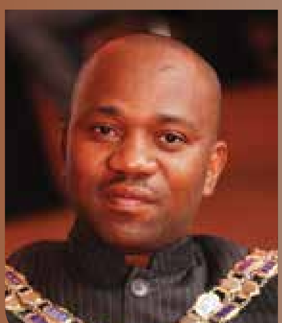
Etango

Namibia's Leading Renewable Energy Technologies *Magazine*

November-December 2019

WERNHIL MALL EMBRACES SOLAR



City of Windhoek pursues 25MW solar power plant

NamPower targets 90MW wind farms

Omburu to get new 20MW solar PV system

Big break for women-led Renewables projects

CELEBRATING ANOTHER MILESTONE

InnoSun Energy Holdings and the Lüderitz Town Council are proud to have been awarded the runner-up prize in the large enterprise category of the Development Bank of Namibia 2019 Good Business Awards, for Ombepo Energy.

The 5MW Ombepo Energy is Namibia's first wind energy farm near Lüderitz, in the //Karas Region.
The recognition by the DBN demonstrates that InnoSun and its partners are committed to promoting environmentally friendly renewable energy technologies in Namibia.

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Liberalisation of RE industry underscores need for a strong association

Namibia has seen wide-ranging reforms in the energy sector, which have opened up the industry to both local and international private sector players.

Among the policies that have recently been introduced to open up the energy sector for investment and development are the Independent Power Producers (IPPs) policy and the modified single buyer (MSB) model, building up on the Energy Policy and Renewable Energy Policy introduced a few years ago.

It is crucial that the local private sector plays an active role in addressing the future electricity needs of the country. However, local players in the renewable energy sector face stiff competition from their international counterparts who have more experience in the field, backed by easier access to capital which is vital in the sector.

The opening up of the sector to private sector participation in electricity generation has multiple benefits, which will contribute greatly to the diversification of supply options, assist in the introduction and transfer of skills and capital investments into the industry. But this development can also spell doom for many local companies and IPPs in the face of the fierce competition posed by the larger international players.

In addition, local IPPs already face several challenges, which amongst others, include grid connection issues, wheeling arrangements, market readiness to equitably allocate risk and favourable funding mechanisms.

These challenges faced by the local players underscore the need for a strong association to represent their interests at various levels. The resurgence of the Renewable Energy Industry Association of Namibia (REIAoN) is therefore a welcome development.

REIAoN presents a collective voice to better represent and protect the local players, while also promoting the adherence to quality standards in the sector. It is therefore imperative for the local players to add their voices to REIAoN by becoming members of the association.

In this year-end edition of ***Etango*** we highlight the forthcoming major developments in the Namibian RE sector. We zoom in on plans by NamPower to increase local generation capacity through the development of wind farms and solar plants. We also review progress of the City of Windhoek's plan to build a 20MW solar plant. Read about these and more stories inside.

As the curtain comes down on an eventful 2019, the ***Etango*** team would like to take this opportunity to thank all our readers and advertisers for appreciating the value of our publication and supporting us throughout the year. We would also like to wish you a Merry Christmas and prosperous 2020. Stay safe.

Happy Reading!
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CLEAN ENERGY: The 1130 kWp rooftop photovoltaic system at Wernhil Park Shopping Mall in the heart of Windhoek entered commercial operation in the first week of October, 2019. The PV plant provides clean energy to the shopping mall, reducing energy costs and CO2 emissions.

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City of Windhoek pursues 25MW solar power plant

Plans by the City of Windhoek to deliver a 25 megawatt solar photovoltaic power plant have reached an advanced stage with the feasibility study for the project having been completed.

The Public Private Partnership (PPP) Committee, chaired by James Mnyupe, is now busy with project approvals. The Committee has obtained clearance from Treasury on contingency liability for the city and is considering transaction approval 1 on the project's feasibility assessment.

The City of Windhoek has already issued an expression of interest for a potential partner in the PPP that will commission the project. The PPP committee, established in November 2018 in line with Section 5 of the Public Private Partnership Act No. 4 of 2017, provides for transaction approvals in respect of PPP projects, develops best practice guidelines in relation to all aspects of projects, advises the Finance Minister on policies relating to partnership projects and oversee the functioning of the unit.

At a PPP conference held in Windhoek in November by the Finance Ministry, in conjunction with Standard Bank, the unit's acting director Rauna Mukumangeni said solid progress had been achieved with regards to the City of Windhoek's solar power plant project.

Councillor Muesee Kazapua, Mayor of the City of Windhoek

> **Namibia's abundant solar resource was a clear indicator that renewable energy represents a valuable economic resource which should be exploited for the benefit of the country.**

She appealed for more private investment in energy and other infrastructure in Namibia and said that there was a need for well-prepared PPP projects which can be rolled off to investors.

Executive Director in the Ministry of Finance, Ericah Shafudah, said it was of paramount importance to explore opportunities in wind, solar and biomass projects in various parts of Namibia and commended the City of Windhoek for pursuing the 25MW solar power plant.

Although the City of Windhoek's Renewable Energy Policy provides for the uptake of solar photovoltaic installations at customer level by means of net metering, a 25MW solar PV plant has been on the agenda for the last few years with the city having marked it as one of its key priority focus areas.

Councillor Muesee Kazapua, Mayor of the City of Windhoek, highlights the solar power generation plant as one of city's six top priority objectives in the Municipality's latest annual report.

He says Namibia's abundant solar resource was a clear indicator that renewable energy represents a valuable economic resource which should be

A 25MW solar plant similar to the one the City of Windhoek wants to build

exploited for the benefit of the country. In the past, the Windhoek municipality had tried to implement proactive efforts to develop renewable energy sources within the city but these initiatives have been hindered by the absence of a coherent and clearly pronounced policy.

"Windhoek will intensify efforts to establish its own solar power generation plant. Our priorities which are set to make positive inroads into the provision of basic services, employment creation and the preservation of our residents' dignity are reflective of the burning needs of our community," the Mayor says.

