exemptions and consumer subsidies that may be considered for poor and vulnerable groups?



Regarding energy data:



Is existing data disaggregated by age, disability and gender especially with regard to energy access?



Does the data provide insights about the access and consumption patterns of OGS?



What is the urban/rural access?



Access in remote off-grid regions?



Nomadic communities?



Internally displaced persons?



Women/child headed households

Key Action Areas for Government Institutions

The points of reflection above help to identify areas where GESI can be integrated at government level. In summary, there are key areas where government interventions can have large scale impact. These are:



Ensuring that the population data collected for the energy sector is disaggregated by gender, age, disability, rural/urban, displacement and refugee status. Stakeholders in the energy sector can then use the data for planning and distribution of resources.



Developing regulatory frameworks that are supportive of GESI.



Establishing fiscal regimes that are favourable to marginalized groups, for instance tax exemptions and consumer subsidies.



Setting aside adequate resources for social protection programmes like energy safety nets

The decentralised nature of solar has attracted private sector players who are manufacturing and distributing the solar powered products in Sub-Saharan Africa. These solar solutions have brought electricity access to rural customers who would have had to wait many years before the national electricity grid could reach them. The market dynamics in rural areas (low incomes, lack of infrastructure, remoteness) have also brought about innovation in how last mile distribution of solar products is done. Groups that were previously excluded in the value chain, are being empowered so that they can enhance their livelihoods.

For a long time, women and other vulnerable groups have been perceived to be merely end-users of energy and not active participants

in the renewable energy supply chain (as entrepreneurs and distributors). This is now changing as organisations have realised that they have commendable community networks for last mile distribution. These groups offer a good opportunity for opening-up markets at micro-level and getting quality products to the bottom of the pyramid. Examples of these changes are captured in the two case studies below. The first case study shows how Solar Sister empowered internally displaced women to start-off solar businesses in Bauchi State, Nigeria. In the second case study, a private company in West Africa integrated gender equality in their business model with positive impact on the organisational culture and the bottom line.

Solar Empowers Internally Displaced Women in Nigeria

Solar empowers internally displaced women in Nigeria. The Boko Haram insurgency in North-East Nigeria that began in 2009 has caused displacement of over 2 million people and affected another 15 million, leading to a high incidence of poverty. The region lags behind compared to the rest of the country in terms of access to quality education, energy, healthcare and other basic amenities. It also hosts internally displaced people who are affected by loss of property and diminished livelihoods. Incidents of gender-based violence and early marriages are also common in this area.

In early 2019, Solar Sister* launched a Humanitarian project to respond to the crisis in Bauchi State, one of the states that has taken in many of displaced people. The Project also aimed at improving livelihoods and access to clean energy for the community. In collaboration with local authorities, five local authorities were selected to take part in the project. Local champions were then identified, and later 200 female Internally Displaced Persons (IDPs) were selected to take part in the project. The women were trained and received the business-in-a-bag start-up kit to set-up their businesses. The start-up kit consists of marketing materials and business tools. The women received the initial inventory from Solar Sister. Further coaching and training were done each month. During these sessions, women discussed challenges with their coaches, equipped with leadership skills, and taught how to save and re-invest their profits.

Culturally in Bauchi, men have the purchasing power and make decisions on what should be bought. Women on the other hand are not allowed to step out for business or social engagements without their husbands' permission. They are also not permitted to talk to men other than their husbands. These limitations had to be addressed before the women were trained. They were overcome by involving community leaders and government officials right from the beginning of the project and on case by case basis whenever the need arose.

In six months, the 200 women sold 4148 solar products and clean cookstoves, reaching over 20,000 beneficiaries. All the women gained self-employment skills and 128 of them launched full Solar Sister businesses.

