

GENDER AND RENEWABLE ENERGY FRAMEWORKS IN SOUTHERN AFRICA



STATUS REPORT

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Boxes and Tables as specified

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PREFACE

Women are in most cases responsible for household chores and this occupies most of their time collecting firewood for cooking, heating and lighting needs. Women and girls are often found travelling long distances to carry water for drinking, cooking and other household tasks which also takes up most of their time. These duties and more, which can be a burden on women and girls can be lifted and made easier if households have access to Renewable Energy Technologies (RETs).

RETs will enable them to engage in other activities which are economically empowering to improve their livelihoods. RETs will enable access to water pumps at household or communal level and reduce time spent fetching water or going to the stream or river to wash clothes or bath. Access to water and renewable energy will even allow for women to own washing machines and other modern equipment which can enable to reduce time spent on these chores previously.

Such benefits and more can be fully realized if SADC and Member States have concrete regional and national renewable energy frameworks that define and integrate the gendered needs and impacts of renewable energy. The benefits of such measures are manifold and will ensure women and girls' burdens are reduced so they can concentrate on other livelihood advancing initiatives such as entrepreneurial opportunities, education and have reliable access to internet which can open their horizons. Women and their households will also be able to live healthy lives free from carrying heavy loads of firewood and water and inhaling smoke which has health implications.

The abundant renewable energy resources available in the SADC region offer an excellent opportunity for increasing access to modern forms of energy and should be used as a springboard in increasing access to renewable energy to those without. There is need therefore to develop a strong policy environment which will facilitate for the development and access of renewable energy sources through the recently established SADC Centre for Renewable Energy and Energy Efficiency.

This Status Report charts the existing policies and legal documents on mainstreaming gender in the RE sector at regional and national level in SADC Member States. It draws on effective practices from East and West Africa for SADC to consider when developing and or implementing their renewable energy frameworks.

The Southern African Research and Documentation Centre in consultation with the SADC Energy Division and the Gender Unit have produced this publication on the existing legal landscape for renewable energy and gender in SADC Member States and how these address or impact on gender mainstreaming in the Renewable Energy sector.

The report is an essential reference resource as the present information about how various countries attempt to address gender issues in their legislation in relation to RE is scattered or non-existent. This publication will be a comprehensive source of information that is accessible to enable stakeholders to identify the gaps in legislation. This publication is intended to inform policy interventions at national and regional levels.

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ACRONYMNS

AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
CEB	Central Electricity Board
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CEMA	Conference of Energy Ministers of Africa
CNE	National Energy Commission
DRC	Democratic Republic of Congo
ECB	Electricity Control Board
ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Renewable Energy and Energy Efficiency
ETG	Energy Thematic Group
FUNAE	Fundo Nacional de Energia
GDP	Gross Domestic Product
GW	Gigawatts
HIV	Human Immunodeficiency Virus
IEP	Integrated Energy Plan
IRENA	International Renewable Energy Agency
KW	Kilowatts
MJ	Megajoules
MW	Megawatts
NAMREP	Namibia Renewable Energy Programme
NDP	National Development Plan
NEPAD	New Partnership for Africa's Development
OTEC	Ocean Thermal Energy Conversion
PPP	Private Partnership Projects
PUC	Public Utilities Corporation
PV	Photovoltaic
RE	Renewable Energy
REA	Rural Energy Agency
REASAP	Regional Access Strategy and Action Plan
RECS	Rural Electrification Collective Scheme
RECs	Regional Economic Communities
REDMP	Rural Electricity Distribution Master Plan
REEEI	Renewable Energy and Energy Efficiency Institute
REIPPPP	Renewable Energy Independent Power Producers Procurement Programme
RERA	Regional Electricity Regulators Association of Southern Africa
RETs	Renewable Energy Technologies
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
SACREEE	SADC Centre for Renewable Energy and Energy Efficiency
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAPP	Southern African Power Pool
SARDC	Southern African Research and Documentation Centre

INTRODUCTION

Knowledge for Development

The energy sector is one of the major drivers for economic development in southern Africa as shown in the region's development blueprint, the Regional Indicative Strategic Development Plan (RISDP) 2015-2020. The blueprint places emphasis on energy as an important aspect in deepening regional integration and accelerating poverty eradication and the attainment of socio-economic development.

As with other global and continental development frameworks, the RISDP also identifies gender as a critical area of regional development and integration and therefore stipulates the need for mainstreaming gender in all sectors. Gender mainstreaming is more than a women's issue; it is "the basis for establishing a level of equality between women and men that can help to stimulate economic growth, create higher level jobs, support communities, raise productivity and reduce poverty" (UNIDO, 2014).

Mainstreaming gender in the energy sector will contribute to creating space for equal opportunities for women and men to reach full potential and contribute meaningfully towards sustainable development. A focus on increasing participation by women should be a top priority for reforming the energy sector. Increasing the number of women in decision-making positions can increase gender sensitivity in finding solutions to problems affecting the energy sector.

Although a nexus of gender, poverty and energy has been established, gender equity responsiveness of renewable energy policies and institutional frameworks are still at early stages of development and this has affected the promotion of women's access to renewable energy in the region.

Gender equity and equality are the main focus area 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 in line with the United Nations initiative on Sustainable Energy for All (SE4ALL).

For southern Africa to emerge as a competitive and effective contributor in the global economy as well as benefit from its vast potential of renewable energies, it has to have in place sound regional renewable energy policies among other development priorities that take into account gender considerations.

In the past decade most SADC Member States have initiated specific renewable energy programmes that combine awareness-raising, capacity building and research and development initiatives with some activities for deployment of renewable energy technologies. However, most of these have been silent on how they can strengthen the participation of marginalized

groups, which include women and children. Most of the existing renewable energy policy frameworks and master plans do not provide for a clear and comprehensive development of this sector in most southern African countries.

In West Africa, the Economic Community of West African States (ECOWAS) has a mandate of promoting economic integration in all fields of activity, including energy, of the constituting countries of West Africa. In this regard, ECOWAS established a Centre for Renewable Energy and Energy Efficiency (ECREEE) 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.

This Status Report which has been developed through mapping of the existing legislation and policies is an essential reference resource aimed at supporting SADC Member States with relevant knowledge on how to create conditions that promote gender mainstreaming in the renewable energy sector and liberate women from the role of carrying wood and water to participate in economic development.

Chapter 1 gives an overview of gender and renewable energy in the SADC region. It highlights that despite the vast renewable energy resources available in the region, there are still existing imbalances towards their access and women in rural and peri-urban areas are the most affected.

Regional gender-responsive institutional frameworks are analysed in the second chapter showing that regardless of existing SADC energy policy frameworks placing emphasis on the availability of sufficient, reliable and least costly energy services towards the eradication of poverty and development of the region, gendered concerns are not effectively addressed. There are no clearly defined strategies for mainstreaming gender in the renewable energy sector.

Chapter 3 looks at existing policies and policy development at national level and whether there are any gender aspects taken into consideration.

The last chapter provides policies from West Africa on renewable energy which have comprehensive plans on how women as a critical constituency can benefit from renewable energy technologies.

OVERVIEW OF GENDER AND RENEWABLE ENERGY IN SADC

1

Gender mainstreaming is much more than a women's issue; it is the basis for establishing a level of equality between women and men that can help to stimulate economic growth, create higher level jobs, support communities, raise productivity and reduce poverty. (UNIDO, 2014)

Renewable energy in the Southern African Development Community

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.

According to the SADC Regional Energy Access Strategy and Action Plan, most people in Southern Africa have some access to energy but this is often restricted and inadequate. 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 (REN21, 2015).

According to the REN21 report, electricity access rates vary widely across SADC Member States where, for example, only nine percent of the population of Democratic Republic of Congo have access and 100 percent in Mauritius. This suggests that there are still large areas which remain under-served by grid electricity despite strong regional efforts to address imbalances to energy access. Rural areas are the most affected by poor access to energy where, in some countries, only five percent of people in rural areas have access to electricity and remain without access to modern energy services as highlighted by the SADC Regional Infrastructure Development Master Plan. There are wide disparities in access between urban and rural areas, for example, in Tanzania the coverage is 71 percent in urban areas and seven percent in rural areas, and for Zimbabwe 80 percent and 14 percent.

Southern Africa is well-endowed with renewable energy resources such as biomass, geothermal, hydropower, solar energy and wind power, and thus renewable energy has become an important sub-sector within the SADC region. 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 energies now account for 23.5 percent of energy generation in SADC, and Member States plan to increase the contribution of renewable energy to electricity supply to 27 percent in 2020 and 29 percent by 2030 (REN21, 2015).

When available at an affordable cost, renewable energy can be applied to productive uses and contribute to poverty reduction in marginalized areas. Renewable energy services can offer tangible social and economic benefits to rural and urban populations not served through grid connections or with unreliable connections. Furthermore, renewable energy sources are locally available indigenous resources and 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).

