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SADC moves closer to a renewable energy strategy

SIGNIFICANT PROGRESS has been made to develop a regional strategy that will allow southern Africa to increase the uptake of cleaner and alternative energy sources, as well as develop innovative ways of using less energy to power its development agenda.

The REEESAP, which spans the period 2016-2030, aims to provide a framework for SADC member states to develop renewable energy strategies, leading to the greater uptake of RE resources as well as mobilization of financial resources in the sector.

This will be achieved by a variety of measures, including establishing renewable energy agencies in all 15 SADC member states that will have specific mandate for off-grid systems, as well as developing and adopting guidelines to meet the SADC target of cost-reflective tariffs by 2019 while ensuring that the poor are not prejudiced.

Other proposed measures include raising awareness on the value and benefits of renewable energy and introducing sustainable energy issues in school curricula and tertiary education.

The REEESAP also proposes to create a special purpose regional investment fund for renewable energy and energy efficiency projects of less than 10 megawatts (MW). The fund is expected, among other things, to support packaging of bankable projects

Approval of the REEESAP is expected to attract significant investment into the SADC renewable energy sector, allowing the region to increase energy access and availability.

In the same light, the REEESAP is expected to promote technological innovation in the sector that will ensure that the region uses less energy to provide the same service.

This will be achieved through various measures including the use of remote electric geyser switches, water sensor dispatching equipment and time-controlled shower units for institutions, as well as banning the use of incandescent light bulbs, electric geysers, boilers and other inefficient water heating and lighting equipment.

Implementation of these energy efficiency measures in southern Africa has resulted in savings of about 4,561MW of electricity between 2009 and 2015. It is envisaged that the SADC region will save more than 6,000MW by 2018 if such initiatives are implemented according to plan.

Once approved by the energy ministers, the REEESAP will then be sent to the SADC Council of Ministers and ultimately to the SADC Heads of State and Government Summit for final adoption at their annual summit scheduled for South Africa in August 2017.

The main implementation agency of the REEESAP will be the newly established SADC Centre for Renewable Energy and Energy Efficiency (SACREEE) based in Namibia.

SADC Energy TA bids farewell

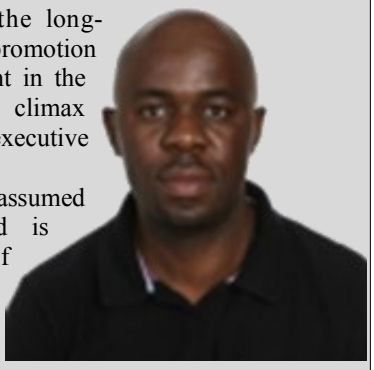
TECHNICAL ADVISER to the SADC Energy Division, Wolfgang Moser will be leaving at the end of November following the completion of his secondment to the SADC Secretariat by the Austrian Government.

Moser leaves following a fruitful 30 months of secondment to the Secretariat during which he, among others, played a crucial role in the ongoing process to develop the SADC Renewable Energy and Energy Efficiency Strategy and Action Plan.

He will be solely missed by colleagues in the SADC Energy Thematic Group (ETG), with whom he has worked closely since June 2014.

ETG members wished him good luck in his future endeavours.

SACREEE appoints executive director



THE PROCESS to establish the long-awaited centre to spearhead the promotion of renewable energy development in the SADC region is reaching the climax following the appointment of an executive director for the organisation.

Kudakwashe Ndhlukula assumed duty in September 2016 and is expected to lead the process of operationalising the Southern African Centre for Renewable Energy and Energy Efficiency (SACREEE), which is based in Namibia.

Ndhlukula is a certified energy manager and certified energy auditor. He possesses an MSc in Renewable Energy Engineering and a Masters of Business Administration, among other qualifications.

Prior to joining SACREEE he was an energy infrastructure expert with Manketti Energy Solutions operating in Zimbabwe and Namibia.

