Efforts and Benefits of Mainstreaming Gender in the SADC Renewable Energy Sector

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PREFACE

ENERGY plays a pivotal role in the development agenda of the SADC region.

Access to affordable, reliable and modern energy is critical in advancing the industrialization agenda and addressing development challenges such as poverty, gender inequalities and food security. Access to energy can be seen as a liberating factor for women, and a key enabling factor to allow women to play an equal role in the development of any region.

Most women and girls in the SADC region spend their time on basic tasks that are time-consuming, non-remunerative and highly laborious, such as collecting biomass fuels, without access to modern energy services. This further exacerbates gender inequalities as many women, especially in rural and peri-urban areas, are unable to access wage employment, education or business opportunities due to these responsibilities, and this also limits options for social and political interaction outside the household.

In all SADC Member States, women and girls are largely responsible for household and community activities including energy provision, generally in rural and peri-urban areas, and thus are the primary energy producers as well as the end users at household level. The limited participation of women in designing home energy systems, resource access, and decision-making at national and regional levels is a major challenge within the gender and energy nexus. The regional trend at the critical decision-making level is more inclined towards men, with women occupying less than 10 percent of most governance structures in this regard.

Women are disproportionately affected by challenges associated with access to modern sources of energy compared to men. This has affected development processes, including energy, as sustainable development cannot be achieved without full and equal rights for half of the population, both in law and practice. There is need for the region to develop mechanisms focused on addressing inequalities in the energy sector as well as to expand the role of women in developing as well as implementing energy solutions.

Energy production, procurement, transportation and distribution further perpetuates gender imbalances, especially for women living in rural areas. The primary source of energy for rural people in most SADC Member States is biomass which may be sourced more than five kilometres away from homesteads. This has a negative impact on women, not only in travelling long distances on foot but women normally carry heavy loads of firewood on their heads, which can compromise physical health and wellbeing. In some situations where collecting firewood is restricted through formal regulations, women are more vulnerable to sexual harassment or fines for illegal firewood collection.

Energy has been recognized globally as the missing Millennium Development Goal but is included as Goal No. 7 of the new Sustainable Development Goals (SDGs) agreed in 2015. Access to energy by all is one of the main targets set by the African Union under Agenda 2063.

At regional level, the SADC Treaty seeks gender parity and SADC's development blueprint, the Regional Indicative Strategic Development Plan (RISDP), identifies gender and energy as a critical area of regional development and integration. The Revised RISDP 2015-2020 clearly outlines the importance of attaining gender parity at all levels as well as ensuring that gender is mainstreamed in all sectors.

The existing SADC energy policy framework is comprehensive and places emphasis on the availability of sufficient, reliable and least costly energy services. This addresses the broader SADC objectives, which include investment attraction and promoting competitiveness and trade as a means for eradicating poverty, aligned with the environmentally sustainable use of energy resources.

The main policy instruments concerning energy in the SADC region are:

- SADC Protocol on Energy (1996);
- SADC Energy Cooperation Policy and Strategy (1996);
- SADC Energy Action Plan (1997) and (2000); and,
- SADC Regional Energy Access Strategy and Action Plan (2010).

The Protocol acknowledges the important roles of women and men in the implementation of energy programs and urges Member States to "ensure that the development and use of energy takes cognisance of the gender realities of the region." Under Guidelines for Cooperation, the Protocol also recognises that the gender dimension is one of the key socio-economic issues that the region's energy policy should address. This is in addition to the SADC Protocol on Gender and Development and the SADC Treaty that directly seek to facilitate the empowerment of women and positively influence gender-balanced interests.

The promotion of community participation in policy formulation and implementation with special attention on the gender dimension is highlighted in the SADC Energy Protocol. Other issues are energy trade; integrated resource planning; energy efficiency and conservation; demand-side management; energy pricing; involvement of private sector and other non-state actors; energy competition; training and capacity building; investment and funding; and the environment.

The abundant renewable energy resources available in the SADC region offer an excellent opportunity for increasing access to modern energy, and should be used as a springboard for addressing the gender imbalances in the sector. Improvements in electricity access and access to modern cooking fuels can bring health and environmental benefits.

We must, therefore, do more to use and develop renewable energy sources. This could be done by addressing some of the challenges that continue to hinder and limit the levels of renewable energy penetration and use across the region. These challenges include inadequate use of effective legislative and regulatory frameworks that would support market development.

The 34th SADC Energy Ministers meeting in July 2015 in South Africa has already set the motion towards renewable energy by making a landmark decision to establish a SADC Centre for Renewable Energy and Energy Efficiency (SACREEE). The centre should go a long way in promoting the uptake of renewable energy sources and technologies in Southern Africa.

We are excited to present this publication on *Efforts and Benefits of Mainstreaming Gender in the SADC Renewable Energy Sector*, which documents some of the experiences and effective practices drawn from existing initiatives by the 15 SADC Member States.

The objective is to build a strong evidence base of the benefits of mainstreaming gender in the sector that will be useful to SADC Member States and other players in the energy sector as they move towards implementing their commitments to ensure that gender is mainstreamed at all levels and in all programming in line with regional, continental and global targets.

We appreciate our longstanding relationship as a knowledge partner of the SADC Secretariat, and our work together on this initiative through the Energy Division, to produce this unique publication.

We also want to thank the Austrian Development Agency for their consistent support and contribution to sustainable development in Southern Africa through funding this important initiative.

This publication reflects the spirit of cooperation and partnership that strengthens the collective efforts of the people of Southern Africa to achieve the vision of a shared future within a regional community.

Southern African Research and Documentation Centre
SARDC August 2016

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ACRONYMS

AFREA	Africa Renewable Energy Access
AFREC	African Energy Commission
AIDS	Acquired Immune Deficiency Syndrome
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
COMESA	Common Market for Eastern and Southern Africa
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
ECOWAS	Economic Community of West African States
ECOW-Gen	ECOWAS Program on Gender Mainstreaming in Energy Access
ESP	Energy Sector Plan
EREP	ECOWAS Renewable Energy Policy
ETG	Energy Thematic Group
GAP	Gender Action Plan
GFPs	Gender Focal Points
GFUs	Gender Focal Units
HIV	Human Immunodeficiency Virus
ICPs	International Cooperating Partners
ICS	Improved Cook Stoves
IRENA	International Renewable Energy Agency
LPG	Liquefied Petroleum Gas
MRU	Mano River Union
MW	Megawatts
NEPAD	New Partnership for Africa's Development
PV	Photovoltaic
REASAP	Regional Access Strategy and Action Plan
RECS	Rural Electrification Collective Scheme RECS
RE	Renewable Energy
RERA	Regional Electricity Regulators Association of Southern Africa
RETs	Renewable Energy Technologies
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
RIO+20	UN Conference on Sustainable Development (Rio+20
SACREEE	SADC Centre for Renewable Energy and Energy Efficiency
SADC	Southern African Development Community
SARDC	Southern African Research and Documentation Centre
SAPP	Southern African Power Pool
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy for All
SIF	Strategic Implementation Framework on Gender and Development
TWh	Terawatt Hours
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Development Organization
WACCA	West African Clean Cooking Alliance
WHO	World Health Organization

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Thank you for your essential support. We hope that we have done justice to the subject matter, that the product is useful, and reaches up to and beyond your expectations.

SARDC
August 2016

INTRODUCTION

Efforts and Benefits of Mainstreaming Gender in the SADC Renewable Energy Sector

This publication has been developed as a knowledge resource to support the formulation and implementation of policies and programs in the SADC Renewable Energy sector that are informed and strengthened by the provision of reliable analysis, enabling capacity to facilitate gender mainstreaming. The efforts undertaken by SADC Member States to date are documented, as well as the benefits of gender mainstreaming in the Renewable Energy sector.

Gender equity and equality are a main area of focus in the integration agenda and SADC Member States have supported the fundamental principle that both women and men must be engaged in decision-making at all levels and in all areas of socio-economic development in line with the SADC Treaty.

Gender equality frameworks such as the SADC Protocol on Gender and Development have the objective "to provide for the empowerment of women, to eliminate discrimination and to achieve gender equality and equity through the development and implementation of gender responsive legislation, policies, programs and projects." The Protocol contains Articles on economic justice and the empowerment of women that are relevant to the energy sector.

This intervention is intended to inform the development and implementation of the Renewable Energy Strategy and Action Plan that gives effect to the SADC Revised Regional Indicative Strategic Development Plan (RISDP 2015-2020). This intervention is also in line with the United Nations initiative on Sustainable Energy for All (SE4ALL).

Strategies and policies at regional level include the SADC Regional Infrastructure Development Master Plan (2012), the Revised RISDP (2015), and the SADC Protocol on Energy (1996). Recent energy-related policies, some of which are still under development, include the,

- Regional Energy Access Strategy and Action Plan;
- SADC Biofuel Decision Making Tool;
- Framework for Sustainable Biofuels; and,
- SADC Renewable Energy Strategy and Action Plan.

In April 2015, SADC approved the Industrialization Strategy and Roadmap, which identifies energy as a key enabler of an inclusive process to industrialize the region that involves women as well as men.

This publication identifies gender-responsive strategies in the renewable energy subsector and assesses how responsive these are to improving access for women. Effective practices for mainstreaming gender in renewable energy are drawn from Southern Africa and West Africa, which is well advanced in developing responses in this regard, to enable SADC Member States to draw examples to inform policy formulation and implementation.

In tracing efforts to mainstream gender in the renewable energy sector in SADC Member States and documenting the benefits thereof, some significant initiatives have been identified, but there may be others that have escaped our attention. This is a new area of implementation and study, with many emerging initiatives, and the presentation is therefore indicative rather than exhaustive.

OVERVIEW OF GENDER AND RENEWABLE ENERGY IN SADC

1

1.1 Introduction

The energy sector is a main driver of economic development in southern Africa as shown in the region's development blueprint, the Revised Regional Indicative Strategic Development Plan (RISDP) 2015-2020. The region is relatively well-endowed with vast energy resources such as hydro, wood fuels, coal, natural gas and nuclear capacity. The development agenda of southern Africa relies on electricity for infrastructure projects aimed at improving the economy and social development in the region. While most Member States of the Southern African Development Community (SADC) have abundant energy resources, some lack the technical capacity to use these effectively. As a result, energy production and consumption varies widely throughout the region.