Biomass is by far the major source of energy in 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 is included, such as bagasse for boilers in the sugar industry, the overall biomass share will exceed 57 percent (REN21, 2015).

The use of biomass varies by country, with Member States such as DRC exceeding 70 percent proportion of traditional biomass to energy consumption. Biomass is an especially significant source of energy in Mozambique, Tanzania, Zambia and Zimbabwe, where it accounts for more than 60 percent of energy consumption. In Mozambique, the widespread and inefficient use of traditional biomass has led to the design and implementation of a Biomass Energy Strategy.

The largest population of people using biomass in the region is in rural areas. The countries with the highest shares of wood and charcoal consumption for household cooking purposes are DRC, Madagascar and Malawi, followed closely by Swaziland and Tanzania.

The high share of biomass in total energy consumption in SADC can be attributed to the low proportion of connectivity to the national electricity grid. 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 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.

Wood is the largest biomass energy resource but other sources include food crops, 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 agricultural waste can reduce the cost of waste disposal.

Women and renewable energy in the SADC region

Access to renewable energy is a necessary precondition for achieving development goals that extend far beyond the energy sector. It has been established that modern energy services enable economic advancement and sustainable development. It has also been acknowledged that gender inequalities in Africa and across the globe are contributing factors to poverty and underdevelopment, yet no clearly defined link has been established on women, renewable energy and development.

Discussions and development initiatives aimed at gender equality and economic advancement of women are often linked to ensuring women's access to land and property, women's participation to politics and decision-making, access to health and education and access to loans for entrepreneurial activities. However access to energy and its impact on women and girls is less prevalent in such discussions and development initiatives.

The lack of modern energy services in the SADC region has a different impact on women and on men. Limited access to energy has a negative effect on women and families, especially those in rural areas. In most SADC Member States, it is the women in rural and peri-urban areas who spend large amounts of time and physical effort to supply fuel for their households and productive needs, using their own labour to carry heavy loads over increasingly long distances, at great risk to their health and safety. In cases where women do not have access to firewood, the purchase of kerosene, charcoal and firewood itself becomes the only option which is often expensive and has health and environmental consequences.

Other health hazards arise from the fact that women do most of the cooking. Women and children are exposed to large amounts of smoke from indoor fires and suffer from a number of respiratory diseases. The lack of energy services is directly correlated with the major elements of poverty, including inadequate healthcare, low education levels and limited employment opportunities. Rural electrification programmes in the region have not delivered as expected due to many constraints, including lack of both funding and technical support.

The provision of renewable energy services can be a contributing solution to the eradication of poverty, increased food production, provision of clean water, improved public health, enhanced education, the creation of economic opportunities, and the empowerment of women. The provision of safe, clean, reliable and affordable energy to those who currently have no access is widely viewed as key to advancing the regional development agenda.

Basic services such as electricity for lighting and cleaner cooking technologies are still not accessible to many rural communities, and this impacts disproportionately on women, who generally have responsibilities as the providers and end-users of energy, although on large farms, energy is also used for irrigation, mainly by men. Southern Africa has moved towards adopting renewable energy technologies, but women in rural areas still do not have access to these options because of the prohibitive start-up cost of installing the equipment.

Access to renewable energy will significantly improve the lives of women who currently do not have access through reducing time spent on these daily tasks of collecting firewood and fetching water. Mainstreaming gender in renewable energy has a number of benefits that can improve the livelihoods of both women and men, for example, household lighting which will enable productive time for work and study, contributing to improved education outcomes, improved cooking stoves, and improved irrigation technologies, among others. Such technologies can enhance income generation and allow women to be involved in productive projects at all hours of the day due to several factors, for example, lighting which allows greater freedom of activities and movement. Women will have access to television, radio and can be able to charge their mobile phones which they can use to access internet. Access to such facilities can enlighten women and make them abreast with current trends and hence make them more confident to be part of and participate in public spheres, including decision making arenas.

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 their decision-making structures. The Regional Electricity Regulators Association of Southern Africa (RERA) and the Southern African Power Pool (SAPP) are 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.

2

GENDER RESPONSIVE INSTITUTIONAL FRAMEWORKS

Overview of Continental and Regional Frameworks

Agenda 2063

Call to Action

Sec 72(g) Energy

Harnessing all African energy resources to ensure modern, efficient, reliable, cost-effective, renewable and environmentally friendly energy to all African households, businesses, industries and institutions, through building the national and regional energy pools and grids, and PIDA energy projects.

Sec 50 Gender

The African woman will be fully empowered in all spheres, with equal social, political and economic rights, including the rights to own and inherit property, sign contracts, register and manage businesses. Rural women will have access to productive assets: land, credit, inputs and financial services.

Gender inequality and poverty are closely linked and addressing either of them means addressing the other. Energy programmes, policies and frameworks which establish and address the nexus between the two will contribute to a number of benefits which include income generating activities which will in the short and long term contribute to reducing inequality and poverty.

Most regional and national policies on renewable energy do not acknowledge the differentiated uses and benefits of renewable energy between women and men. It has been noted that access to energy reduces time spent on tasks such as collecting wood and water. This can be said to contribute to the increase in the number of girls who attend school as they no longer have to spend time looking for wood and water. RETs can also reduce the number of women and children who die from household air pollution. For these benefits to be lived, they require effective gender mainstreamed frameworks.

The visionary strategy of the African Union, Agenda 2063, recognizes that no society can reach its full potential unless it empowers women and removes all obstacles to women's full participation in all areas of human endeavour. The African vision calls for Africa to provide an enabling environment for women, children and young people to flourish and reach their full potential.

Universal access to sustainable energy is one of the key targets set by African leaders in Agenda 2063. Among the Sustainable Development Goals agreed by African and other leaders at the United Nations, Goal 5 is Gender Equality and Goal 7 is Affordable and Clean Energy.

At regional level, the SADC Treaty seeks gender parity, and SADC's strategic plan, the Revised Regional Indicative Strategic Development Plan (RISDP) 2015-2020 presents the target of attaining gender parity at all levels and ensuring gender mainstreaming in all sectors. The RISDP identifies gender and energy as a critical area of regional development and integration, in line with the UN initiative on Sustainable Energy for All (SE4ALL).

Southern Africa, with the rest of Africa, is undergoing a sustained period of economic growth and transformation in which populations are growing rapidly and economies are diversifying as they are growing. In order to support this growth, there is need for major investment in the energy sector and in the renewable energy sub-sector. An understanding of the SADC region's emerging renewable energy industry, market development and growth is critical to realising the region's potential and to expanding investment opportunities and policy development.

Accelerated growth in the use of renewable energy technology can only be made possible by a concerted effort by policy makers to develop enabling frameworks to spur investment and facilitate market development through sound policies and regional cooperation while taking into consideration that women, as a critical constituency, also benefit equally with men from such developments in the sector.

Most women who live in rural and peri-urban areas have limited access to the national grid, whilst those in urban areas are affected by the demand side electricity management policies such as load shedding. Renewable energy technologies therefore become the most economical solution for off-grid and mini-grid electrification in remote areas, as well as for grid extension in some cases of centralised grid supply with good renewable resources.

Apart from difficulties in accessing financing to support renewable energy market development, the lack of political will to support long-term renewable energy planning and integration into regional energy markets is one of the barriers to renewable development in the SADC region. Inadequate legal and institutional frameworks to support RE, and support women's involvement and participation are some of the factors being encountered due to stereotyping that women are not technologists and that they are not capable of building, operating and maintaining sophisticated technologies (Cecelski, 2000).

While renewable energy policies do not adequately address gender needs, the existing gender frameworks equally do not adequately capture the role of women in the energy sector. The SADC Gender Policy, is one of the few regional documents that calls for the facilitation of women's access to safe and affordable public infrastructure such as rural appropriate transport services, water, electricity and energy in order to reduce drudgery and enhance economic empowerment. The revised SADC Protocol on Gender and Development does not give reference to women and energy, however it calls for the empowerment of women in all spheres and for Member States to undertake reforms that give women equal rights, and opportunity to economic resources.

Regional policy frameworks

The legal and policy framework in southern Africa does not reflect a strong consideration for the renewable energy agenda or for mainstreaming gender in energy policies and programming. Although the SADC Energy Protocol, RIDMP and RISDP have a common feature in that they include a section in their articles that refers to the need to mainstream gender, these have so far remained only an expression that is mentioned in an obligatory manner without meaningful impact.