Previously and since November 2012, he was Programme Officer (Capacity Building) for IRENA in Abu Dhabi.

Before joining IRENA, Ndhlukula was the director/coordinator of the Renewable Energy and Energy Efficiency Institute (REEEI) in Namibia where he formulated and executed various projects, including managing the off-grid energisation programme (including establishing energy shops), wind mapping, development of renewable energy and energy policy and regulatory frameworks.

He previous worked for the Zimbabwe Electricity Supply Authority as an electricity trader. He has over 15 years of experience in the energy sector.

Newly appointed SACREEE head hits ground running

NEWLY APPOINTED executive director of the SADC Centre for Renewable Energy and Energy Efficiency, Kudakwashe Ndhlukula gave a short overview of SACREEE's upcoming activities.

He said the Inter-Governmental Memorandum of Understanding (IGMoU) among SADC Member States as well as the Host Country Agreement between the SADC Secretariat and Namibia were still work in progress.

However, due to Namibia's preparedness to de-link the IGMoU – which should be concluded in January 2017 – from the Host Country Agreement, the latter could hopefully be signed in the near future.

Namibia was confirmed as host of SACREEE by the SADC Energy Ministers Meeting held in July 2015 in South Africa. The centre is housed at the Namibia University of Science and Technology, formerly known as the Polytechnic of Namibia.

Ndhlukula revealed that as soon as the Host Country Agreement is signed, SACREEE could be registered as a legal entity and start becoming fully operational.

In addition to working on the Host Country Agreement, Ndhlukula said he was in the process of finalising SACREEE's organigram as well as the job descriptions that go along with it.

The recruitment process for additional staff was expected to commence in October or November 2016. In addition, the centre was expected to move to its own premises at the end of September.

The SACREEE management team will be headed by the executive director and will consist of various levels of permanent staff to be complemented by consultants and seconded international staff as may be deemed necessary from time to time.

The management team will report to an executive board, which will be the highest decision-making body for SACREEE, providing strategic to the centre and approving its annual work plans and budgets.

The executive board would comprise representatives of Member States, the SADC Secretariat and SADC energy subsidiary organisations such as the Southern African Power Pool, the Regional Electricity Regulatory Association of Southern Africa as well as civil society organisations and the private sector.

Concerning SACREEE's programmatic work, Ndhlukula mentioned the following priority areas:

Renewable energy (possibly taking over the Clean Energy Corridor for Southern Africa from IRENA); Energy efficiency (e.g. appliance labelling); and Improvement of access to energy.

SADC energy ministers have commended the United Nations Industrial Development Organisation (UNIDO) and Austrian Development Agency (ADA) for their contributions during the preparatory process of the centre.

ADA and UNIDO have pledged to provide financial support to the centre for the first three years. After that, the centre should be self-sustaining.

SACREEE operationalisation phases

ESTABLISHMENT OF SACREEE is expected to be carried out in three phases, the first of which involves the selection of a host country and establishment of the secretariat of the centre.

The Preparatory Phase, that was initially expected to run from January-October 2014, would also see the creation and inauguration of the SACREEE executive board and technical committees.

The First Operational Phase was expected to run from the end of 2014-2017 during which the centre will primarily focus on developing renewable energy programmes for the region and resource mobilisation.

The Second Operational Phase, from 2018-2021, will focus on activities to ensure sustainability of the centre after the exit of international cooperating partners such as UNIDO.

The establishment of SACREEE is expected to increase the uptake of clean energy in southern Africa, enabling the region to address some of its energy challenges.

Development of a harmonized regional policy framework for new and renewable energy has been identified as an important step towards realization of SADC's goal of achieving the balance between meeting the region's energy needs and ensuring sustainability of the environment.

SADC is working on a draft Regional Renewable Energy Strategy, which seeks to promote the uptake of clean energy and ensure that southern Africa takes advantage of the numerous renewable energy opportunities that exist in the region.

