

### ICPs urged to identify gaps in energy sector

**INTERNATIONAL COOPERATING** Partners in the SADC energy sector have been urged to identify areas that needs further interventions as the region accelerate efforts towards provision of affordable and sustainable energy to its citizens.

This came out of the SADC Energy Thematic Group (ETG) meeting held in Gaborone, Botswana.

The SADC Director for Infrastructure and the Co-Chairperson of the SADC Energy Thematic Group, Ms Mapolao Mokoena, encouraged International Cooperating Partners (ICPs) to focus on identifying gaps where resources can be directed to improve the overall energy sector.

Makoena also urged ICPs to align their support to the issues approved by the SADC Energy Ministers and the SADC Summit, as well as those were to be presented by the Secretariat and regional institutions.

The precarious electricity supply situation in the region calls for action to promote investment in the energy sector in order to support the industrialisation drive by the region.

The RIDMP's Energy Sector Plan estimates the total cost of additional electricity generation capacity up to 2027 to be in the range of US\$114 billion to US\$233 billion.

Related transmission investment costs to support new generation capacity are estimated at about US\$540 million. This transmission investment does not include planned transmission interconnectors and national backbone lines.

#### **Revised Protocol on Energy ready by December**

**THE SADC** Secretariat is in the process of revising the Protocol on Energy, which is expected to be ready by December 2018.

With assistance from the Southern Africa Energy Program, a gap analysis has been undertaken and proposed amendments on the existing protocol are under consideration.

The draft revised protocol is currently undergoing internal review at the SADC Secretariat before a regional validation workshop that will be held later this year.

The SADC Energy Protocol which came into force in April 1998 outlines the general principles and objectives that the region has towards energy.

The regional energy policy is centred on the interconnectedness between energy and economic growth and development in the region.



Regional energy institutions such as Southern African Power Pool (SAPP), SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) and Regional Electricity Regulators Association (RERA) are expected to assist ICP in identifying areas that require their intervention and support.

The energy sector cooperating partners, commonly known as the SADC ETG consists of representatives of the SADC Secretariat, SADC subsidiary organisations, ICPs and a knowledge partner, the Southern African Research and Documentation Centre (SARDC)

#### SADC moves closer to establishing a gas committee

**SADC IS** in the process of developing terms of references for the regional gas masterplan that will be used as a guiding tool in the operations of the proposed Inter-State Gas Committee.

Approved by the SADC Council of Ministers in August 2018, the gas masterplan is expected to guide the exploitation of the vast natural gas resources that exist in the region.

The development of the gas masterplan is one of the steps towards establishment of a regional gas committee.

This is in line with a directive made by the 37th SADC Summit held in August 2017 in Pretoria, South Africa, which said there is need for the region to create a committee that will be charged with ensuring the inclusion and promotion of natural gas in the region.

In the long-run, the committee will facilitate an increase in universal access to energy as well as promote industrial development in SADC.

Furthermore, harnessing natural gas would improve the energy situation in the region, and contribute to the regional energy mix, which is dominated by coat-

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# SADC to review mandate of RERA

**THE TRANSFORMATION** of the regional association of energy regulators into an agency is expected to address operational challenges related to regulatory governance experienced by some SADC Member States.

The transformation of the association is a top priority for SADC Energy Division and will expand the mandate of the SADC Regional Electricity Regulators Association (RERA) from being an association into a regional energy regulatory authority or agency.

The transformation will ensure RERA achieves its short term vision, "To be an effective regional regulatory

## SAPP to establish a Market Surveillance and Monitoring Unit

**THE SOUTHERN** African Power Pool is in the process of establishing to oversee the monitoring and surveillance of SAPP trading markets.

The Market Surveillance and Monitoring Unit (MSMU) will be tasked to supervise and monitor the market behaviour by Southern African Power Pool (SAPP) Member States on all SAPP markets.

SAPP currently has four markets – Day Ahead Market, Intra-Day Market, Bilateral Market and Forward Physical Markets.

The Day Ahead Market (DAM), launched in December 2009, is an auction-type market.