Key Declarations by African Ministers on Renewable Energy

- ❖ In February 2009 in Addis Ababa, the African Union heads of state and government resolved to develop renewable energy resources to provide clean, reliable, affordable and environmentally friendly energy.
- ❖ The 2010 Maputo Declaration reaffirmed this commitment, establishing the Conference of Energy Ministers of Africa (CEMA).
- ❖ In 2011, representatives of 46 African countries including 25 energy ministers adopted the Abu Dhabi Communiqué on Renewable Energy for Accelerating Africa's Development.
- ❖ In March 2014 in Abuja, the Conference of African Ministers of Finance, Planning and Economic Development adopted a resolution requesting for the mobilisation of financial and technical resources to promote renewables and committing to ensure transformative industrialisation in Africa through the development of a cutting-edge renewable energy sector.

In the same vein, regional gender equality and women empowerment frameworks only merely mention the need to mainstream gender in all development spheres and initiatives without clearly stating the manner in which this ought to be done.

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.

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 Revised RISDP was a mid-term review of the 2003 RISDP to consider progression on the implementation of the SADC Trade Protocol and other specific targets set. The adoption of new target dates for implementation coincided with the SADC Industrialisation Strategy and provides for planned electricity generation and transmission capacity implementation by 2020.

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.

The SADC Energy Activity Plan of 2000 is a reflection of reforms on the outdated energy sector governing instruments including the SADC Protocol on Energy 1996, the SADC Energy Cooperation Policy and Strategy 1996 and the SADC Energy Plan 1997.

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

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

SADC also completed the,

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

SADC Protocol on Energy

The SADC Protocol on Energy, which was signed in 1996 and entered into force in 2009, 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 the energy supply, with Member States cooperating on research and development of low-cost energy sources applicable to Southern Africa.

The objectives of the Protocol set out to,

- attain sustainable development,
- encourage 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.

In addition 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.

Regional Infrastructure Development Master Plan: Energy Sector Plan

The Regional Infrastructure Development Master Plan (RIDMP) acknowledges infrastructure development as central to SADC's goals of poverty eradication and regional integration. 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. According to the sector plan, the access to electricity is still limited in the region as seen by the low access to electricity in rural areas of the SADC Member States. It therefore emphasises the need for energy security and access to energy services to meet rural energy needs and development. There is no mention in the document of how the differentiated needs of women and men will be taken into consideration.

Revised Regional Indicative Strategic Development Plan

The 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. 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.

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 not specific to energy, the RISDP stresses the need for gender mainstreaming capacity in the region to be developed and or strengthened by 2020.

SADC Gender Policy

Gender equality is a fundamental human right and an integral part of regional integration, economic growth and social development as noted in the SADC Gender Policy. The policy emphasizes the importance of mainstreaming gender in order to achieve regional integration and economic growth. With regard to energy, the policy calls for SADC to facilitate women's access to safe and affordable public infrastructure such as rural appropriate transport services, water, electricity and energy in order to reduce drudgery and enhance economic empower-

ment. The development and implementation of programmes that promote the use of ICTs among women, especially in the rural areas and for women entrepreneurs is also one of the objectives of the policy and such developments will only be more effective if renewable energy is made accessible to both women and men equally.

Institutional frameworks

SADC’s energy sector has a complex institutional structure with at least three agencies inter-linked and directly involved in the formulation or implementation of energy and renewable energy in the policy space of regional integration. These are the,

- ❖ Regional Energy Regulatory Authority (RERA),
- ❖ Southern African Power Pool (SAPP),
- ❖ SADC Centre for Renewable Energy and Energy Efficiency (SACREEE), as well as,
- ❖ SADC Energy Thematic Group

Regional Energy Regulatory Authority

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 (1996), the SADC Energy Cooperation Policy and Strategy (1996), the SADC Energy Sector Plan (1997), and the SADC Energy Activity Plan (2000), 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.

Governance Structure of RERA Membership

Table 2.1

Country	Regulatory Body	No. of Men	No. of Women
Lesotho	Lesotho Electricity and Water Authority	3	3
Malawi	Malawi Energy Regulatory Authority	2	2
Namibia	Electricity Control Board	7	3
South Africa	National Energy Regulator South Africa	5	3
Zambia	Zambia Energy Regulatory Board	6	1
Zimbabwe	Zimbabwe Energy Regulatory Authority	2	2

Source: Regulatory Body websites

The national governance structures of the RERA members reveal a positive trend in terms of women participating in national energy boards. In most of these boards, women have been appointed to positions that steer national energy policy and programmes in their respective countries. Zimbabwe has taken it further by appointing two women of the regulatory board as the chair and vice chair, while the vice chair of South Africa’s board is a woman. Zambia has appointed a woman to the position of Minister of Energy. 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 more balanced renewable energy policies.

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 increased its membership to now include transmission companies and independent power producers.

Even though the target for services is the SADC population, the majority of whom are women, 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 such as coordination, engineering, market analysis, operations and environment are all occupied by men. This situation may be interpreted as providing structural barriers that limit the influence of women in the generation, transmission and distribution of electricity in the region, and it is one of very few regional structures to remain a men-only domain.

An analysis of the organogram of the SAPP will reveal that female staff are present only in the SAPP Coordination Centre, in the capacity as administrative staff. This structure does not support SAPP's objective of creating a more efficient regional market as the gender imbalance is skewed.

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 wording of the vision and objectives is couched in gender neutral terms which might have the effect of omitting gender-specific considerations in policy formulation.

SAPP Member Utilities

Table 2.2

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
Zambia Electricity Supply Corporation Limited	OP	ZESCO	Zambia
Copperbelt Energy Corporation	ITC	CEC	Zambia
Lunsemfwa Hydro Power Company	IPP	LHPC	Zambia
Zimbabwe Electricity Supply Authority	OP	ZESA	Zimbabwe

Source: SAPP

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

SADC Centre for Renewable Energy and Energy Efficiency

SADC established the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) in 2015 to oversee the implementation of SADC'S renewable energy policies, programmes and action plans. SACREEE is expected to increase the uptake of clean energy in southern Africa, enabling the region to address its energy challenges.

SACREEE will, among other things, promote market-based adoption of RE as well as energy efficiency technologies and services in SADC Member States. The Centre 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.

One of the main drivers towards the establishment of SACREEE is for the institution to be a driver towards development and operationalization of coherent, comprehensive and evidence-based policies, laws and regulations that create a level playing field for RE&EE technologies which are gender sensitive.

SADC Energy Thematic Group

The SADC 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 through close consultation by SADC and International Cooperating Partners. The ETG is comprised of the SADC Secretariat, RERA, SAPP and the International Cooperating Partners whose programmes of cooperation cover the energy sector in the region. The role of the ETG is to improve the capacity and effectiveness of the sector and to facilitate the planning and monitoring of the implementation of SADC energy initiatives, programmes 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.

POLICY DEVELOPMENT AT NATIONAL LEVEL

3

Even though the uptake of renewable energy products is firming within SADC Member States, consumption is seriously disadvantaged by the lack of concrete policy or policy alignment and strong regulatory frameworks.

In most SADC Member States, clean energy is a relatively new area of focus, as compared to conventional energy forms such as coal and petroleum. At national level, while most Member States have energy policies in existence, comprehensive renewable energy policies generally do not exist except for a few countries such as 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 (Zhou, 2012).

Angola

Angola has the third largest Gross Domestic Product (GDP) in sub-Saharan Africa. The country is the second largest oil producer in the region, with a strong budget allocation to power sector infrastructure with the dynamics of consumption growth tending to be different from other developing nations. However, despite the impressive GDP they fall short of several development indicators. According to the SADC (2015) 37.2 percent of Angola's population live in rural areas and 36.8 percent of the population use wood as a source of fuel. Modern energy services are only accessed by 45.1 percent of the country's population.

The Angolan National Grid is divided within the North, the Centre and the South. In terms of power distribution areas covered, these systems are either electrified by isolated systems or do not have any electricity at all. Moreover, rural communities are far from each other and consumption is low. Main energy projects do not benefit these populations. The Angolan government has recently approved the National Strategy for New Renewable Energies, with an overall objective of 800 MW and concrete targets for each of the main sources, which are considered under Angola's Vision 2025.

The main reason for introducing renewable energy technologies are that apart from there being a huge demand for energy services in the country and in certain areas, conventional technologies are very costly to develop and take a long time to reach the population. Angola's vision 2025 acknowledges that cleaner cooking fuels impact greatly in domestic pollution and reduce health challenges especially among women and children. Angola's child and maternal mortality rates are some of the worst in the world with most of the population living without access to electricity. Access to renewable energy can help reduce these health challenges.

Accordingly to a report by the Ministry of Energy and Water of Angola, the country has potential for hydroelectric, solar, wind and biomass energy. With numerous powerful rivers

crossing the country, Angola has tremendous potential for generating electricity. Solar is the biggest renewable resource, with 17 GW already studied with a potential to translate to more than 360 projects throughout the country.

Angola Energy Vision 2025

The government is making strong recommendations for policy to support technologies that are cost effective and environmentally supportive. As renewable energy is a crosscutting issue, sectors like agriculture, health, education, industry, commerce, science and technology, finance are being consulted. The government is strongly engaged with renewable energies and with the goal of keeping the renewable energies as a support of the electric system of Angola, specifically through a strong investment in the hydroelectric potential of the country.