*Solar Sister recruits, trains and supports women entrepreneurs to build businesses and bring clean energy to their communities. As at March 2020, the organization had reached 1.5 million people across Africa with solar energy and clean cookstoves, and kickstarted over 4,000 clean energy entrepreneurs. (www.solarsister.org)

Advancing Gender Equality in Solar Companies

PEG Africa (PEG) is a company that provides solar home systems to customers in rural and remote parts of West Africa where there is no grid. Power Africa worked with PEG to increase its internal gender capacity, and to strengthen the company's opportunities for women's economic empowerment. To achieve this, Power Africa provided financial and technical support to PEG to undertake a series of activities. The exercise began with a baseline assessment, which revealed that internal policies were not gender responsive, and the company's interaction with customers was gender neutral. To address these gaps PEG;

- a Developed a Gender Action Plan (GAP) whose objectives were: to increase the number of women in the company's decision-making positions by 15%; to strengthen the company's internal policy documents by adding gender considerations; and, to increase women's employment in field positions by 13%, and gain at least 4000 more female customers.
- b Employed a full-time Gender Projects Officer, to oversee implementation of the GAP and institutionalize gender in the company's operations.
- c An internal mentorship programme targeting PEG staff was initiated, running over three months, where male and female director-level employees were paired to build women's capacity for leadership within the company.
- d Conducted a pay-gap and promotion analysis which revealed big differences in the average pay between men and women, lack of equality at senior level positions, and promotions that were skewed in favour of men, among others. A standardized promotions policy was developed to addresses these discrepancies.
- e Development of an overarching Gender Equality Policy that articulates the company's commitment to gender equality in recruitment and hiring, job assignments, bonuses and promotions, pay and benefits and training.
- f Conducted targeted sales to female customers especially those that were part of village savings and loan associations.
- g Created new employment opportunities for women in rural areas.

After implementing the GAP for 12 months, PEG noted a 30% decrease in employee turnover, achieved a 14% increase in female leadership, increased collaboration and more meaningful engagement in meetings leading to better problem solving. The period also coincided with a 60% growth in revenue, and earnings before interest and taxes improved by 26%.

Hugh Whalan, PEG's Co-Founder and CEO notes, "[Eventually] gender equality begins to drive itself. The more women are represented in leadership, the less one has to push for gender equality because it is visible. This is what is beginning to happen at PEG."

Source: Power Africa (2019) Power Africa Case Study – Ghana: Advancing gender equality in Africa's off-grid energy sector.

The private sector has many players, especially along the value chain and offers many opportunities for integrating GESI. The points of reflection below show areas that private sector players can consider.

Points of Reflection

- i Does the association represent youth or women-owned (and led) companies? If not ensure this exclusion is noted and resolved.
- ii Are the regulatory issues tabled for discussion inclusive of those from women-owned, youth-owned companies?
- iii Are excluded groups such as internally displaced persons (IDPs) , PWDs included in the discussions on access to OGS?
- iv Is there an analysis of the GESI in the OGS supply chain? What is the representation of women, youth, displaced persons and people with disabilities (PWDs) at different levels of the value chain (company owners, executives, technicians, distributors, installers)?
- v Is there gender differentiation in the recruitment and pay structures?
- vi Do women, youth, PWDs have equitable access to credit facilities or business financing for OGS solutions?
- vii What innovations can be put in place to ensure special financing products are in place for women, youth, PWDs etc?

Points of Reflection

-  What strategies have been put in place to ensure that all vulnerable groups can access and benefit from the consumer financing mechanisms available?
-  Does the quality of OGS products (and any accompanying appliances) offer sufficient confidence in the products for the bottom of the pyramid users?
-  Given the gender differentiated energy needs, have women's interests been taken on board in the design and production processes?
-  Have the interests of the youth been considered in the design and production processes including technician jobs, innovations etc?
-  Have the special needs of PWDs been considered in the design processes?
-  Are there jobs that can be set aside for PWDs, specifically?
-  Have cultural factors that often hinder gender and social inclusion been considered? Are the marketing, sales, communication and training strategies gender sensitive?
-  What do salespeople report or observe on gender consumption and access patterns?
-  Have sex disaggregated data been availed and assessed for decision making? How does this data influence decision-making patterns?
-  To what extent does the integration of business models such as PAYG provide access to OGS solutions and appliances to women, youth, PWDs and other categories?
-  How do the elements of the PAYG model influence adoption and use of OGS? How does it compare with other pricing options and promotion strategies using GESI as a variable?
-  To what extent does the pool of distributors and actors in the supply chain include women, youth and others? Which positions are they filling at these various companies in the supply chain? What challenges are hampering their inclusion? What strategies can be put in place to increase their representation in the supply chain?
-  Does the association reflect gender equality in its management? Does it lobby government for GESI favourable policies with regard to energy access and labour within the energy sector?