Cooperation of the electricity subsector in southern Africa is coordinated by the Southern African Power Pool (SAPP), which is a 16-member regional body that coordinates the planning, generation, transmission and marketing of electricity on behalf of utilities in SADC Member States. All utilities participating in the power pool have equal rights and obligations. In this regard, members have undertaken to share information and knowledge, be politically neutral, and develop common planning and operating criteria and procedures.

Power utilities in mainland SADC – with the exception of Angola, Malawi and Tanzania – are interconnected through SAPP, allowing them to sell electricity to one another through a competitive market. SADC Member States have encountered electricity supply shortages since 2007, with resultant economic cost consequences.

1.2 Energy Resources in the SADC Region

Southern Africa is relatively well-endowed with energy resources, and Figure 1.1 shows the main energy resources available in mainland SADC Member States.

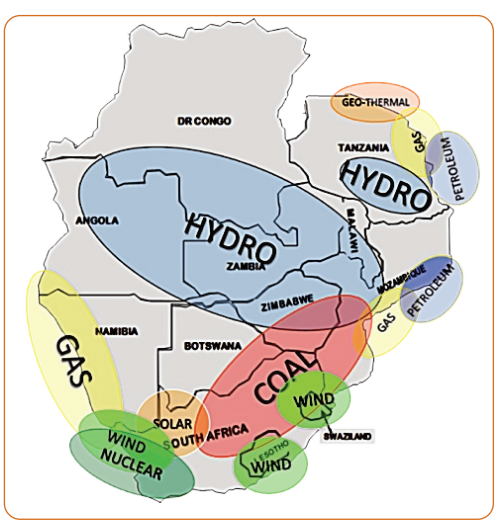
The SADC region has vast energy potential from solar, wind, nuclear, hydro, thermal, gas and petroleum sources, as illustrated in Figure 1.1. However, biomass is by far the major source of energy in most SADC Member States. Traditional biomass such as wood and charcoal account for more than 45 percent of final energy consumption in the region and if modern biomass, such as bagasse for boilers in the sugar industry, is included, the overall biomass share reaches more than 57 percent (REN21, 2015).

The use of biomass, however, varies by country, with some Member States such as the Democratic Republic of Congo (DRC) exceeding 70 percent contribution of traditional biomass to energy consumption. Biomass is also a significant source of energy in Mozambique, Tanzania and Zambia, where it accounts for at least 60 percent of energy consumption.

The high share of biomass in total energy consumption in SADC can be attributed to the low proportion of urban dwellers. The total population in the region was estimated by SADC at almost 300 million in 2016 and is expected to grow at a rate of

Figure 1.1

Energy Resources, Mainland Countries



Source SAPP Presentation at RISDP Review Researchers Workshop, May 2013

about 1.7 percent per annum to reach about 350 million by 2027, according to the SADC Regional Infrastructure Master Plan. However, less than 40 percent of the population lives in urban areas, where there is generally greater access to electricity.

Electricity in SADC is generated mainly through thermal or hydroelectric resources. Currently coal is the backbone of power generation in the region and a significant share of the resource is earmarked for export. The region has a large reserve of low-cost hydroelectricity, especially from the Inga Reservoir in the DRC and the Kariba Dam on the Zambia/Zimbabwe border, as well as large reserves of cheap coal in Botswana, Mozambique, South Africa and Zimbabwe.

Wood is the largest biomass energy resource but other sources of biomass include grass, wood plants, residues from agriculture or forestry, oil-rich algae and the organic component of municipal and industrial waste. Making use of biomass energy resources such as municipal and industrial waste can reduce the cost of waste disposal.

The largest population of people using biomass in the region is in rural areas. The countries with the highest share of biomass consumption for cooking are the DRC, Madagascar, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. Biomass use in these countries ranges from 60 percent to more than 90 percent. In Zambia 80 percent of households rely on biomass for energy needs. For Zimbabwe, biomass fuel use currently stands at 66 percent of total energy consumption. The usage is higher in Malawi with 98 percent of total energy consumption at household level.

By comparison, the countries with the lowest share of biomass consumption for cooking are Mauritius, Seychelles and South Africa, which have well-established retail distribution strategies and high rates of access to electricity, Liquefied Petroleum Gas (LPG), paraffin and coal.

The regional average for use of solid fuels in 2013 in SADC (61.2 percent) was considerably lower than for the Economic Community for West African States (ECOWAS) region (85.7 percent), primarily due to low usage in Mauritius, Seychelles and South Africa. Not counting these three countries, the SADC figure rises to 80.9 percent, closer to the ECOWAS average (REN21, 2015).

Natural gas is becoming more significant to the region's energy sector as Mozambique, Namibia, South Africa and the United Republic of Tanzania develop natural gas fields in their respective countries (SARDC, 2010). New natural gas discoveries by international oil companies in Mozambique and Tanzania during the past decade have ignited investor interest in this previously under-explored region. The nascent petroleum and gas sub-sector is, however, plagued by volatile prices and although the region is endowed with some petroleum and gas resources, these are not directly available to the region due to foreign commitments or the lack of necessary infrastructure to exploit, process, store and distribute throughout the region.

As concerns about sustainable energy and the impact of fossil fuels rise, renewable energy has become an important sub-sector, both within the SADC region and around the world. Technologies such as hydropower, biofuels, wind and solar energy offer vast opportunities for a region striving towards industrialization and infrastructure development, a process predicated on energy consumption.

Renewable energy services, for example, can offer tangible social and economic benefits to rural populations not served through grid connections. When available at an affordable cost, renewable energy can be applied to productive uses and contribute to poverty reduction in marginalized areas. Furthermore, renewable energy sources are locally available indigenous sources and therefore enhance energy self-sufficiency by limiting dependence on imports of fossil fuels. Energy self-sufficiency reduces exposure to the price and supply volatility of importing energy, and mitigates the negative economic impact of volatility (IRENA, 2013).

Renewable energy accounts for just 23.5 percent of total power generation, and southern Africa currently generates about 74 percent of its electricity from coal-powered stations. Except for hydropower, that accounts for about 20 percent of SADC's total energy generation, as other renewables such as wind and solar are not considered as major contributors to the region's electricity needs.

SADC Member States have set a target to increase renewable energy's contribution to electricity supply to 27 percent by 2020 and 29 percent by 2030. This target is set against the backdrop of more hydropower generation plants planned for construction in Mozambique, DRC, Lesotho, and along the Zambezi River. In the northern part of the SADC region, the Inga Reservoir Project in the DRC is expected to have a generation capacity of 40,000 megawatts (MW) on completion. Kariba Dam on the Zambia/Zimbabwe border, in the middle of the regional system of hydroelectric facilities, has the theoretical capacity to generate over 1,600MW supplies of electricity to both countries. The Cahora Bassa link provides 1,920MW of power transmission capacity from a hydropower plant on the Zambezi River in central Mozambique.

The energy plan in the Regional Infrastructure Development Master Plan (RIDMP) proposes that additional capacity beyond 2027 should be based on a combination of hydro, wind and solar. Apart from hydropower, SADC estimates that the major renewable energy capacity addition will be from wind energy, followed by solar photovoltaic (PV). Interest in PV and wind energy technologies is growing, ranging from small-scale household PV panel arrays to large-scale installations. Numerous medium to large-scale solar and wind projects are already in place or reaching financial closure, supported by tariff innovations and fiscal incentives.

South Africa has installed solar plants through the solar array project at Jasper Wind Farm in the Northern Cape and the Jeffrey's Bay Wind Farm producing 96MW and 138MW, respectively. New project developments in Zambia will add about 1,200MW of solar power to the national grid. In Botswana, solar energy potential is high while wind energy potential is moderate. Mozambique, Namibia, Tanzania and Zimbabwe are also demonstrating government commitment to using renewable energy for on-grid power.

Recent geological surveys have provided evidence that Malawi, Mozambique and Tanzania have huge potential for geothermal energy, which could reduce heavy reliance on hydropower and fossil fuels, although recently developed sources of oil and gas in coastal areas are providing much-needed development income. Geothermal energy is indigenous, environmentally friendly, and a technology that has been under-utilized.

The geothermal field in the vicinity of Lake Natron in Tanzania would allow base-load power to be fed into the main grid system of the Tanzania Electricity Supply Company. In Malawi, 21 major hot springs are reported in the Chitipa-Karonga area down to Chipudze in the southern region. For Mozambique, the most promising areas for geothermal energy development are in the northern and central provinces. There are several springs lower in temperature (below 60 degrees Celsius) found along and to the west of major faults in the Espungabera-Manica areas, near the border with Zimbabwe. South Africa is also relatively well-endowed with 87 thermal springs documented, with temperatures ranging from 25 to 67.5 degrees Celsius (SARDC, 2010).

1.3 Guiding Frameworks

The development of renewable energy in SADC is guided by a number of key regional and international commitments, for example, the Sustainable Energy for All (SE4ALL) initiative. SE4ALL has established a consensus-based methodology and identified concrete indicators for tracking global progress toward three objectives. These

objectives are to ensure universal access to modern energy services; double the global rate of improvement in energy efficiency; and double the share of renewable energy in the global energy mix, SE4ALL.

Renewable energy developments in SADC are generally guided by the Revised RISDP, SADC Energy Protocol, and SADC Energy Activity Plan. The SADC Energy Protocol of 1996 is the founding legal document in setting the pace and tone for energy development in the region. One of the key regional operating frameworks developed and approved by SADC is the Regional Infrastructural Development Master Plan (RIDMP). The SADC Renewable Energy Policy Framework is another key regional instrument which has been created to form the basis upon which national renewable energy policies are developed and operationalised within the region.

The other policy frameworks that followed the energy protocol include the SADC Energy Cooperation Policy and Strategy (1996), SADC Energy Action Plan (1997), and the SADC Energy Activity Plan (2000). The more recent frameworks that are being developed for full implementation are the Regional Energy Access Strategy and Action Plan (2010), SADC Biofuels Decision Making Tool (2010), and the Framework for Sustainable Biofuels (2010).

SADC completed the Regional Access Strategy and Action Plan (REASAP) in 2010 and the Regional Infrastructure Development Master Plan: Energy Sector Plan in 2012. These instruments influence the development of renewable energy policies and strategies at national level among SADC Member States.

Table 1.1 summarises the key policies and strategies that shape the development of renewable energies in southern Africa.