Apart from the existence of the General Electricity Act 14A 96 of 31 May 1996 and the fact that Angola is a member of the Southern Africa Power Pool, Angola does not yet have a comprehensive legal and policy framework that governs the renewable energy sector.

The Angola Energy vision 2025 aims to amplify the growing role of the renewable energies so that energy generated by these renewables exceed 7.5 percent of the energy produced for the country's need. The vision seeks to ensure that communities living in non-electrified areas access safer and better quality energy sources. The vision, although targeting communities without access to electricity does not specifically mention or identify women as a significant part of the players in the renewable energy matrix.

Botswana

A resource mapping of Botswana's renewable energy shows that the country has solar, wind, and various forms of bioenergy that include biofuels and biomass wastes. The government of Botswana recognises that solar energy offers the most significant renewable energy potential. Solar energy in Botswana amounts to over 3,200 hours/annum with a strength of 22Mega Joules per hour (MJ/hr) – representing one of the highest solar strengths in the world according to the 2012 Botswana energy sector policy brief. Botswana lacks perennial rivers and hence has no potential for hydro power. The country is in the process of putting in place mechanisms to tap this renewable energy potential to shift its power generation mix towards clean sustainable energy. The prospect use of solar as renewable energy provides an opportunity to achieve the objectives to spread the energy matrix to the rural populace in a cost effective way.

According to the Botswana Data Portal, 53 percent of the total population had access to electricity lighting as of 2011. The rural population which is the most affected by the lack of access to electricity had a population of 727 617 and 49 percent of whom are women.

Botswana has no standalone legal framework for the promotion and development of clean energy. Clean Energy policy development is overshadowed by conventional energy policy on coal, petroleum and electricity. At present the institutional framework consists of public and private sector organizations. The Ministry of Energy and Water Resources through the Energy Affairs Department and Water Resources Division is responsible for the formulation, direction and coordination of the national energy policy. The Energy Affairs manages the new and renewable sources of biomass, oil, gas, coal, energy efficiency, planning and statistics including policy formulation among others. Private institutions involved in Energy research activities are the Rural Industries Innovation Centre and the Botswana Technology Centre, Renewable Energy Unit and the University of Botswana Faculty of Engineering and Technology – Centre of Study in Renewable and Sustainable Energy.

National Development Plan

The use of renewable energy at present is minimal in Botswana but the government has started to develop a low carbon energy portfolio as well as a National Development Plan which aims to see an increase of renewable energy usage by 2030. However, gender, age and socio-economic status are not taken into account in the formulation of the energy policies and programmes developed under the national development plan. The policies are gender blind, they do not take into account gender differences and energy needs.

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)

An interactive atlas of renewable energy sources in DRC reveals a diversity of renewable energy potential in biomass, biogas, hydropower and solar. Despite enormous hydropower potential, the access of the population to electricity rate is nine percent according to the Ministry of Hydraulic Resources and Electricity.

DRC does not have a specific policy on renewable energy. Renewable Energy is addressed in national strategy documents such as the Document of Policy in the sector of electrical energy in the Department of Energy 2009. The Ministry of Mines, Energy and Hydrocarbons has within it the Department of Electricity and Water Affairs which has the responsibility of managing energy policy, and supervises the technical aspects of Société Nationale d'Électricité (SNEL), the national power authority. The National Energy Commission (CNE) is responsible for monitoring the energy sector in the country. The CNE is directly responsible for the renewable energy sector of the country, as part of its remit, and has previously conducted studies into the potential use of wind power and micro-hydro for rural electrification.

Lesotho

The 2015 Energy Policy of Lesotho notes that about 90 percent of households in Lesotho do not have access to grid electricity, hence renewable energy is strategically placed to play a more pivotal role in terms of capacitating households to meet their energy requirements. Lesotho has identified hydropower, wind generation and solar power as potential renewable energy sources. It is estimated that the hydro generation potential for Lesotho is approximately 450MW. The Ministry of Energy, Meteorology and Water Affairs develops and administers energy policies and programmes including implementation of renewable energy strategies.

Energy Policy 2015 -2020

The policy framework which is administered through the Ministry responsible for energy, acknowledges that energy plays a pivotal role in the driving of the socio-economic development of that country. The proposed policy has been aligned to national planning documents including the country's Vision 2020 and the National Strategic Development Plan. The plan acknowledges that the country has huge potential for environmentally cleaner renewable energy sources that require extensive exploitation. In this respect, renewable sources of energy and energy efficiency are expected to play a significant role and therefore appropriate programmes and activities will be supported by this policy. Policy Statement 4 of the Plan is dedicated to Renewable Energies and government's intention to improve renewable energy services and technologies. Among

other objectives under this policy statement is the intention of government to increase access to modern energy for rural and decentralised areas. The policy framework however does not specifically refer to women as a recipient of the objectives but refers to vulnerable groups. Women and children are categorised as part of those that form part of the marginalised groups that will require special consideration of the energy plan.

Malawi

The large lakeshore offers Malawi exceptional wind resources. Malawi also has high levels of solar energy. Like most countries in SADC, Malawi has high dependency on traditional biomass in a way that is not currently sustainable with wood resource base, diminishing mainly because woodlands and trees in agricultural areas are being cleared up to start new farming land. The household sector alone consumes about 92 percent of biomass energy.

At the international level, Malawi is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), which requires the government to report on greenhouse gas emissions and other vulnerabilities. The Ministry of Natural Resources Energy and Environment together with the Department of Energy Affairs are responsible for the development of the broader energy policy including renewable energy.

Since 2012, the government is scaling up efforts to promote clean energy. In order to promote maternal and child health, the government has expended energy on the adoption of energy efficient cook stoves through the Ministry of Environment and Climate Change.

Malawi Energy Policy

Malawi Energy policy of 2003 spells out the intention of the government to develop a comprehensive legal framework on energy that includes the Energy Regulation Act and the Renewable Energy Supply Act. So far the Energy Regulation Act has been developed and is functional. Additionally the Malawi Energy Policy acknowledges the overall goal of the National Gender Policy to mainstream gender in the development process to enhance the participation of both men and women in a sustainable way for poverty reduction. Part 5, section 6.7 under cross cutting issues is gender and energy. In recognition of the fact that women who constitute 51 percent of the population experience extensive socio-economic problems including gender imbalances across board, the government of Malawi shall ensure that gender issues are mainstreamed in the planning and implementation of energy programmes and projects. In particular sect 6(7) (a) of the strategy states that the government will “ensure that the heavy work burden of women and men are lightened by modernising household fuel supply system for the kitchen and for agriculture”

Malawi Energy Regulation Act of 2004

The Act’s mandate is to regulate the Energy Industry and to define the functions of the Energy Regulatory Authority among other energy undertakings. The development of renewable energy is included in the Act with the definition of energy expanded to include sources of renewable energy. Renewable energy sources are defined as those sources of “energy available to mankind arising from the natural processes in the interaction between the sun and the earth’s surface and regularly replenished. These include the sun as the primary renewable energy resource and secondary renewable energy resources that derive from the sun including wind energy, hydro, ocean thermal, ocean wave, ocean tidal and electricity from photovoltaic effects, biomass, geothermal etc.

However, unlike the Malawi Energy Policy which is explicit in linking direct access of women to renewable energy solutions as a poverty reduction strategy, this particular piece of legislation does not mention women as a constituency warranting special measures to access renewable energy initiatives nor does it refer to the gendered aspect of energy requirements.

Other legislative policy frameworks include the Malawi Biomass Energy Strategy of 2009, though not ratified by the government seeks to amplify biomass as a significant source in the country's energy matrix, and the National Policy on Acute Respiratory Infections Control in Malawi which among other things seeks to provide for safety of children from respiratory complications as a result of unsafe dwellings caused by unventilated cooking spaces.

Mauritius

According to the Ministry of Energy and Public Utilities of the island, local and renewable energy sources are biomass, hydro, solar and wind energy. Biomass energy consists mainly of bagasse, a by-product of the sugar industry, and contributes about 22 percent of the primary energy supply. Of these, solar and wind are the two most established renewable energy resources. The Mauritius Research Council and other stakeholders of the island had started developing atlases of wind and solar energy resources as early as 2008, with the first wind tower already deployed in the field (Chakra, 2008). In addition, the island is conducting research into sea weed biomass aimed at developing a seaweed in that country. The focus is on the production of bio-fertilizer from the sap of the sea weed and generation of electricity from the combustion of the remaining biomass.

On a regional level, Mauritius is a member of SADC but is still to become a member of the SAPP and the Regional Electricity Regulators Association of Southern Africa (RERA). The Ministry of Energy and Public Utilities is responsible for the design and implementation of energy policy and oversees the Central Electricity Board (CEB). The CEB is governed by the CEB Act whose objective is to develop the promotion of coordination and among others the implementation of generation and transmission of electricity in the island as required.

