

## Surplus power generation – Is it time for SADC to relax?

**THE IMPROVED** electricity generation in southern Africa is a welcome development for the region as energy supply is a key enabler for industrialization.

Energy shortages experienced over the past few years have constrained development and forced most countries to introduce demand-side management measures such as load shedding.

For the first time in a decade, the Southern African Development Community (SADC) is experiencing surplus electricity-generation capacity as a result of regional cooperation in energy planning.

The Acting Coordination Centre Manager of the Southern African Power Pool (SAPP), Alison Chikova told the SADC Energy Thematic Group (ETG) meeting held in Gaborone, Botswana in October that excess generation capacity was about 2,616 Megawatts (MW).

He said the trend was likely to continue in the future as “SAPP will commission an average of 5,000MW per year in the next six years.”

However, some introspection is critical due to factors that led to the improved electricity generation in southern Africa. Does this sudden good fortune in the energy sector mean that SADC has finally addressed its power challenges?

According to SAPP – which coordinates the planning, generation and transmission of electricity on behalf of power utilities in 12 of the 15 SADC Member States – the current excess in electricity supply is partly a result of an economic slowdown in SADC.

Most SADC economies have experienced a slowdown since the global financial crisis of 2008 due to a fall in agriculture, mining and manufacturing production.

In this regard, it is important for the region to continue strategizing on regional power development to ensure that the demand for electricity is met when most SADC Member States recover from the economic slowdown.

“The impressive strides we have made in the energy sector should continue,” Chikova said, adding that cooperation among Member States is critical, particularly in anticipation of improved economic growth by most countries.

He said availability of electricity is essential to support efforts by the region to drive forward its industrialization agenda, which aims to ensure that SADC achieves its longstanding goal of a united, prosperous and integrated region.

Chikova said the drive towards energy self-sufficiency should focus on how southern Africa could harness its vast array of renewable energy resources that include solar, hydro and wind.

According to the African Development Bank (AfDB),

southern Africa is a potential “gold mine” for renewable energy due to the abundant solar and wind resources that are now hugely sought after by international investors in their quest for clean energy.

The SADC region is also generously endowed with watercourses such as the Congo and Zambezi, with the Inga Dam situated on the Congo River having the potential to produce about 40,000MW of electricity, according to SAPP.

Chikova said there are plans for SADC to harness these sources to achieve a renewable energy mix in the regional grid of at least 32 percent by 2020 and 35 percent by 2030.

Currently, coal is the largest contributor to electricity generation, providing 62 percent of the energy mix, followed by hydro, which contributes 21 percent.

To address this, the majority of the planned new generation projects are earmarked to target renewable energies.

For example, between 2017 and 2022, at least 26 percent of the targeted 28,264 MW of additional power will come from hydro, while 19 percent and 10 percent of the planned additional capacity will come from gas and wind respectively. Solar is expected to provide about seven percent of the new generation capacity.

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### Austria to handover co-chairpersonship of ETG

**AUSTRIA'S TENURE** as the lead International Cooperating Partner (ICP) for the SADC energy sector will end on 31 December with a new co-chair USAID expected to take over on 1 January 2018.

Austria has been chair of the SADC ETG since 2014. Prior to this, Norway was the chair.

The SADC ETG consists of representatives of the SADC Secretariat, SADC energy subsidiary organisations, ICPs and a knowledge partner, the Southern African Research and Documentation Centre (SARDC).

SARDC is tasked with raising awareness among stakeholders about key regional energy issues.

During its tenure, Austria has among other interventions seconded a technical advisor to the SADC Energy Division.

Austria is also supporting a project on Communicating Energy in Southern Africa aimed at strengthening the knowledge base and the cross-border flow of information on the development of the energy sector in the SADC Member States.

The project is being implemented by SARDC in partnership with the SADC Secretariat.

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# SACREEE one year on

**FROM SEPTEMBER** 2016 when Kudakwashe Ndhlukula was appointed Executive Director of the Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE), steady progress has been recorded to promote the utilisation of renewable energy sources and energy efficiency initiatives in southern Africa.

The centre is currently implementing a number of projects expected to facilitate an increase in the uptake of clean energy in southern Africa, enabling the region to address some of its energy challenges.

One such project is the SADC Renewable Energy Entrepreneurship Support Facility jointly implemented by SACREEE and IRENA.

The Project is expected to enhance and strengthen the capacity of small to medium entrepreneurs in assessing the business potentials of sustainable energy, and increase the


confidence of financial institutions in sustainable energy systems.

SACREEE is also implementing a programme on gender and sustainable energy with support from National Renewable Energy Laboratory (NREL).

The programme seeks to contribute 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.

SACREEE was established in 2016 and is based in Windhoek, Namibia to spearhead the promotion of renewable energy development in the SADC region.

