

Etango

Namibia's Leading Renewable Energy Technologies
Magazine

MARCH-APRIL 2024

SOLAR UPSKILLING



5G Connectivity Seen Enhancing Efficiency of Renewables



Donkerboss, Sonneblom Communities Receive 71 Solar Home Systems



New Book Explores Namibia's Water-Energy-Food Nexus



NECTM
ENERGY



atmos // air 180



atmos // air 270

Solahart Atmos Heat Pump Water Heater

NEC Energy (Pty) is very excited to bring a new product to the Namibian market from one of their long-term suppliers, Solahart. Since 1985 NEC Energy have been the authorised installer and reseller of Solahart Solar products in Namibia. Over the years this relationship has grown from strength to strength.

Solahart itself has been around since 1953 as one of Australia's solar pioneers. Worldwide over one million solar hot water systems have been installed by the company in over 70 countries.

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Electromagnetic two-way valve



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How it works...

Simple principle of operation:



Impact of Falling Solar Panel, Battery Prices

Namibian institutions and individuals have been turning to solar solutions to fulfil the rising demand for electricity, although much still needs to be done to ramp up the pace.

The country's solar potential is vast and government has put in place policies and legislation aimed at driving up the adoption of renewable energy sources, mostly solar.

Although the appetite for solar solutions in the country is at its highest, the high initial cost of solar installations has remained a major hindrance to the increase in their uptake. Many believe that government still needs to do more to aid the escalation of the uptake, including introducing tax incentives for solar technologies and more easily-accessible subsidised loans.

However, the continued reduction in solar photovoltaic (PV) panel and battery prices is expected to have a positive impact on the adoption of solar technologies by residential and commercial users in the country. Solar energy is becoming more

and more competitive as costs come down and technology improves. Because of this and other factors, including the need to cut greenhouse gas emissions and fight climate change, solar energy is positioned to be a major force in Namibia's sustainable development.

The International Energy Agency has reported a drop of up to 50% in the prices of PV panels in the last 12 months. Prices of the lithium iron phosphate battery technology have also been dropping although not at an alarming rate.

In recent times, Namibia has recorded a rapid increase in small-scale solar projects, especially in rural and off-grid areas. Communities that were previously underserved by the national grid are now receiving clean and affordable electricity thanks to solar household systems and mini-grids. This decrease in dependency on centralised power infrastructure is empowering people and communities to become self-sufficient through decentralised energy generation.

According to government's Off-Grid

Energisation Master Plan, up to 80% of the country's population is expected to have access to renewable energy, mostly through off-grid solar solutions, by 2025. This opens up a chance for solar companies to enter the off-grid market and offer cutting-edge energy solutions to disadvantaged populations.

However, affordability remains the major stumbling block for these off-grid communities hence the expectation for government and its development partners to continue to take the lead.

Read more about this development inside this edition of **Etango**. We also bring you news on the impact that 5G technology will have on Namibia's renewable energy revolution. We explore the massive potential for Namibia in wind turbine tower and blade production.

Happy Reading!

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Reg. No. 2007/3268

VAT No. 4530957015

OFFICIAL MEDIA PARTNER OF



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Globe Communications Namibia

Advertising

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Distribution

Globe Communications Namibia



Cover picture:

NEW SOLAR SKILLS... The short course offered by GREEN Solar Academy meets the needs of busy professionals and covers the entire spectrum of solar technology, encompassing aspects such as design, installation, maintenance, and even financing, without requiring too much time away from the office.

Photo: GREEN Solar Academy

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5G Connectivity to Enhance Efficiency of Renewable Energy Sources

The Chief Executive Officer of the Communication Regulatory Authority of Namibia (CRAN), Emilia Nghikembua, says 5G technology, known for its unparalleled speed and capacity for real-time control, will revolutionise how Namibia manages its renewable energy resources.

Nghikembua says 5G-powered grids are at the core of Namibia's renewable energy strategy.

5G is the fifth generation of wireless cellular technology, offering higher upload and download speeds, more consistent connections, and improved capacity than previous networks of 2G, 3G and 4G.

"This advanced connectivity enables the smarter, more efficient operation of solar, wind and hybrid renewable energy systems. Through real-time monitoring and predictive maintenance, 5G ensures that renewable energy infrastructure operates at optimal efficiency, reducing costly and disruptive downtime," says Nghikembua.

Through the Harambee Prosperity Plan II (HPPII) Namibia has resolved to invest in green hydrogen as part of the Conference of Parties decarbonisation efforts and move towards cleaner energy using wind and solar power.

Nghikembua says the advanced 5G connectivity, equipped with an array of sensors and internet of things (IoT) devices, provide detailed insights into energy consumption and distribution.

The array of sensors and the internet of things devices produce high-resolution data enabling the precise balancing of energy supply and demand, dynamic pricing and improved grid reliability and accessibility, says Nghikembua.

"This advanced technology promises to enhance the efficiency, reliability and scope of renewable energy sources, from solar and wind power to emerging green technologies, paving the way for a more sustainable and energy-efficient future in Namibia. Such advancements are crucial for a country transitioning to a more sustainable energy landscape," says the CRAN head.

After the regulatory authorities' auction of 700 MHz and 800 MHz spectrum, which generated approximately N\$28.55 million, CRAN awarded 5G licences to mobile network operators Telecom Namibia (TN), Mobile Telecommunications Company (MTC), and the local ISP Loc8 Mobile.

Nghikembua says although 5G connectivity holds great potential in delivering sustainability in renewable



CRAN CEO Emilia Nghikembua



This advanced technology promises to enhance the efficiency, reliability and scope of renewable energy sources, from solar and wind power to emerging green technologies, paving the way for a more sustainable and energy-efficient future in Namibia. Such advancements are crucial for a country transitioning to a more sustainable energy landscape.



5G TRIALS ... MTC successfully conducted its 5G trials on 18 March which were attended by Emma Theofelus, the Minister of ICT, and officials from MTC and from MTC's technology partner, Huawei.

energy, misconceptions about its environmental impact persist.

"CRAN assures that Namibia's 5G networks adhere to stringent energy efficiency and emission reduction standards. Advanced antenna designs and beamforming techniques are to be considered in minimising energy usage and environmental impact. Far from being a disadvantage, 5G technology serves as a vital conduit in managing and optimising renewable energy sources, propelling Namibia towards its sustainability objectives," says the CEO.

One of the most transformative aspects of 5G in the world of renewable energy is its ability to connect remote and rural areas.

The technology significantly improves the range and throughput of communication networks, making it feasible to bring renewable energy solutions to even the most isolated communities.

Nghikembua says this inclusivity is key to achieving national electrification and energy independence and by embracing innovation, Namibia will be well on its way to becoming a beacon of renewable energy and technological progress in Africa.

During the MTC 5G trials conducted on 18 March, Emma Theofelus, the Minister of Information, Communications and Technology, said Namibia aims to

be industrialised by the year 2030, and as technology keeps evolving, the country can only achieve that vision if it keeps up with the latest technology that can aid and is favourable towards fourth industrial revolution.

"The opportunities that come with 5G are vast, and the onus is upon us to ensure that we take full leverage, because with 5G, the foundation for providing e-governance, e-commerce, and e-health is cemented with superior and faster connectivity," Theofelus said.

MTC's Managing Director, Licky Erastus, said the company's future focus is to bring 5G connectivity to business enterprises that aim to innovate, enhance their operations, and deliver improved stakeholder satisfaction.

"In our digital drive to facilitate innovation, digitalisation, Internet of Things, smart cooperation is indispensable. Through our partnership with Huawei Technology, the long-term perspective is to provide a technological ecosystem underpinned by 5G; and upon which a backbone of the Namibian digital economy is formed," he said.