Energy Strategy 2009

The strategy crafted by the Ministry of Renewable Energy and Public Utilities is one of the few unique policy documents in SADC that devotes a substantial segment to gender and energy ramifications such as Section 11 of the Strategy document. The strategy acknowledges that the gender aspect is often overlooked or inadequately addressed in designing energy policy and strategy. This is despite the fact that energy is critical for sustainable development and poverty reduction and is an essential element for the attainment of Millennium Development Goals now Sustainable Development Goals. In terms of demographics, in 2008 when the Strategy was crafted, the population of females on the Island stood at 643 935 as compared to men who were penned at 628 105. Apart from housing and water, electricity and gas accounted for most of the household expenditure. A poverty analysis carried by the Central Statistical Office showed that poor households tend to use cheaper types of fuel such as wood and kerosene for cooking. It also showed that female headed households were more likely to be in poverty than male headed households.

In light of this government therefore acknowledges in the strategy that energy in Mauritius should be a means for enhancing gender equity, because it affects livelihoods and makes a difference in life chances of men and women. As the strategy endeavours to promote the role of women in energy issues and energy uses, it identifies several priority areas to focus on:

- ❖ Establishment of disaggregated data on the impact of energy and renewable energy strategies on women needs, energy usage and technologies which are reflected in the different energy sectors;
- ❖ Assessment of women's access to energy through comprehensive demand-side analysis on energy needs for the poor to support their livelihood, including the long-term basic energy needs of women;
- ❖ A proper assessment and integration of gender needs in energy project cycles;
- ❖ Capacity building programmes to enable women to participate in the energy sector through partnerships and networks among grassroots women, NGOs, and energy policymakers at the national and international levels;
- ❖ participation of women to contribute significantly in the adoption of less polluting fuels and technologies, particularly renewable energy resources such as wind and solar power. Moreover, the decisive role of women in household and business, as consumers and energy entrepreneurs as well as managers, can to a greater extent achieve energy savings and energy efficiency objectives .

Mauritius Renewable Energy Agency Bill (No XI OF 2015)

The objective of the proposed Bill is to provide for establishment of the Mauritius Renewable Energy Agency for the promotion and use of renewable energy in the Island. The major functions of the Agency are described in section 4 of the Bill as to among others to create an enabling environment for the development of renewable energy; promote the adoption and use of renewable energy with a view to achieving sustainable development goals; increase the share of renewable energy in the national energy mix; share information and experience on renewable energy research and technology; and foster collaboration and networking, at regional and international levels, with institutions promoting renewable energy.

Despite remarkable progress in incorporating renewable energy technologies in the Island's energy matrix, Mauritius is named among the top countries globally and second only to South Africa in Africa and ranks alongside Kenya in investing in renewable power projects (REN21). Mauritius seems to be the only country in the region that has a specific bill on Renewable Energy in SADC, however, the proposed Bill does not make reference to women as a special category of beneficiaries to renewable energy technologies nor does it mention any special gender considerations in the crafting of this policy. The lack of mention of energy nexus and women poses some kind of policy contradiction with other policy platforms of government considering the fact that the long Term Energy Strategy makes a strong policy statement on energy and gender.

Mozambique

A Renewable Energy Atlas of 2014 assessment of Mozambique shows enormous potential of renewable energies of more than 23TW. The contribution of renewable energy to the country's primary energy mix consists of 9.1 percent for modern biomass, 12.6 percent for hydro, 1.2 percent solar and 66.7for traditional biomass. (REN21, 2015). The Ministry of Energy (MoE) is responsible for national energy planning and policy formulation and for overseeing the operation and development of the energy sector. The MoE is composed of three divisions (Power Sector, Renewables and Liquid Fuels). Another significant institution for renewable energy development is the Fundo Nacional de Energia (FUNAE) which was established in 1997. It is as a public institution whose role is to promote rural electrification and rural access to mod-

ern energy services, in a sustainable manner, as well as to contribute to economic and social development in the country. Since its establishment FUNAE has implemented numerous projects using renewable energy technologies to electrify schools, clinics and communities.

Strategy for New and Renewable Energy Development 2011-2015

The Strategy was crafted as a guide for the development and implementation of projects involving the use of renewable energy sources to meet national energy needs, sustain economic and social development, and support programs to alleviate poverty. The strategic objectives of the framework are centred on the aim of improving access to energy services through the use of renewable energy, the development of technology converting and using energy sources and the promotion and acceleration of public and private investments in renewable energy. The Strategy acknowledges cross cutting issues which it considers vital to its successful implementation including gender equity, programs to mitigate the effects of HIV and AIDS, food and nutrition security, science and technology and energy efficiency. Mozambican women represent 52 percent of the country's population of over 20 million people, 72.2 percent of whom live in rural areas according to the National Statistics Office of Mozambique. The strategy therefore aims to focus on creating conditions that will facilitate access to energy resources based on gender equality.

National Policy and Strategy for Bio-Fuels 2009

Mozambique is one of the pioneers in Africa to develop and approve a national policy framework for sustainable bio-fuels. The policy sets out the priority of biofuel resource in the energy sector and its contribution to energy security and economic development. The policy promotes use of agro- energy resources for energy and food security through advantageous agriculture, encourages socio- economic development and also seeks to address that instability of fossil fuel prices in the international markets.

The Bio-Fuels Policy of Mozambique is silent on the role that women in many developing countries women assume, for both securing energy for the household and producing crops. This is despite the fact women who constitute 52 percent of the population of the member state and stand to benefit the most in bio- energy and related bio-fuel markets if well planned. The lack of gender and poverty considerations into bio-energy policies can result in significant threats to the livelihoods of women and their families in that country. It is imperative that gender perceptions must be mainstreamed into developments related to bio-fuels to ensure that the concerns and needs of both men and women reflect in policy development to the SADC region if regional integration objectives are to be met through improvement of energy supply. Women's participation in the implementation of bio-fuel policies is critical because current policies may threaten food security, degrading eco-systems and preventing rural farmers especially women from benefiting from bio-fuel markets.

Namibia

Namibia has a well-established institutional framework for the energy sector. The Energy Directorate in the Ministry of Mines and Energy is responsible for national energy policy. It is responsible for the enforcement of the White Paper on Energy Policy of 1998 and enforces the compliance of legal requirements of energy legislation and regulations and researches new and renewable sources of energy. The mandate of the Energy directorate is to ensure the adequate and affordable energy supply in a sustainable manner taking advantage of natural re-

sources in support of the nation's socio-economic development. Nampower is the State-owned power utility and has traditionally held a monopoly in electricity generation, import and transmission. Although government policies allow for the establishment of independent power producers, no such companies have yet been formed. The Electricity Control Board (ECB) was established in 2000, and is the statutory regulatory body for generation, transmission, distribution, supply, import and export of electricity (MME, 2000). Local Authorities buy the electricity from Nampower, and perform the role of electricity distributors to final consumers in municipal areas.

Renewable Energy Policy

The renewable energy policy of Namibia is in its final stages of development. The policy is expected to provide guidance to the government on how to develop the renewable energy sector and scale up the contribution of power from renewable sources in the country's electricity mix. The policy will act as a compass for the government to direct its actions in a manner that serves the objectives, goals and targets articulated in the policy. One of the main aims of the policy is to enable access to modern, clean and affordable energy services for all Namibians. Through ensuring access to renewable energy for all, it is expected that women will benefit immensely from this renewable energy policy as women, especially those living in rural areas who are the most disadvantaged.

Key goals of the policy

- ❖ Namibia must address the problem of inadequate access to electricity (especially in rural areas), the challenge of extending affordable energy services to underserved populations and the need for self-sufficiency and energy independence.
- ❖ Renewable energy, if developed strategically and with foresight, holds the solution to most challenges.

Strategic Action Plan for Renewable Energy Policies 2006

In 2006 MME together with United Nations Development Programme (UNDP)/Global Environment Facility (GEF) conducted a Strategic Action Plan for the implementation of Renewable Energy policies as part of the project entitled Barrier Removal to Namibian Renewable Energy Programme (NAMREP). Its goal was to provide organisational support and prioritisation of future renewable energy interventions that are in line with the White Paper on Energy Policy. One of the objectives of the Strategic Action Plan is an equal playing field for renewable energy which gives women and men alike access to renewable energy sources and decision making.