Table 1.1 Summary of Renewable Energy Policies, Programs and Laws in SADC

	Policies and Strategies	Technologies
Angola	General Electricity Law (1997)	
Botswana	Draft Botswana National Energy Policy (2015), Biomass Energy Strategy, REFIT (2010, under review)	Biomass, solar PV, solar water heating, Concentrated Solar Power (CSP), wind
DRC	Information not available	Biomass, hydro, solar, wind
Lesotho	Energy Policy Framework (2002), Energy Action Plan (2003)	Improved cookstoves, hydro, solar PV, wind
Malawi	National Energy Policy (2003), Biomass Energy Strategy (2009), Draft Renewable Energy Strategy (2014), Rural Electrification Fund (REF, 2004), Rural Electrification Regulations (2008), Rural Electrification Act (2004), Energy Act (2004), Electricity Act (2004)	Biomass, biogas, municipal waste, small-scale hydro, geothermal solar, wind
Madagascar	Madagascar Action Plan, National Program promoting development of renewable energy sources for the period 2014-2019	Solar cookers, renewable-based power generation
Mauritius	Long-term Energy Strategy (2009-2025), Action Plan for the Energy Strategy (2011-2025)	Ethanol from sugar cane, hydro, solar PV, wind
Mozambique	Master Plan for Off-Grid Energy (2008), National Biofuel Policy and Strategy(2009), Policy for Renewable Energy (2011), Biomass Energy Strategy (2013)	Improved cookstoves, biofuels, solar PV, solar water heating, wind
Namibia	White Paper on Energy Policy (1998), Off-Grid Energisation Master Plan, Electricity Act of No. 4 (2007), REFIT Guidelines (2014)	Biomass, solar PV, wind
Seychelles	Sustainable Development Strategy (2010-2030), Seychelles Energy Act (2012)	Biomass, waste, solar PV, wind
South Africa	White Paper on Energy Policy (1998), White Paper on Renewable Energy (2003), Integrated Electricity Resource Plan (2010 update), Renewable Energy Independent Power Producer Procurement Program (2011)	Bio-energy, waste, small-scale hydro, solar PV, onshore wind
Swaziland	National Energy Policy (2002), National Energy Plan (NEP, 2003) and related National Energy Policy Implementation Strategy (NEPIS, 2009), Renewable Energy Action Plan (2007)	Biomass, bagasse, hydro, solar PV, Solar water heating, wind
Tanzania	Small Power Producer (SPP) Framework for facilities up to 10MW. No REFIT yet. Biomass Energy Strategy (2014)	Biomass, waste, small-scale hydro, solar PV
Zambia	National Energy Policy (1994)	Biomass, waste, small-scale hydro, solar PV
Zimbabwe	Rural Electrification Master Plan, Alternative Energy Strategy, Biomass Energy Strategy, Renewable Energy (in process)	Biomass, biogas, hydro, solar, wind

REN21, 2015

1.4 Women and Access to Renewable Energy

One of the challenges confronting the SADC region is the provision of modern energy services to its population, and this has a very different impact on women and on men. For women, especially rural women, continually face energy-related hurdles and are tied into servitude by the type of energy source available for their cooking and lighting needs. Basic services such as electricity for lighting and cleaner cooking technologies are still a luxury for many rural communities, and this impacts disproportionately on women, who generally have responsibilities as the provider and end-user of energy, although on large farms energy is also used for irrigation, mainly by men.

The main grid extensions are mostly limited to urban areas and people living in rural areas have limited access to the national grid. If they do have access to grid electricity, they are generally unable to afford the higher consumption of electricity and tend to use it minimally for lighting. Even though the region has moved towards adopting renewable energies technology to ease the energy burden, women still do not have access to these options because of the prohibitive start-up cost of installing such equipment.

In terms of overall gender mainstreaming in the energy sector in the region, SADC is signatory to The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). CEDAW for example, explicitly refers to women's electricity rights and obligates state parties to the convention to take all appropriate measures to eliminate discrimination against women in rural areas and to ensure women have the right to enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications.

The Beijing Declaration and Platform for Action (1995), the SADC Protocol on Gender and Development, the COMESA Gender Policy and finally the UN Sustainable Development Goals (SDGs) are guiding frameworks on gender equity in the region. Member States also have gender equality commitments expressed or supported through wider regional institutions, such as the African Union (AU), its charter and the Maputo Protocol in 2003, the New Partnership for Africa's Development (NEPAD) with its fifth objective of gender equality. SADC has also produced a Gender Mainstreaming Resource Kit to be used as reference manual by the Secretariat and Member States in policy development to promote gender equality in southern Africa.

In furtherance of its economic integration in the energy sector, SADC has established subsidiary organizations to implement various energy programs, projects and activities. SADC energy ministers have approved the formation of various programs to support the development of renewable energy technologies in the region, one of which is the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) approved in 2015. SACREEE will be based in Namibia with the mandate to support the achievements of the sustainable development objectives of SADC Member States (SARDC, 2016).

Conclusion

As highlighted in this section, the SADC region is endowed with vast energy resources such as hydroelectricity, wood fuels, coal, and natural gas and nuclear. Besides vast potential for hydroelectric power, the SADC region has huge reserves of fossil fuels and biofuels, including biomass for renewable energy resources. This has the capacity to eliminate energy poverty challenges in the region, thus liberating women from some of the daily constraints caused by the time-consuming hunt for wood fuel, especially in rural and peri-urban areas. Member States are encouraged to consolidate the existing frameworks to benefit citizens who are without access to electricity, by investing in research, resources and provision of clean energy solutions which are advantageous for women who are hardest hit by power shortages, which multiply their workload. Renewable energy technologies, though initially expensive are a cheaper solution in the medium and long term.

2 GENDER DIMENSIONS OF ACCESS TO RENEWABLE ENERGY

Access to energy is a necessary precondition to achieving development goals that extend far beyond the energy sector. Eradicating poverty, increasing food production, providing clean water, improving public health, enhancing education, creating economic opportunities and the empowerment of women can all be realised if there is access to renewable energy. In fact, providing safe, clean, reliable and affordable energy to those who currently have no access is widely viewed as key to advancing the regional development agenda.

Access to energy in most African countries remains one of the most critical challenges constraining meaningful sustainable development across the continent. Africa is the only region in the world where the growth in share of population electrified is less than the growth in the total population. Electricity access in sub-Saharan Africa, for example, is only 17 percent, and is the lowest in the world (REN21, 2015). According to the SADC Regional Energy Access Strategy and Action Plan most people in the region have some degree of access to energy, but this is often restricted and inadequate. The majority of citizens in southern Africa suffer from energy poverty as they lack sufficient access to adequate, affordable, effective and environmentally sustainable energy services that could support economic and human development.

According to REN21, the demand for electricity in southern Africa is increasing at a growth rate of three percent per annum due to increased economic activities resulting in diminishing surplus capacity. It says that over the past decade, the share of people who lack access to modern energy services has fallen by nearly 10 percent, down from almost 25 percent even as the global population has expanded significantly. Although renewables have played a role in reducing the gap, the advances are not spread evenly across the region.

Rural areas are the most affected by poor access to energy where, in some countries, five percent have access to electricity and remain without access to modern energy services, (SADC, 2012). Electricity access rates vary widely, from nine percent in the DRC to 100 percent in Mauritius. In countries such as Tanzania and Zimbabwe, there are wide disparities in access between urban and rural areas with 71 percent against seven percent and 80 percent against 14 percent, respectively. This suggests that there are still large areas which remain underserved by grid electricity despite strong regional efforts to address imbalances to energy access.

Southern Africa — with a total population of almost 300 million people, the majority being women who live in rural areas — has been experiencing electricity shortages since 2007. An energy access divide is apparent throughout most SADC Member States, with a small proportion of people having access to quality energy sources while the majority of people use a variety of inefficient, often health-compromising, energy sources. Rural electrification programs in the sub-region have not delivered as expected due to many constraints including lack of both funding and technical support.

2.1 Definition of Energy Access

According to the SADC Regional Energy Access Strategy, the preferred definition of "energy access" is the actual use of the form of energy. In terms of electricity, households' access to electricity is best considered as the actual use of electricity by a household through connection to the grid or some form of off-grid electricity. "Access" is often used in a wider sense of a household being located in a centre where electricity is available, but this concept is more accurately labelled as an electricity "penetration rate".

2.2 Barriers in Women's Access to Renewable Energy

The role of women in the renewable energy sector is undefined, with the usual portrayal as passive end-users only. Women play a critical role in energy provision and consumption within households and possess valuable knowledge relevant to sustainable energy solutions (SARDC, 2015). Due to cultural stereotypes women are excluded from participation in energy markets and also disqualified from relevant pro-poor, public private partnerships.

Women in most cases do not have the capacity for adoption of clean energy technology which men may have. In part, the lack of attention to women-centred approaches in the energy sector in the region can be explained by a lack of awareness of the need for gender mainstreaming — due to the lack of gender disaggregated data, the lack of awareness of the benefits to be gained from incorporating gender analysis into energy project design, and a lack of knowhow on gender mainstreaming in the energy sector (Clancy, 2000).

2.3 Women's Lack of Access to Renewable Energy Technologies

Women in rural and peri-urban areas are often not aware of Renewable Energy Technologies (RETs) and do not have information on suppliers and resource availability. RETs remain a costly source of energy for communities as the intended beneficiaries particularly women are in the low-income bracket.

Most women in southern Africa, especially in rural areas, cannot afford the upfront costs for solar home systems, lanterns, improved cook stoves in the absence of smart subsidies, low interest loans and loan guarantees. Women are further affected by lack of green policies targeted at improving the informal sector yet in many southern African countries the informal sector accounts for a large part of the Gross Domestic Product, is energy intensive, and is highly populated by women (Mabebe-Wright, 2014). Women are often excluded from skills and clean energy technology programs and projects that have the potential to improve their lives.

2.4 Lack of Gender-Responsive Institutional Frameworks

The Beijing Declaration and Platform for Action, African Union Agenda 2063 and the SADC Protocol on Gender and Development call for 50/50 representation of women in decision-making positions. However these targets have not been realized, especially in the energy sector. Women are poorly represented in decision making when it comes to energy as compared to men who form the majority of decision-making positions. Regional organizations which are responsible for the promotion of research and preparation of position papers on key aspects of regional regulation and examination of policies are not gender mainstreamed in the decision-making structures. The Regional Electricity Regulators Association of Southern Africa (RERA) and the Southern African Power Pool (SAPP) are both headed by men, and of the 15 SADC Ministers responsible for energy, 13 are men and two are women. This imbalance in the decision-making structures of the energy sector could hamper women's access to renewable energy unless clear policy frameworks are agreed and implemented.