The new Normal:  **EVs in Namibia...**

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MEGA PROJECT ... The Kenhardt project is one of the world's first and largest hybrid solar and battery storage facilities, with an installed solar capacity of 540MW and a battery storage capacity of 225MW/1,140MWh. **Photo: Scatec**

Scatec Ignites one of World's Largest Hybrid Solar and Battery Projects

In a significant step towards a sustainable and resilient future, Scatec ASA, a leader in renewable energy solutions, has officially started producing and supplying electricity to the national grid from the three Kenhardt plants in the Northern Cape Province, in South Africa.

The Kenhardt project is positioned to make a notable impact on the renewable energy landscape as one of the world's first and largest hybrid solar and battery storage facilities. With an installed solar capacity of 540MW and a battery storage capacity of 225MW/1,140MWh, this innovative and large-scale project delivers 150 MW of dispatchable power from 5am to 9.30pm year-round to the national grid under a 20-year Power Purchase Agreement with Eskom.

With a total investment of approximately US\$1 billion (about N\$19.6 billion), the Kenhardt project marks the largest commitment in Scatec's history and will generate solid returns to Scatec's shareholders. The project debt is provided by a group of lenders which includes The Standard Bank Group as lead arranger and British International Investment (BII).

"Today, we embark on an exciting journey into a new era of energy solutions. The Kenhardt project symbolises not only a technological triumph but a commitment to shaping a sustainable future," says Terje Pilskog, CEO of Scatec.

"This is more than just a power plant; it's a testament to the limitless potential of integrating solar and battery storage to meet the evolving energy needs of today and tomorrow. I would like to congratulate the team of Scatec 'change-makers' who have delivered this innovative project on

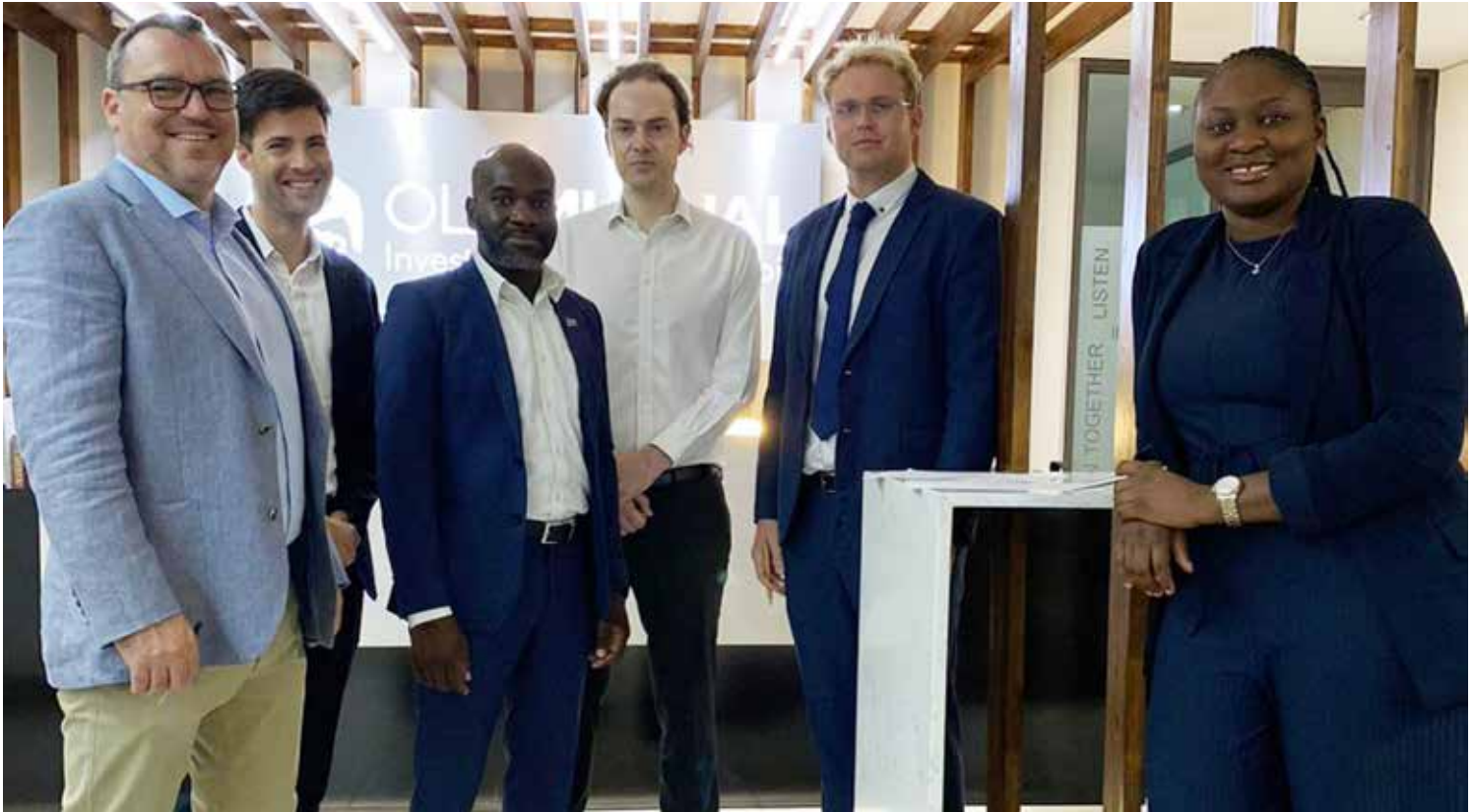
schedule, within budget and with good HSSE performance and thank all partners and stakeholders who have been integral to this success."

A hybrid solar and battery storage plant integrates solar and battery technologies, overcoming intermittency challenges and bolstering grid stability. With the ability to deliver reliable power in low or no sunlight, the integrated storage enhances overall reliability. Dispatchable power production and releasing stored energy during peak demand make these plants ideal for meeting region-wide energy needs during high consumption periods.

Jan Fourie, EVP of Sub-Saharan Africa, emphasises the significance of this endeavour, stating, "This isn't just about powering homes; it's about empowering communities. The Kenhardt project showcases the resilience and reliability of renewable energy, proving it to be a steadfast source of electricity capacity for the grid. Dispatchable renewables are the future."

"The progression from the development phase through construction, and now reaching the stage of commercial operation, has been a rewarding experience. We are ready to generate electricity and play a vital role in advancing South Africa's green energy production with this innovative hybrid energy solution," adds Fourie.

Scatec holds 51% of the equity and H1 Holdings, our local Black Economic Empowerment partner, owns the remaining 49%. This collaboration is not just about generating power; it's about empowering and fostering sustainable growth.



COMMITTED TO CLEAN ENERGY ... Officials from Inceptus, Alensy, DBN and Old Mutual during the formalisation of the UNAM renewable energy project financing agreement.

DBN, Old Mutual Finance UNAM's N\$65m Renewable Energy Roll-out

Inceptus Energy has secured N\$65 million financing for the University of Namibia (UNAM) solar project from the Development Bank of Namibia (DBN) and Old Mutual Namibia.

UNAM is installing solar power at all its 12 campuses in the country, as a demonstration of its commitment to sustainability and clean energy. The Renewable Energy Generation Project launched on 28 June last year, which is being implemented by UNAM's investment arm, Inceptus Holding, in partnership with Alensy Holdings, will provide sustainable, reliable, and cost-effective electricity to all UNAM's campuses countrywide.