Key Action Areas for Private Sector

The OGS value chain presents many opportunities for GESI integration. However, the actions that can deliver greater inclusion are:

-  Collecting routine gender, age, disability and rural/urban disaggregated data from customers to have a better understanding of access and affordability, as well as purchase decision patterns.
-  Collaborating with government and seeking the latter's investment in rural infrastructure to ease access to underserved regions and GESI groups.
-  Providing innovative consumer purchase models to enhance affordability especially for GESI groups. A variety of options including pay-as-you-go, mobile money and other group guaranteed purchases, have been known to enhance access to low income households.
-  Assess the impact of the purchase models listed above on access; how do they enhance (or hinder) access?
-  Designing workplace gender and social inclusion policies to enhance gender equity and GESI-conscious work approaches in private companies

As at December 2019, approximately USD 1.5 billion had been invested in the off-grid solar sector in Sub-Saharan Africa⁸. However, the distribution of that money was skewed, with 80% going to the top 10 solar companies in the region. In addition, women entrepreneurs have historically had limited access to finance for start-up and growth. The African Development Bank notes that women operate over 40% of

small and medium enterprises in Africa but there is a financing gap of \$42 billion between male and female entrepreneurs⁹. To address these imbalances, investors have adopted gender lens investing to crowd in more women especially in the renewable energy sector. The case study below highlights the experience by the Africa Enterprise Challenge Fund.

Gender Lens Investing

The Africa Enterprise Challenge Fund (AECF) implements the Renewable Energy and Adaptation to Climate Change Technologies (REACT) programme, which demonstrates how renewable energy and enterprises can potentially improve rural livelihoods. As at March 2020, the programme was worth US\$161 million and had invested in 77 innovative businesses involved in last mile distribution. The organization has also been deliberate in targeting women.

In 2018, AECF launched its Gender Lens Investing (GLS) for Rural Prosperity and Investing in Women (IIW). The GLS is intended to 'restructure the investment process, to find, nurture and grow businesses that provide innovative solutions to increase gender equality. The GLS targets four areas, agriculture, sustainable energy, private sector and women. It aims at; ensuring at least 50% of development impact accrues to women in different portfolios, 35% of the companies are women-led, 40% of jobs created are held by

women, and that at least 70% of all jobs created are held by the youth. To cement AECF's efforts in GESI, the organization has put in place a full time Gender Advisor, reviewed its investment process to integrate gender and commissioned related studies.

The IIW, is funded by the UK government and seeks even greater inclusion by supporting women-dominated value chains. Though initially targeting agribusiness and not renewable energy, the pilot programme pooled at least US\$5.9 million and targeted women's businesses in Burkina Faso, Cote d'ivoire, Ethiopia and Sierra Leone. The fund includes a 'gender mainstreaming prize', as a tool to encourage gender inclusion in businesses. The fund aims to grow to US\$50 million, and in so doing increase economic opportunities for women in agribusiness and renewable energy value chains in Africa.

Some of the observations AECF has made in working to integrate GESI through their investment portfolio are:

-  Most private solar companies largely execute their entrepreneurial activities in a gender-neutral way, which largely reinforces gender disparities and exclusion of vulnerable groups.
-  There are limited case studies and empirical evidence of the business case for gender lens investing in Africa, hence being largely profit-driven, private companies do not often go out of their way to integrate GESI in their businesses.

The lessons learnt include:

-  There is need to generate evidence on the business case for gender lens investing in businesses to secure buy-in from private sector companies.
-  Some companies are interested in gender integration, but they do not know where to start. Therefore, provision of technical assistance is crucial for the private sector.
-  Providing capital for women-led businesses is only part of the broader solution for addressing challenges experienced by female entrepreneurs. Much more is needed to boost their skills, expertise and prowess as commercial investors.
-  In the renewable energy value chain, women often prefer 'safe roles' such as back-office support and sales, rather than managerial, technical, design and manufacturing roles.

- There is need for gender-focused value chain analysis to support women's energy enterprises and address key constraints such as financing and skills gaps.
- Specific renewable energy technologies have greater impact on women's economic empowerment than others, e.g. renewable energy technologies for productive use such as solar powered irrigation systems which provide opportunities for income generation.