Access to modern, sustainable energy services can significantly reduce gender-based time and labour burdens as well as improve the health conditions and opportunities for enterprise and capacity-building in communities. Although women's access to energy is considered in most institutional frameworks there are gender barriers which hinder access to renewable energy.

International conferences on women, particularly the Fourth World Women Conference held in Beijing, China in 1995, and governments all over the world made a commitment to enhance the status of women in all sectors including energy. Equal access to energy services is cardinal according to the Beijing resolutions. However 20 years after the Beijing conference most women in southern Africa still find themselves without access to renewable energy.

This is partly contributed by lack of the development of legal and regulatory frameworks aimed at increasing access to renewable energy. Most Energy Regulatory Agencies in the region are focused on overseeing activities in the petroleum/electricity sectors hence sidelining clean energy technologies which have the capacity to ease the energy burden on women. The use of legislation to create a level playing field in the sector can make RETs competitive with conventional fuels (ECA, 2006).

2.5 Lack of Access to Grid Electricity and Financial Constraints

Providing electricity to poorer areas in southern Africa is a unique policy challenge because although the sub-region has abundant fossil and renewable energy resources, exploiting these resources remains a daunting task as a result of major technological, institutional and financial obstacles. Inadequate energy investments, underdeveloped downstream energy sectors and poor management are some of the barriers which leave the poor as the most affected.

SADC has worked towards the development of access to grid-based electricity and improvements in off-grid access are also evident in the expanded use of renewable energy technologies in rural areas, galvanised by specialist rural electrification agencies. Tanzania is an example of countries that have emerged as key markets in this respect. Despite such improvements, some parts of the region, especially rural areas still do not have access to national grids.

Main grid extensions are mostly limited to urban areas and people in rural areas face limited access to the national grid. Since the majority of the SADC population are women, most of whom reside in rural areas, they generally bear the hard work of sourcing for energy resources for family use and are thus often forced to walk long distances to look for biomass. Women in urban areas are also affected by the demand side electricity management policies such as load shedding as SADC Member States face power shortages.

Table 2.1 Impact of Cooking with Solid Fuels on Household Air Pollution (HAP) in SADC, 2012

	Share of Population using Solid Fuels for Cooking (%)	Number of People affected by HAP	Number of Households affected by HAP	Number of Deaths per Year from HAP	Number of Child Deaths per Year from HAP
Angola	56	11 659 494	2 372 053	7 804	2 843
Botswana	37	741 447	176 535	311	27
DRC*	93	61 105 736	12 431 590	53 202	27 582
Lesotho*	62	1 271 958	269 843	1 869	788
Madagascar*	98	21 848 036	4 458 783	16 375	3 628
Malawi	97	15 429 289	3 588 207	13 250	5 852
Mozambique	96	24 195 259	5 498 923	12 858	6 373
Namibia	55	1 242 666	263 269	1 056	142
South Africa	13	6 654 610	1 411 761	7 623	1 283
Swaziland*	62	763 211	161 913	714	183
Tanzania	96	45 871 783	9 361 588	20 353	12 012
Zambia	83	11 682 332	2 376 699	8 629	4 190
Zimbabwe	70	9 607 022	2 038 109	9 158	3 915
SADC		212 072 843	44 409 633	153 229	68 818

Ren21, 2015

Note Household Air Pollution includes principally carbon monoxide and particulate matter, according the to World Health Organisation. Both are products of incomplete combustion and are hazardous to health. The table does not include data from Mauritius and Seychelles. * indicates figures estimated by WHO

As an alternative, women turn to biomass which may be sourced a long distance away from their homesteads. This has a negative impact on women's health as women travel long distances on foot in search of biomass and carry heavy loads of firewood on their heads, which can compromise physical health and wellbeing. In some situations where collecting firewood is restricted through formal regulations, women find themselves vulnerable to sexual harassment, verbal assault or fines for illegal firewood collection.

The absence of basic labour-saving devices and clean technologies such as fuel-efficient stoves largely burdens poor women and also prevents them from doing other productive activities. Although cheaper and affordable, the use of biomass for purposes such as cooking also has serious health implications.

Most of the population of the SADC region, excluding Mauritius and Seychelles, are affected by household air pollution from indoor smoke, according to the World Health Organization, and the majority of those affected are women. This results in the deaths of an estimated 153,229 people each year (REN21, 2015). Indoor pollution results in more deaths of women and children annually than AIDS, malaria, tuberculosis and malnutrition combined (IISD, 2013). See Table 2.1.

2.6 Energy Access Initiatives and Opportunities in Southern Africa

Southern Africa has a wealth of renewable technologies that serve as a strong basis for improved energy access within the region and across the continent, therefore the region has moved towards adopting renewable energy technologies as alternatives to electricity.

The International Renewable Energy Agency (IRENA) has estimated the potential of electricity generation from new large-scale hydropower projects in the region (excluding the Grand Inga) at 38,657MW, while small-scale hydro potential is 3,420MW, solar PV is 2,195 Terawatt hours (TWh), solar thermal is 1,093Twh, biomass is 8,470MW and wind energy is 153,180MW.

South Africa has taken a strategic lead in the development of renewables, with a target of commissioning 17.8 Gigawatts of newly generated electricity from renewable energy sources between 2010 and 2030. Other countries in the region are rapidly putting in place the necessary regulatory and financial mechanisms and moving forward with a variety of renewable energy projects.

Although challenges still exist such as the lack of financial resources to invest into grid extensions mainly to rural areas where the majority of the population within SADC countries reside, there is significant progress in ensuring that the population of Southern Africa has access to renewable energies in response to the region's abundant fossil and renewable energy resources. The region is working to overcome the challenges related to exploiting these resources in terms of technological, institutional and financial obstacles.

SADC is striving to ensure that all its citizens get access to power, especially those in rural areas where there is no grid electricity. This requires construction of electric grids, despite the fact that this is an infrastructural assignment carrying with it huge expenses. The region is working towards capacity development in the renewable sector involving the training of macro-planners and policy makers. The shortage of specialist capacity weakens policy development in the region and slows down the development and use of renewable energy.

Conclusion

Women play a pivotal role in energy production, and excluding women from empowerment programs underplays social development and environmental sustainability. Energy poverty has an effect on, and is affected by, other aspects of poverty, therefore it is essential to explore issues surrounding it, including the gender aspect. Specifically, failure to incorporate the contributions and concerns of women and men can decrease access to grid and off-grid electricity access. The inability to consider gendered interests and the different needs of men and women can limit the effectiveness of energy programs and policies, as well as other development activities that involve energy use.

3 GENDER RESPONSIVE INSTITUTIONAL FRAMEWORKS

For southern Africa to emerge as a competitive and effective contributor in the global economy, it has to have in place sound renewable energy policies among other development priorities. In the past decade most SADC Member States have initiated specific renewable energy programs that combine awareness raising, capacity building and research and development with some activities for deployment of renewable energy technologies. This has resulted in varying degrees of progress being achieved for the key energy issues such as energy efficiency, cleaner fuels, the promotion of renewable energy and the enhancement of regional energy integration through the Southern African Power Pool (SAPP).

Despite these efforts, there are still no clearly defined strategies for mainstreaming gender in renewable energy policy frameworks and renewable energy master plans which would provide for a clear and comprehensive development of this sector in most SADC Member States, although the benefits associated with renewable energy development have been acknowledged.

The low levels of renewable energy penetration and use across the region are largely attributed to a lack of effective implementation of legislative and regulatory frameworks that would support market development. In addition, there are limited institutional mechanisms and technical capacity at all levels (local expertise and governmental capacity) to successfully implement renewable energy programs and projects.

3.1 Overview of SADC Renewable Energy Policy Framework

The SADC Energy Protocol and its Activity Plan, and the revised Regional Indicative Strategic Development Plan (RISDP), are the main policies that are referred to for Renewable Energy governance and implementation.

The SADC Energy Protocol of 1996 is the founding legal document setting the pace and tone for energy development in the region. The key planning framework developed and approved by SADC is the Regional Infrastructure Development Master Plan (RIDMP). The SADC Renewable Energy Policy Framework is another key regional instrument that forms the basis upon which national renewable energy policies are developed and operationalised within the region.

Other policy frameworks that followed at regional level include the,

- SADC Energy Cooperation Policy and Strategy (1996),
- SADC Energy Action Plan (1997),
- SADC Energy Activity Plan (2000), and
- SADC Regional and Indicative Strategic Development Plan (2003).

The more recent frameworks completed in 2010, which are being developed for full implementation, are the,

- Regional Energy Access Strategy and Action Plan,
- SADC Biofuels Decision Making Tool, and
- Framework for Sustainable Biofuels.

SADC also completed the,

- Regional Access Strategy and Action Plan (REASAP) in 2010, and
- Regional Infrastructure Development Master Plan: Energy Sector Plan in 2012.

With regard to gender equity responsiveness of the renewable energy policies and institutional frameworks, although a nexus of gender, poverty and energy has been established with regard to the achievement of some SDGs in southern Africa,

the early stage of development of policies on renewable energy has affected the formulation of gender equity laws to promote women's access to renewable energy in the region (ECA, 2006).

The legal and policy framework in southern Africa does not reflect a strong consideration for mainstreaming gender in energy policies and programming let alone the renewable energy agenda.

Although the SADC Energy Protocol, RIDMP and RISDP have a common feature in that they refer to the need to mainstream gender, these have so far remained only an expression that is mentioned in a non-obligatory manner that is difficult to enforce.

The value of the sections that call for gender mainstreaming in the energy sector remain on paper because there has been no follow-up action to initiate policy and political dialogue beyond the declaration of need to create an awareness and shared understanding of the dynamics of the gendered face of energy, specifically renewable energy. There are no budgets set aside for gender mainstreaming exercises and no monitoring and evaluation mechanisms to track implementation at regional and national level.

SADC Protocol on Energy

The SADC Protocol on Energy, which was signed in 1996 and entered into force in 1998, provides a framework for cooperation on energy policy among SADC Member States. Its objective is to address regional concerns, priorities and commitments of SADC Member States towards the energy sector's contribution to sustainable development.