Progress is now at an advanced stage for SADC Member States to sign the Intergovernmental Memorandum of Agreement (IGMoA), which would constitute the formal founding act of the centre.

Once the IGMoA has been signed, Namibia and SADC could conclude a host country agreement for SACREEE. 

## Surplus power generation

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Another critical measure to develop a viable and vibrant energy sector in SADC is the need to build more transmission interconnections across member state borders.


More transmission lines would enable Member States to benefit from new generation capacity installed in other countries in the region.

The power infrastructure in mainland SADC is not fully integrated yet as Angola, Malawi and the United Republic of Tanzania are not connected to the regional electricity pool.

This means that new generation capacity installed in any of the three countries is not enjoyed by the other nine SAPP members – Botswana, Democratic Republic of Congo, Lesotho, Mozambique, Namibia, Swaziland, South Africa, Zambia and Zimbabwe.

Chikova said setting up new interconnectors in the region will create new power corridors that can support industrial development and improve energy security in parts of the region without adequate generation capacity.

Some of the planned transmission lines are the Zimbabwe-Zambia-Botswana-Namibia interconnector project, the Zambia-Namibia power line and the Zambia-Tanzania-Kenya interconnector project.

The Zambia-Tanzania-Kenya interconnector project is expected to connect the SAPP grid to the one operated by the Eastern Africa Power Pool in addition to linking the Tanzanian power network to other SAPP member countries. 


## Draft ETG TORs ready

**THE ENERGY** Division at the SADC Secretariat and Austria have produced the draft Terms of References (TORs) for the Energy Thematic Group (ETG) as required by the Windhoek Declaration on a New SADC-ICP Partnership made in 2006.

The draft TORs were shared at the recent ETG meeting in October, and International Cooperating Partners (ICPs) have been invited to review and comment on the draft document.

The TORs among other things lay the objectives and scope of ETG in a bid to define the cooperation between SADC and its ICPs in the energy sector in southern Africa.

The ETG serves as the interface between SADC and its ICPs, with the main purpose of improving coordination between stakeholders involved in the SADC's energy sector, including the private sector and donors.

It aims to improve the efficiency and effectiveness of the development of the sector and also facilitate planning and monitoring of implementation of SADC energy initiatives, programmes and projects. 

# SAPP targets 3,672MW by year-end

**THE SOUTHERN** African Power Pool plans to commission new projects that will add 3,672 megawatts (MW) to the regional grid this year.

The majority of the target generation capacity will come from Angola where the national power utility, *Rede Nacional de Transporte de Electricidade*, is expected to commission six projects with a combined capacity of 1,727MW (*see table*).

Another significant contribution will come from South Africa which is due to add 1,234MW this year.

As southern Africa is moving towards increased uptake of clean energies, renewables will add 1,937MW which translate to 52.75 percent of total generation to be commissioned.

The move towards 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 28,264MW of power between 2017 and 2022. This development will see the region meeting all its power needs.



## Ministers call for improved interconnections and power trade

**SADC MINISTERS**, meeting at the High-Level SADC Ministerial Resource Mobilisation Workshop and Energy Investment Forum held in Swaziland in July, called on Member States to improve interconnections and power trade as the region moves towards meeting its electricity needs.

Ministers said this will increase reliability of supply and enable countries deal with power supply shortages by implementing the planned interconnector projects especially for those countries that remain unconnected to the regional grid.

To improve interconnections in line with this call, SAPP is currently implementing 10 interconnection projects that will be commissioned from 2019-2026.

Among the power transmission projects are the Angola-Namibia Interconnector, the Mozambique-Malawi Interconnector and the Zambia-Tanzania-Kenya (ZTK) Power Interconnector.

The three interconnectors are important in that they will connect the power networks of three non-operating members of the Southern African Power Pool (SAPP) – Angola, Malawi and Tanzania – to the regional grid.

The ZTK will not only link Tanzania to the SAPP grid, but also connect the Eastern African Power Pool to SAPP, allowing countries in eastern Africa to share surplus electricity with those in southern Africa.



## SAPP Generation Projects

GENERATION PROJECTS-2017 TARGET					
No	Utility	Country	Name	Type	Capacity (MW)
1	RNT	Angola	Luaca	Hydro	1002
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&2	Gas	120
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	ZESCO	Zambia	Ndola Energy	Gas	55
17	ESCOM	Malawi	Diesel	Diesel	6
18	IPP	Namibia	Solar	Solar	70
19	IPP	Mozambique	Kuaninga	Gas	40
<b>TOTAL</b>					<b>3,672</b>

## Summary of Recommendations for the High-Level Ministerial Resource Mobilization Workshop and Energy Investment Forum

**IMPROVEMENT OF** security of power supply is essential in the SADC and to improve infrastructure development in the sector, the region convened a high-level ministerial workshop and investment conference in Swaziland in July to discuss sustainable energy infrastructure.

