

SADC expedites establishment of gas committee

SOUTHERN AFRICA is exploring ways of harnessing the potential of the massive reserves of natural gas that exist in the region.

As such, the SADC Secretariat is developing terms of reference (TORs) that will guide the operations of the regional gas committee.

The committee will be charged with ensuring the inclusion and promotion of natural gas in the regional energy mix.

Once the TORs are ready, they will be submitted to the SADC Energy Ministers for approval and subsequent adoption by the SADC Council of Ministers.

The TORs are expected to cover the composition of the committee, priorities, reporting lines and the frequency of the meetings.

The objective of the committee is to provide some guidance and best practices for gas development and to advise on policies and strategies to develop and implement sustainable gas market that will benefit all the Member States in the region.

One of the proposed functions of the gas sub-committee is to oversee the development of the Regional Gas Master Plan in line with the principles of the Energy Protocol, as well as the overarching objectives of SADC Industrialization Strategy Framework.

There are six proposed functions of the regional gas sub-committee:

- To commission the study of gas deposits in the region;
- Play an advisory role to the senior energy officials;
- To identify and evaluate gas demand in the region and recommend on the required infrastructural development;
- Identify the potential regulatory challenges among Member States as a new area of development;
- Share data, statistics and information as it is not always readily available;
- Identify funding options through profiling of potential funding partners, structure and solutions for implementation of gas projects in the region.

The SADC Petroleum and Gas Sub-committee was proposed by South Africa as chair of SADC in August 2017 to create opportunities for the development of a strategy to facilitate the exploitation of the vast natural gas resources in the region.

According to the *SADC Energy Monitor 2016* launched at the 36th SADC Summit in Eswatini in 2016, the contribution of gas to the regional energy mix is still very minimal, accounting for a mere 1.3 percent of the total power generation mix.

The low share of natural gas in the regional energy mix belies the fact the southern Africa has some of the largest deposits of gas in the world.

Angola has natural gas reserves estimated at 11 trillion cubic feet (tcf), while Mozambique has more than 180 tcf of gas discovered and there is potential for this to be doubled by 2030.

The United Republic of Tanzania has made significant gas discoveries and currently has more than 57 tcf of proven gas reserves.



In Namibia, there is about 1.3 tcf of proven gas reserves with an estimated potential of 9 tcf.

Botswana, South Africa and Zimbabwe have unconventional gas reserves in significant quantities in the form of coal-bed methane and shale gas.

The east coast of the SADC region has emerged in the past few years as one of the brightest spots on the global energy landscape, with large natural gas finds in Mozambique and the United Republic of Tanzania.

There are efforts to develop infrastructure that will ensure an increase in the uptake of gas in the region.

For example, 24 percent of commissioned installed capacity in the region in 2016 came from gas, indicating a growing need for the energy source.

Development of the Kudu gas project is expected to address some of the energy challenges in Namibia. Gas produced from the Kudu field will be transported through a 170-km pipeline to a power station that will be built and situated at Uubvlei, approximately 25 kilometres north of Oranjemund in southern Namibia.

The National Petroleum Corporation and its partners including Manpower will be responsible for the drilling of production wells, installation of sub-sea equipment and the floating production system, and gas production, as well as conditioning and transportation of the gas to the power plant.

Exploration has taken place in other SADC member states although the exact amounts of reserves are unknown for these countries.

New offshore natural gas finds along the Mozambique coast are expected to be a "game changer" for the country and the southern African region. The country has estimated recoverable natural gas reserves of between 15 trillion and 30 trillion cubic feet (tcf), enough to meet one year's gas consumption by the United States of America.

RERA develops frameworks to promote cross-border power cooperation

THE REGIONAL energy regulators association has developed two frameworks that will facilitate improved cross-border power trading and improve implementation of energy projects.

The Regional Electricity Regulators Association of Southern Africa (RERA) has developed a draft framework that will provide guidelines on regulatory requirements for cross-border power trading in the region.

The Mini-Grid Framework will focus on cross-border trading, primarily on terms and conditions for access to transmission capacity and cross-border tariffs.

Once operational, the framework will work towards achieving objectives that underlay the establishment of RERA in 2002, especially that of facilitating and strengthening harmonization of policy, legislation and regulations in the electricity supply industry in southern Africa.

The other objectives include capacity building and information sharing among members at both a national and regional level through information sharing and skills training.

RERA is mandated with facilitating regional regulation cooperation through making recommendations on issues that affect the economic efficiency of electricity interconnections and electricity trade among members.

RERA has also developed a Market and Investment Framework which provides an alternative option to highly constrained public financing for the development of SADC member state and regional power sector infrastructure.

The framework includes a unified market structure that is supported by a legal and regulatory framework,

constituting a body of harmonised legal and regulatory rules that will be applicable in each member state for all regional projects.