The protocol acknowledges the importance of energy as one of the key drivers towards economic development and poverty eradication. In order to best achieve these ends, the policy invites Member States to cooperate on energy development, harmonising policies, strategies, and procedures throughout the region. It also advises that these policies ensure the security, reliability and sustainability of energy supply, with Member States cooperating on research and development of low-cost energy sources applicable to southern Africa.

The objectives of the Protocol are to:

- Attain sustainable development,
- Encourage the development of the SADC Energy Sector,
- Reduce poverty,
- Foster the regional energy integration drive,
- Encourage new technologies and trends on energy production and energy use, and
- Develop educational, capacity building and public-awareness programs on energy for sustainable development.

Further to these objectives, the Protocol calls for gender equity in the development of regional energy strategies and policy framework. Article 2(3) of the protocol sets as one of its principles the need to ensure that gender realities are considered in the development of regional energy initiatives. However, this section has not stimulated further political and social developments in improving the status of women in access to renewable energy in the region.

Regional Infrastructure Development Master Plan: Energy Sector Plan

The Regional Infrastructure Development Master Plan (RIDMP) was crafted with the acknowledgement that infrastructure is central to SADC's goals of poverty eradication and regional integration. The Master Plan is based on the SADC Vision 2027, which caters for implementation over three phases — short term (2013-2017), medium term (2017-2022) and long term (2022-2027).

The plan serves as a key strategy to improve access to energy through the construction of new electricity generation plants as well as strengthening existing ones. In the energy sector, the Master Plan focuses on addressing energy security, improving access to modern energy services, tapping the abundant energy resources in the continent and increasing financial investment, while enhancing environmental sustainability.

The Energy Sector Plan of the RIDMP highlights the status of the sector, with projections and gap analysis as well as infrastructure needs. Investments and intervention needed are explored, including monitoring and evaluation of the implementation and a way forward is discussed within the plan. The Master Plan promotes gender equality through encouraging stakeholder participation in gender mainstreaming. Stakeholders can take the opportunity of this position to create a platform to mobilize for women to participate in the development of programs and projects to benefit equally with men.

Regional Indicative Strategic Development Plan

Regional Indicative Strategic Development Plan (RISDP) is a comprehensive development and implementation framework guiding the regional integration agenda of SADC. The revised RISDP runs from 2015 - 2020. It is designed to provide clear strategic direction with respect to SADC programs, projects and activities in line with the SADC Common Agenda and strategic priorities, as enshrined in the SADC Treaty of 1992.

Figure 3.1
Four Pillars of the Revised RISDP

SADC 2015

The ultimate objective of the plan is to deepen integration in the region with a view to accelerate poverty eradication and the attainment of other economic and non-economic development goals. RISDP is based on four pillars as highlighted in Figure 3.1.

The revised RISDP is one of the recent policy documents for SADC and stakeholders in the energy sector have begun the process to align their activities, programs and projects to the Revised RISDP, taking cognisance of crosscutting issues such as gender.

Gender equality and development is one of the intervention areas of the revised RISDP in order to ensure empowerment and gender equality, and the promotion of gender-responsive, human-centred development and poverty alleviation towards inclusion and social justice. Although the RISDP gives a statement on the inclusion of women in its development plan there is a lack of political dialogue on how women in the region are to benefit from the implementation of its defined four pillars.

3.2 Policy Development at National Level

At national level, while most SADC Member States have energy policies in existence, comprehensive renewable energy policies generally do not exist — except for Namibia, Zambia and South Africa. Botswana, Mauritius and South Africa have put renewable energy electrification targets into their energy systems. Only two countries, South Africa and Namibia, have renewable energy regulatory frameworks. Five countries (Botswana, Mozambique, Tanzania, Zambia and Zimbabwe) have integrated the deployment of renewable energy in their rural energy/electrification agencies. Even though the uptake of renewable energy products is firming within Member States, consumption is seriously disadvantaged by lack of concrete policy or policy alignment and strong regulatory frameworks.

Botswana The country's Rural Electrification Collective Scheme (RECS), which includes the role out of some renewable energy, has played a big role in increasing

electricity access through renewable energy. The RECS is in support of gender mainstreaming projects that will devise solutions to increase connections and access rates for both women and men (BPS, 2011).

Democratic Republic of Congo (DRC) has adopted, for the first time in Africa, an interactive atlas of renewable energy sources. The Atlas is the result of a comprehensive series of studies carried out in remote areas of the country. Although the atlas does not specifically refer to women, it will help to understand the needs required to meet national commitments in the "Sustainable Energy for All" initiative (SE4ALL, 2014).

Swaziland According to the SE4ALL Swaziland Country Action Plan Report of 2014, the Government of the Kingdom of Swaziland has prioritised sustainable energy in an attempt to reduce energy insecurity and alleviate poverty. A gap analysis of the energy sector was produced in 2014 and the country has embarked on the process of developing its national SE4ALL Action Agenda and Investment Prospectus in 2015. In this process, the country set the target for access to modern clean energy solutions in Swaziland at 75 percent by 2018, 85 percent by 2020, and universal access by year 2025 through the proposed Rural Electrification Strategy and Action Plan for Swaziland. This will be achieved through technologies such as Liquefied Petroleum Gas (LPG), improved cook stoves, grid extension and off-grid solutions that include solar home systems and to a limited extent mini-grids which will be of great benefit to women.

Zimbabwe Even though the country is endowed with plentiful sunshine throughout the year, high costs in customs duty on technology imports make energy products such as solar panels inaccessible to most people, including women living in rural and peri-urban areas. Zimbabwe's statutory instruments recognise the value of these renewable energy products as drivers of sustainable development inthe country.

Table 3.1 shows the renewable energy instruments that SADC Member States have in place at national level. Only three countries have renewable energy policies in place, as shown in Table 3.1.

Table 3.1 Renewable Energy Instruments in SADC Member States

Country	National Energy Policy	Energy Master Plan	Renewable Energy Policy	Renewable Energy Strategy	Renewable Energy Master Plan/Action Plan	Integration of Renewable Energy into Rural Electrification
Angola	✓					
Botswana	✓	✓				✓
DRC	✓					
Lesotho	✓					
Madagascar	✓					
Malawi	✓				✓	
Mauritius	✓	✓		✓		
Mozambique						
Namibia	✓		✓			✓
Seychelles	✓					
South Africa	✓	✓	✓	✓		
Swaziland						
Tanzania	✓					✓
Zambia	✓	✓	✓	✓		✓
Zimbabwe	✓	✓				✓

SADC Directorate of Infrastructure and Services, Energy Division, SADC/SARDC 2012b

These are Namibia, South Africa, and Zambia. This lack of policy development in the region suggests that women are critically absent in the policy formulation and implementation sphere of the renewable energy drive currently taking place. Furthermore, most likely not by conscious or deliberate omission, it may be that there is an inherent masculinist approach to energy development due to the technical nature of the subject, which is not overtly awake to the inclusion of women-centred approaches in its models.

3.3 Institutional Frameworks

SADC's energy sector has a complex institutional structure with at least three agencies interlinked and directly involved in the formulation or implementation of energy and renewable energy in the policy space of regional integration. These are the Regional Electricity Regulators Association of Southern Africa (RERA), the Southern African Power Pool (SAPP), and the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE), as well as the SADC Energy Thematic Group.

Regional Electricity Regulators Association of Southern Africa

The Regional Electricity Regulators Association of Southern Africa (RERA) is made up of 10 regulatory bodies from Angola, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. RERA was established by SADC as a formal association of electricity regulators in July 2002 in terms of the SADC Protocol on Energy, SADC Energy Cooperation Policy and Strategy, the SADC Energy Sector Plan and the SADC Energy Activity Plan, in pursuit of the broader initiative of NEPAD and the African Energy Commission (AFREC). RERA's role is to facilitate the harmonisation of regulatory policies, legislation, standards and practices, and to be a platform for effective cooperation among energy regulators within the SADC region. See Table 3.2.

The national governance structure of RERA members reveals a positive trend in the participating of women in national energy boards of SADC Member States. In most boards women have been appointed to positions that steer national energy policies and programs in their respective countries. In Zimbabwe, both the chairperson and vice-chairperson are women, and the vice-chairperson of South Africa's board is also a woman. As significant progress has been made in decision-making positions of the energy regulatory boards of Member States, it is anticipated that placing women at the centre of influence can facilitate a shift towards the development of women-friendly renewable energy policies.

Table 3.2 Men and Women in Governance Structures of some RERA Members

Country	Regulatory Body	Men	Women
Lesotho	Lesotho Electricity and Water Authority (LEWA)	3	3
Malawi	Malawi Energy Regulatory Authority (MERA)	4	1
Namibia	Electricity Control Board (ECB)	1	3
South Africa	National Energy Regulator of South Africa (NERSA)	5	4
Zambia	Energy Regulatory Board (ERB)	6	1
Zimbabwe	Zimbabwe Energy Regulatory Authority (ZERA)	3	3

Southern African Power Pool

The Southern African Power Pool (SAPP) is a 16-member regional body created in 1995 to coordinate the planning, generation, transmission and marketing of electricity on behalf of Member State utilities in SADC. Initially made up of 12 national power utilities from mainland SADC, SAPP has broadened its membership to include independent power producers and transmission companies. See Table 3.3.

Even though the targets for services are SADC citizens, the majority of whom are women, it is interesting to note that there are virtually no women represented in the SAPP Executive Committee. The Committee is comprised of 16 individuals, all of whom are men. Key decision-making posts, for example coordination, engineering, market analysis, operations and environment, are all positions currently taken up by men. This may be interpreted as providing structural barriers that limit women's influence in the generation, transmission and distribution of electricity in the region.

An analysis of the SAPP organogram will reveal that female staff are only present in the SAPP Coordination Centre, and only in the capacity as administrative staff. This structure could compromise the SAPP's objective of creating a more efficient regional market as the gender imbalance skewed in favour of men at the helm of policy implementers may not be sensitive to the special gendered considerations of access to energy in the region. Furthermore, the vision and objectives of the organisation state that it is the objective of the SAPP to give the end user a choice of electricity, and in the mission, to provide the least cost, environmentally friendly and affordable energy, and increase accessibility to rural communities. The vision and objectives are couched in gender-neutral terms which might have the effect of gender-specific considerations being omitted in policy formulation.