The High-Level Workshop adopted 22 recommendations, ranging from improving ways of accessing and utilizing the available financing and financial instruments to, inter alia, improving interconnections in the region, introducing cost reflective tariffs, operationalising the SADC Regional Development Fund, promoting and implementing the energy-water-food nexus.

Below is a summary of recommendations that came from the workshop:

- Project owners and Financiers agreed to follow up on issues and identified impediments relating to regional energy and water projects that were showcased;
- ICPs, financial institutions and DFIs, jointly with SADC Member States, should devise effective ways of accessing and utilizing the available financing and financial instruments and commitments made during the event.
- The SADC Secretariat and SAPP should develop a coherent regional integrated energy plan and strategies that take into account national and regional needs and put in place robust monitoring mechanisms;
- The SADC Secretariat in collaboration with SAPP, RERA and SACREEE should map all challenges affecting project implementation in a coherent manner and match them with available financial instruments and initiatives and convene a regional meeting to forge a practical way forward;
- Member States should improve interconnections and power trade to increase reliability of supply and enable countries deal with power supply shortages by implementing the planned interconnector projects especially for those countries that remain unconnected to the regional grid;
- Member States should facilitate implementation of cost reflective tariffs that accommodate pro-poor approaches;
- The SADC Secretariat in collaboration with Cooperating Partners should fast-track the operationalisation of the SADC Regional Development Fund;
- SADC Secretariat and Member States should identify policy inconsistencies and weaknesses of legal frameworks at national and regional levels and address them expeditiously;
- Project owners should endeavour to build business cases during the project preparation phases, especially for transmission projects to ensure private sector appetite to participate in the projects;
- Member States need to ensure strong political willingness for regional power trading as one of the strategies for energy security;
- Member States should consider lessons learnt from the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) in South Africa and explore how similar structured procurement programmes can be launched that take into account the principles of economy, efficiency, transparency, and value for money;
- SADC Secretariat, SAPP, RERA and SACREEE should develop guidelines and frameworks to facilitate the planning processes in Member States;
- SADC Secretariat and Member States should promote and implement the Nexus (energy, water & food) approach programmes and projects;
- Member States should consider sustainable development of all locally available and cost effective energy resources to meet

energy diversification and security of energy supply;

- Member States in collaboration with the SADC Secretariat should prepare, negotiate and sign unambiguous and binding agreements for regional and transboundary projects;
- Member States are encouraged to utilize a variety of project preparation facilities at their disposal from Cooperating Partners, to adequately address all project aspects, including environmental and social matters to ensure bankability;
- Member States should provide predictable policy environments and transparent governance arrangements and political commitment to undertake energy sector reforms, including in order to attract private sector investments;
- Member States should strengthen their capacity to negotiate with the private sector, through among other things, setting up of dedicated and well-staffed Public-Private Partnerships (PPP) units, and capacity to effectively lead donor coordination at country level;
- SADC Institutions should document and share knowledge, experiences and lessons learnt in implementation of transboundary projects;
- Member States should put in place systems to aid quick solving of social, environmental, legal and institutional issues of projects to ensure that they are moving at the same pace with the technological and engineering solutions;
- Project owners should get Financiers and Private Sector on board at early stages of project feasibility assessment to avoid revisions of the configuration of the project to suit the needs of the potential investors at a later stage thereby delaying implementation of the project; and
- SADC Secretariat should ensure that special consideration is given to supporting implementation of infrastructure projects in Island States (Madagascar, Mauritius and Seychelles) due to their uniqueness.

### Events Diary

<b>November</b>	
18-20, Indonesia	International Energy & Environment Summit
27-28, Toronto	Energy and mines world congress
<b>December</b>	
4-7, USA	International Renewable and Sustainable Energy Conference
13-15, USA	Renewable Energy World International
<b>January</b>	
13-14, UAE	Eighth session of the IRENA Assembly
15-18, UAE	World Future Energy Summit
30-01, Britain	3rd Oil & Gas International Licensing Summit
<b>February</b>	
6-8, Uganda	2nd Africa Energy Forum: Off the Grid
16-17, TBA	19th International Conference on Oil Reserves and Energy Systems
21-22, South Africa	Africa Energy Indaba
28-02, USA	Powering Africa Summit
<b>March</b>	
1-2, Germany	GeoTHERM Expo and Congress
27-28, South Africa	Power and Electricity World Africa
29-30, Mozambique	3rd East & Southern Africa Gas & LNG Conference
<b>April</b>	
11, Britain	Africa Investment Exchange: Gas