It is envisaged that the project, with a lifespan of at least 25 years and scheduled to be fully completed by August 2024, will save the university up to N\$12 million annually in electricity bills, while reducing the University's carbon footprint by 3,900 tonnes annually. Additionally, the project will reduce the university's connection capacity from 6, 8 MW to 2, 8 MWp.

With installations already completed at the Windhoek Main Campus and the Hage Geingob Campus also in the capital, it features photovoltaic (PV) solar power generation plants with a total capacity of 3, 4 megawatt peak (MWp). The plants are synchronised with the existing electrical grid, creating a grid-tied system, and battery systems are incorporated to reduce

electricity demand peaks.

The use of the University's rooftop and car parking space for solar panels represents an innovative approach to maximising limited space while maintaining the aesthetically pleasing campus designs.

Christoff Bauernschmitt, Head of Alternative Investments at Old Mutual, said the project, besides environmental benefits, holds significant economic promise for Namibia.

"Investing in renewable energy projects like this is not only beneficial for the environment but also for our economy. We are thrilled to be part of this initiative that aligns with our commitment to sustainable development," he said.

Hellen Amupolo, Head of Investments at DBN, said financing of the project represents the development bank's concerted focus towards financing green industrialisation and infrastructure development in a sustainable manner.

"By supporting renewable energy initiatives, we are not only fostering job creation but also cementing the groundwork for a green and industrialized Namibia," she said.

Evaristus Evaristus, CEO of Inceptus, said the project was testament to UNAM's dedication to sustainability which he hoped would serve as an inspiration for similar initiatives elsewhere.



HANDOVER ... (from left) Vilho Mtuleni, DRFN Consultant, Governor Pijoo Nganate, Councillor Wenzel Kavaka and Simon Inauen from GPE witnessing the symbolic handover of 71 solar home systems and 15 solar street lights. -Photo: GPE

A Brighter Future for Donkerboss and Sonneblom

...As communities receive 71 solar home systems

Excitement and smiles greeted the communities of Donkerboss and Sonneblom on 24 January 2024, as the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Green People's Energy project handed over 71 solar home systems to members of the community.

The joyous occasion was witnessed by several guests, including the Governor of the Omaheke region, Pijoo Nganate, Wenzel Kavaka, the Councillor for the Ojtombinde Constituency and Simon Inauen, the head of the GPE project.

Donkerboss is situated approximately 218km from Gobabis, the regional capital of the Omaheke region. It is inhabited by the San community, a highly marginalised group in the country, with relatively poor access to services such as electricity, health, education, and employment opportunities. The San also experience some of the lowest nutrition levels in Namibia despite their middle-income status.

Seventy-one homes received 350 watt solar home systems, which comprised a solar panel mounted on a fixed pedestal, three energy-efficient lights, two power



“Now, residents of the community may use the solar-powered home systems to directly light their homes, enabling children to study and learn, as well as to charge small appliances such as solar radios, cell phones, and mini fridges,” - Simon Inauen

outlets for charging mobile devices and listening to radio, a battery, and an inverter.

To safeguard them and keep them off the ground, the systems were mounted on a specially designed platform.

A solar-powered energy system was installed at the community pre-school to power two LED tubes, two floodlights, three computers, a phone charger, a radio, a

projector, and to allow for the provision of additional loads up to 1000W.

Fifteen three-meter-tall 300W solar streetlights were placed in five sub-villages of Donkerboss and Sonneblom. This was in an effort to reduce attacks from wild animals, such as poisonous snakes and spiders that are prevalent in the area.

Ten women from the San community received a ten-day training in basic solar installation and maintenance to equip them with the knowledge of how to maintain the solar systems and to offer them a skill set that will increase their chances of finding employment.

The solar installations not only enhance communication, quality of education, and cost savings, but also empower approximately 180 individuals. The Donkerboss/Sonneblom community members were grateful to have been considered in this initiative and said they were going to make the best use of the solar systems to their benefit.

Governor Nganate paid tribute to the Donkerboss and Sonneblom community, praising them for embracing cleanliness and for valuing the resources that they have.

The Governor reminded the beneficiaries that their role and responsibility is to sustainably operate and care for the solar systems they had received. He advised them to refrain from selling the solar systems.

Governor Nganate emphasized that the solar systems should be preserved for use by future generations.

Simon Inauen, the head of the GPE project, said the Donkerboss and Sonneblom communities desperately needed the electricity, which prompted the implementation of the project.

He said it was determined that one of the communities' fundamental need was access to power and light to enhance their livelihood. The project also determined that the communities needed streetlights installed to provide safe night-time movement.

"Now, residents of the community may use the solar-powered home systems to directly light their homes, enabling children to study and learn, as well as to charge small appliances such as solar radios, cell phones, and mini fridges," said Inauen.

Councilor Wenzel Kavaka urged GIZ to consider investing in the community garden as it would keep the community members occupied and provide them with a source of food. He said the community garden would offer affordable, healthy food options to the community, as well as support environmental conservation measures.

Community gardens also serve as places to preserve cultural traditions and generate economic opportunities. In general, they are essential for fostering social cohesiveness, environmental stewardship, food justice, and health in communities.

Donkerboss and Sonneblom communities, with the support of the Ministry of Agriculture, Water and Land Reform, engage in various activities such as small-scale agriculture and income generation through San arts and crafts. All farming activities mainly depend on solar energy, including the three boreholes accessible to the community.

The Desert Research Foundation of Namibia (DRFN), in collaboration with Ministry of Agriculture, provides support to the community through acquiring, installing and maintaining the boreholes, as well as other solar equipment.



THANK YOU ... A moment of celebration by the Donkerboss community. -Photo: GPE



BUILDING RESILIENCE ... NUST Vice-Chancellor Dr Eroid Naomab said the institution was particularly excited to be part of this collaboration aimed at strengthening climate-smart agricultural production and increasing access to solar technologies.

NUST/NEI Offers Solar PV Training Through Collaboration with UNDP, KGRTC, ILO, and NTA Under a Japan-Funded Project

The Namibia University of Science and Technology (NUST), through the Namibia Energy Institute (NEI), teamed up with the Ministry of Agriculture, Water and Land Reform (MAWLR) and the United Nations Development Programme (UNDP) in implementing a Japan-funded project titled: “Strengthening and Building Resilience of Namibia’s Peri-urban Communities to Climate Change through Climate-Smart Agricultural Production, Access to Solar Technologies, Climate Information and Early-Warning System”.

An additional component of this project was the collaboration with NEI to improve the productive capacities of micro, small and medium enterprises (MSMEs) and informal value chain actors in renewable energy and green hydrogen sectors for effective participation across the energy value chain.

To this end, NEI, in collaboration with the Kafue Gorge Regional Training Centre (KGRTC) and the National Training Authority (NTA) hosted a train-the-trainer training in renewable energy technologies at Eenhana Vocational Training Centre (EVTC), from 25 to 29 March 2024.

During the demonstration event of the project held at NUST on 18 March, Vice-Chancellor Dr Eroid Naomab said the institution was particularly excited to be part of this collaboration aimed at strengthening climate-smart agricultural production and increasing access to solar technologies.

UNDP Deputy Resident Representative Dr. Christian Shingiro praised NUST for its “unwavering commitment to fostering dialogue and collaboration making it the perfect partner for a project such as this”.

Technical and Vocational Education and Training (TVET) remains a crucial enabler for socio-economic development especially for developing countries. The persisting gap between the National Qualification Framework (NQF) level 3 and level 7, and the lack of qualified trainers burdens the optimal implementation of solar technologies in Namibia.