Windhoek's renewable energy generation plan aims to reduce the city's reliance on NamPower generated electricity by allowing consumers to generate their own electricity through small-scale embedded generation, and for the city to invest in its renewable energy plant to generate electricity.

Electricity demand forecasts indicate that the existing installed capacity at NamPower's single-supply point to Windhoek of 160 Megavolt amperes (MVA) and the Van Eck transmission substation of 220/66 kV, is expected to be surpassed by 2020. In the meantime, due to the reduction of load fed from Van Eck by NamPower, the city has managed to secure an additional 30 MVA capacity from NamPower's existing Van Eck bulk supply point, therefore ensuring security of supply beyond 2020.

Windhoek is, therefore, under pressure to bring new capacity online. The city thus intends to increase the existing capacity by an additional 50MVA, bringing the total available supply capacity to 210MVA. Additional capacity will also be made available by NamPower from a new second bulk supply point to be established in Windhoek.

In August this year at the Economic Growth Summit, Finance Minister Calle Schlettwein said he hopes to see PPP agreements that reflect market realities, ensure win-win opportunities for both parties, and avoid unnecessary disputes. Synonymously, City of Windhoek will look to a win-win solar power partnership to calm the fear of future power deficits.

NamPower in search for 20MW Omburu solar plant developer

NamPower is on the hunt for a company to construct a 20 megawatt solar PV plant at Omburu, near Omaruru.

The Namibia Central Procurement Board recently announced a tender to select an engineering, procurement and construction services contractor for the Omburu power project. The current solar plant at Omburu was installed by InnoSun in 2015, with a capacity of 4.5MW. The plant generates about 13 500 000 kWh of electricity per year, which represents 1% of the electricity generation in Namibia.

The procurement board and NamPower will accept submissions for the 20MW project until January 31, 2020, at which point they will start reviewing bids.

NamPower first revealed plans for two 20MW solar projects in August, 2019. At the time, the utility said it would own and operate one of the projects and the other would be publicly tendered. NamPower said it planned to invest N$500 million in its facility, which is set for completion in 2020.

The other project is planned to be erected near Gobabis and Rehoboth, with an estimated N$400 million investment and is scheduled to be completed a year later in 2021.

The two projects are part of a mega plan recently announced by NamPower to install 220MW of electricity generation through renewable energy countrywide.

NamPower plans to invest about N$6.3 billion in power generation over the next five years to

NamPower MD Kahenge Simson Haulofu

Omburu is currently home to this 4.5MW solar plant developed by InnoSun in 2015

reduce the country's power imports. Namibia currently imports about 60 percent of its electricity mainly from South Africa's Eskom utility and from the regional power pool.

NamPower Managing Director, Kahenge Simson Haulofu, said the call for another Omburu solar power plant is testimony of the fact that Independent Power Producers (IPPs) are a success in Namibia and that NamPower is more than willing to enter into power purchase agreements (PPAs) with IPPs.

Namibia's current largest solar plant is a N$750 million, 45.5MW facility built by Spanish company Alten Energías Renovables just outside Mariental. The Hardap solar plant was developed by a joint venture between Alten, NamPower and Namibian energy companies Mangrove, Talyeni and First Place Investment.

According to a report by the International Renewable Energy Agency (IRENA), Namibia ranks among the fastest growing solar energy markets on the African continent.

Namibia has doubled its installed PV capacity, from 46MW in 2017 to 79MW in 2018. Namibia has always shown significant potential for solar energy development but has only recently been able to truly step up to the plate, mainly due to the renewable energy feed-in tariff programme (REFiT).

The REFiT programme was initiated by the Ministry of Mines and Energy, the Electricity Control Board and NamPower in 2015, with the intention to reduce electricity imports and attract private investment in the development of renewable energy resources in Namibia.

In its Corporate Strategy and Business Plan for the 2019-2023 period, NamPower says it expects to produce 150MW from its new generation projects and 70MW from projects developed by IPPs.

The 150MW NamPower projects are the Omburu PV (20MW), Otjikoto Biomass (40MW electric (e) or 2 x 20MWe), Lüderitz Wind Power (40MW, export capacity) and the Firm Power (AnixasII) (50MWe) power projects with commercial operation dates from 2020 through to 2023. These projects come at a cost of N$4,7 billion.

NamPower board chairperson Kauna Ndilula said the security of power supply remains the utility's priority and the new corporate strategy is geared at ensuring a reliable supply of power, while improving local generation capacity.

Ndilula said NamPower's new initiative is intended to be cognisant of developments in technology and to remain robust and responsive to technological advancements as they unfold over the strategy period.

NamPower plans to deliver a sustainable power supply supported by a least-cost tariff path that will facilitate economic growth.

"The new strategic plan is responsive to the imminent transition in the energy sector. With the shift towards a modified single-buyer market model, an increased number of market participants is envisaged, which will significantly increase market complexity," said Ndilula.

Renewable Energy Industry Association under revamp, steps up membership drive

The Renewable Energy Industry Association of Namibia (REIAoN) is currently undergoing restructuring to ensure its continued relevance, robustness and effectiveness, in the light of changes in this dynamic industry.

The association, which was established in 2008, recently elected a new Executive Board chaired by Jan-Barend Scheepers. The other new members of the Executive are Alastair Aspara (Vice-Chairperson), Leefa Bayete Ndilula (Treasurer), Paulus Mulunga (Secretary), Colin Malan Lindeque (Member). Norbert Dörgeloh and Joring von Gossler are non-executive members.

Scheepers says the new board's mandate is to promote matters concerning renewable energy in Namibia and to facilitate the growth of the sector.

"The new board has been hard at work revising the existing constitution to ensure that it is on par with the dynamic renewable energy industry in the country. We are also working on a revised website for the association were paid-up companies can market their products and services. The website will also provide up to date information on developments in the industry," says Scheepers.

The REIAoN board is working on registering the association as a section 21 organisation, which will enable the association to have better collaboration with especially international agencies and organisations.