Table 3.3 SAPP Member Utilities

Member Utility	Status	Abbreviation	Country
Botswana Power Corporation	OP	BPC	Botswana
Electricidade de Moçambique	OP	EDM	Mozambique
Electricity Supply Corporation of Malawi	NP	ESCOM	Malawi
Empresa Nacional de Electricidade	NP	ENE	Angola
Eskom	OP	Eskom	South Africa
Hidroelectrica de Cahora Bassa	IPP	HCB	Mozambique
Lesotho Electricity Corporation	OP	LEC	Lesotho
Mozambique Transmission Company	ITC	MOTRACO	Mozambique
NamPower	OP	NamPower	Namibia
Societe Nationale d'Electricite	OP	SNEL	DRC
Swaziland Electricity Company	OP	SEC	Swaziland
Tanzania Electricity Supply Company Ltd	NP	TANESCO	Tanzania
ZESCO Limited	OP	ZESCO	Zambia
Copperbelt Energy Corporation	ITC	CEC	Zambia
Lunsemfwa Hydro Power Company	IPP	LHPC	Zambia
Zimbabwe Electricity Supply Authority	OP	ZESA	Zimbabwe

SAPP
OP = Operating Member *NP = Non-Operating Member*
ITC = Independent Transmission Company *IPP = Independent Power Producer*

SADC Centre for Renewable Energy and Energy Efficiency

To oversee the implementation of renewable energy policies, programs and action plans, SADC established the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) in 2015. SACREEE, which is yet to start operations, is expected to increase the uptake of clean energy in southern Africa, enabling the region to address its energy challenges. The Centre will promote market-based adoption of renewable energy and energy efficiency technologies and services in SADC Member States. It is expected to contribute substantially to the development of thriving regional renewable energy and energy efficiency markets through knowledge sharing and technical advice in the areas of policy and regulation, technology cooperation, capacity development, and investment promotion.

Energy Thematic Group

The Energy Thematic Group (ETG) is one of the thematic groups to emerge from the adoption of the Windhoek Declaration of 2006, which provides a platform to give attention to priority areas by SADC and International Cooperating Partners. The ETG is comprised of the SADC Secretariat, RERA, SAPP and the International Cooperating Partners whose cooperation programs cover the energy sector in the region. The role of the ETG is to improve the capacity and effectiveness of the

development of the sector and to facilitate the planning and monitoring of implementation of SADC energy initiatives, program and projects. Essentially it serves as the interface between SADC and its other stakeholders in the region's energy sector, including private sector and donors.

Conclusion

Renewable energy activities, plans and discussions are based on earlier policies such as the SADC Energy Protocol and the Regional Indicative Strategic Development Plan. The inclusion of women and gender concerns in terms of access to the renewable energy paradigm reveals a gap between policy pronouncements and implementation as an analysis of the present institutional frameworks above has revealed. There is therefore a gap between the gender mainstreaming declarations and strategy delivery because the articles and sections that mainstream gender in the energy and renewable energy policy framework as they currently exist, do not spell out what the mainstreaming entails and why it is important for the renewable energy sector.

EFFECTIVE PRACTICES IN MAINSTREAMING GENDER IN RE

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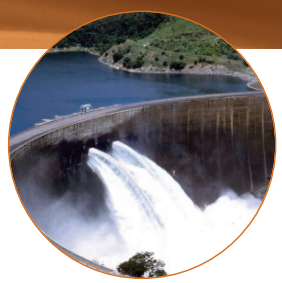

The declaration in 2012 by the United Nations General Assembly as the "International Year for Sustainable Energy for All", and the Secretary-General's "Sustainable Energy for All Initiative" as well as the UN Conference on Sustainable Development (Rio+20) held the same year, stimulated a global response that recognizes the importance of energy, particularly renewable energy, and the necessity of access to modern, clean and renewable fuel sources for billions of people globally, especially women as the main end-users.

Gender equality and social inclusion became important contributions to fully understanding the development impacts of energy programs. In focusing on the importance of gender considerations when working towards energy for all, some regions, governments and institutions have acted decisively and have taken a lead in crafting strategic plans to address inequalities in energy policies and documenting effective practices, which experiences southern Africa can learn from, adopt and adapt. From as early as 2007, in East Africa, for example, the government of Uganda established strategies in its Renewable Energy Policy to ensure that women play an important role, and in southern Africa, the revised National Energy Policy in Zambia promised to provide more gender-balanced development in the energy sector.

The 15-member Economic Community of West African States (ECOWAS), with a mandate of promoting economic integration in all fields of activity of the constituting countries of West Africa, has developed a forward-looking policy that prioritizes gender and women-centred approaches in all facets of energy and renewable energy development in the region. ECOWAS considers that the challenges of gender inequality in the energy sector originate almost entirely from the lack of gender considerations in the planning process. ECOWAS therefore seeks to recognize the main challenges and constraints for gender equality in energy access at three levels:

- the political level,
- the level of the energy supplier, be it a public-purpose or private market actor, and
- the level of the energy consumer.

4.1 Renewable Energy Policy in West Africa

ECOWAS considers gender equality as an engine of regional integration and a development objective of paramount importance, seeking to transform West Africa "into a fair and safe community" in which men and women have equal opportunities to participate, decide, control and take advantage of all development initiatives.

In recent years, ECOWAS has taken steps to mainstream renewable energy into its regional activities and policies, mainly through the establishment of the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE). Through the Centre, the region developed, and is in the process of implementing, the ECOWAS Renewable Energy Policy (EREP) which aims to achieve universal energy access in rural areas whilst ensuring energy security, sustainability, and access.

EREP specifically notes the importance of gender mainstreaming as one of its seven overall objectives. The policy aims at mainstreaming gender in renewable energy-related issues, particularly those associated with women's productive roles. The policy states that its renewable energy options will offer abundant job opportunities for both men and women, in the industry and trade sectors, but also in

the management and maintenance of decentralized and individual energy systems. EREP secures equal opportunities for men and women in accessing training, credit, and forums for local decision-making on renewable energy.

A second objective addresses household energy uses, and aims to provide solutions for domestic cooking energy, through the use of improved cook stoves. The policy ensures the entire ECOWAS population has access to improved cooking facilities either through improved stoves or fuel, switching to modern forms of energy such as LPG by 2020, which will benefit women as the end-users.

EREP includes the following measures relevant for women:

- The policy identifies "support to gender equality" and women's participation as a guiding principle for its implementation. Participatory approaches will be applied.
- The policy has adopted a concrete target on cooking energy (at par with electricity), "to universalize dissemination of high efficiency cook stoves (35 percent) to the urban population by 2020."
- A 100 percent penetration target has been set for 2020, and all other stoves that use other types of fuel will be removed from the market and their manufacture banned by 2020.

EREP requires that each Member State ensures gender mainstreaming through a Gender Action Plan as part of the National Renewable Energy Policy with objectives, outcomes, activities, etc. Countries are expected to undertake advocacy to include gender policy and vision in the institutional framework, and ECREEE has been mandated to develop guidelines to mainstream gender in the National Renewable Energy Policies. In national budgets, a minimum budget is to be set for renewable energy initiatives for gender/women.

The policy, regulatory and institutional framework around gender mainstreaming in the energy sector is gaining momentum in the ECOWAS region. This is because in order to address the energy access challenge, ECOWAS has taken practical steps to empower women and men on an equitable basis by involving both parties to contribute equally towards solutions to the energy poverty crisis.

A result of this strategy was the launch of the ECOWAS Program on Gender Mainstreaming in Energy Access (ECOW-GEN) developed by ECREEE as a standalone ECOWAS program with a specialised focus on complementing regional efforts to improve sustainable energy for all.

As SADC works towards completing the establishment of the SACREEE secretariat and defining the operating objectives and framework it could likewise launch a separate SACREEE project on mainstreaming gender in energy in the SADC region.

As a result of this approach by ECREEE, West Africa has witnessed a growing number of Member States beginning to incorporate references to gender equality in their energy policy provisions (and/or energy is reflected in gender policies). National Ministries of Energy include gender mainstreaming mechanisms that include incorporating gender concerns into procurement decisions to ensure that high-level budget allocations reflect priorities for both men and women.

Energy ministries and portfolios are required to compile gender disaggregated data about energy contractors, supplier's customers and program beneficiaries for more effective tracking, monitoring and control. To deal with the requirement of specialised technical competencies required for the production of gender disaggregated data, the placement of a Gender Focal Unit (GFU) within energy ministries has been proposed to ensure practical gender mainstreaming.

The ECOW-GEN strategy document includes several guiding principles that should be respected at all phases through the implementation. The adoption of these principles

signals the overall ethos of the policy work of ECOWAS Member States. These principles include gender responsiveness of policies; open, democratic, and inclusive participation; defining clear responsibilities; transparency; collaboration; adaptation in terms of practical implementation for policy to be aligned to regional and national development priorities; and to accurately reflect the local challenges and opportunities that exist.

ECOW-GEN is specific about the need to allocate resources for integrating gender into policy formulation and legislation, as this exercise will not succeed unless accompanied by formal budget allocations. Dedicated resources for implementing the policy in each of the Member States will be a combination of national budgets, private financing, and donor support. As a result, practical progress at national levels has been achieved. Even though constrained in some cases by limited human and financial resources, a growing number of ECOWAS Member States have taken steps to incorporate references to gender equality in their energy provisions or gender policies, as shown in Table 4.1.

Table 4.1 Energy and Gender Linkages in ECOWAS Country Policies

	National Energy Policy	Renewable Energy Policy	Energy Efficiency Policy	Gender Dimension in Energy Policies	National Gender Policy	Energy Linkage in Gender Policy
Benin	✔	✖	✖	✖	✔	✖
Burkina Faso	✔	✖	✖	✔	✔	✔
Cabo Verde	✔	✔	✔	✖	✔	✖
Cote d'Ivoire	✔	✖	✖		✔	✖
Gambia	✔	✔	✖	✔	✔	✖
Ghana	✔	✔	✖	✖	✔	
Guinée	✔	✖	✖	✖	✔	✖
Guinée Bissau		✖	✖		✔	
Liberia	✔	✔	✔	✔	✔	✖
Mali	✔	✖	✖	✖	✔	✖
Nigeria	✔	✔	✔	✖	✔	✔
Senegal	✔	✔	✖	✖	✔	✖
Sierra Leone	✔	✖	✖	✔	✔	
Togo	✖	✖	✖	✖	✔	✔

ECREE

4.2 ECOWAS Program on Gender Mainstreaming in Energy Access

The ECOWAS program on Gender Mainstreaming in Energy Access (ECOW-GEN) was established in 2013 with a mandate to steer ECOWAS Member States in the direction of mainstreaming gender in policy formulation, legislative drafting, energy project and program design and implementation, with the intention of promoting equality in energy development, equal access to resources and equal contribution to the decision-making processes that shape and influence energy expansion in West Africa.