Most of the existing expertise in Namibia is more theoretical and less technical and vice-versa, thus compromising the effective implementation of solar technologies to achieve affordable, reliable, sustainable and modern energy for all Namibians by the year 2030.

It is against this background that the subproject “Skilling MSMEs, Including in the Informal Sector, for Effective Participation in The Renewable Energy and Green Hydrogen (GH) Value Chains”, which is a collaboration between NEI and UNDP, the International Labour Organisation (ILO) country office of Zambia, through the Skills for Energy in Southern Africa (SESA) project, the Institute for Decentral Electrification, Entrepreneurship and Education GmbH (ID-EEE), NTA, and the KGRTC based in Zambia was established.

The four courses were selected from KGRTC. These were; Off-grid Solar System Design and Installation; Earthing Bonding and Lightning Protection; Safety, Health, Environment and Quality Management; Distribution at Low Voltage. These were selected as short courses which can feed the Bachelor of TVET for trainers, which is being developed by NUST. Additionally, a special course on batteries, charger controller and inverter technology will be conducted by Prof Peter Adelman from ID-EEE from 20 to 24 May 2024.

From 25 to 29 March, KGRTC facilitated the Off-grid Solar System Design and Installation course which was offered to 30 diverse instructors from public and private TVET institutions selected by the NTA, as well as lecturers from the NUST Faculty of Engineering, and the University of Namibia Faculty of Engineering, at the José Eduardo dos Santos (JEDS) Campus in Ongwediva, that are involved in teaching and capacity building around renewable energy.

ILO Chief Technical Advisor for the SESA project, Dr. Lloyd Ngo, said the organisation, through the KGRTC, aimed to address skills needs for Renewable Energy (RE), Energy Efficiency (EE) and Regional Energy Integration (REI).

“The purpose of the collaboration with the UNDP is to

provide a framework for the non-exclusive cooperation and facilitate and strengthen collaboration between the Parties in the areas of common interest. The specific purpose of the collaboration is to improve the productive capacities of MSMEs and informal value chain actors in renewable energy and Green Hydrogen sectors for effective participation across the energy value chain. The anticipated outcome being enhanced capacities of vocational training and higher education institutions to (up)skill MSME actors in the renewable energy sector," he said.

Dr. Ngo also said that through the collaboration between NUST and the KGRTC, courses fully developed by the regional training body could be implemented by NUST.

During the opening session of the Eenhana VTC training, Mr. Tobias Nambala, the NTA General Manager of TVET Regulations, emphasised that "through joint efforts and mutual support in the TVET sector, we are able to harness the wealth of resources and expertise available at each institution to drive meaningful change and advancement in the field of renewable energy through technical and vocational education." He further mentioned: "The trainers who are to be upskilled play a crucial role in shaping the technical and vocational education landscape of our country. Through their dedication and expertise, they will ensure that our TVET centres remain hubs of innovation and excellence, providing trainees with the knowledge and skills necessary to thrive in today's dynamic world".

The training focused on the theoretical aspect of sizing and designing as well maintenance of solar photovoltaic (PV) systems. The trainees actively participated in various practical activities of the real-life behavioural aspects of PV systems.

Moreover, prior to the training, three participants from a higher education institution and a TVET institution successfully operationalised an advanced PV system trainer funded by GIZ. The trainer had not been operational for about a year.

All participants at the Eenhana VTC training were awarded with certificates after successfully completing their courses.

The participants of the training series are now expected disseminate the information they have gathered and train solar technology installers to equip



TRAINERS TRAINED ...About 30 diverse instructors from public and private TVET institutions as well as lecturers from the NUST Engineering faculty, and the University of Namibia Engineering faculty that are involved in teaching and capacity building around renewable energy attended the training.



EQUIPPED ... Hilde Amushembe, a NUST electrical engineering lecturer, was one of the trainers who attended the Eenhana training. She's now ready to impart her solar skills to fellow Namibians



PRACTICAL TRAINING ... The four courses offered were Off-grid Solar System Design and Installation; Earthing Bonding and Lightning Protection; Safety, Health, Environment and Quality Management; Distribution at low voltage.

them with skills and knowledge required for accelerated installation of solar PV systems across Namibia.

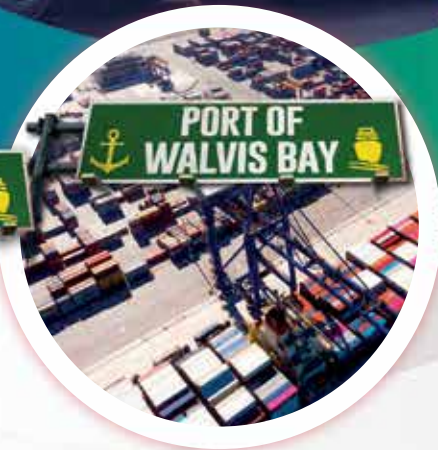
By so doing, this will not only attempt to bridge the gap between NQF level 3 and Level 7, but will also cut across the emerging Power-to-X (PtX) value chains, including green hydrogen.



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GREEN MANUFACTURING ... Namibia has been urged to engage in local tower and blade manufacturing and wind turbine assembly in proximity to main demand centres, such as //Kharas region and Erongo in the near-term.

Huge Potential for Namibia Wind Turbine Production

Namibia could generate N\$13.9 billion in revenue from wind turbine tower and blade production, a report by global consultancy firm McKinsey & Company states.

The study, part of the green manufacturing strategy for Namibia, highlights the significant economic benefits of embracing local production.

The report outlines that the local production of towers and blades has the potential to unlock an additional US\$700 million (N\$13.9 billion) in the country's GDP by 2050.

The breakdown includes a direct contribution of 30%, an indirect contribution of 41%, and an induced contribution of 29%.

In addition to economic gains, the local production initiative is projected to create around 27,000 jobs by 2050.

The distribution of employment opportunities is expected to be 26% direct, 38% indirect, and 36% induced.

McKinsey recommends a minimum production scale of 0.5 GW/year for blade production and 80-210 towers annually to meet near-term demand.

The report suggests a growth rate of 6% per year to meet the projected demand in 2050, particularly driven by green hydrogen production in the //Kharas and Erongo regions.

"Green hydrogen production in Namibia is estimated to demand 20GW of wind energy generation capacity that would be the primary off taker for locally produced wind turbine towers and blades," the report noted.

The report thus adds that Namibia could focus on meeting local demand and supplying wind turbine blades regionally

in the longer term.

"The opportunity for Namibia is to engage in local tower and blade manufacturing and wind turbine assembly in proximity to main demand centres (such as //Kharas region and Erongo in the near-term, and Kunene in the longer term)," the report said.

This comes as planned green hydrogen production in //Kharas, Erongo, and Kunene is respectively expected to require 14GW, 6GW, and 32GW of wind energy by 2050, thereby providing a significant domestic market for wind turbines

"Namibia is expected to be able to produce concrete towers and blades at competitive costs. Namibia could capture this opportunity through attracting direct investment from established OEMs for blade production, and encouraging local players to engage in tower production (e.g., by facilitating access to start-up capital)," McKinsey said.

According to the report, Namibia's theoretical potential for wind energy capacity is ~4.5TW. Current wind generation capacity (22GWh/year) represents ~1.5% of total generation capacity (1470GWh/year).

"Green hydrogen production is anticipated to drive demand with planned/ targeted capacity requirements estimated at +20 GW by 2050," said the report.

This comes as turbine production is currently concentrated with European OEMs that have 40-50% of the global market, with the Chinese OEMs anticipated to scale rapidly in the coming years due to local demand and government support.