The Strategic Action Plan was also formulated based on the improvements and additions to the existing institutional environment, including the establishment of the Renewable Energy and Energy Efficiency Institute (REEEI). The Strategic Action Plan includes 41 policy statements, which range from developing and implementing a renewable energy and energy efficiency public awareness strategy to establishing an improved renewable energy and energy efficiency knowledge base. The strategic action plan recognizes that many households in less affluent parts of Namibia, especially those in the rural areas that are headed by women, do not have access to the information that would be necessary to make informed decisions on energy supply options that are affordable, safe and environmentally sustain-

able. Therefore, one of the strategic aims of the action plan is to conduct research on access to household energy needs, demand and use patterns, and determine appropriate renewable energy technologies.

The action plan also takes into consideration the participation of rural women in the design of energy appliances, programmes and projects, as well as in awareness raising activities. The Government of Namibia recognizes that women often carry the burden to cater for the energy needs of households and continuously cover long distances to gather fuel for cooking, lighting and heating. So far, the position of women on energy related issues has hardly been taken into account. Through the action plan, the REEE Institute, together with the responsible line ministries, such as the ministries responsible for women affairs and civil society organisations will introduce gender aspects into energy planning, co-ordinate institutional cooperation on gender-based energy issues and strengthen the energy planning capacity at national and sub-national levels.

White Paper on Energy Policy of 1998

The White Paper is the main policy document used in the energy sector in Namibia. The White Paper reaffirms Namibia's commitment to constructive engagement in SADC and SAPP in order to maximise economic benefits. The paper takes into consideration the needs of women by ensuring that energy projects impact positively on rural women by ensuring that they participate in the design of energy programmes and projects, as well as by educating the public about the potential impact of these energy interventions. Indicated in the policy paper is that the Ministry, in collaboration with institutions involved in rural energy projects, will take responsibility of ensuring that women are part of decision making processes concerning the use of forest resources, thereby establishing women's access to wood fuel in all forestry programmes, including community forestry, social forestry and agroforestry.

Goals of Namibia's White Paper

- effective governance
- security of supply
- national building codes to incorporate renewable energy technologies and energy efficiency principles
- social wellbeing
- investment and growth
- sustainability

National Gender Policy of Namibia 2010-2020

The gender policy recognizes that there are basic amenities lacking especially in the rural areas. According to the gender policy, Namibia has a limited infrastructure with which to provide people, especially the rural populations, with formal housing, electricity, transportation, and access to water and sanitation facilities. A lack of these basic amenities could have a detrimental effect on the health of rural communities. Again, because more women than men live in the rural areas and female-headed households tend to be poorer than male-headed households, a lack of rural healthcare infrastructure disproportionately affects women and female-headed households. Although the national gender policy does not give specific reference to renewable energy, it calls for the elimination of cultural practices

which perpetuate gender inequality in power and decision making at all levels. It calls for women in decision-making positions to be supported.

Seychelles

Seychelles is a tropical country which receives a significant amount of sunshine and has potential to replace at least some of the current oil-generated electricity with solar energy systems. Seychelles also has ample resources of energy from the wind and the ocean. Wind power and photovoltaics are well-established and proven technologies with low technology risk. Different kinds of ocean power technologies such as wave power and Ocean Thermal Energy Conversion (OTEC) are still in the research and demonstration stage.

The Seychelles Energy Commission, housed under the Ministry for Energy, Natural Resources and Transport, is responsible for the formulation of guidelines related to the electricity sector, as well as all facets of energy management. The commission's duties are also to ensure the provision of adequate, reliable, cost effective and affordable energy while protecting and conserving the environment and to advise the Minister on all matters relating to energy, including renewable energy. Tariff-setting for electricity is performed by the Public Utilities Corporation (PUC), which was established under the Public Utilities Corporation Act 1985. The Act stipulates that PUC not only provide, but also ensure, continued supply of electricity, potable water and sewerage services to the population of Seychelles.

Energy Policy for 2010-2030

The Seychelles Energy Policy 2010-2030, which supersedes the Energy Policy of 1999, recommends sustainable development of the energy sector focusing on energy efficiency, renewable energy and reducing the dependence on oil to improve energy security. The policy includes significant analysis of historical, existing and projected energy demand and supply, and proposes key changes to the institutional and regulatory framework for energy in the country, including strengthening the Seychelles Energy Commission, the creation of an independent energy regulator, and clearly defined IPP regulations to promote renewable energy development. The Energy Policy also represents the first formal recognition by the Government of Seychelles of the importance of renewable energy production. Four renewable energy technologies are identified that may be appropriate in the country: solar PV, wind, micro-hydro, and biomass/municipal solid waste. Basic energy services must be affordable to the whole population and renewable energy supply target is 5 percent by 2020 and 15 percent by 2030. Although the energy policy calls for basic energy services to be affordable to the whole population, the policy is gender blind and does not cater for the gendered differences in the use and access to renewable energy.

South Africa

South Africa has various forms of renewable energy including solar, biomass, hydro power, biogas and wind energy. According to the White Paper on Renewable Energy, South Africa experiences some of the highest levels of solar radiation in the world, however solar energy currently provides for only about 10 percent of the country's primary energy needs. Solar power however has tremendous potential and is the fundamental component of the country's rural energy programme where people do not have access to the national grid. Biomass in the same way accounts for about 10 percent of net national energy use and for 60 percent of household energy consumption. The Department of Minerals and Energy embarked on an Integrated Energy Plan (IEP) to develop the renewable energy resources, while taking safety, health and the environment into consideration.

White Paper on Renewable Energy 2003

South Africa currently relies heavily on coal to meet its energy needs. It is a relatively low-cost means of supplying electricity to many residential, commercial and institutional consumers. However, conscious of the concerns around the use of fossil fuels and global warming, the need to utilise renewable energy resources more has been recognised. The White Paper on Renewable Energy recognizes that modern renewable energy technologies can provide affordable access to energy throughout South Africa, thus contributing to sustainable development and environmental conservation. The department of minerals and energy recognizes the disparities in modern energy service provision brought about by lack of access to infrastructure and how it impacts largely on poor urban and rural people.

In the rural areas women are the main users of fuelwood for meeting household energy needs but also bear the burden of collecting fuelwood. According to the white paper, 80 percent of rural households in South Africa are female-headed and conventional energy approaches often exclude women's concerns, consequently, economic growth has been accompanied by severe gender disparities. One of the strategic areas of the white paper in this regard is awareness raising, capacity building and education in which women are encouraged to actively participate in decision-making, planning and promote empowerment in renewable energy programmes or activities. The white paper recognizes that among the energy sector stakeholders women are poorly represented and this calls for training and skills development among women and career guidance should be offered in schools to encourage more young women and men to acquire appropriate skills. If the above mentioned are implemented, women can be afforded with more qualitative and productive time.

Swaziland

Swaziland has several renewable energy resources including biomass, solar energy, and hydro energy. According to the Sustainable Energy for All Rapid Assessment of Swaziland, 2014, traditional biomass and industrial biomass make for the largest share of energy consumption in Swaziland. Approximately 90 percent of the total rural energy in Swaziland is provided from fuelwood. Swaziland has a moderate potential for wind energy use. The Ministry of Natural Resources and Energy is working in close collaboration with the National Meteorological Service, to determine whether there is any realistic potential for effective utilisation of solar and wind energy in the country, including long-term measurements on the Lubombo Plateau and a movable monitoring station for other areas of the country.

Draft Renewable Energy and Independent Power Producer (RE&IPP) Policy 2015

The Renewable Energy and Independent Power Producer Policy includes a section addressing gender issues related to renewable energy scaling-up. The policy recommends that gender analysis play an integral part of all future assessments, studies, and consultations and that men and women are included in renewable energy Private Partnership Projects (PPPs) and opportunities are also targeted at women. The policy also calls for the development of strategies that promote the meaningful involvement of women at all levels of renewable energy project development and implementation.

Sustainable Energy for All Country Action Plan 2014

The action plan recognizes the critical need to improve global access to sustainable and affordable energy and the need to improve and adapt renewable energy technologies. The Sustainable Energy for All Country Action Plan set renewable energy targets for the government to achieve between the period 2018 and 2022. The targets include,

- Install solar water heaters in 20 percent of all public buildings by 2018;
- Develop solar water heaters standards by 2018;
- Establish fiscal incentives to promote renewable energy by 2022; and
- Establish a demonstration centre for renewable energy technologies by 2022.

The action plan takes into consideration that due to the gendered differences in the use of energy and roles between men and women, their needs ought to be addressed differently. Hence the action plan identifies mainstreaming gender into policies and programmes and the evaluation of progress as a solution to addressing gender imbalances in access to energy. The government also seeks to partner with women's groups and NGOs to educate households, institutions and commercial end-users on the benefits of improved cook stoves and discuss with the community their cook stove design preferences in order to address gender, cultural and behavioural dimensions of cooking as well as to gather input from end users.

National Energy Policy 2003

Due to the low level of knowledge in the country about renewable energy and related technologies the Government of Swaziland seeks to develop a renewable energy information programme and establish and maintain an appropriate renewable energy information system. Awareness raising on renewable energy options such as wood efficient stoves and solar PV could significantly improve clean energy services and livelihoods particularly in rural areas where the greater percentage are women. Swaziland will support and promote the dissemination of information and demonstration of prioritised renewable energy technologies.