A number of information sharing activities with members have been planned for 2020, where members can interact and share industry best practices.

"We urge all sector players to join the association as there are a number of benefits not only to the members but also for interested citizens or organisations. Members are expected to adhere to a general code of conduct that aims to encourage quality work, which provides maximum benefits to the end users thereby ensuring a positive public perception of RE. End users are thus given peace of mind for their investments in RE technologies provided by REIAoN members," says Mulunga, the REIAoN Secretary.

Benefits for members include being part of an organisation that has close relations with governing stakeholders in the industry. Member queries/ concerns are carried by a single strong entity to better facilitate attention and prompt response.

Members can also be invited to participate in "internal tenders", when potential clients request a quote through REIAoN.

In addition, REIAoN members are eligible for subsidised fees for seminars, workshops and other activities organised or co-organised by the association. They also receive coverage in REIAoN publications and on the association's website, as well as other social media platforms.

Members can also vote at AGMs and other assemblies, and are eligible to stand for office within the Executive Board or any committee or task force created by REIAoN.

The renewable energy industry in Namibia is a growing industry as more businesses and individuals begin to understand and appreciate the benefits that RE brings. This growth has seen a huge rise in the number of businesses operating in this space. Along with that, RE has seen a substantial contribution to Namibia's economy through investment, infrastructure, job creation and skills development.

This has necessitated the creation of REIAoN so as to have a collective voice to best represent and protect the sector, which still has abundant

The new REIAoN Executive Board elected during the association's AGM held on 5 September. From left: Colin Malan Lindeque (Member), Alastair Aspara (Vice-Chairperson), Jan-Barend Scheepers (Chairperson) and Paulus Mulunga (Secretary). (Inset) is Leefa Bayete Ndilula (Treasurer)

potential for growth and to continue positively impacting Namibia.

Some key objectives of REIAoN include;

- To promote renewable energy (RE), energy efficiency (EE), energy storage (ES), electro mobility (e-mobility) and any other forms of sustainable energy supply,
- To advocate for renewable energy issues, especially with the public stakeholders,
- To promote, foster and endorse enabling policy and regulatory framework for renewable energy,
- To establish professional relationships with national and international bodies that share similar objectives and;
- To enhance the adherence to quality standards for installation of RE solutions, as well as establishing professional relationships with national and international bodies with similar or comparable objectives.

REIAoN membership is open to any persons and organisations. Both public, private or even any interested person. Currently, the association has four membership levels namely;

1) Personal (for individuals)
2) Company (for registered businesses)
3) IPP license holders (for Independent Power Producers) and;
4) International IPP (which are not registered in Namibia)

REIAoN says membership levels are continuously being reviewed so as to be as inclusive of as many membership types as possible.

The need for an active association is more important now as a result of the various developments in the renewable energy sector, as well as the need for Namibia to become self-sufficient in its power generation where renewable energy technologies play an important role.

The REIAoN board has developed strategies to overcome some of the past shortcomings and is excited to have an active association that promotes the member's interests in this growing sector.

"The new executive understands the important role that such an association plays in the renewable energy industry in Namibia and looks forward to positive engagements with old and new members. We encourage all interested parties to make contact and keep an eye on the association's exciting developments to bear fruit from 2020," says Scheepers.

The REIAoN executive can be contacted on the following email addresses:

Jan-Barend Scheepers (chairperson@reiaon.com.na)

Alastair Aspara (vice-chairperson@reiaon.com.na)

Paulus Mulunga (secretary@reiaon.com.na)

Leefa Bayete Ndilula (treasurer@reiaon.com.na)

Colin Malan Lindeque (info@reiaon.com.na)

NamPower targets 90MW wind plants

NamPower has set in motion plans for a billion-dollar project that will see the construction of a number of wind farms on sites around the Elizabeth mine, near Lüderitz, in the Tsau //Khaeb (Sperrgebiet) National Park.

The power utility plans to develop and operate a 40MW wind farm, while a second site in the same vicinity is earmarked for 50MW generation and will be developed as part of a public-private partnership (PPP).

The bid will close in March 2020 and is set to be awarded in May 2020.

For the 50MW, the financial close is expected to be in February 2021, while the commercial operation date is set for June 2022. The two wind projects are expected to cost in the region of N$1,6 billion.

Shedding more light on the ambitious projects during a briefing to Environment and Tourism Minister Pohamba Shifeta and Mines and Energy Deputy Minister Kornelia Shilunga, NamPower principal engineer Ernst Krige said if the wind potential on the identified sites is proven, 16 wind turbines will be erected to generate 40MW.

However, he said NamPower will still need to collect wind measurements over a period before going ahead with the projects.

"After data collection and formal bidding of specifications into the market, the project can commence. There are studies ongoing on sites," Krige said.

He said NamPower would select the suitable IPPs based the project's environmental impact management model since the wind turbines will be erected in the fragile Tsau//Khaeb (Sperrgebiet) National Park.

Environment Minister Shifeta said the ministry had allocated a plot within the national park where the generation of wind and solar energy can be conducted, in line with the country's submission to the United Nations on climate change.

He emphasised the need to protect the delicate environment of the park and said the proposed wind farms would be set up in accordance to environmental restrictions to avoid damaging the biodiversity and environment.

"We have more sources of wind energy, especially close to the ocean and offshore. It is within our programme to have more wind power generated, with a combination of solar. It can supply power to the country for up to 70% by 2030. We can achieve that goal. It is also a cheaper source of energy to generate," Minister Shifeta said.

Southern Africa, led by South Africa and Namibia, is moving towards becoming a top global wind energy destination, with enabling factors including an exceptional resource and a growing recognition that wind power can help plug the energy gap, attract investment, foster economic growth and create jobs.

The Global Wind Energy Council (GWEC) says the Southern African Development Community (SADC) has a wind energy potential of around 18 GW.