It allows utilities to weight their options and ensure that when it is cheap to get power from the market, utilities will buy it rather than generate power.

The Intra-Day Market (IDM), established in 2016 allows each individual market participant to adjust the power balance and is a tool for them to manage failures in the power system between the closing of the DAM and delivery the next day.

IDM is a continuous market, and trading takes place 24/7 on every day until (one hour) before delivery and is based on a continuous trading model that means a continuing matching of the orders submitted to the market.

Trading on IDM is based on a first-come, first-served principle.

One the other hand, the Bilateral Market is designed to meet long-term demand and supply balance and trading arrangements are mutually agreed between bilateral parties. In this market, volumes and prices are the key parameters.

The Forward Physical Market (FPM) is open for market participants for trade of monthly and weekly products.

FPM is based on physical delivery of the traded power volume. Its principle is that all participants trade on equal terms and that they have a physical grid point in a given market area for delivery of production or withdrawal of consumption.

The objective of the FPM is to facilitate trading of longer term physical contracts. The FPM is an auction-trading model just as the DAM.

agency in an energy market that is harmonised, efficient and sustainable."

Currently, the absence of a regional authority in energy governance and regionally endorsed high-level set of principles and practices is a major constrain towards harmonization of efforts among SADC Member States regarding energy regulation.

Currently, RERA, officially launched in September 2002, is a formal association of electricity regulators which provides a platform for cooperation between independent electricity regulators within the SADC region.

Its membership is open to all electricity regulatory bodies in SADC.

Currently, all SADC Member States, except Union of Comoros and DRC have energy electricity regulators.

Of the 14 Member States with energy regulators, only 10 are members of RERA. Seychelles, Botswana, Madagascar and Mauritius are not yet members of RERA.

## Stellenbosch University develops solar resource database for southern Africa

**THE CENTRE** for Renewable and Sustainable Energy Systems (CRESES) at Stellenbosch University has developed a solar resource database that will produce an updated, experimentally verified solar resource map and database for southern Africa.

The database will facilitate the rollout of solar energy systems and projects, and will be used by developers to identify areas of opportunity.

Activities that will be undertaken to achieve the overall objective of the database include installation, monitoring and maintaining high resolution solar resource measurement stations.

Comparing measured data with satellite-derived data in the public and commercial domains; updating computational models used for deriving solar resource from satellite data; and placing this data in the public domain are other activities to be taken under this project.

Currently four resource measurement stations have been installed at four universities in southern Africa. These are Botswana (University of Botswana), Namibia (Namibian University of Technology), and South Africa (University of Venda and University of Fort Hare).

Each station will measures and produce data required for solar energy projects. For example, for Global Horizontal Irradiance (GHI), Direct Normal Irradiance (DNI), Diffuse Horizontal Irradiance (DHI) and Atmospheric Temperature.

Data produced at these is available to the through the South African Universities Radiometric Network web-platform (www.sauran.net).

The platform also includes accessible data for stations from other partners and funders.  $\searrow$ 

### SARDC advances access to energy information in SADC

**THE SOUTHERN** African Research and Documentation Centre will this year produce three information tools that will improve access to knowledge on energy and energy development in the region

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Two publication, the SADC Energy Investment Yearbook 2018 and SADC Energy Monitor 2018, are expected to be ready before year end.

The investment yearbook captures the investments that have taken place in the various energy sub -sectors during the past year.

This is the third in the series of publications produced by the Southern African Research and Documentation Centre (SARDC) in consultation with the Energy Division at the SADC Secretariat, with support from the Austrian Development Cooperation.

The SADC Energy Monitor 2018 is a biennial publication that looks at activities that have taken place in the 16 SADC Member States during the past two years with the last edition published in 2016.

It captures issues such changes in the legal and institutional environment; projects commissioned and other development taking place in the energy sector.

A third knowledge tool is a portal on Gender and Renewable Energy in Southern Africa, available at <u>https://genre.sardc.net/</u>.

The portal is a knowledge hub with reliable and easily accessible information on how renewable

# SACREEE, a boost for energy efficiency in SADC

**THE DRIVE** towards utilisation of renewable energy sources and energy efficiency initiatives in southern Africa is fast gathering pace, with a number of initiatives taking place in the region.