- miningandenergy.com.na

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INTRODUCING



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It's important to note that amidst these changes, nothing will change for current projects or commitments. We remain dedicated to delivering exceptional service and fulfilling all ongoing and future projects with the same level of excellence our partners and clients have come to expect.

This rebranding initiative marks a significant milestone in our company's journey, We are excited about the opportunities ahead and remain dedicated to delivering exceptional service and innovative solutions to our valued partners and clients.

- **Johan Hansen** (Company Director of NEC (Pty) Ltd)



The growth and evolution of a truly Namibian Company.

Established in 1958 as a family-owned business known as South-West Engineering Corporation (SWE), the company initially focused on borehole pumps and motors. It soon expanded its services to include the installation of the first Solar Borehole Pumps and off-grid solar solutions. The journey continued, leading us from a family-owned business to a Public Corporation, NEC, in 2007, further expanding into a larger entity in 2011. With branches handling the Liebherr Crane operation for NamPort in Walvisbay and NEC Stahl in Okahandja. In 2017, our focus shifted towards Power & Pumps, culminating in the recent decision to split into two entities, enabling us to drive these sectors with even more focus and dedication.





SOLAR TRAINING ... Jonathan Joseph (in green golf shirt), lead trainer at GREEN Solar Academy Namibia, begins the practical portion of the solar installation training held in Windhoek.

GREEN Solar Academy Conducts First Solar Training at New Windhoek Venue

After seven years operating from its Otjiwarongo base, GREEN Solar Academy Namibia has moved its training facilities to Windhoek, and held its first five-day solar training course at the new venue mid-April.

The academy is now based at the Southern Industry premises of Iseli Energy Namibia, a technology partner of GREEN Solar Academy. The more convenient location resulted in an immediate and positive response from solar installers in the vicinity and saw a fully booked class almost as soon as course dates were announced.

Many of those who registered for the training are existing members of the Renewable Energy Industry Association of Namibia (REIAoN), who were looking to formalise their craft and eliminate guess work when it comes to sizing and components, and becoming part of the GREENetwork, Africa's largest network of solar installers.

The Namibian academy is called the SuperSolarSchool, a brand already much revered in South Africa as endorsed PV GreenCard training by industry body, the South African Photovoltaic Industry Association (SAPVIA).

The five-day short course offered by GREEN Solar Academy meets the needs of busy professionals and covers

the entire spectrum of solar technology, encompassing aspects such as design, installation, maintenance, and even financing, without requiring too much time away from the office.

"The training was sold out, and that that's probably due to the fact that our electrical distributor now expects all PV contractors to hold a PV certificate. Some of the guys definitely do start off believing there is nothing left for them to learn, but by the second day, they realise there's much they need to update when it comes to products, design, regulations," said lead trainer, Jonathan Joseph.

About 60% of Namibia's power is imported from South Africa, Zambia and Zimbabwe. The country is thus seeking to increase its domestic generation capacity and encourage private participation in the energy sector.

Through the Modified Single Buyer (MSB) Model, through which Namibia's electricity sector is facilitating market deregulation, Independent Power Producers (IPPs) are increasingly being allowed to contribute to energy production and export surplus energy to the Southern African Power Pool (SAPP).

The vision is that around 30% of what an IPP produces

will be absorbed by the national power utility, with 70% being exported to the SAPP. And that energy is going to be produced by renewable sources that include solar, a perfect fit for a country with one of the highest irradiation levels in the world.

Solar is also used to produce green hydrogen, which has been hailed as the fuel of the future, powering the transportation of people and goods. Namibia is set to emerge as a major producer of green hydrogen thanks to two main factors: firstly, the country's location, landscape and abundant natural resources, and secondly, the provision for deployment of blended financing that will help lower the capital costs required to construct the many huge PV systems involved in the production of the gas.

Such ambitious goals require plenty of skilled staff, and a strong network to support, inform and collaborate. In South Africa, GREEN Solar Academy is at the very centre of the solar industry, connecting installers to each other, to distributors, and to the thought-leaders and policy makers in the sector.

To grow the same community in Namibia, GREEN has cultivated relationships with like-minded companies such as Iseli Energy and REIAoN.

REIAoN is a membership-based organisation for promoting the cause of companies and individuals active in Namibia's commercial renewable energy and energy efficiency (RE&EE) sector. Part of REIAoN's mission is to set the training standards in the country, maintain product quality and service standards, and establishing professional relationships with national and international bodies with similar objectives.

Discount for REIAoN members

REIAoN members benefit from an exclusive 10% discount on all GREEN Solar Academy courses in Namibia. This cost-saving opportunity makes solar training more accessible, encouraging REIAoN members to invest in their skills to meet the growing requirements of a dynamic renewable energy field.

The next five-day SuperSolarSchool training takes place from 5 to 9 August. Early bird price is N\$11 800 ex VAT (standard price is N\$13 500 ex VAT).

For more information and to register, visit <https://solar-training.org/namibia/#courses> or contact GREEN Solar Academy Namibia on +264 (0) 81 318 9085

or namibia@solar-training.org

For more information on the Renewable Energy Industry Association of Namibia (REIAoN), please visit <https://reiaon.com.na/>



EMPOWERED ... Olivia Namkomba (left), GREEN Solar Academy Namibia Country Director, hands a certificate to one of the participants and new alumni member of the GREENetwork.



NEW SKILLS ... Learning to attach mounting structure on IBR training roof. -GREEN Solar Academy



DEVELOPMENT AMBITIONS ... From right to left: co-author Dr Martin Schneider, Ms Natalie Russmann, Resident Representative of KAS in Namibia, and lead author, Dr Detlof von Oertzen.

New Book Explores Namibia's Water-Energy-Food Nexus

A recently-launched book titled 'Namibia's Water-Energy-Food Nexus: National Development in Uncertain Times' offers a glimpse into the critically important interactions between water, energy, and food, and how a realistic national sustainable development pathway depends on these essentials.

The book, authored by Dr Detlof von Oertzen, Dr Martin Schneider, and Piet Heyns, was launched by the Konrad Adenauer Stiftung (KAS), Namibia-Angola Office, on 5 April. KAS prides itself in generating and publishing relevant knowledge, expressly considering the value of access to resources, processes, and strategies to promote peace, justice, and solidarity in a participatory democracy.

Water, energy, and food supplies are directly affected by local as well as global trends. They are also constrained by our planetary realities, regional and local boundaries, as well as a variety of important tipping points. The book explores how water, energy, and food are currently made available to meet the country's ever-growing demand and identifies and discussed the security of supply issues related to each of the subtopics.

A critically important risk facing Namibia's development

is the country's exposure to climate change. Key to managing the multitude of impacts brought about by a changing climate is that local resilience is further enhanced.

Systemic shocks that affect the supply of water, energy, and food include, among others, learning to cope with less rainfall and higher average temperatures, having to live through prolonged periods of drought and increased aridity, and coping with occasional floods, all of which are manifestations of increased climate variability.

Future-proofing Namibia cannot be achieved without enhancing the security of water, energy, and food supplies. As such, national development ambitions can only be realised if adequate water, energy, and food is and remains accessible, available and affordable for local use.

Namibia's core development imperative should therefore focus on creating the conditions required to further improve and secure water, energy, and food supplies.

The country's inherent resource blessings, including coastal access to near-infinite seawater, excellent solar and wind energy resources, and most generous land endowment for food production are the key requirements on which to build a sustainable water-energy-food

nexus, and holds the promise to keep stomachs filled while creating plentiful new jobs.