As a step to attract more IPPs, the government recently introduced a significant change in how electricity generated by the private power producers is sold. The Modified Single Buyer Model (MSB) and the IPP policy are envisioned to increase domestic supply and curtail imports.

The MSB market model will allow eligible IPPs to generate and sell electricity directly to customers such as regional electricity distributors (REDs), large industrial and mining companies, municipalities and local authorities.

Energy sector reforms open door for IPP investment – Schlettwein

Reforms in the Namibian energy sector have created further opportunity for Independent Power Producers (IPPs) to invest in renewable energy projects.

Finance Minister Calle Schlettwein, in remarks at the 5th Annual Public Private Partnerships (PPP) Conference in November, underscored the large scope that existed for investment in renewable energy in Namibia.

"The focus on energy and, specifically, renewable energy is to contribute to the national objective of secure but sustainable energy supply, thus plugging national energy supply gaps, while securing affordable clean energy," Minister Schlettwein stated.

Recent policy reforms to liberalise participation in the energy sector, such as the introduction of the Modified Single Buyer Model (MSB), had opened more doors for IPPs invest in energy generation.

The Minister said potential bankable projects were abound for financiers to deploy financing towards projects in the renewable energy sector. Green mini-grids, green baseload and energy efficiency are amongst the investment opportunities.

"One potential project that is of major importance in the energy sector is the 25 MW solar plant by the City of Windhoek," Schlettwein said.

***COMPELLING OPTION:** Finance Minister Schlettwein*

Speaking at a conference hosted by the Economic Association of Namibia, Schlettwein said he was happy to note that renewable energy technology was evolving and rapidly becoming more affordable.

"Renewable energy projects now smartly compete with conventional power sources from a cost point of view. Renewable energy facilities are also very relevant for a sparsely populated country like Namibia where grid connectivity may not be a feasible option for all locations," the Finance Minister said.

Schlettwein added that renewable energy projects have proven such solutions are not only beneficial for domestic use but also supporting local businesses, like the use of locally produced energy for running irrigation pumps.

Namibia has one of the best solar irradiation in the world, while the wind resource is also said to be economically viable to develop.

All this, the Minister said, sums up to the fact that Namibia has a strong case to embrace renewables as an important constituent in its energy mix.

Wernhil Mall gets 1.13MW rooftop solar system

Ohlthaver & List's recently expanded Wernhil Mall, in the heart of Windhoek, now boasts a 1.13 MWp solar photovoltaic off grid system on its rooftop.

Wernhil Mall, the main mall in the city, has been expanded to offer shopping convenience for Windhoek shoppers.

The shopping hub now runs on green electricity after Cronimet Mining Power Solutions completed the installation of the rooftop system. The system started generating electricity in the first week of October, 2019.

Cronimet has deployed 400 Wp PERC modules technology for the Wernhil solar system. The technology deployed maximises the production of electricity from the sun's rays.

Apart from providing electricity to the Wernhil Mall, the new solar rooftop system will prevent emissions of 2,144 tonnes of CO^2 per year.

Another O&L subsidiary, Namibia Dairies, also installed a 800kWp solar system at its Windhoek plant, earlier this year. The installation was also done by Cronimet. The off grid system consists of solar panels installed on the roof of the factory, on the rooftop of the carport and in the courtyard of the establishment.

In this project, Cronimet acted as an engineering, procurement and construction (EPC) partner. The company will operate and maintain the facilities over a 25-year period.

Cronimet develops, finances, owns and operates utility-scale PV plants and minigrids throughout sub-Saharan Africa. Its development pipeline includes more than 270 MW of utility-scale PV, solar PV-diesel hybrid and rural minigrid installations, spanning countries such as Namibia, South Africa, Botswana, Mozambique and Zambia.

In August 2018, Cronimet paired a 150 kW solar array with a 332 kWh battery storage system at Chobe Water Villas, a new luxury resort in the Zambezi region of Namibia.

In a year that marks 100 years of O&L's existence, the Wernhil Mall has been expanded to offer an even greater variety of choice and more convenient retail experience for the CBD shopper. With an area of over 55 000m² of prime retail space, Wernhil Park's warm and inviting atmosphere is symbolic of a true Namibian experience.

Shopping convenience has significantly been enhanced by the addition of more parking and food offerings; a second public transport facility as well as a fully-fledged medical facility and overall easier pedestrian access into the mall from particularly the southern part of the center.

Further investments in the Wernhil Mall not only enhance the vibrancy and appeal of Windhoek and in particular it's CBD, but even more so enhance the lives of those who benefit from the new jobs created.

Renewable Energy socio economic benefits:

A case study of South Africa's IPP Procurement Programme

By Iyaloo Akuaake

The energy transition cannot be considered in isolation from the broader socio-economic system. In fact, the changes in the energy system have impacts throughout the economy.

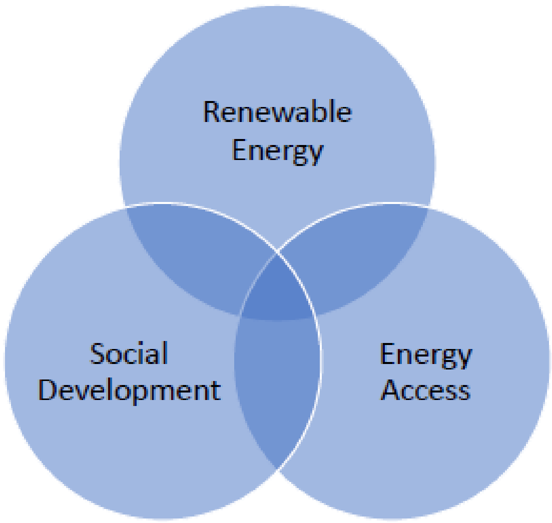
The deployment of renewable energy is recognised as a tremendous opportunity that helps to diversify a country's skill base, boost its industrial development and support societies' broad developmental priorities. Importantly, it all comes down to a single question: How can renewables improve the lives of people? This article will look at how this is being achieved in neighbouring South Africa.