The energy policy recognizes that women and men's roles are socially and culturally linked in many diverse ways, this is also related to their roles in accessing clean energy. The government of Swaziland recognizes these disparities and through the energy policy seeks to prioritize measures aimed at eliminating gaps and offering equal opportunities to all citizens irrespective of their sex. The policy acknowledges the value in women's contribution to improving their involvement in various facets of the energy sector, including renewable energy, is important for ensuring successful policy implementation. The low representation of women in energy related industries and agencies is a concern and the policy encourages the government through the policy will promote greater enrolment of women in energy related disciplines and ensure equal opportunities be availed in energy agencies and energy related industries.

Tanzania

Tanzania's renewable energy sector is governed by the Ministry of Energy and Minerals, Tanzania Electric Supply Company Ltd (TANESCO), Rural Energy Agency (REA) and the Energy and Water Utilities Regulatory Authority. Tanzania's renewable energy resources, range from biomass and hydropower to geothermal, solar and wind. Tanzania's National Development Vision 2025 could be achieved if such renewable resources were utilised to contribute to Tanzania's energy supply. Recognising the potential contribution of renewable energy to the country's future energy mix, the Government of the United Republic of Tanzania is committed to foster the development of low-carbon energy initiatives, by harnessing the country's renewable-energy resource base. While Tanzania has an energy policy which touches on both gender and renewable energy, it does not have clear goals for RE technologies or a specific policy to guide renewable energy technologies.

Draft National Energy Policy 2015

In relation to gender, the policy urges for the management and development of energy resources at the grass-root level to include the effective participation of both gender in the decision-making process. The Government provides equal opportunities to all citizens of the country. Despite the effort, most opportunities and planning and decision making process in the energy sector are habitually dominated by men. Access to modern energy for cooking particularly in rural areas is promoted to relieve women from wasting time to fetch firewood which could otherwise be spent on other economic activities. Furthermore, women play a vital role in the provision and management of energy resources in the rural areas.

To promote and support gender-related activities in the energy sector, the government through the policy will,

- promote gender equality and equity within energy sub-sectors both on demand and supply sides;
- ensure equitable gender participation in formulation and implementation of energy interventions;
- promote awareness on gender issues pertaining to men and women's social roles in the energy sector, including training on appropriate technologies;
- undertake public education and awareness creation on cultural structures and practices hindering access by both men and women to alternative sources of energy; and,
- enhance gender and environmental considerations in energy planning and development.

Zambia

Zambia's renewable energy resource potential includes solar, wind, biomass, geothermal and hydro power. These sources have great potential for electricity production and use in many sectors. Zambia's hydro power potential is estimated at more than 6,000 MW with only 1,700 MW so far exploited according to the Zambia Renewables Readiness Assessment Report (2013). The total biomass resource and economic bioenergy potential is 2.15 million tonnes, and 498 MW, respectively. The largest biomass contribution is from agriculture waste, which registered 90 percent of total potential followed by forest waste with 9.3 percent. According to the report, Zambia also great potential in solar energy. The country has an average solar insolation of 5.5 kWh/m²/day, with approximately 3,000 sunshine hours annually, providing good potential for solar thermal and photovoltaic applications. The highest solar irradiance values up to 2,750 kWh/m². Zambia's northern areas recorded the highest global solar irradiation of 2,300 kWh/m²/year

National Energy Policy 2007

The National Energy Policy sets out a number of policy measures for renewable energy which include the investigation of potentials in the renewable energy sector and strengthening of the institutional framework for research and development in this area. One of the objectives of the policy is to mainstream all crosscutting issues into the development of energy programmes and activities and its subsectors which include renewable energy. Gender is one of the crosscutting issues amongst HIV/AIDS and environment. The overall objective of mainstreaming gender into energy and its subsectors is to promote gender balance in energy planning, management and utilization to ease burden of poverty on all vulnerable groups especially women, at household, community and national level.

The specific policy measures related to gender are:

- ❖ *Enhance access and control of productive resources through:*
 - Ensuring balanced representation of men and women at all levels and in all spheres of energy development and management.
 - Undertaking gender analysis in order to develop gender sensitive programmes
 - Promoting affirmative action where feasible to enhance the participation of women in the energy sector.
 - Introducing energy in school curriculum and encourage the girl child to participate.
 - Facilitating accessibility to the most appropriate sources of energy at minimum cost for the benefit of both men and women
 - Promotion of research in gender and energy.
- ❖ *Enhance women's participation in decision-making processes by:*
 - Ensuring gender perspectives are taken into consideration in the design and implementation of energy projects and programmes;
 - Increasing access of women to information, control, utilisation of resources, education, communication; and
 - Conservation of safer and affordable forms of energy among vulnerable groups especially women.

Zimbabwe

Like other countries in the SADC region, Zimbabwe has a number of renewable energies which include solar, wind, biomass, geothermal and hydropower. The potential for renewable energy, especially from solar PV and solar water heaters, is enormous but hasn't been sufficiently exploited. In rural areas of Zimbabwe, 80-90 percent of people are heavily dependent on wood fuel, light their homes with kerosene (REEEP, 2012). The government through the Ministry of Energy and Power Development and the Zimbabwe Energy Regulatory Authority is currently in the process of developing a renewable energy policy which will prioritize the adoption and deployment of green energy and development of solar power. The policy will address economic and environmental issues associated with the exploitation and use of renewable energy. Through the policy government expects to prioritize the exploitation of available renewable resources and create an environment which will encourage increased uptake of renewable energy.

National Energy Policy 2008

In relation to renewable energy, the energy policy seeks to promote decentralised renewable energy systems for rural areas where these are more attractive than grid extension. Rural areas are mostly affected by lack of access to electricity and other energy services, thus the government seeks to promote the use of modern energy fuels in rural areas especially coal and electricity. Although the national policy discusses renewable energy and gender separately, it prioritizes the acceleration of the representation of women at all levels and in all spheres of energy development and management activities. The policy calls for gender balance by defining the key roles played by women, men and children so that there is no gender discrimination in the ownership and management of the various energy projects. The renewable energy policy which is currently being developed by the Zimbabwe Energy Regulatory Authority and the Ministry of Energy and Power Development which seeks to address economic and environmental issues associated with the exploitation and use of renewable energy is expected to address gender issues.

EFFECTIVE PRACTICES FROM EAST AND WEST AFRICA

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As a result countries such as Ghana and Nigeria have concrete policies that support renewable energy uptake as well as support for the inclusion of the participation of women in the renewable energy matrix, at least at policy level.

East and West Africa is seen as regional leaders on renewable energy and energy efficiency on the African continent. In West Africa, the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) was established in 2015 in order to support the implementation and monitoring of regional strategies for renewable energy. As a result national institutional mechanisms are firming within Member States in the regional bloc to support and promote initiatives on usage of renewable energy technologies at national level. Similarly, ECOWAS has also reached significant milestones in encouraging its Member States to mainstream renewable energy policies and activities into mainstream national economies through the support of ECREEE.

ECOWAS considers gender equality 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.” Through the centre, the region developed and is in the process of implementing the ECOWAS Renewable Energy Policy which aims to achieve universal energy access in rural areas whilst ensuring energy security and sustainability.

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 have access to improved cooking facilities either through improved stoves or fuel switching to modern forms of energy, like LPG, by 2020 which will benefit women mostly.

In addition to EREP, ECOWAS has taken further steps to empower women and men on an equitable basis by involving both parties to contribute equally towards solutions to energy poverty. In this regard the ECOWAS Programme on Gender Mainstreaming in Energy Access (ECOW-GEN) was launched with the mandate of ensuring gender is mainstreamed in all renewable energy initiatives and gender responsive budgeting is considered.

Ghana

To provide sustainable energy access to its population, particularly in the rural areas, the government of Ghana developed the Sustainable Energy for All Action Plan, which is anchored on the Renewable Energy Act of 2011, (IRENA 2015). According to the IRENA report the country has one of west Africa's highest rates of access to electricity, estimated at around 72percent with over 87percent in urban areas and a little under 50percent in rural areas, and also exports power to neighbours. However, local demand is growing at about 10percent annually, necessitating further growth in energy generation. Ghana's renewable energy sources include biomass, solar and wind with small and mini hydropower to a less extent.