SAPP targets 35,000MW new generation capacity by 2022

SOUTHERN AFRICA has set a target of commissioning close to 35,000 megawatts (MW) of new power generation capacity over the next six years.

According to figures released by the Southern African Power Pool (SAPP) during the 18th meeting of the SADC Energy Thematic Group (ETG) in Gaborone in September, the 12 SAPP member countries are expected to add 34,816MW new generation capacity to the regional grid between 2016 and 2022.

Of this amount, 27,147MW will come from the nine SAPP operating member countries – Botswana, Democratic Republic of Congo, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe.

The remaining 7,671MW will be commissioned by SAPP non-operating member countries, Angola, Malawi and the United Republic of Tanzania. Although they are members of SAPP, the three countries are not connected to the SAPP power grid, which means that the electricity they generate is not shared with other members of the power pool.

A total of 3,058MW is expected to be commissioned in 2016, with South Africa expected to contribute 1,503MW or half of the new generation capacity.

South Africa has several power generation projects under construction and expected to be completed this year. These include two gas-fired power stations and some solar and wind stations.

Other countries expected to contribute to the power grid this year will be Angola, Mozambique, Namibia, Zambia and Zimbabwe.

There is a move to invest in renewable energy plants in the SADC region following 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 that increase climate warming and cause environmental damage.

In addition to being affordable, secure and reliable, renewable energy such as hydro, solar and wind will not be depleted and are also in abundance in the SADC region.

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 the African Development Bank, southern African alone has the potential to become a "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 hugely 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.

With regard to geothermal, the United Nations Environment Programme and the Global Environment Facility estimate that about 4,000MW of electricity is available along the Rift Valley in Tanzania, Malawi and Mozambique.

In addition to the shift towards renewables, southern Africa is also witnessing an increase in the role played by Independent Power Producers (IPPs) in the development of new generation capacity.

For example, some of the new power to be commissioned in Malawi, Mozambique, South Africa and Zambia will be produced by IPPs.

The region currently faces a power deficit of more than 6,500MW, with Mozambique being the only SAPP member country able to meet its domestic demand. The deficit drops to under 6,200MW if the three non-operating SAPP members are excluded.

SAPP projects that by 2020 the SADC region should have created sufficient generation capacity to fully meet its peak demand. This assumes that all planned generation projects are implemented on time.

New SAPP generation capacity, 2016-2022

No	Country	Committed Generation Capacity, MW							
		2016	2017	2018	2019	2020	2021	2022	Total
1	Angola	780	2,571	200		0	0	0	3,551
2	Botswana	-	120	-	300	300	-	-	720
3	DRC	-	150	-	-	360	-	1,500	2,010
4	Lesotho	-	20	-	-	-	-	-	20
5	Malawi	-	36	12	132	340	310	100	930
6	Mozambique	140	-	100	-	-	900	1,900	3,040
7	Namibia	15	-	-	800	-	-	-	815
8	RSA	1,503	999	2,169	2,169	1,446	1,446	1,528	11,260
9	Swaziland	-	-	-	12	-	-	-	12
10	Tanzania	-	900	1,040	250	1,000	-	-	3,190
11	Zambia	420	15	113	300	790	930	1,200	3,768
12	Zimbabwe	200	120	540	630	600	2,210	1,200	5,500
	TOTAL	3,058	3,058	4,174	4,593	4,836	5,796	7,428	34,816