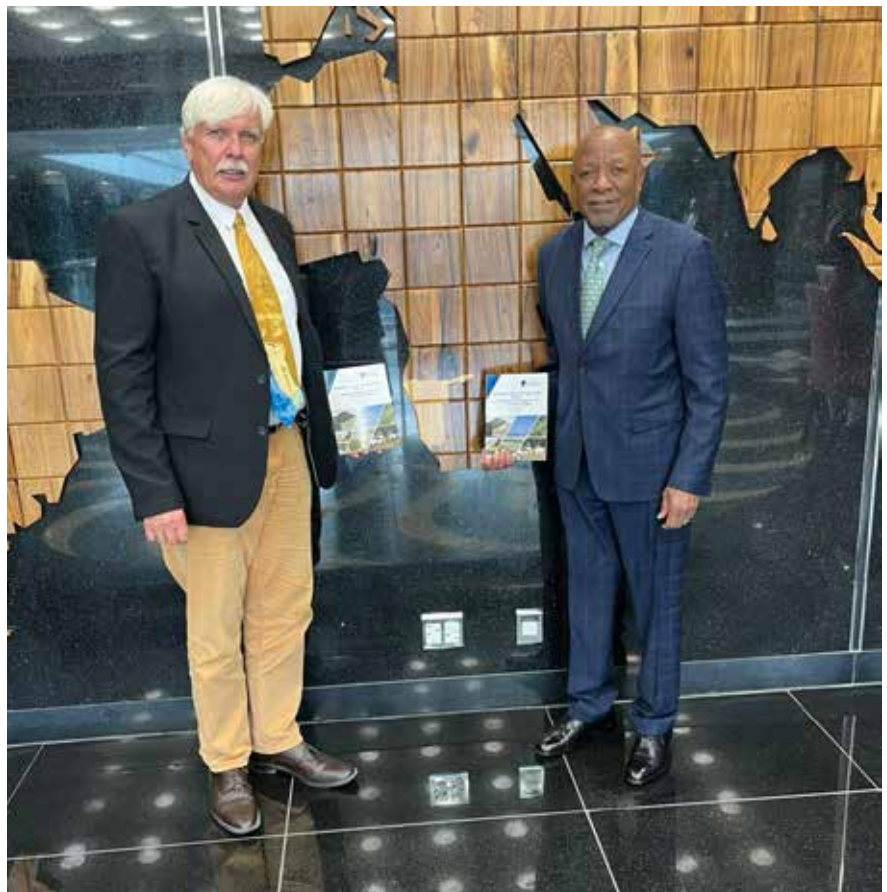
Strengthening each nexus pillar necessitates the deliberate integration of planning, governance and management across the water, energy, and food sectors, rather than addressing these essential development ingredients on their own, as has often been the practice in the past.

Leveraging Namibia's national endowments to create local value is essential for crafting a liveable future. This entails, among others, safeguarding our limited water resources, rapidly expanding the portfolio of local energies, and enhancing local food production. This will create much-needed new jobs, improve livelihoods, and expand decentralised economic development, thereby strengthening the country's fabric and enable broad-based national development.

The book concludes that urgent and effective Government interventions are essential to revive and strengthen Namibia's economy, including the following:

- i) Creating effective inter-ministerial processes to jointly plan, fund and implement projects strengthening Namibia's water-energy-food nexus;
- ii) Privatising underperforming state-owned enterprises active in the water, energy, and food sectors;
- iii) Enhancing the capacity, performance, and accountability of public service provision in the water, energy, and food sectors;
- iv) Reducing the multiple impediments to direct foreign investments in Namibia's water, energy, and food sectors;
- v) Diversifying and actively promoting youth training programmes in the water, energy, and food sectors;
- vi) Incentivising entrepreneurship in the water, energy, and food sectors; and
- vii) Enhancing Namibia's business framework conditions to enable and actively support private sector investments and initiatives.

To be prepared for uncertain times, securing water, energy, and food supplies must become the cornerstone of actions to create Namibia's national development future.



AIDING PREPAREDNESS ... The book was handed over to President Nangolo Mbumba by Dr Martin Schneider. **Photos: KAS**



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Youth Energy Forum Explores Careers and Opportunities for Young Namibians in the Sector

The Namibia Youth Energy Forum (NYEF) held a Career and Opportunities Dialogue event on April 13, at the NAMCOR Auditorium, aimed at providing young Namibians with insights and opportunities in the energy sector.

The event brought together over 100 participants, including high school and university students, as well as early-career professionals. With a focus on fostering dialogue and networking, the event featured engaging discussions and presentations from industry experts and leaders.

NAMCOR Manager for Communications & Public Relations, Paulo Coelho, emphasised the importance of youth participation and innovation in shaping the future of the energy sector in Namibia.

Participants also had the opportunity to network with industry professionals, speakers, and fellow participants, fostering valuable connections and collaborations for future endeavors in the energy sector. Sarti Shikongo, Interim Executive Director of NYEF, said: "The success of our Career



PANEL DISCUSSION ... With a focus on fostering dialogue and networking, the event featured engaging discussions and presentations from industry experts and leaders.

and Opportunities Dialogue event underscores the importance of providing platforms for knowledge sharing, networking, and inspiration for the youth in Namibia. We are grateful to our esteemed speakers, sponsors, and attendees for their contributions and active participation."

Shikongo said the NYEF remains committed to its mission of empowering youth and driving positive change in the energy sector, and looks forward to hosting more impactful events and initiatives in the future.

Zim to Build First Utility-Scale Geothermal Power Plant

Facing reduced hydropower generation due to frequent droughts, Zimbabwe seeks to diversify its renewable energy

The country has announced plans of constructing a 10 megawatt geothermal power plant at the Chimbawata Hot Springs in the Binga district. The announcement comes after the country has experienced increase drought frequency resulting in lower output from hydropower plants which accounts for about 69% of Zimbabwe's energy generation.

The Geothermal Energy Development Project is an initiative of the Green Resilient Recover Rapid Readiness (GRRRR) and has been approved under the Green Climate Fund (GCF) with the aim of increasing access to clean and reliable energy.

Zimbabwe currently has no installed geothermal power plants, despite having 32 potential geothermal sites as identified previously by the Ministry of Energy and Power Development.



The future geothermal power plant will also complement Zimbabwe's existing energy systems. According to the Climate Change Management Department (CCMD) under the Ministry of Environment, Climate, and Wildlife, Zimbabwe's total energy generation in 2021 was a combination of 71% from renewable sources and 29% from non-renewable sources.

A large majority of the renewable energy generated in Zimbabwe is from hydropower, accounting for about 69% of total energy generation. About 84% of the current hydropower generation comes from the Kariba South hydroelectric plant. However, water levels in Kariba Dam have dropped to below 1% at the end of 2022, reportedly causing an energy crisis that has also affected neighboring country Zambia

This situation has highlighted the need to develop other renewable energy sources, such as geothermal. - **Thinkgeoenergy**

President Mbumba Familiarises Himself With Hyphen Green Hydrogen Project

President Nangolo Mbumba embarked on a familiarisation visit to the Hyphen Green Hydrogen Project at the beginning of April to get a firsthand account of the project and its envisaged transformation of the harbour town of Lüderitz.

The visit, which took place on April 6 and 7, took the head of state to the Hyphen project site and offices in Lüderitz. This visit highlighted the government's commitment to fostering innovation and sustainability in the nation's energy sector. The focal point of the visit was the inspection of the MetMast S2 installed on the Springbok land parcel in the Tsau //Khaeb National Park.

Mbumba cut the ribbon around the MetMast, signifying the commencement of the Metmast Measurement Campaign. This groundbreaking campaign, facilitated by ten, 120-meter MET masts and two Lidar sensors deployed across the Springbok and Dolphin land parcels at the cost of approximately two million Euros (about N\$40 million), is poised to revolutionise the project's ability to accurately model wind and solar energy yield, thereby enhancing its bankability.

