Etango

Namibia's Leading Renewable Energy & Green Hydrogen Magazine

MARCH-APRIL 2025

DIAZ WIND FARM ASSEMBLY

GREEN IRON FIRST AS NAMIBIA LAUNCHES HYIRON OSHIVELA

N$360M KHAN SOLAR PLANT TO PROVIDE CHEAPEST ELECTRICITY

HYPHEN SEEKS TO UNLOCK GREEN HYDROGEN OPPORTUNITIES

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Green Hydrogen will be a Namibia success story

Many Namibians still remain skeptical about the success of green hydrogen projects in Namibia. Understandably so, because many of us are still trying to figure out the practicality of this new concept in this part of the world.

While the idea of a "hydrogen economy" has gained traction in the developed world where hydrogen is widely seen as a new energy carrier (an alternative to fossil fuels), many still remain doubtful about the practicality of sustaining a green hydrogen economy in Namibia. This is compounded by the fact that Namibia's green hydrogen agenda seems to be driven by the European development partners (where the bulk of the capital used to develop this sector is coming from).

However, there's already enough evidence that Namibia has taken substantial steps towards becoming a major hub for a green hydrogen production, its local use and export. Three pilot projects that have taken off in the Erongo region have proven to be a huge success.

Cleanergy Solutions Namibia, a joint venture between the Ohlthaver & List (O&L) Group and Belgian company CMB.TECH, has been developing a green hydrogen production plant in the dunes outside Walvis Bay. The Hydrogen Dune, which comprises hydrogen production, a refuelling station and a hydrogen academy, is set to be operational by mid-2025. The refuelling station will make green hydrogen available to the entire Namibian market.

The Daures Green Hydrogen Village is integrating clean hydrogen in food production, creating jobs in the clean hydrogen sector, and reducing industrial carbon emissions. The pilot project is also ensuring community involvement and financial benefits, earning it recognition by the UN Industrial Development Organisation (UNIDO).

The last and perhaps the most innovative of the hydrogen pilot projects is the recently inaugurated HyIron-Oshivela project outside Arandis. The project, which is a partnership between Namibian and German companies, has made history by becoming the world's first industrial-scale green iron production plant.

These success stories bear enough testimony to the potential that green hydrogen has for Namibia, as the country prepares to roll out the massive Hyphen Hydrogen Project in the Tsau ǁKhaeb National Park in the south of the country. And news that international companies are lining up to invest in the country's green hydrogen sector is further evidence that this new economy is set to boom.

European Union Ambassador to Namibia, Ana Beatriz Martins, revealed that several European companies lining up to invest in Namibia's green hydrogen economy, with a prospected investment pipeline exceeding €20 billion (about N$430 billion).

This is indeed massive and one can only imagine the effect that these huge investments will have on Namibia. Hence, we believe that green hydrogen deserves support from all Namibians.

Happy Reading!
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HARNESSING WIND POWER: Following the successful delivery of major wind turbine components in February, the 44MW InnoVent Diaz Wind Farm, located near Lüderitz, has entered the assembly phase. The aerial photo shows the Diaz construction site with cranes and the various components for the wind turbines. **Photo: InnoVent**

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Making the Impossible Possible...

As N$600m HyIron Oshivela Green Iron Plant Defies Odds

TABBY MOYO

When Johannes Michels, co-founder and Managing Director of the HyIron-Oshivela project, started planning a pioneering green iron project in Namibia, aiming to produce iron with zero carbon emissions utilising green hydrogen and solar energy, many dismissed his plan as a mere pipedream.

About a year ago when Michels and his team started constructing the green iron plant outside Arandis, he was told it was impossible to pioneer such a project in country like Namibia which is not industrialised. One year later, with the help of 400 dedicated people who put in 10 000 hours into making the project a reality, the dream has come true.

Industrialisation and the decarbonisation of the steel industry is one of the biggest challenges in the global fight against climate change. With increasing carbon dioxide (CO2) and energy prices, the steel industry needs to develop climate-friendly technologies and value chains. HyIron, a partnership between Namibian and German companies, has developed a technology to effectively address this challenge by producing iron at zero emissions.

With support from the German Federal Ministry for Economic Affairs and Climate Action (BMWK), HyIron has built the world's first industrial-scale green iron production plant.

On Friday 11 April, President Netumbo Nandi-Ndaitwah and guests from as far as Australia, Japan and all over Europe, converged at the HyIron site near Arandis to witness the inauguration of the pioneering green iron production plant.