Update on SAPP transmission projects, September 2016

No.	Project Name	Voltage Level , kV	Countries	Expected Date	Status
1	2nd DRC - Zambia	220	DRC, Zambia	2016	Commissioned in April 2016
2	ZIZABONA	330	Zimbabwe, Zambia, Botswana, Namibia	2019	Project structure has been revised to have 3 components. Component A (Hwange to Victoria Falls), Component B (Victoria Falls to Pandamatenga), and Component C (Livingstone to Zambezi). Financing from AfDB is being pursued
3	Central Transmission Corridor	330	Zimbabwe	2018	Funding secured from DBSA for detailed feasibility studies for Alaska-Sherwood line. Tendering is in progress
4	Zambia-Tanzania	400	Zambia, Tanzania	2019	Construction of Mbeya-Kasama line is underway. Kasame-Nakonde contract in Zambia was awarded and financial closure expected in November 2016. Construction will be up to Chipata (14km to border with Malawi).
5	Mozambique-Malawi	400	Malawi, Mozambique	2020	Inception report for environmental studies was approved. Update of existing studies is being done to consider 400 kV voltage level.
6	Mozambique STE	HVDC /AC	Mozambique	2024	Project to be developed with Mphanda Nkuwa. An MOU was signed between HCB and EDM. Contract negotiations are underway for ESIA update due to introduction of 400MW Temane power generation project
7	MOZISA	400 /500	Mozambique, Zimbabwe, South Africa	2022	ESIA is being finalised in Zimbabwe
8	BOSA	400 /500	Botswana, South Africa	2022	Transaction advisors were appointed in April 2016. The Inception report has been issued and approved.
9	North West Transmission Grid Connection Project- Phase 1 (Morupule to Maun via Orapa)	400	Botswana	2019	Tender evaluation for procurement of engineering, procurement and construction (EPC) is underway. Awarding of tenders is expected in December 2016.
10	North West Transmission Grid Connection Project- Phase 2 (Phokoje to Pandamatenga via Dukwi)	400	Botswana	2020	Tender documents for procurement of EPCs are under preparation.
11	Grand Inga Transmission Integration	HVDC /AC	DRC, Zambia, Zimbabwe, Botswana, South Africa	2024	Grand Inga Treaty between governments of RSA and DRC signed. Draft IGMOU between RSA, Botswana, Zimbabwe, Zambia and DRC under discussion.
12	KUDU	HVAC	Namibia, South Africa	2020	Network studies performed and completed

SADC features among NEPAD energy projects

A TOTAL of 38 projects from the SADC region have been included in the pipeline of priority projects being considered for funding by the New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency.

NPCA infrastructure expert Ahid Maeresera said the projects could be adapted if new funding becomes available.

He noted that the instruments used by the NPCA to address certain issues were tailor-made to the specific problems that needed attention.

However, all projects had to fall within the Programme for Infrastructure Development in Africa (PIDA) of the African Development Bank.

In order to facilitate the project implementation, every Member State should appoint one specific focal point NPCA could deal with.

In the field of renewable energy NPCA was planning to coordinate closely with SACREEE, which would be a crucial player in the SADC region.

During the discussion, SADC Secretariat pointed out that the first contact point for project implementation should be the SAPP-PAU, which had been created for this specific purpose.

Due to the relatively large number of players in the energy-sector in the SADC region, it would be advisable to revive the coordination platform, which existed in the past and regularly brought together regional actors in the energy sector on a technical level in order to allow for coordination of the various projects and avoid duplication.

PIDA is a blueprint for African infrastructure transformation for the period 2012-2040.

The programme was adopted by African leaders in January 2012 and provides a strategic framework for priority infrastructure projects expected to transform the continent into an interconnected and integrated region.

Some of the SADC energy projects on the PIDA priority list are the Ruzizi III Hydropower Project in the Democratic Republic of Congo, the Zambia-Tanzania-Kenya Transmission Line linking the power grids of the three countries; and the Batoka Gorge Hydropower Project involving Zambia and Zimbabwe.

SARDC develops ICPs online matrix

THE SOUTHERN African Research and Documentation Centre (SARDC) has created an online editable matrix that shows support by International Cooperating Partners (ICPs) to the SADC Energy Sector.

The online tool enables ICPs to constantly update their project information on the SADC Energy Portal, which is accessible on the SARDC website (www.sardc.net) could then be accessed by the general public.