Besides, AECF other investors and development finance institutions are stepping up efforts towards increasing access to finance for women. For instance, the UK government funded Renewable Energy Performance Platform has a gender-themed request for proposals targeting women-led renewable energy projects in Africa. The Africa Development Bank has set up a \$6.1million

fund for women-owned small and medium enterprises. The 2X Challenge Financing for Women has mobilized about \$ 2.5 billion to increase access to finance for women-owned and women-supporting enterprises in developing and emerging countries. Other ways in which such investments can be used to achieve greater inclusion are shown in the points of reflection below.

Points of Reflection

- i** Considering the potential for PAYG and the high level of mobile money penetration, how may this opportunity be harnessed to advance access to consumer financing for vulnerable and underserved households.
- ii** What opportunities exist for promotion of increased enterprise and new jobs, particularly for marginalized groups. Do the national energy and gender policies make any recognition of the disparities and inequalities in access to energy resources?
- iii** Are there opportunities for investment in;
 - a** Design and manufacturing of OGS, to spur new industries?
 - b** Maintenance and operation, for servicing products currently in the market?
 - c** Enterprises that have a greater focus on women's empowerment and social inclusion?
- iv** How are current investments in OGS structured to ensure GESI considerations?

Key Action Areas for Investors and Development Finance Institutions

Investors and development finance institutions can drive GESI through:

- Continuing to provide grants and loans because they enable private companies to reach remote areas with poor infrastructure.
- Integrating GESI in challenge funds with capacity development support for private companies
- Offering incentives to companies that show progress on GESI indicators
- Availing funds with friendly repayment terms for women-owned enterprises.
- Forging strategic partnerships with government agencies to boost social protection programmes and energy safety nets.
- Financing solar associations, associations for youth, women, PWDs and other similar groups that have the potential to advocate for GESI-responsive energy policies and programmes.

Historically, non-governmental organisations (NGOs) distributed essential products such as cook-stoves and solar lamps to vulnerable households with the aim of improving their lives. However, this created some dependence and there was little to no improvement on the livelihoods of families that became accustomed to handouts. The handouts also created market distortion. To address these challenges, some NGOs adopted the market-based approach. The approach consists of activities that enable vulnerable groups to participate in markets, on

better terms and strengthen demand for the goods or services they produce. While this approach does not comprehensively address the needs of all vulnerable population segments, it has been instrumental in economically empowering some groups, and moving them from dependence to economic independence. The case study presented below shows how CARE International Kenya empowered women and youth, and simultaneously increased access to modern lighting in rural areas.

Women Light up Rural Kenya

In 2014, only 25% of Kenya's rural population had access to electricity. The main mode of electrification was extension of the national grid, though the use of solar lamps was picking up. At the same time unemployment in the country stood at 9.5%. Non-governmental organisations (NGOs) operating in the country were looking for innovative ways to alleviate poverty especially in the densely populated regions.

In the same year, Care International Kenya was running the Lighting Kenya Project to enhance the economic independence of youth and women through entrepreneurship, specifically through the selling solar

lamps. The project was funded by Barclays Bank of Kenya (now Absa Kenya) and implemented in six counties – Embu, Homabay, Kisii, Kisumu, Migori and Nairobi. The project recruited women and youth and trained them on managing small businesses and the benefits of solar lamps. After the training, the entrepreneurs were expected to raise start-up capital of Ksh 20,000 (USD 200). Those who successfully raised the amount were required to further recruit another 10 sales agents from the community, to create a more effective last-mile distribution network. Josephine Obingo from Migori County, who was one of the entrepreneurs that took part in the training narrates her experience;



When we were being recruited as entrepreneurs to sell these solar lights, a lot of us were skeptical, and not sure if the market would respond positively. I decided to just buy one light for USD35 and take it home. That night there was a blackout, and I brought out my new light and lit it. It drew so much attention that in just one week I sold 12 pieces. Though my village was connected to the grid, the blackouts were so frequent. Over time, I would sell a minimum of 400 lights per month. At the end of the project period in 2017, I had sold over 10,000 lamps! Even today I sell solar and am popularly known as Mama Solar, for bringing solar technologies to my village.