The SADC Centre for Renewable and Energy and Energy Efficiency (SACREEE) is currently implementing six projects to promote energy efficiency and uptake of renewable energies in southern Africa.

The SADC Renewable Energy Entrepreneurship Support Facility, one of the six projects, seeks to enhance and strengthen the capacity of small and medium scale entrepreneurs in developing viable business plans and loan requests, and managing and maintaining their businesses successfully.

The facility also aims to increase the confidence of financial institutions in sustainable energy systems and create linkages between the entrepreneurs and financial institutions.

SACREEE is also implementing a SADC Program on Gender and Sustainable Energy to address gender disparity and promote women in the energy can contribute to regional integration and be positioned as a liberating factor for women and a key enabling factor to allow women to play an equal role in development.

Key sections of the portal include stakeholder database in the renewable energy sector and disaggregated data on gender and renewable energy which is a challenge.

The portal builds on another energy portal managed by SARDC which is the SADC Energy Portal.

The SADC Energy Portal is an information and knowledge sharing initiative of the International Cooperating Partners (ICPs) active in the SADC Energy Sector and is designed to promote coordinated approaches to bilateral and multilateral support for energy Projects and Programmes in the southern African region.

This portal is part of the Communicating Energy in Southern Africa Project whose goal is to raise regional awareness among stakeholders in southern Africa about key regional energy issues.

The main target groups are private sector, investors, policy makers, media, universities, civil society and other stakeholders.

SARDC is an independent regional knowledge resource centre established in 1985 to strengthen regional policy perspectives and track implementation on a range of issues in southern Africa, and works in partnership at national and regional levels.

SARDC is made up of topical institutes that focus on relevant regional processes, and has a long track record of achievements, in partnership with the SADC Secretariat.

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value chain of the sustainable energy sector.

The program contributes towards increased access to modern, affordable, and reliable energy services, energy security and environmental sustainability by tailoring national and regional policies, projects and programs to the energy needs of men and women.

The centre for energy efficiency has also secured financial support from the European Union to implement a project on SADC Industrial Energy Efficiency Programme (SIEEP).

A scoping and assessment study has been done in all SADC Member States, except Union of Comoros and the exercise revealed that the there is potential for energy efficiency, renewable energy heating and cooling applications in industries across the region.

Following a directive by SADC Energy Ministers to phase out ineffective lighting by December 2017,SACREEE is collaborating with different partners which include SADC Cooperation Standards and UN Environment to assist Member States to come up with strategies to achieve energy efficiency in lighting.

Although the deadline has passed, only two SADC Member States only two countries have come up with a strategy to phase out ineffective lighting.

## **Power Pools in Africa at a glance**

THE AFRICAN continent is made up of five power pool, covering all five geographical regions, that provide an integrated power transmission grid and energy market across countries.

These power pools create and exploit economies of scale in the generation, transmission and distribution of electric power.

The five power pools are: Central African Power Pool (CAPP), Maghreb Electricity Committee (COMELEC), East African Power Pool (EAPP), Southern African Power Pool (SAPP) and West African Power Pool (WAPP)



	Events Diary	
October 2, Zimbabwe 4, Rwanda 8, Zimbabwe 8-11, Italy 16, Botswana 17, Namibia	45th SAPP Executive Committee Meetings Africa Smart Grid Conference (AFSEC) SAPP Executive Committee Meeting World Energy Week 2018 SADC Energy Thematic Group 15th SAPP Energy Traders & System Forum	January 14-17, UAEi World Future Energy Summit 19-20, South Africa Africa Energy Indaba February 19, France WEO Biogas and Renewable Natural Gas
<b>November</b> 5, Uganda	Bioenergy Development Strategy & Invest	March18, BritainEnergy Transitions 2019 Conference
<b>December</b> 18, Greece	ment Plan for the Eastern African Region Renewable Energy, Power Infrastructure & Energy Efficiency Investors Conference	April3, ItalyHigh-level Technical Workshop17, FranceWorkshop on the Africa Energy Outlook

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