Renewable Energy Priority Projects in Ghana

Table 4.1

Potential Renewable Energy Projects	Expected Installed Capacity (MW)	Investment Requirement (US\$)	Accelerated Timeline	Status
On-grind solar PV plants	50	100-150	2012-2014	2 MW constructed, construction of a 20 Mw plan on-going
Medium-small Hydro	150-300	200-650	2018-2020	230 Mw feasibility study ongoing
Grind-tied Rooftop Solar (net-metered)	50	100-150	2012-2014	19 existing installations with total capacity of approximately 1 MW
Windparks	150-300	200-600	2018-2020	Wind resource assessment underway at 16 sites sponsored by VRA and the Energy Commission

Source MoEP, VRA, 2014

Ghana has a comprehensive institutional framework to govern the energy sector with key energy stakeholders in the public sector. The Ministry of Power together with the Ministry of Energy and Petroleum formulates, implements, monitors and evaluates power sector policies. As a result of a comprehensive energy sector reform which started in the early 1990s, Ghana has one of the most ample policy and regulatory frameworks for the renewable energy sector in West Africa. These include the Strategic National Energy Plan, the National Energy Policy completed in 2010, the Energy Sector and Strategy Development Plan also completed in 2010.

The Strategic Energy Plan

This plan identifies renewables (including wind, solar and biomass) as key energy sources for long-term development and sustainable electricity supply. The plan refers to gender and use under the cross cutting issues alongside capacity building and research and development. In particular it acknowledges that a gender balanced human resource development for the energy sector is vital if all issues related to energy usage by men and women are to be captured. The plan recognises the gender imbalance currently prevailing in Ghana's Petroleum Sub Sector and how this has led to women being under represented in all levels of energy production, transportation or transmission and distribution. Consequently, Ghanaian women are excluded at various levels of decision making in the planning, policy formulations and implementation in the energy sector.

Other gender pronouncements in the energy plan include:

- The fact that traditional use of firewood has negative effect on women's health such as

- respiratory diseases and eye irritations, and that gender division of labour and environmental degradation are increasing women's time burdens,
- Women have limited participation in decision making on fuel use even though their needs are different needs in terms of roles related to chores. Pumping water for irrigation is men's terrain in agriculture whereas water pumping for domestic purposes relates to women's work.
 - Efforts at promoting technologies have generally not been gender sensitive particularly in the agricultural sector. For Instance, agricultural equipment for large scale commercial farming has favoured men with tractors that are operated by men , replacing the hard task of hand ploughing , whilst the remainder of other tasks such as weeding and harvesting are mostly done manually by women.
 - Energy in the past has also been seen as a technical matter and gender neutral and therefore the country had not developed appropriate gender analysis tools to capture women's energy needs. Further households are often taken as homogenous units, without the recognition of the roles of men and women regarding the different energy uses.

The Energy Sector Strategy Development Plan

The focus of government is to address wood fuels, by supporting sustained regeneration of wood biomass through legislation and fiscal incentives, balance bio-fuel development against food security and promote the exploitation of and use of mini hydro, solar and wind energy resources. This development plan acknowledges that women are the most important actors in the energy sector in terms of their contact and use of renewable energy sources, which in their crude form are used by women. The plan details various strategic goals to mainstream gender considerations in the energy sector to deal with unequal access of women and men to modern forms of energy as well as deal with women's limited involvement in the planning and management of modern forms of energy. Policy responses particularly focuses on the health impacts of indoor air pollution from traditional biomass fuels by promoting the use of modern forms of energy in households as well as ensuring women's participation in the formulation and implementation of modern energy interventions.

Nigeria

While the Nigerian energy landscape is characterised by abundant primary energy resources, including natural gas, crude coal and tar sands, the country is actively moving towards the use of renewable energy sources such as hydro, biomass, solar and wind. The clean energy revolution is shaping up against some of the most significant environmental disasters on the entire continent. Large scale oil extraction particularly in the Niger Delta by companies including multi- national corporations has led to massive oil spills, caused by accidents , cor-rosions caused by poor maintenance or even sabotage a s people sometimes tap the pipes to siphon oil from the holes which has left the Niger Delta environmentally devastated. The Delta which makes up more than seven percent of Nigeria's land mass covering 20.000 square kilometres and has been classified as one of the most bio-diverse place on the planet comprising of coastal barrier Islands, mangrove swamps, freshwater swamps and low land rain forests means that whole ecosystems are dying off. This is not to speak of the amount of harm that has been done to the people who rely on the environment, which is really enormous as some communities have witnessed children dropping out of school due to loss of livelihoods.

Renewable Energy and Energy Efficiency Policy

The policy document's thrust is the optimal utilisation of the Nigeria's energy resources for sustainable development by ensuring the expansion of energy services to Nigerians, to raise up the standard of living especially in the rural areas including energy access to schools, health services, water supply, access to information and arresting environmental degradation and health risks particularly to women and children. The policy also mentions the National Renewable Energy Action Plan launched in 2006 and identifies considerable potential for generating solar, small and large hydro, biomass, biogas and wind energy across the country and the Energy Efficiency Action Plan. From the onset, the policy document overview acknowledges that gender and environmental issues should be central to the overall project implementation approach. Strategies for recommending a high uptake of renewable energy technologies include calling for the active participation of women's groups among other stakeholders in the implementation of the policy. Additionally, the policy also calls for the establishment of micro-credit facilities for entrepreneurs, especially for these women's groups for the setting up and operation of commercial solar energy facilities in remote and off grid areas.

Kenya

Renewable energy is one of the Directorates administered by the Ministry of Energy and Petroleum in Kenya. According to the Ministry of Energy of Kenya, the broad objective of the Directorate of Renewable Energy is to promote the development and use of energy technologies, from biomass, (biodiesel, bio-ethanol, charcoal, fuel wood), solar, wind, tidal waves, small hydropower, biogas and municipal waste. Further the specific objectives are to provide an enabling framework for the efficient and sustainable production, distribution and marketing of renewable energy sources and harness opportunities offered under clean development mechanism and other mechanisms to promote the development and exploitation of renewable energy sources.

Sessional Paper No 4 on Energy

This is the framework that provides for renewable energy policy in Kenya as it seeks to highlight some of the government's major objectives as to ensure adequate, quality and affordable energy through indigenous resources while promoting the environment. The Policy also encourages wider adoption and use of renewable energy technologies to enhance their role in the country's energy matrix. In terms of gender considerations, the Sessional paper, in section 5.4, acknowledges that the production and use of biomass fuels is the responsibility of women and children with men only get involved when the activities get commercialised. However, some women in other parts of the country are being negatively affected by diminishing biomass energy supplies, resulting in these women and children increasingly spending more time fetching firewood and other bio-fuels leaving little productive time for other activities for women and study time for children. The Sessional Policy therefore calls upon for policy formulation in the country to mainstream gender issues in energy planning, production and use and also conduct public education awareness on the cultural structures and practices hindering the access by women to bio-mass fuel resources and also promote the use of efficient biomass cook stoves

Despite the slow uptake of legislative pronouncement on Renewable Energy, the government of Kenya has taken a considerable lead in working on renewable energy resource assessment on the identified sources and is currently pursuing the development of appropriate regulations as reflected by the aspirations of the Sessional Paper. It is one of the countries in Africa that has managed to develop programmes that target low income populations thereby increasing energy security through energy sources diversification.

Southern Africa has potential to emerge as a competitive and effective contributor in the global economy if sound renewable energy policies are put in place together with other development priorities. The report has noted that although most SADC Member States have an energy policy the majority do not have 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. It is also important to note that regional and national gender frameworks only barely mention the need for gender to be mainstreamed in all sectors including energy, yet there are no clearly defined strategies on how this ought to be done.

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. In addition, there are limited institutional mechanisms and technical capacity at all levels to successfully implement renewable energy programs and projects.

It has been noted that women and men play an important role in the implementation of energy programs and there is need for SADC Member States to ensure that the development and use of energy takes cognisance of the gender realities of the region as stated in the SADC Protocol on Energy. Gender is one of the key 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 abundant renewable energy resources available in the SADC region offer an 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 to both women and men in the SADC region. Women will be able to participate in economic development and take part in social and political activities as the time spent on time-consuming, non-remunerative and highly laborious tasks such as collecting biomass fuels, will be reduced significantly.

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.

Monitoring and evaluation to establish linkages between gender equality and renewable energy are an important aspect of renewable energy program implementation in order to be able to measure the gender-differentiated impacts. Although there has been a significant investment in rural electrification by most SADC Member States, gender-disaggregated results are rarely captured, which impedes the ability to understand effective design factors and degree of impact by gender. Monitoring and evaluation will therefore allow gender-differentiated linkages to be drawn and for policies and programmes to therefore effectively address these issues. In SADC, such processes should be driven by the SADC Centre for Renewable Energy and Energy Efficiency working closely with SADC Gender Unit and Energy Division and gender focal points in Member States.

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This Status Report is a mapping of existing gender and renewable energy frameworks in Southern Africa. It is a reference resource aimed to support SADC Member States with relevant knowledge on how to create conditions that promote gender mainstreaming in the renewable energy sector. It draws on effective practices from East and West Africa for SADC Member States to consider when developing and or implementing their renewable energy frameworks.