Since 2011, South Africa has experienced significant growth in utility-scale renewable energy through the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP). While the growth of this sector is already stimulating important economic impacts nationally, there is also considerable interest in the benefits that renewable energy will create for remote, low-income and marginalised communities.

South Africa's renewable energy procurement policy is unique in its emphasis on stimulating socio-economic benefits at the local level, for communities in the vicinity of the RE projects. The REIPPPP has created a legal framework to incentivise IPPs to channel benefits to communities near RE project sites through a range of means, including local employment quotas, community ownership in RE projects, as well as contributing a proportion of their revenue towards development spending, known as socio-economic development (SED) and enterprise development (ED) spend.

With its socio-economic co-benefits, the REIPPP programme makes important contributions to meeting the objectives of the

Iyaloo Akuaake



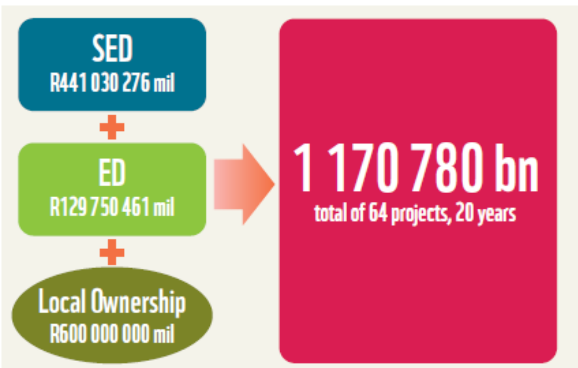
UN 2030 Sustainable Development agenda. While the REIPPP programme is most directly associated with SDG 7 (Sustainable Energy for All), through its socio-economic co-benefits it also makes important contributions to meeting other objectives, such as SDG 1 (No Poverty), SDG 4 (Quality Education), SDG 8 (Decent Work and Economic Growth) and SDG 10 (Reduced Inequality).

The evaluation process of the REIPP procurement programme is composed of two clear-cut phases. In a first pre-qualification stage, bidders must meet a set of minimum criteria. Bidders have to first satisfy certain minimum threshold requirements in six areas: financial; technical; commercial and legal; land; economic development; and environment. In the second stage of the evaluation process, bids are reviewed based on weighted criteria, namely 70% for their price offer and 30% for their additional contribution to economic development.

Within the 30 points (out of 100) which are awarded for economic development, different components are weighted as follows: job creation (25%), local content (25%), ownership (15%), management control (5%), preferential procurement (10%), enterprise development (5%), and socio-economic development (15%).

Economic opportunities for rural and marginalised communities are especially important within the South African context, as such communities are characterized by some of the most severe economic inequality in the world. Many of the gains from South Africa's post-apartheid economic growth have not been shared by the poorest and most vulnerable of its citizens.

This inequality is also experienced spatially, with remote and rural communities experiencing some of the poorest developmental outcomes in the country. The REIPPPP has created a legal framework to incentivise IPPs to target communities within 50km of RE project sites to drive expected direct local value creation and socio- economic benefits.



Source: Desktop analysis by author in collaboration with DoE's IPP-office, approved for publication in 2014. Discounted with EOCK rate of 8.4%

Educational impact: Projects and programmes within the category of education varied widely in their scope, duration, approach and focus.

> **The deployment of renewable energy is recognised as a tremendous opportunity that helps to diversify a country's skill base, boost its industrial development and support societies' broad developmental priorities.**

They included bursary schemes, investments in infrastructure, provision of resources and various types of support to teachers, children and scholars at various levels.

Employment impacts: Increased deployment of renewable energy in South Africa and the associated effects of fostering SED spending leads to net increases in educational gains for marginalised communities over the assessed time horizon. Direct jobs are created through the construction, operation and maintenance of the RE projects and more jobs are created through SED and ED spend. The analysis of the spatial distribution of jobs created assumed that all jobs created through SED and ED spend are local.

The programme has constituted a very efficient springboard for the renewable energy industry in the country by stimulating interest and investment, and laying the foundations for further developments.

In addition to procuring large-scale renewable energy-based electricity at increasingly competitive prices, the programme has brought some added benefits to the country in the form of job creation, industrial development, community development and local ownership.

Ultimately, the success of the REIPP procurement programme has enabled significant changes in the electricity supply industry by facilitating the entry of IPPs into the generation market and the development of renewable energy in the country. The programme represents a cornerstone feature of the creation of a more competitive and efficient electricity supply industry and the transition to a clean and low-carbon energy mix.

Namibia could look into the benefits of having a similar procurement programme, seeing all the benefits that arise from it.

• Iyaloo Akuaake is pursuing her postgraduate studies in Renewable Energy and Sustainability at the University of Stellenbosch. She's also currently employed as an environmental and social officer at Trustco Group Holdings Ltd.

Erongo Region aims to be Namibia's 'renewables hub'

The Erongo Region has seen remarkable growth in the development of renewable energy generation, with four solar plants having been developed in a short period of time.

The coastal region is seen as ideal for renewable energy development - from solar, wind and wave resources.

Erongo Governor Cleophas Mutjavikua says the government's energy development initiatives should be exploited by stakeholders in the industry to turn the region into an energy powerhouse.

The Governor singled out the recently-approved modified single buyer (MSB) model, and National Integrated Resources Plan (NIRP).

The MSB model was introduced by the Electricity Control Board to allow transmission electricity consumers and independent power producers to transact directly for the supply of electricity. Since September, transmission customers are able to buy a portion (up to 30%) of their energy requirements directly from a private generator.

A second phase of this model will allow for distributed customers with larger 1MW capacity to also become contestable customers.

"ErongoRED now has the opportunity to source and negotiate cheaper electricity from independent power producers, and pass lower tariffs to customers," the Governor said.

He said with the natural resources that Namibia boasts, the country should be in a position to be self-sufficient in electricity.

"This can be done by investing in solar and wind electricity. This will not only prevent dependency on foreign electricity imports, but will also improve the living standards of our people, and add value to the local economy," the Governor said.