RERA 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 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 to join RERA.



Update on SADC Energy Foresight Study

The SADC Energy Foresight Study proposed at the joint meeting for Ministers of Science and Technology in Mozambique in 2014 and adopted by SADC ministers responsible for energy in 2015 is expected to start in the second half of the year.

The study has three focus areas:

- Value-chain participation for the region and potentially identifying member states that have competitive advantages;
- Promote industrialisation and looking for opportunities for gaps in regional research efforts with strong focus on renewable energy
- Regional development agenda by not looking at energy in isolation, but at how it contributes to issues of food and water.

Phase 1, which runs until June 2018 covers six aspects including:

- Mapping and analysing policy and institutional implications to advance renewable energy;
- Identify the renewable energy value-chains;
- Analysing current and future markets for renewable energy technologies and services;
- Assessing southern African countries to see what manufacturing capabilities already exist in order to leverage and have an easy entry point to participate in certain value chains;
- Conducting a benchmarking exercise for regional and global studies on renewable energy value-chains
- Mapping current renewable energy research and innovation programmes within the region

Phase 2, which is expected to start in July 2018 will focuses on developing energy and technologies roadmap; developing an action plan for implementation and production of an atlas on best value chains options for SADC member states.



Energy and Environment Partnership Programme now a trust fund establishment

THE ENERGY and Environment Partnership covering southern and eastern Africa has moved from a time-bound and limited programme to a trust fund establishment.

This means that the programme has a potential to run over a longer period as a trust fund establishment is not affected by project or programme end-dates.

Furthermore, the Energy and Environment Partnership (EEP) programme which was initially funded and supported by Finland, Austria and the United Kingdom is not a multi-donor trust. This has opened potential for funding from more cooperating partners.

The trust is however managed by the Nordic Development Fund.

EEP programme provides early stage finance for energy efficiency projects that need a small push to get to commercial operation.



SAPP commissions 3,580 MW in 2017

THE SOUTHERN African Power Pool commissioned 19 projects last year with an additional generation capacity of 3,580 megawatts.

According to the Southern African Power Pool (SAPP), the majority of the new generation capacity came from Angola where the national power utility, Rede Nacional de Transporte de Electricidade, commissioned six projects with a combined capacity of 1,727 megawatts (MW) (*see table*).

Another significant contribution came from South Africa which added 1,234MW from five new projects.

As renewable energy is fast becoming the buzzword with regards to the future of energy generation in southern Africa, 1,937MW of new capacity came from renewables, translating to 54.11 percent of total new capacity.

Of the renewable energy projects, hydro had a contribution of 1,377MW of new capacity whilst solar added 560MW.

The increase of contribution from renewable energy follows a resolution made in 2012 by southern African countries to increase the uptake of cleaner and alternative energy sources that result in reduced carbon emission.

The long-term target set by SADC is to achieve a renewable energy mix in the regional grid of at least 32 percent by 2020 and 35 percent by 2030.

According to SAPP, southern Africa plans to commission a total of 26,108MW of power between 2018 and 2022. This development will see the region meeting all its power needs.

With regard to Independent Power Producers (IPPs), there has been an increasing interest from private players to take part in power projects that feed into the regional grid.

Of the 19 commissioned projects, seven of them came from IPPs with four from South Africa alone. Others came from Mozambique, Namibia and Zambia with one project from each SAPP member state.



SAPP gets new Centre Manager

ENGINEER STEPHEN Dihwa is the new Centre Manager for the Southern African Power Pool (SAPP), 17-member.

SAPP coordinates the planning, generation and transmission of electricity on behalf of power utilities in 12 of the 15 SADC member states.

Eng Dihwa replaces Dr. Lawrence Musaba, who passed on in March 2016.

Dihwa has 30 years in electricity planning, coordination, generation and transmission having worked for several power utilities in the region.

He worked for the Zimbabwe Electricity Supply Authority (ZESA) between 1988 and 2007 at various levels in power system operations, power plant maintenance and power system planning.

From 2008-2012, he was a Senior Manager in Namibia Power Corporation (NamPower) responsible for system planning and security as well as renewable energy and system integration.

Prior to his appointment, he was the Principal Director in the Ministry of Energy and Power Development in Zimbabwe.

He holds a Master of Science Degree in Electrical Power Systems and a Bachelor of Science Engineering Honours Degree in Electrical Engineering.

Dihwa is a Chartered Engineer, a Member of the Institution of Engineering and Technology (IET) of the United Kingdom, a Member of the Institute of Electrical and Electronic Engineers (USA) and a Fellow of the Zimbabwe Institute of Engineers.