Additionally, these masts will gather vital data over a minimum of 12 months, providing critical insights into seasonal resource variations, with additional Bat monitoring sensors aiding in environmental impact assessment.

Namibia's first green hydrogen project, is envisioned to create 15,000 direct jobs during the construction phase and 3,000 direct jobs when operational.

The two-day itinerary included a comprehensive project briefing at the Hyphen offices in Lüderitz, followed by a visit to Angra Point, providing President Mbumba with invaluable insights into the project's broader impacts on the country's infrastructure development and economic diversification.

By utilising both wind and solar, which are abundantly available in the Lüderitz vicinity, the Hyphen project aims to meet power demands for its



FACT-FINDING MISSION ... President Mbumba, accompanied by dignitaries including //Kharas Region Governor Aletta Fredericks, National Planning Director General and Namibia Green Hydrogen Council Chairperson Obeth Kandjoze, Minister of Justice Yvonne Dausab and other key project stakeholders, conducted a comprehensive tour of the Hyphen project site.



VITAL DATA ... President Mbumba cut the ribbon around the MetMast, signifying the commencement of the Metmast Measurement Campaign.

Photos: Namibian Presidency

electrolysers as well as excess power for the town and surrounding areas.

"The installation of 100 to 300 more turbines could provide sufficient energy not only for Lüderitz but also for the //Kharas Region and other areas of Namibia. Solar projects by Cleanergy Solutions Namibia and Daures Green Hydrogen Village are also tangible steps towards integrating solar energy into our energy mix. These efforts lay the groundwork for scaling up renewable energy generation and ensuring consistent power availability," said James Mnyupe, the Green Hydrogen Commissioner.

Meanwhile, the Namibian Green Hydrogen Programme (NGH2P), spearheaded by the Ministry of Mines and Energy, announced that Namibia has been invited to join the International Hydrogen Trade Forum (IHTF).

As a Forum member Namibia will participate in the annual Ministerial Meeting and Ministerial-CEO Roundtable which will enable the country to actively contribute to the global collaboration agenda for advancing the green hydrogen ecosystem.

The IHTF serves as a pivotal platform for high-level discussions between importing and exporting nations, aimed at fostering the development of global trade corridors for hydrogen and its derivatives.

*Dr Reem El Sherif**Ruusa Nandago*

Just Energy Transition – A Buzz or a Reality?

Reem El Sherif and Ruusa Nandago

The Just Energy Transition (JET), a concept that has been buzzing in the world's corridors, is nothing new and was initially coined in the 1980s. With that, one must ask – why are we hearing more about it now? What does it mean?

As pressure mounts to achieve the Paris Agreement goal to limit global warming to 1.5 degrees Celsius or less countries, especially developing nations, are tactfully thinking about the socio-economic implications that an abrupt change to greener and cleaner economies could bear while facing the dual pressure of boiling socio-economic risks. Namibia, for example, is a net sink economy while at the same time faces substantial socio-economic challenges arising from the triple challenge of unemployment, inequality and poverty.

This includes a high unemployment rate of 33.4%, the second highest inequality in the world with a gini coefficient of 59.1 and worrying levels of multidimensional poverty. According to the Namibia Statistics Agency (NSA), 43.3% of the Namibian population is multidimensionally poor across various dimensions including education, sanitation, housing and health amongst others.

However, JET provides light at the end of the tunnel for developing countries, such as Namibia, to be able to balance the climate and socio-economic goals. While there are many variations of what JET means, there is consensus that moving to greener and cleaner economies should be fair, inclusive and should leave no one behind. Ensuring nobody is left behind can be done through both direct and indirect channels. An example of a direct channel is ensuring that local content for

fossil fuel related activity is well enforced to stimulate domestic entrepreneurial activity alongside the foreign direct investment that the country will attract.

An indirect way is through the fiscus. Estimates are that if current estimated volumetrics of oil prove to be commercially viable, fiscal revenue could double. These revenues should be channelled towards the government's diversification agenda and drive investment into sectors such as infrastructure, agriculture, real estate and telecoms. For individuals not captured in the direct and indirect benefits, fossil fuel revenues can assist the government in widening the social safety net especially for unemployed, able-bodied adults who are currently not captured in the social welfare system.

Additionally, a sovereign wealth fund will ensure that the benefits reaped are intergenerational, such that they extend beyond the short and medium term. At the same time, these revenues can be used to fund the transition to a green economy by investing in sectors such as green hydrogen and renewable energy projects.

In this regard, another commonly held debate is whether this transition poses any sort of trade-offs. Can both climate and social goals be achieved by Namibia simultaneously? Or does one come at the cost of another? To understand this, a clear pathway and stakeholder mapping needs to be conducted to identify what the transition roadmap looks like, who are the stakeholders that are affected and how are they affected. From there, a clear sequencing needs to occur in terms of the appropriate actions to be taken.

Thinking in the frame of sequencing rather than trade-offs truly ensures that no one is left behind. Sequencing means

tackling challenges one by one, depending on the severity of impact imposed. One cannot let the effects of climate change, which pose a threat on the livelihoods of marginalised groups, linger for long. Additionally, one must consider individuals who are employed in high emitting sectors. For example, countries can address the immediate effects of droughts and floods, which enact severe adverse effects on current livelihoods.

Then as a next step, which is one of many solutions, countries can consider re-skilling and up-skilling their workforce, while in parallel mobilising investments to develop green industries. Once newly skilled labour force is ready and can shift to green industries, countries can then look to identify ways to reduce emissions from carbon intensive sectors. This is also known as the green structural transformation.

A major enabler in the JET is financing, which was also a hot topic at COP28. One salient point is the need for the financial landscape to evolve beyond the traditional instruments of finance. At RMB's event during COP28, the panellists offered some thoughts on how that could happen. An important view is that financial resources are not scarce, yet the secret sauce lies in how they are mobilized and distributed globally. With that view, there is a need to mobilise and marry different forms of capital that cater for the various levels of risk in an individual climate-related or energy project. This challenges the misconception that only one form of capital is the alpha and omega for JET. The "blending" of different forms of capital is theoretically poised to bring about efficiencies for investors in JET. In the spirit of balancing climate and socio-economic goals, there are innovative financing that allow us to achieve this duality as well.

The issue of transition reaches beyond transition to transforming African economies. The Nairobi Declaration

proposes new financing mechanisms to help countries in Africa unlock funding for transformation and promote sustainable use of resources to help the region contribute toward global decarbonisation. One of the declarations from the Climate Summit in Kenya included a call for developed countries to honour their commitment to provide US\$100 billion in annual climate finance, as promised 14 years ago at the Copenhagen conference. Furthermore, it included proposals for new debt relief and restructuring interventions and instruments such as extension of sovereign debt tenor and inclusion of a 10-year grace period.

Sustainability-linked bonds or loans, allow investors to raise financing while committing to certain sustainability KPIs and targets. These KPIs and targets can be both related to climate goals and social goals simultaneously. Another example of achieving duality is the FNB Namibia green bond, where proceeds were allocated to green building developing for an affordable housing project.

The JET is a concept that many developing countries like Namibia are embracing, to be able to dually achieve climate and socio-economic goals. What is needed is a clear pathway that requires inputs not only from scientists and government, but also from civil society and private sector that are implicated – to truly leave no one behind.