In addition, it provides a comprehensive overview of activities by ICPs in the SADC energy sector and thus allow for better coordination among them.

The SADC Energy Portal is an information and knowledge-sharing initiative of the 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.

The portal, developed and managed by the SARDC, 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.

SAPP reviews its master plan

THE SOUTHERN African Power Pool is in the process of updating its master plan to identify priority regional projects.

Acting SAPP Coordination Centre Manager, Engineer Alison Chikova said funding for the review of the power pool's master plan was secured from the World Bank last year, with a consultant appointed in January 2016 to carry out the assignment.

The consultant was currently consulting SADC Member States and was expected to come up with a draft report by November 2016, after which the document would be presented at a Stakeholders Consultative Workshop. The final report is expected to be ready by February 2017.

To achieve sustainable power supply in the short, medium to long term, the SAPP came up with a pool plan in 2007 covering the period 2008 to 2020.

The plan underscores the benefits arising from pursuing projects collectively as a region rather than individual Member States. It is forecast that by going this route, the region would not only attain better coordination and optimization of available energy resources but achieve total cost savings of about US$48 billion over the planning horizon.

The plan recommends that current self-sufficiency policies of some utilities should be reviewed to encourage regional development and integration based on two scenarios. One of the scenarios, called the Base Case, was projected to add more power to the region but relies heavily on more expensive options such coal-fired generation. The second scenario, or the Alternative Case, is based on least-cost options whereby high-cost coal generation is replaced by low-cost options such as hydro and gas generation.

The Alternative Case was projected to add a total of 57,000 megawatts (MW) by 2020 at a cost of US$83 billion. This would mean adding 8,400MW less thermal and 5,600MW more hydro than the Base Case while the corresponding total cost would be significantly lower. The Alternative Case does not consider nuclear power generation as an option. If nuclear power generation is included, the total investment required would rise by a further US$48 billion.

The pool plan also urges SADC Member States to accelerate the interconnection of Angola, Malawi and Tanzania to the regional grid. It further advocates for construction of the Central Transmission Corridor from the Democratic Republic of Congo to South Africa through Zambia and Zimbabwe to ease congestion and widen options.

While the SAPP master plan recommends least-cost and best-case scenarios based on its technical expertise, the onus lies with Member State utilities to approach investors and implement identified projects if the region is to meet its energy targets.

SADC Energy Ministers to meet in Malawi in 2017

SADC ENERGY Ministers are expected to meet in Malawi in May/June 2017 to discuss a number of issues, including the operationalization of the SADC Centre for Renewable Energy and Energy Efficiency.

Key issues to be discussed include the implementation of key decisions made at the last ministerial meeting held Botswana in 2016, as well as status of some of the priority regional energy projects.

Events Diary

October

8-10, Turkey	23rd World Energy Congress
13, Malawi	41st SAPP Executive Committee Meeting
18-21, Azerbaijan	7th International Forum on Energy for Sustainable Development,
19-20, Zambia	SAPP Energy Traders and System Controllers Forum
19-22, USA	World Energy Forum 2016
19-21, South Africa	Sub Saharan Africa Power Summit 2016
31-2 Nov, South Africa	4th Southern African Solar Energy Conference

November

1-4, South Africa	23rd Africa Oil Week
2-4, Morocco	Africa Renewable Energy Forum
8-9, South Africa	Southern African Association for Energy Efficiency
7-18, Morocco	UNFCCC COP 22
2-5, Zimbabwe	Clean Energy Week 2016

December

5-6, Germany	4th German-Africa Infrastructure Forum
7-9, Tanzania	Africa Energy Forum: Off the Grid
13-15, USA	Renewable Energy World International

January

14-15, UAE	Seventh Session of the IRENA Assembly
16-19, UAE	10th World Future Energy Summit

February

21-22, South Africa	Africa Energy Indaba
TBA, Botswana	ETG Meting

March

28-29, South Africa	Power and Electricity World Africa 2017