To institutionalize the interventions being implemented through ECOW-GEN, ECREEE teamed up with the ECOWAS Department of Social Affairs and Gender and formulated a policy that commits the Member States to take concrete actions toward the elimination of all forms of inequality in energy production and consumption in the ECOWAS region.

Energy Efficient Cook Stoves Empowering Women in Burkina Faso

The United Nations Industrial Development Organization (UNIDO) has successfully partnered with certain sectors in Burkina Faso in working with the traditional beer-brewing sector, predominantly led by women, and has installed more than 1,000 energy-efficient cook stoves to promote clean technologies but also to ensure safe and decent work.

UNIDO's intervention in Burkina Faso focuses on developing four clusters of women beer-brewers to generate collective gains and facilitate their integration into the local value chain. In addition to increased productivity and energy efficiency, the project has improved the health and environmental conditions for over 1,600 women. By providing energy efficient cook-stoves and reducing the amount of firewood consumed by 40-50 per cent, the project reduced the frequency of vulnerability and risk of physical and sexual violence against women and girls when collecting wood fuel.

The project also increased women's profits and incomes, empowering women economically and improving their social standing the community. In order to ensure that the project provides a continued and reliable income stream, a credit line has been established to enable women to purchase the energy-efficient cook stoves. The financing is provided by a regional African bank and implemented by a local financial institution.

Ndame Lo Women's Group

One of the success stories of women's economic empowerment through access to renewable energy projects is the Ndame Lo Women's Group Economic Empowerment in Senegal. In 1994 the group became part of the UNIDO project of Integrating Women into Senegal's Economic Development.

The partnership with UNIDO saw the establishment of solar semi-industrial plants for the drying of fruit and vegetables which the group is currently exporting to various countries in Europe, including Switzerland. This success is directly attributable to their access to the industrial drying plants and several training sessions to build capacity and improve management skills.

The Ndame Lo Women have developed their entrepreneurial capacity and made products that comply with international market standards. All of the women are now literate and are able to read work-related contracts, keep accounts, and take part in international trade fairs. Almost every woman in the village has joined the group and has thus been empowered due to increased access to renewable energy.

Adapted from Women's Economic Empowerment Through Energy Access in the Mano River Union Sub-Region, 2013

The overall vision of ECOW-GEN is a world where men and women enjoy equal access to modern energy services that is easily available, affordable and contributes to high standards of living and economic development. This is the first regional policy instrument that aims to close gender gaps in the energy sector; to create awareness and understanding of policymakers about gender-sensitive policies; to expand business opportunities; and to encourage information, education and communication among the Member States about gender and energy.

The policy brings in the interests of all of the Member States including their long-term development goals, and presents concrete targets and timelines for implementation. With the adoption of this policy on Gender Mainstreaming in Energy Access, ECOWAS Member States will be committed to time-bound actions for addressing gender inequalities in the region as it concerns energy development.

4.3 West African Clean Cooking Alliance

In line with its objectives to promote energy access, renewable energy and energy efficiency, ECREEE initiated a regional cooking energy initiative called the West African Clean Cooking Alliance (WACCA). WACCA developed an Action Plan in 2012 that was adopted by the relevant ECOWAS national ministries in 2014 as an ECREEE-led program. WACCA aims to ensure that by 2030, the entire ECOWAS population has access to efficient, sustainable, and modern cooking fuels and devices.

The WACCA Action Plan includes specific gender actions and recognizes gender integration in the planning and implementation of activities as important to achieving its objectives. Women are identified as important end-users of cooking fuels and technologies, but also as key participants in the implementation of policies and regulatory frameworks on clean-cooking initiatives in the ECOWAS region. The plan also enhances capacity building in clean-cooking initiatives, supports and harmonizes standards and labelling practices, and promotes networking and knowledge-sharing in terms of technologies and innovations.

As a result of the ECOW-GEN WACCA initiative, ECOWAS Member States are taking practical steps to develop projects that promote the access of women to energy projects, tapping into the critical role that women play in energy provision and use.

4.4 Africa Renewable Energy Access Program: From Advocacy to Action

The Africa Renewable Energy Access (AFREA) program of the World Bank was established in 2009 to support wider access to energy services in Sub-Saharan Africa and has piloted various approaches, developed analytical resources, and worked with governments to integrate gender considerations into existing and new energy access operations.

The AFREA Gender and Energy Pilot Program was launched in 2010 to promote increased access to modern energy in Sub-Saharan Africa with the objective of developing and mainstreaming good practices in applying a gender-sensitive approach to policies and projects for energy access. Participating countries include Senegal, Mali, Benin, Tanzania, Kenya and Zambia, with preparatory work in Liberia and Mozambique.

In 2014, AFREA established a Gender and Energy program on the basis that "women and girls are disproportionately affected by a lack of access to modern energy services". The program is a crosscutting initiative to integrate gender concerns into AFREA's work as well as the work of rural energy agencies in the region.

The objective of the AFREA Gender and Energy program is to increase the adoption of gender-sensitive approaches across energy projects in Africa, through technical support, building internal capacity for gender mainstreaming in energy operations knowledge development, and improved monitoring and evaluation (Seck, 2012). Key outputs include the development of a methodology for mainstreaming gender in energy projects in Africa, and building a network of experts at local, regional and global levels. Phase II is expected to expand the scope of activities beyond energy access to include electricity infrastructure, projects supporting national utilities, and policy reform projects.

The program has established linkages between gender experts and the energy community at national and regional levels, as well as facilitating institutional collaboration with the Rural Energy Agencies and energy task teams, and has aided the dialogue on gender to transition from advocacy to action. In Tanzania, the program supports rural women through the technique of biogas production from cow dung. This has drastically reduced the costs associated with securing biomass fuels.

National energy agencies and service providers in Senegal, Tanzania, Kenya and Mali are developing methodologies to mainstream gender considerations into project designs and strategies. AFREA has, in particular, assisted Mali and Tanzania to identify Gender Focal Points (GFPs) and develop gender action plans. Generally, the Gender Action Plans focus on:

- Building a gender desk and a point of reference within energy agencies who can provide gender-sensitive support to project activities;
- Gender awareness training for capacity building on gender-sensitive approaches to energy policy formulation;
- Conducting gender assessments and reviewing portfolios of ongoing projects for gender mainstreaming as needed; and
- Promoting local interventions and working with project beneficiaries to identify community needs of men and women, and groups are identified for information sharing.

Conclusion

The ECOWAS Program on Gender Mainstreaming in Energy Access has achieved results through practical initiatives with ECREEE to guide Member States in mainstreaming gender in policy formulation, legislative drafting, energy project and program design and implementation, with the intention of promoting equality in energy development through equal access to resources and equal contribution to decision-making processes that shape and influence energy expansion in West Africa.

The practical initiation of policy dialogue beyond policy declarations on gender equity and mainstreaming in the renewable energy sector by ECREEE with governments, partners, stakeholders and women at all levels in a series of high level and community engagements has led to clear policy frameworks adopted by Member States. Countries in West Africa are in various stages of establishing gender energy desks and gender focal persons with budgetary allocations and monitoring mechanisms, leading to practical initiatives in which women are accessing better energy solutions and earning livelihoods.

5 BENEFITS OF MAINSTREAMING GENDER IN THE RE SECTOR

Considerable evidence has shown that mainstreaming gender in the renewable energy sector improves the effectiveness of results, drawing on a broader pool of participants, with more benefits for women as well as men. Projects ranging from cooking and energy access, to electricity and petroleum infrastructure construction, to energy policy and planning, are starting to demonstrate how operationalising gender approaches can improve performance and increase benefits. Poverty eradication, increased food production, better health and education, more economic opportunities, a safer environment, and empowerment of women are critical factors that can be addressed through mainstreaming gender in renewable energy initiatives.

5.1 Improved Livelihoods

For mainstreaming gender in the renewable energy sector, women's needs can be classified as practical (ensuring daily survival), productive (income generation), and strategic (women changing position in society to gain greater equality with men, towards empowerment in all senses). The practical aspect involves, for example, household lights, improved cooking stoves for household use, improved supply of fuelwood and improved technologies.

The productive aspect enhances income generation, for example through improved technologies such as food-drying installations and electric sewing-machines, and increased skills and knowledge such as marketing strategies for improved cook stoves; and strategic in the sense that there is street lighting allowing women greater freedom of movement after dark. Table 5.1 gives some examples of how different energy forms can meet the different types of needs.

Table 5.1 Renewable Energy Instruments in SADC Member States

Energy Form	Needs and Issues		
	Practical needs	Productive needs	Strategic
Electricity	• pumping of water supplies thus reducing the need to haul and carry • mills for grinding • lighting to improve working conditions at home	• increase possibility of activities during evening hours • provide refrigeration for food production and sale • power for specialised enterprises such as hairdressing and internet cafes	• make streets safer allowing participation in other activities (e.g. evening classes and women's group meetings) • opening horizons through radio, TV and internet
Improved Biomass (supply and conversion technology)	• improved health through better stoves • less time and effort in gathering and carrying firewood	• more time for productive activities • lower cost for process heat for income-generating activities	• control of natural forests in community forestry management frameworks.
Mechanical	• milling and grinding • transport and portering of water and crops	• increases the variety of enterprises	• transport allowing access to commercial and social/political opportunities

Energy can be an enabler for reducing poverty by increasing income, improving energy efficiency of micro-enterprises, or by opening up new entrepreneurial opportunities. Through the equal participation of both women and men in renewable energy projects, valuable knowledge from women is gained about local conditions and helps in the design of energy service mechanisms.

Recognising that rural women may have gaps in knowledge of electronic components, and a lack of skills with the tools needed to work with the components, projects such as the battery-operated lamps produced by rural women in Bangladesh gave appropriate training to ensure that reliable lamps were produced. Training was also given in accounting and bookkeeping, marketing, sales, and operating battery-charging services, hence giving women the opportunity to build their confidence on doing practical activities. Through involving both women and men to participate equally in training sessions, it creates an environment where women are not afraid to make mistakes or to ask questions.