GENERATION PROJECTS COMMISSIONED IN 2017

No	Utility	Country	Name	Type	Capacity (MW)
1	RNT	Angola	Luaca	Hydro	1,002
2	RNT	Angola	Soyo	Gas	500
3	RNT	Angola	CT Huambo	Gas	50
4	RNT	Angola	Camama	Gas	50
5	RNT	Angola	Moroto Bento	Gas	50
6	RNT	Angola	Kileva	Hydro	75
7	TANESCO	Tanzania	Kinyerezi 1 and 2	Gas	28
8	SNEL	DRC	Zongo 2	Hydro	150
9	Eskom	South Africa	Kusile	Coal	720
10	IPP	South Africa	Cogen	Gas	24
11	IPP	South Africa	CSP	Solar	100
12	IPP	South Africa	Wind	Solar	240
13	IPP	South Africa	PV	Solar	150
14	BPC	Botswana	Morupule A	Coal	120
15	ZESA	Zimbabwe	Kariba South Extension	Hydro	150
16	IPP	Zambia	Ndola Energy	Gas	55
17	ESCOM	Malawi	Diesel	Diesel	6
18	IPP	Namibia	Solar	Solar	70
19	IPP	Mozambique	Kuvaninga	Gas	40
TOTAL					3,580

Ndola Energy Corporation joins SAPP

INDEPENDENT POWER Producers in the region continue to take advantage of the amendments to the Inter-Governmental Memorandum of Understanding and the Inter-Utility Memorandum of Understanding that ensured membership to the regional power pool is no longer a preserve of national power utilities.

The joining of the Zambia's Ndola Energy Company Limited to the regional pool has raised the membership of the Southern African Power Pool (SAPP) to 17 (*see table below*).

At its formation, SAPP had only 12 member utilities and was limited only national power utilities. However, the number has risen following the signing of the IGMOU in 1995 and its revision in 2006 by SADC Energy Ministers in order to allow IPPs to be members of SAPP.

SAPP was created with the primary aim to provide reliable and economical electricity supply to the consumers of each of the SAPP members, consistent with the reasonable utilisation of natural resources and the effect on the environment.



Events Diary

April

5-7, Pakistan 17th World Wind Energy Conference and Exhibition
11, Britain Africa Investment Exchange: Gas

June

3-7, Cyprus 5th IEEE International Energy Conference

4-8, Belgium EU Sustainable Energy Week 2018
14-15, UK 2nd Wind and Renewable Energy
19-22, Mauritius Africa Energy Forum 2018

July

2, Australia 3rd World Congress on Petroleum and Refinery
30-31, Switzerland ICOGCT 2018: 20th International Conference on Oil, Gas and Coal Technology

August

16-18, Tanzania Solar Power Expo Tanzania
19-23, USA The Oil and Gas Conference
20-22, USA 30th Energy Summit
26 – 31, Paris CIGRE Session 47 2018

September

Sept 10-14, South Africa Power Week Africa
27-28, UAE World congress on Oil, Gas and Petroleum Refinery

October

2, Zimbabwe SAPP Executive Committee Meetings
2-4, Rwanda 3rd Africa Smart grid Forum
3-5, Austria ISEC International Sustainable Energy Conference
15-16, Italy 9th International Conference and Expo on Oil and Gas
17, Canada International Conference and Expo on Oil and Gas

SAPP Members

No	Full Name Of National Power Utility	Status	Abbreviation	Country
1	Botswana Power Corporation	OP	BPC	Botswana
2	Electricidade de Mocambique	OP	EDM	Mozambique
3	Electricity Supply Corporation Of Malawi	NP	ESCOM	Malawi
4	Empresa Nacional de Electricidade	NP	ENE	Angola
5	ESKOM	OP	Eskom	South Africa
6	Lesotho Electricity Corporation	OP	LEC	Lesotho
7	NAMPOWER	OP	Nampower	Namibia
8	Societe Naionale d'Electricite	OP	SNEL	DRC
9	Swaziland Electricity Board	OP	SEB	Eswatini
10	Tanzania Electricity Supply Company Ltd	NP	TANESCO	Tanzania
11	ZESCO Limited	OP	ZESCO	Zambia
12	Zimbabwe Electricity Supply Authority	OP	ZESA	Zimbabwe
No	Full Name Of Private Utility	Status	Abbreviation	Country
13	Copperbelt Energy Corporation	ITC	CEC	Zambia
14	Lunsemfwa Hydro Power Company	IPP	LHPC	Zambia
15	Ndola Enery Corporation	IPP	Ndola	Zambia
16	Hidro Cahora Bassa	OB	HCB	Mozambique
17	Mozambique Transmission Company	OB	MOTRACO	Mozambique

KEY

OP: Operating
OB: Observer

ITC: Independent Transmission Company
IPP: Independent Power Producer