- *Dr Reem El Sherif is the Strategy and Innovations Lead at RMB Namibia. She has a decade of experience in corporate strategy, national strategy, policy and research.*

- *Ruusa Nandago is part of the FirstRand Namibia team where she serves as the Group Economist across FNB, RMB, Ashburton and PointBreak.*





Dropping Solar Panel Prices to Prompt Mass Local Switch

The continued reduction in solar photovoltaic (PV) panel and battery prices is anticipated to trigger an unprecedented escalation in the Namibian and South African solar energy adoption by residential and commercial users.

This is according to solar industry pundits, commenting on the global oversupply of solar systems, which led to solar PV panel prices dropping by as much as 50% between January and December 2023, according to the International Energy Agency.

The plummeting pricing, which started in SA last year, from where Namibian installers import most of their panels, is expected to continue in the coming months, with more local homeowners likely to invest in solar systems, and industry manufacturers potentially eyeing Southern Africa as a viable location to establish manufacturing plants, say experts.

Solar industry experts discussed SA's solar power landscape, and the impact of the lower solar system prices, during a recent solar power roundtable discussion, held in Johannesburg by solar energy solutions provider Sungrow.

Ezzat Sankari, channels business director for Sungrow Middle East and Africa, explained: "We are seeing that PV panel prices are drastically falling in South Africa. In our opinion, this is due to the fact that demand across the world is now maintaining a certain slower

capacity, while the manufacturing capacity is still going probably two to three times beyond the demand."

According to Sankari, this trend is good news for SA, which has seen growing adoption of renewable power, despite being in the early phases – mainly triggered by Eskom's rolling power cuts over the past few years.

"Let me also highlight that we're seeing that lithium iron phosphate battery technology is crashing in prices. We typically like to see these kinds of trends because the more the prices of PV panels and batteries drop, the greater the demand is. Equipment is the most expensive component of any solar system."

Sungrow, which claims to be one of the largest solar power system solution suppliers in the world, says it has captured an estimated 40% of SA's solar power inverter market in the commercial space.

In the wake of the decline in prices, the company is expecting revenue growth of 20% to 30% for the remainder of the year, said Sankari.

"I hope to see demand reaching a point where it becomes feasible for companies to start manufacturing facilities in South Africa. We have seen this in India, for example, where Sungrow decided to open a manufacturing facility as a result of the feasibility of manufacturing in that country."

The price of solar panels in SA varies, but it typically costs N\$45 000 to N\$70 000 for an average 3KW solar

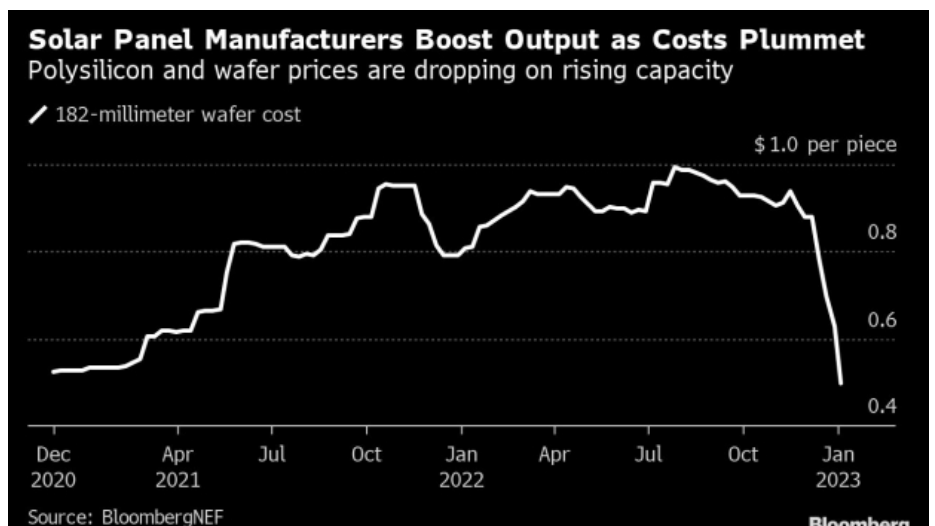
panel residential system, according to experts. Individual panels can cost N\$2 600 to N\$3 500 for a 550KW solar panel.

SA's Integrated Resource Plan 2023, approved by Cabinet in December, is expected to contribute further to the growing adoption of solar power, through its planned expansion of renewable energy programmes.

Frederik Willemse, director of alternative renewable power solutions at Sungrow, pointed out: "The number of requests that we get for quotes has increased dramatically over the past few months. In our engagements, we learned that PV panel prices are currently the lowest they've been in 67 years."

According to Willemse, National Treasury's announcement in February that it has cut the solar tax break incentive in this year's financial budget will not deter South Africans from investing in solar power, as the drop in prices means there is no better time to make the purchase.

The contributing factors to the mass adoption of solar, particularly in SA's residential space, is the drastically dropping cost per KW/h for acquiring the solar infrastructure, coupled with



HIGH DEMAND ... Solar PV panel prices have dropped by as much as 50% between January and December 2023, according to the International Energy Agency.

improvements in the speed of solar panel production.

Other factors include more entrants into SA's solar procurements and installation market and SA's sunny climate. There is also some overlap between the performance of systems getting better and lasting longer due to scientific and manufacturing breakthroughs.

Gregor Kuepper, MD of Solarworld Africa, points out the lower solar price is likely to remain for the next few years. The most important pricing factor is the overcapacity in the global production that has built up in China in recent years.

"US treasury secretary Janet Yellen pointed this problem out during her visit to China and she expressed the US government's concerns about the impact the overcapacity in the PV modules and lithium batteries market will have in the coming years for the US and global solar economy," Kuepper points out. – ITWeb



AFFORDABLE ... The contributing factors to the mass adoption of solar, particularly in the residential space, is the drastically dropping cost per KW/h for acquiring the solar infrastructure.



GREEN RATED ... The Capricorn Corner building which earned the EDGE Advanced green building certification from the IFC.

Capricorn Corner Receives IFC's Green Building Certification

The Capricorn Corner building, Capricorn Group's state-of-the-art office facilities in Klein Windhoek, has earned the EDGE Advanced green building certification, the green building certification from the International Finance Corporation (IFC), the private sector arm of the World Bank Group.

The certification, presented by EDGE certification partner - Green Business Building Certification Inc. (GBCI), marks the first internationally recognised operational building to be EDGE-certified in Namibia. This achievement also preludes this year's World Earth Day, highlighting the Group's progress in environmental stewardship.

An innovation of IFC, EDGE is an online platform, a green building standard and a certification system for more than 170 countries. EDGE was created in response to the need for a measurable solution to prove the financial case for building green and help jumpstart the mainstreaming of green buildings. EDGE empowers building professionals to quickly and easily determine the most cost-effective ways to build green based on occupant behaviour, building type and the local climate.

The Capricorn Corner office building was designed according to world-class standards to be future-proof, environmentally friendly and safe to meet the current needs of employees and the future workforce. Windhoek Consulting Engineers were contracted to assist with the green building certification process. At the same time, Solid Green Consulting handled the auditing process.

As a result, the Capricorn Corner's design choices achieved a post-construction EDGE Advanced Certification with 100% Energy savings, 36% water savings and 46% savings in embodied carbon in materials.

Janus van der Merwe, the Director of Mechanical, Fire & Green Buildings at Windhoek Consulting Engineers, stated that "this certification meets an exceptional level of environmental performance and solidifies the Capricorn Group's commitment to supporting Green Building developments, which will undoubtedly have a lasting impact on the larger community. This milestone is significant because it marks Namibia's first EDGE Advanced Certification".



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- Transport & logistics
 - fuel efficiency
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 - agri-enterprise water efficiency
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