Namibia's renewable power supply capacity through various systems across the country has grown to approximately 35% of Namibia's total electricity production, and about 12% of Namibia's maximum demand.

ErongoRED recently launched its five-year strategic plan that will run June 2023.

Deputy Minister of Mines and Energy Kornelia Shilunga launched the new plan, and said it was in line with national development plans when it comes to affordable electricity provision.

"Access to electricity remains a challenge, and requires commitment and prioritisation by the distributors to reach the goals. I am well-aware of the pressure from consumers demanding lower electricity tariffs, while the generation, transmission and distribution costs are ever-increasing," she noted.

Shell remains optimistic about Namibia gas, oil prospects

Royal Dutch Shell is bullish about gas or oil prospects in Namibia after it gathered sound data indicating there was a chance of a world-class deep water petroleum system offshore, some 30 kilometres north of the Namibia-South Africa border.

The revelation was made by Shell Exploration Vice President for Africa and Middle East, Colette Hirstius when she and her delegation paid a courtesy call on President Hage Geingob at State House in November.

The Shell delegation discussed their oil and gas exploration activities in Namibia with President Geingob.

Hirstius told President Geingob that the oil or gas discovery could, however, only be ascertained after the company had drilled a well.

"We will know for sure whether there is oil or gas in the licence we have after we drill. If the well is successful, we will then begin to assess what type of volumes may be there," she said.

The oil giant is also working in collaboration with American upstream oil company Kosmos Energy and the National Petroleum Corporation of Namibia (Namcor) on the technical data and plans to drill the well early in 2021.

"So, next year is the most exciting aspect of our goals, which is really when we will put together all of the pieces, and determine where to drill the well," Hirstius said.

Shell Namibia Exploration Vice President for Africa and Middle East, Colette Hirstius (centre), briefed President Geingob about Namibia prospects

Shell has been in Namibia since 2014, and has acquired a 90% controlling interest in Petroleum Exploration Licence 39 located offshore Namibia, with the additional 10% interest held by Namcor.

Speaking at the Africa Oil Week conference in Cape Town, South Africa, Hirstius said: "Namibia is one of the places where the geology is very interesting. We recently acquired seismic data and are continuing to be encouraged by what we see."

Maggy Shino, Petroleum Commissioner at Ministry of Mines & Energy, revealed that Shell planned to drill a well on a prospect called Graff.

Another prospect under consideration is called Cullinan, while a third is another play that the company is currently working on, which has not yet been named.

Shell is currently undertaking technical evaluation work on 7500 square kilometres of new 3D seismic that was shot this year to choose between the three potential well sites.

The whole Orange basin is mainly based on the Aptian source rock, which has been proven in the basin and that is one of the main attractions.

Karyna Rodriquez, vice president of geosciences at seismic player TGS, said Namibia shows signs of similar mixed turbidite-contourite systems that have thrown up huge discoveries at the likes of Tullow Oil's Jubilee field off Ghana, the Sergipe oil discoveries off Brazil and, potentially, ExxonMobil's giant Liza oil find off Guyana.

"This looks exactly like (some) huge discoveries that have been made. This is what Shell is targeting and this is what will change the outlook on the Namibian margin," Rodriguez said.

Deputy Prime Minister and Minister of International Relations, Netumbo Nandi-Ndaitwah attending the 10th Board Meeting of AREI in New York

AREI pushes Africa energy transition to renewables

The Africa Renewable Energy Initiative (AREI) has set itself a challenging goal of building 300 Gigawatts (GW) of renewable power generation capacity on the continent by the year 2030. In the initial phase, at least 10GW are slated to be in place by 2020.

President Hage Geingob represents Southern Africa on the AREI Board of Directors.

AREI held its 10th board meeting on the sidelines of the 74th United Nations General Assembly in New York on 23 September. Namibia was represented in the meeting by Deputy Prime Minister and Minister of International Relations, Netumbo Nandi-Ndaitwah. The board meeting reviewed progress made in ensuring Africa's energy transition to renewables following the Paris Accord of 2015.

AREI was launched in 2016 and is led by institutions from the continent under the mandate of the African Union. Its Governing Board is composed of representatives of various African institutions such as the Committee of African Heads of State and Governments on Climate Change; the African Ministerial Conference on the Environment; and the African Development Bank.

The Board hailed the Interim Technical Committee for the work done and adopted the recommendations in their entirety. It took note of the Interim Technical Committee's approval of 92 new projects, distributed among the five African sub-regions for a potential capacity of 24.76GW, bringing the number of labelled projects to 512. It adopted 78 projects submitted by the

Committee for an amount of €7,112 million (about N$115 billion) and a capacity of 4 776.50MW (4.77 GW).

The 78 projects adopted in New York bring the capacity created to 9,989.05MW (9.99 GW). AREI encouraged the private sector to become more involved in renewable energy in Africa.

The African public sector has been urged to put in place a fair and structured regulatory framework that safeguards the interests of all energy sector stakeholders across the continent.

The European Union, France and Germany have underlined their satisfaction and renewed their confidence in AREI.

The International Energy Agency, which says Africa is at the "epicentre of the global challenge to overcome energy poverty", estimates that annual electricity consumption per capita on the continent for 2012 was around 600kWh, compared with the world average of 3,064kWh.

The plan to accelerate solar, hydro, wind and geothermal energy could see Africa leapfrogging other continents by developing thousands of small-scale "virtual power stations" that distribute electricity via mini-grids and would not require transmission lines, which involve a loss of up to a quarter of power during the process.

The continent has been short-changed by climate change. But we must ensure that it is not short-changed by climate finance. AfDB will triple its climate finance to US$5 billion a year by 2020

President of the African Development Bank (AfDB), Akinwumi Adesina, said the continent currently loses 4% of its GDP due to a lack of clean energy.

"Africa is the continent suffering the most from the scorching heat from rising temperatures, and droughts have become more frequent and with greater intensity than ever before. Africa needs more money for adaptation.