Given that the promotion of renewable energy technologies are gender mainstreamed, they have the potential of increasing access to modern energy services in rural areas that currently have no access to grid electricity. Moving directly to smaller scale, renewable energy systems such as stand-alone systems of wind and solar energy can provide communities with affordable energy, promote productivity and help in creating employment by empowering enterprises for both the rural and urban poor. At the same time, large-scale, renewable energy systems based on hydropower, modern clean biomass, geothermal, wind or solar energy can diversify energy supply, reduce energy imports and provide significant local and global environmental gains (UNIDO, 2009).

Through interventions of using modern forms of renewable energy technologies, household air pollution will ultimately be reduced. Battery-operated lamps produced by rural women in Bangladesh have improved the lighting and indoor air quality of rural households by replacing the traditional kerosene lamps with modern fluorescent battery-powered lamps. The advantage of these battery lamps over kerosene lamps has reduced the risk of fire, as well as the elimination of smoke and other emissions which have negative health impacts, including deaths and illnesses caused by indoor pollution.

Food prepared with modern forms of renewable energy becomes safer to consume for the family resulting in reduced illnesses, especially for children. Modern renewable energy fuels not only reduce health risks for women who are the main users of biomass fuels, but reduce environmental pollution which has profound impacts on women in rural and peri-urban areas who have less capacity, skills and resources to adapt. As women make up the larger proportion of subsistence farmers in the region, climate change caused by biomass emissions will increase their levels of poverty. Ensuring access to renewable energy technologies for both women and men will ease pressure on natural resources, reducing deforestation and land degradation.

Women in both rural and urban areas rely heavily on biomass fuels for cooking, lighting and heating in households and in small businesses. The use of these biomass fuels such as firewood leads to deforestation which has a number of consequences such as soil erosion, climate change, loss of biodiversity, and an increase in greenhouse gas emissions, disruption of water cycles, among others.

Through mainstreaming gender in renewable energy projects, the living conditions are improved for men, women and children. For example, the Upesi project in Western Kenya was initiated to promote the adoption of more efficient stoves in rural areas. Through the project women's living and working conditions were improved by enabling a significant and increasing number of women and families to benefit from fuel-saving, wood-burning stoves. The project has cooperated with women's

groups in design and field-testing of the stove. The women have been trained in producing, distributing, and installing the stoves. Marketing skills have been improved, and with this, the ability to earn income from stove-related activities. Over 16,000 stoves have been installed, providing an important opportunity for the women to earn a relatively good wage which benefits families and improves social status.

5.2 Improved Social Services Delivery

Mainstreaming gender in the renewable energy sector contributes to social services delivery, for health and education. Access to electricity reduces the rate of maternal mortality through the provision of electricity or other forms of modern renewable energy in clinics and hospitals, especially those in rural areas. This reduces the risk of maternal mortality and infant mortality, through more lighting in rooms during delivery at night and the use of advanced equipment. Access to renewable energies contributes to better education where boys and girls will have access to lighting for studies.

5.3 Access to Modern Energy Services

Renewable energy can play an important role in increasing access to modern energy services, which frees women's time from domestic tasks, permits home study and reading, enables access to educational media and communications in schools and at home, mitigates the impacts of indoor air pollution, allows access to better medical facilities for maternal care including refrigeration and sterilization, and permits income generation activities, which contribute to improving gender equity. By taking a gender approach, renewable energy suppliers can increase their potential client base and the sustainability in the use of their technologies.

Conclusion

Mainstreaming gender in renewable energy has a number of benefits that improve the livelihoods of both women and men. As noted above, the access to modern energy services frees the time of women and girls to concentrate on other economic and social pursuits such as investing in entrepreneurial and educational activities. The use of clean energy gives women, men and children a lifeline from potentially hazardous conditions associated with traditional forms of biomass.

CONCLUSIONS AND RECOMMENDATIONS

6

The SADC region has already made the political decision and commitment to mainstream gender equality and empowerment of women in regional policy as indicated in the Regional Indicative Strategic Development Plan (RISDP), reflected in the Strategic Implementation Framework on Gender and Development (SIF) backed by the SADC Gender Policy and a range of other regional and international commitments.

It is this transition from political will to concrete actions that presents the challenge to be addressed in energy projects in southern Africa as there is often no link between references to women or gender in the policy and institutional framework governing the sector in the region. Gender mainstreaming efforts as pronounced in the Regional Indicative Strategic Development Plan, SADC Energy Protocol, and the SADC Gender Mainstreaming Toolkit have not made much impact, largely due to absence of an overall enabling framework in the manner of a clearly defined strategy like the ECOWAS Program on Gender Mainstreaming in Energy Access (ECOW-GEN).

Since it has already been established that a gender approach leads to greater energy efficiency, the Southern African Power Pool (SAPP), Regional Electricity Regulators Association of Southern Africa (RERA) and SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) should position themselves as catalysts for gender parity and gender-appropriate responses for capacity building, resource assessment and allocation, knowledge management and investment promotion for the attainment of regional integration through access to green energy solutions.

Strategically placing women at the centre of renewable energy and energy access in the region will ensure success in the mandate of providing a response to the needs of the SADC Member States with respect to the development and implementation of renewable energy and energy-efficiency technology in line with continental and international trends.

6.1 Regional Context Review

As SACREEE and RERA firm up their activities in this regard, these institutions are encouraged to adopt a deliberate stance on staffing for gender mainstreaming. SADC can build on the work of ECREEE whose policy definitions in West Africa have led to a dialogue whose results stretch beyond policy declarations to create an awareness and shared understanding of dynamics of the gendered face of energy. Staffing for gender mainstreaming will ensure that gender concerns of the region are integrated within project policies and frameworks of these key institutions.

An organisational gender policy and vision, adopted by the governing boards of these institutions will give the projects a clear mandate for gender mainstreaming. This way, project planning documents will clearly include commitments and deliverables on gender to ensure that attention is given to gender issues in planning, resource allocation, and monitoring, as well as in training manuals, reports and other publications. This type of institutional planning has the capacity of then stimulating a contextual regional review of the renewable energy situation and how men and women are accessing the different products on offer to combat energy deficiencies in the various member states.

6.2 Political Dialogue

After mapping of renewable energy status, SACREEE and the related institutions are encouraged to spearhead a political dialogue involving all the relevant ministries in the Member States, stakeholders from the public and private sectors, and representatives from women's groups. The dialogue could be a platform to discuss issues related to gender and energy as well as exchange of experiences and lessons from SADC Member States.The objective of the platform is to define and develop a clear policy and strategic framework for mainstreaming gender in the renewable energy sector to consolidate and support policy development for this area of energy.

The development of a Gender Action Plan on renewable energy will demonstrate commitment to the practical implementation of the renewable energy agenda and avoid the drawback of placing gender merely as a crosscutting issue without ownership of the responsibility to implement gender-responsive strategies at secretariat level. This will provide the SADC Secretariat with clear direction on support for Member States to address gender equality and renewable energy issues and concerns in policies and programs. An offshoot of this regional mapping exercise will be the national level promotion and adoption of the Gender Action Plan for social inclusion of sustainable energy for all citizen of the region.

6.3 Resource Allocation and Monitoring

As the development of the Gender Action Plan takes places, it is critical that the framework spells out clearly a method for resource allocation and budget for the mainstreaming exercise. Gender mainstreaming efforts are not likely to be sustainable unless an overall budgetary allocation is made in favour of the whole exercise. Consultations, strategy mapping exercises and the production of white papers require a budget. Monitoring and evaluation mechanisms to track implementation of the Gender Action Plan at regional and national levels will have to be developed to track progress and document success stories to inform future strategic plans. Incentives for accountability will have to be created both at regional and national levels.

6.4 Establishment of Energy Gender Desks and Gender Focal Points

The new SACREEE is encouraged to promote the establishment of Gender and Energy Units or Desks in the relevant ministries of the Member States. As seen in the examples from West Africa of the countries that have adopted the ECOW-GEN policy by establishing these desks, the utility of these entities as coordinated by gender focal points appointed on relevant expertise is that they create advocacy programs for general awareness for the importance of gender mainstreaming in energy access. Providing the critical link between policy makers and communities they,

- generate gender responsive indicators for the energy sector;
- repackage information to enhance availability and use of gender statistics by various stakeholders; and,
- generate gender-responsive statistics.

In SADC, the presence of gender desks will significantly close the gap between the gender mainstreaming declarations and the policies of the Energy Protocol, the RISDP, the RIDMP and their strategy delivery value because of the follow-up action by gender focal persons through interpretation and practical implementation of programs and projects.

6.5 Communication Strategy

As the SACREEE initiated Gender Action Plan on renewable energy is developed, it is also important that a communication strategy is established at the start of project

cycles and used throughout all phases. The strategy will be useful to mobilise Member States and stakeholders through knowledge exchange to appreciate the processes, and the desired and expected outcomes, of integrating the strategy in national level interventions and how these national efforts will ultimately contribute to the objectives of regional integration and cooperation.

6.6 Participation in Markets for Renewable Energy

The liberalisation of energy markets is opening up new opportunities for the provision of energy services. Renewable Energy Service Companies are springing up, many focusing on rural areas, offering the potential of good incomes. SADC Member States should ensure that women are not excluded from these opportunities. Gender focal persons from Member States can work with the regional apex bodies to overcome the notion that women are not interested in technical matters. Women need to be empowered with knowledge, confidence and physical resources to make their contributions effective. A holistic approach is needed of providing technical and entrepreneurial skills. The example of women in Burkina Faso and elsewhere in Africa cited in Chapter 4 shows that women are already energy entrepreneurs, as a number of programs on cooking stoves and solar initiatives in that region testify.

Conclusion

It is recommended that as the major institutions on renewable energy in SADC, such as SACREEE, embark on the establishment of their secretariats, they consider staffing for gender mainstreaming, gender desks and appointments of gender focal points with clear mandates for mainstreaming gender and building staff capacity, accompanied by the necessary budgets. Since the main aim of institutions such as RERA and SACREEE is that of providing a response to the needs of the SADC Member States with respect to the development and implementation of renewable energy and energy efficiency technology while adapting to international commitments, it is essential that these institutions position themselves for practical production of the gender-appropriate responses in their mandate to implement policy management, capacity building, resource assessment and allocation, knowledge management and investment promotion for the attainment of regional integration through access to green energy solutions.

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