Millicent Okello, the then Project Manager, observed that, 'We tend to underestimate people in rural areas and their potential. They have capacity to generate resources and they desire good quality products. A single solar lamp was selling for USD35 and yet to my surprise the units moved fast.

One of the major challenges was skepticism among the solar entrepreneurs, many of them gave up when they realized they needed to raise the start-up capital, CARE International in Kenya was not providing capital. However, when people like Josephine began making sales, they looked for the capital and re-joined the project.

The impact of the project on the community was phenomenal; traders at the local market used the solar lamps to keep their businesses open for longer hours, and the security around the market improved. Children studied for longer hours in the evening and were happy to use the solar lamp which was brighter than the kerosene lamps they used before. The impact for entrepreneurs like Josephine were even greater, she built a four-bedroom permanent house from the business profits. By the end of 2015, 18,294 women and youth had been trained on entrepreneurship. Later, as the solar market in Kenya expanded and other distributors came in, they recruited the solar entrepreneurs who had been trained and gained experience under the Lighting Kenya Project. By funding the Project, Barclays Bank aimed at deepening financial inclusion among vulnerable people

The Lighting Kenya Project showed the impact of off-grid solar on communities and how such projects can be designed to deliver long-term benefits, even after the project ends. The success of the project was also due to its timing, the solar lamps were responding to the need for better lighting in the market, and customers were willing and able to pay for the products. There are other areas where GESI can be integrated in the projects that NGOs and civil society organisations (CSOs) implement. These are elicited by the points of reflection below.

Points of Reflection

Questions that can highlight opportunities for GESI in the off-grid sector include:

- i** What are the livelihood opportunities for women, youth, people with disabilities and other vulnerable categories?
- ii** How can OGS enhance home-based enterprises (processing, catering, dressmaking and repairs, information and communication-based enterprises, mobile phone charging, salons and barber shops)?
- iii** Are there organisations that can support:
 - a** Training and skills-building in use of OGS, management, productive use of solar energy
 - b** Provision of linkages with credit-giving institutions specifically targeted to marginalized groups
 - c** Creation of new entrepreneurship or job opportunities, particularly for the youth?
 - d** Incentives in the form of subsidies for those people who cannot afford the solar products at existing market prices
- iv** To what extent do community-based associations represent energy needs of vulnerable segments of the population, such as, women from low-income households, the youth, people with disabilities, internally displaced people, refugees and nomadic households.
- v** Are there opportunities for using solar irrigation pumps to expand livelihood options or increase income?
- vi** Are there community-level services that can be improved by OGS and have positive outcomes for the health and wellbeing of women, youth and other vulnerable groups? e.g. powering health clinics with stand-alone solar, electrifying schools, water lifting using solar water pumps etc.
- vii** How can NGOs across various sectors integrate OGS into their activities as a way of improving their interventions, such as in agriculture, health, education, humanitarian services e.t.c?

Key Action Areas for NGOs

There are many interventions that NGOs can undertake to drive GESI. However, the key actions that should be considered for greater impact are:

-  Collaborating with the government to enhance efficiency in the implementation of social protection programmes, ensuring all vulnerable individuals are included in the programme
 -  Building coalitions with like-minded organizations in the energy sector to advocate for GESI-responsive policies, strategies and programmes.
 -  Supporting women and youth focused self-help groups in solar entrepreneurship thus enhancing their economic empowerment.
 -  Mitigate and address any unintended consequence that may arise from increased empowerment. Notably in some communities, there has been some societal tensions and increased gender-based violence as women's livelihoods have increased compared to those of men.
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ENERGIA

ENERGIA was established 20 years ago. The organisation informs the development of energy policy and practice and showcases gender mainstreaming approaches that work in energy programmes. ENERGIA works in six intervention areas, namely:

- ☀ **Research:** generating evidence on the link between gender, energy and poverty and therefore inform energy policy and practice.
- ☀ **Capacity development** through training courses, workshops, manuals, e-learning and mentoring to drive gender transformation in the energy sector.
- ☀ **Knowledge development:** generating resources that provide information on 'how to do gender mainstreaming'
- ☀ **Gender audits and gender action plans:** Gender audits identify factors that hinder gender mainstreaming in energy policy. The gender action plan ensures that gender issues are integrated into project goals, activities and the monitoring and evaluation framework.
- ☀ **Advocacy and policy influencing:** creating awareness so that governments and other stakeholders develop gender-aware energy policies and practice.
- ☀ **Gender and energy networks:** ENERGIA has 23 National Focal Points in Africa (NFPs) and Asia. In Africa, the NFPs are in Botswana, Ghana, Kenya, Lesotho, Mali, Nigeria, Senegal, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. Under this, ENERGIA runs the Women's Economic Empowerment programme. The programme strengthens women-led micro and small enterprises in the energy value chains by supporting them to deliver energy products and services at community level.

Lessons learnt from ENERGIA's work:

- ☀ To be effective, gender mainstreaming must take place at the design phase of the project, and not hurriedly brought in as an afterthought .
- ☀ Gender mainstreaming requires time and effort to institutionalize and demonstrate results at outcome and impact levels.
- ☀ Organizations that are just starting out on gender mainstreaming require technical assistance that is readily available.
- ☀ For sustainability, gender indicators need to be included in the monitoring and evaluation tools and framework.
- ☀ Capacity development in gender mainstreaming should be a continuous process and tailored to the needs of the specific organization.
- ☀ At organizational level, gender mainstreaming should be a dedicated position rather than an add-on role to an existing position, for it to gain seriousness and the necessary traction.
- ☀ Gender action plans are useful for embedding gender approaches in an organization and are most effective when introduced at the design phase of the project.
- ☀ Gender audits are effective when mainstreaming gender into energy policy at multiple levels, and help when establishing a baseline, implementation roadmaps and identification of capacity gaps.
- ☀ Advocacy at regional and global levels needs to be grounded in concrete evidence.

SE4All

The Sustainable Energy for All (SE4ALL) is an international development organization that aims to contribute to the achievement of Sustainable Development Goal 7 (SDG 7). SDG 7 calls for universal access to sustainable energy by the year 2030 leaving no one behind.

The People Centered Accelerator: this is a voluntary initiative of 45 organizations that are devoted to gender and social inclusion. SE4ALL provides secretariat support to this partnership.

The People-Centered Accelerator is involved in the 'Energy Safety Nets' initiative, in partnership with the Overseas Development Institute (ODI) and Catholic Agency for Overseas Development (CAFOD). The 'Energy Safety Nets' initiative has been described as, '... the first-of-its-kind' research series to inform best practices on the intersection between energy policy and social assistance to protect the extremely poor and vulnerable people .

Lessons learnt from the 'Energy Safety Nets' initiative

-  1 There is need for socially differentiated targeting mechanisms, in the provision of subsidies for them to be effective. Specific groups need to be targeted in a process that fully recognizes their varied and gendered energy needs, and not a one-size-fits all approach.
-  2 There is absolute need for gender disaggregated data, in order to improve targeting. Existence of evidence on energy consumption within vulnerable households helps policymakers determine appropriate thresholds for subsidies. Data on the specific energy needs of the poor helps to enhance program design and allows policies to be more efficient.
-  3 There is need for flexibility in programme design: Energy Safety Nets should be appropriate to the country's institutional, geographic, economic and social context, including efforts to promote gender equality.
-  4 Need for political commitment for universal energy access to be achieved. SE4ALL and its partners noted that multi-year political commitment through financial pledges is necessary for success in the subsidy programme.

Power Africa

Power Africa is a U.S Government-led partnership coordinated by USAID and launched in 2013. Power Africa brings together technical capabilities, financial resources and programmes of 12 US Government Departments and Agencies, and international development partners to provide market-driven solutions to Africa's energy challenges. As part of this, Power Africa has been keen on reducing gender inequalities in the energy sector. The gender-related approaches that have been used include:

-  1 *Launch of the 'Women in African Power' (WiAP) Initiative:* The WiAP is a network of women leaders representing government, private sector, civil society and academia, that aim to elevate women's presence in Africa's energy sector. The network has a webinar series where women in the energy sector share knowledge to build their professional skills.
-  2 *Supporting efforts to advance gender equality in the off-grid sector:* Power Africa supported PEG in their gender mainstreaming activities.

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