"The continent has been short-changed by climate change. But we must ensure that it is not short-changed by climate finance. AfDB will triple its climate finance to US$5 billion a year by 2020," he said.

Sub-Saharan Africa is the only region in the world where the number of people without access to electricity is set to rise. By 2030, Africa's share of the world's population without electricity will increase from less than half today to more than two-thirds.

Representatives of Ombepo Energy, runner-up in the DBN 2019 Good Business Awards large enterprise category, receive the award from Economic Adviser to the Minister of Finance, Penda Ithindi, Chairperson of the DBN Board, Tania Hangula, and DBN CEO Martin Inkumbi

Ombepo Energy, Pulsar Electronics win big at DBN Good Business Awards

Ombepo Energy, Namibia's first wind energy farm near Lüderitz, scooped the runner-up prize in the large enterprise category of the Development Bank of Namibia (DBN) 2019 Good Business Awards, while Pulsar Electronic Solutions went away with the Innovation Award.

Pulsar Electronic Solutions has developed a smart metering platform to enable household and enterprise electricity users to control their electricity usage remotely using mobile devices.

Although the DBN is actively engaged in financing energy generation and transmission, it also recognises that streamlining and economising electricity usage is an important factor in energy sustainability for Namibia.

Ombepo Energy is a joint-venture between InnoSun Energy Holdings and the Lüderitz Town Council.

The DBN-funded N$180 million 5 megawatt Ombepo wind farm is the first grid-connected wind farm in Namibia and started feeding power into the grid on 20 August, 2017.

DBN has prioritised energy and electricity financing, and has developed a strong track record in the field of renewable energy.

DBN CEO Mr Martin Inkumbi said the Bank's experience is that innovation is not an instant, overnight phenomenon, but an exacting process of enterprise maturation to the point of bankability.

He said Pulsar Electronic Solutions had earned the support of the Bank in the journey to place the project on the path to enterprise success.

DBN Chairperson Tania Hangula said the Bank's main objective is to support economic and social development and that it aims to achieve this goal through the provision of finance and business support to Namibian enterprises.

Long-term business sustainability, she noted, is important to ensure sustainable economic growth and social progress.

Through the Good Business and Innovation Awards, the DBN demonstrates commitment to support Namibian businesses who have demonstrated resilience and a winning attitude, Hangula noted.

DBN has supported the creation of 24,000 new jobs and 32,000 temporary jobs since 2004, while approving over N$15 billion development finance for infrastructure and enterprise activities over the 15 years of its existence.

BFS incubation project targets solar solutions

Business Financial Solutions (BFS) has set up an incubation studio aimed at helping start-ups and small and medium enterprises with high potential through customised operational and professional support.

The incubation studio was launched in Windhoek in November, in conjunction with the Kula Impact Fund.

The studio will incubate four start-ups which emerged from the 18 business ideas submitted through the BFS and GreenTec Capital Partners in September. The targeted projects are on transport solutions, using solar energy, chlorine production using solar energy, smart technology to help reduce power consumption and cosmetic-pharmaceuticals for sensitive skin.

Chief Investment Officer for Equity Investments at BFS, Christina von Doderer, said they are planning to raise N$150 million, with at least a third (N$50 million) to be raised in the first stage.

"We have firm commitments for N$25 million, and various organisations are reviewing our investment proposals for them to contribute as well and help us get to that first milestone target of N$50 million," she said.

BFS will assist start-ups with advice, operational support, office space, and connect them with the right people from their vast network during this difficult stage in order to get them investment-ready through the BFS start-up studio.

Kula Capital will then come in to fund, and get businesses operational. The fund will also provide capital to SMEs who struggle in terms of low capitalisation and lack of collateral and poor record keeping and/or financial management.

The investment fund's main objectives include; investing funds to achieve a tangible social and/or environmental impact while also generating acceptable long-term returns; contribute to the development of a private equity industry and mentality in the country whilst fostering entrepreneurship and identifying possibilities for turning Portfolio Companies into local, regional and international champions and examine the potential for expanding them regionally, taking advantage of the regional trade benefits.

Chief Investment Officer Equity Investments at BFS, Christina von Doderer (left) during the launch

"The fund's investments will be accompanied by the Fund Manager's expertise in corporate governance, market and business strategy building and implementation, financial and administrative controls and business best practices as well as access to its wide network, spanning both public and private sectors," von Doderer said.

The Minister of Industrialisation, Trade and SME Development, Tjekero Tweya encouraged start-ups and SMEs to make full use of the incubation studio and investment fund as it will enable them to increase their productive capacity and to rapidly increase competitiveness in the domestic, regional and international markets.

"The investment proposition of Kula Capital Namibia represents one of very few pioneering initiatives in the country offering investors the opportunity to champion the creation of an investment fund that will be a growth catalyst for small and medium-sized Namibian start-up enterprises.

The fund will be making investment in value-adding sustainable enterprises generating positive returns ranging from below market to market rate while also having a positive social and/or environmental impact," Tweya said.

Investment set to make Africa a world leader in renewables

Africa is set to become a world leader in renewable energy it emerged at the Africa Investment Forum (AIF) held in Johannesburg, South Africa, in November.

The Forum organised by the African Development Bank (AfDB) and its various partners discussed deals worth US$67 billion About N$978 billion) around sustainable, renewable energy.

African leaders are doing all they can to encourage investment in renewable energy.

Alain Ebobisse, CEO of Africa 50, the Pan-African infrastructure investment platform capitalised by the AfDB, said that there was a consensus from African leaders that they needed to do whatever they could to attract more private investment. He said that the AIF attendance showed that there was a changing narrative for investment on the continent.


AfDB President Akinwumi Adesina

Ebobisse said they had been tremendous developments in the African renewable energy sector, highlighting the 1.5 GW Benban Solar Park in Egypt, which is the world's largest solar photovoltaic plant.

Africa 50 invested in 400 MW in that project and completed it from design to commercial operations in two and a half years.


AfDB has teamed up with international organisation to drive solar development in Africa

Kenya's private-funded Lake Turkana Wind Power project, which at a generation capacity of 300 MW makes it the largest wind power project on the continent.

The AfDB recently doubled its investment in climate finance from US$12 billion to US$25 billion by 2020.

"Almost 50 percent of our finance will be going to climate adaptation as opposed to climate mitigation. So we are the first multilateral development bank to actually reach that balance in terms of adaptation and mitigation.

"I believe that coal is the past. I believe that renewable energy is the future and we as a bank are investing in not in the past, but in the future in making sure that we are investing in solar energy, in hydro energy, in wind, all types of renewable energy that Africa needs. We want Africa to lead in renewable energy," Akinwumi Adesina, President of the AfDB, said.

Almost 50 percent of our finance will be going to climate adaptation as opposed to climate mitigation. So we are the first multilateral development bank to actually reach that balance in terms of adaptation and mitigation

One of the projects the AfDB is financing is the Green Baseload Facility, which according to the bank, aims "to accelerate the transition towards more sustainable baseload power generation options and prevent countries from locking themselves into environmentally damaging and potentially economically costly technologies".

"It's a US$500-million facility that we have set up to support countries that want to shift out of fuel-based energy into renewable energy and providing access to finance at a cheaper rate to be able to make that transition," Adesina said.

The AfDB has always stated "a lack of energy remains a significant impediment to Africa's economic and social development".

Zambezi school relief after solar power system installation

TEACHING and learning will now become easier after Nsundwa Combined School in the Kabbe constituency of the Zambezi Region was electrified with solar power.

The Hanns Seidel Foundation recently commissioned a solar plant worth N$350 000 at the school. It was one of two schools in the rural areas of Zambezi identified by the foundation this February with the need for power as it has limited power coverage.

The coordinator of the project for the organisation, Rodney Seibeb, together with partners EduVentures and the Namibia Energy Institute (NEI), chose Nsundwa as one of six schools in need.

Other schools which were identified include Omuuni Combined School and Ondjabayonghalu Combined School in the Ohangwena region, Ongongo and Otjikojo Primary School in the Kunene region, and Kandunda Kaseta Combined School in the Zambezi Region.

"During our familiarisation visit to the school, we identified it to be supported with renewable energy and energy sufficiency, and we also selected it to benefit from the outreach activities with a state-of-the-art mobile classroom," said Seibeb.

The acting principal of Nsundwa, Alex Kamwi, said the help of the foundation is appreciated by the entire school because they previously had limited use of administration appliances, and evening studies for the pupils could not last for more than an hour without power interruptions.

"Teaching and learning will become better because now we have enough power to use, especially during evening studies," he beamed.

Dr Clemens von Doderer of the Hanns Seidel Foundation said a well-supported and well-equipped school is an efficient means to effectively contribute to the quality education of learners, particularly those based in rural areas.

The Deputy Executive Director for Finance and Administration in the Ministry of Education, Arts and Culture, Knox Imbuwa, said the solar installation will go a long way in assisting in the deliverance of quality education.

"It is a fact that many rural schools still remain without electricity, and it is for this very reason why the government acknowledges and welcomes, with utmost appreciation, the assistance from our partners in education," he said.

***CLASSROOM SOLAR:** Installed Solar panels at Nsundwa Combined School in the Zambezi Region*

REPP is seeking to address the imbalance in renewable energy development by calling for applications from projects run by women

Big break for women-led renewable energy projects in Africa

The Renewable Energy Performance Platform (REPP) has issued a gender-themed request for proposals (RFP) targeting women-led renewable energy projects in Africa.

Deadline for applications has been slated for 15 January 2020.

By focusing on women in particular, UK-government funded REPP is aiming to channel sources of funding to help create equal opportunities for women in the continent's rapidly expanding renewable energy sector.

REPP works to mobilise private sector development activity – and investment – in small to medium-sized projects (typically up to 25MW). It is supported with £148 million (about N$2,8 billion) funding from the UK's International Climate Finance through the Department for Business, Energy and Industrial Strategy (BEIS), and to date, has agreed contracts with 24 renewable energy projects across 13 countries, employing six different technologies, from solar water heaters and PV mini-grids to biomass.

The call for proposals follows a recent report by Global Entrepreneurship Monitor that found there are over 250 million women entrepreneurs globally, with the highest prevalence of emerging female entrepreneurs being in sub-Saharan African - and at more than double the global average.

However, businesswomen across the region face a raft of gender-specific challenges accessing finance, with the African Development Bank (AfDB) previously estimating a US$20 billion financing gap for African women.

To address this, the RFP is seeking applications exclusively from:

Majority woman-owned or managed private sector entities that have a renewable energy project under development; and/or,

Private sector entities or projects whose focus is to promote economic empowerment of women through enabling the productive use of energy for women as end-users, and/or access to energy finance for female entrepreneurs.

Tailor-made support structure

Successful applicants stand to benefit from a host of financing services and support tailored to their unique circumstances and needs, ranging from technical assistance and capacity building to development loans, gap financing and access to risk mitigation instruments.

Geoff Sinclair, managing director at Camco Clean Energy, which manages REPP, said: "Women are central to the growth of a fair, affordable and clean energy future for Africa, but they are currently grossly underrepresented in the renewables sector, just as they are across the energy sector as a whole.

"REPP is seeking to address this damaging imbalance by calling for applications from projects where women are the leaders, the innovators and the beneficiaries, so that we can help provide access to funding to bring their plans to life and help unleash the immense opportunity women offer for economic and social development in Africa," Sinclair said.

Detailed information about the application, evaluation and selection process can be found on the REPP website here https://repp.energy/

All queries should be emailed to rfp@camco.energy

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For more information about the Shell Fuel Card, please contact the Toll Free Customer Service Centre on 080 0021 021 or email: Shellcard.Namibia@vivoenergy.com