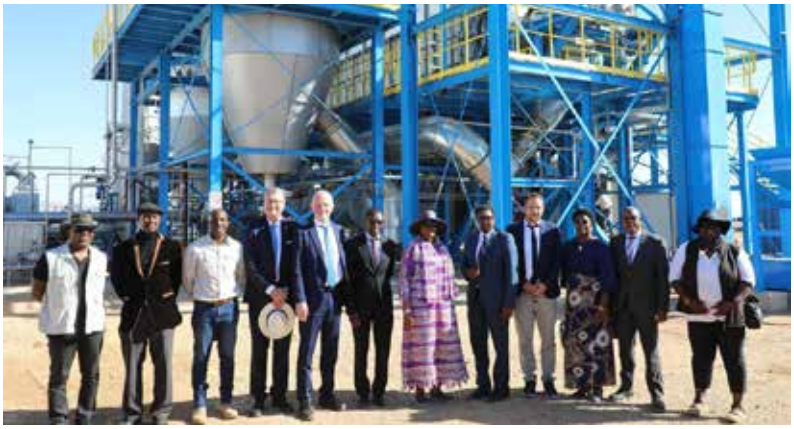
Ironically, President Nandi-Ndaitwah, who officially opened the Oshivela plant, admitted to having been very sceptic about the project.

"The introduction of the HyIron Oshivela Plant in Arandis was brought to my attention in 2023, as the then Deputy Prime Minister and Minister of International Relations and Cooperation. I recall, meeting this visionary team on the sidelines of the Heads of Missions Conference in Windhoek. At the time, the concept of a plant that would produce green iron with zero emissions in Namibia sounded like another far-fetched dream," the head of state confessed.

"In 2024, at the Hydrogen Conference in Windhoek, the team brought me the first green iron. Today, 11 April 2025, as your Fifth President, I stand before you with excitement to inaugurate this groundbreaking facility, which solidifies the unwavering commitment and a shared vision of the HyIron project," Nandi-Ndaitwah said.

WORLD FIRST: *HyIron Oshivela has built the world's first industrial-scale green iron production plant.*

GREEN IRON: *HyIron MD Johannes Michels explains the green iron production process to President Netumbo Nandi-Ndaitwah and Deputy Prime Minister and Energy Minister Natangwe Ithete during the official opening.*



LAUNCHED: *President Netumbo Nandi-Ndaitwah with Namibian government officials and foreign dignitaries at the launch of the Oshivela plant.*

ELECTROLYSIS: *Former President Nangolo Mbumba viewing one of the electrolysers at Oshivela during his visit to the plant in March.*

FOUNDER: *HyIron Founder and Managing Director Johannes Michels.*

RECOGNITION: *HyIron Oshivela won the Namibian Hydrogen Project of the Year Award at the Global African Hydrogen Summit in 2024.*

DRIVER: *Head of the Namibia Green Hydrogen Programme James Mnyupe.*

She explained that her skepticism had been fuelled by the fact that she had met countless potential investors in her previous capacity as Minister of International Relations and Cooperation, and that she was still waiting to see these investments come to fruition.

"To potential investors, I am assuring you that Namibia is ready for business for the mutual benefit of investors and the Namibian people. For us in government, our objective is to create a conducive environment for investment for both local and foreign investors. Therefore, I call upon other investors to follow and emulate the exemplary path of HyIron," she said.

VALUE ADDITION, BENEFICIATION IN ACTION

The President emphasised that the Oshivela plant was not only significant because it is the world's first industrial facility dedicated to zero-emissions iron production, but that it talks to Namibia's national developmental agenda of value addition, natural resource beneficiation and industrialisation.

"The Oshivela plant stands as a proud Namibian achievement and reflects notable synergies between Namibia and its international partners. It is the culmination of strategic investments, homegrown innovation, and global collaboration involving various companies around the globe where components and or parts of the plant were supplied from the European Union, the United States of America, China, Japan and Great Britain amongst others.

"Beyond its role in steel production, the Oshivela plant is a powerful reminder of what can be achieved when visionary leadership, international cooperation, and local talent come together," Nandi-Ndaitwah said.

The partners in the project invested approximately N$600 million to fund Oshivela.

Deputy Prime Minister and Minister of Industries, Mines and Energy, Natangwe Ithete, said Namibia has taken a bold and forward-thinking step to invest in clean technology and develop low to zero-carbon industrial models.

"Our approach focuses on building sustainable industrial clusters that not only reduce emissions but also respond to new global trade trends, where carbon-heavy products are increasingly being taxed or restricted. Clean energy is now becoming a key advantage. Countries around the world are beginning to favor goods made with renewable energy. By producing such goods, Namibia can stay ahead of international regulations and gain a competitive edge in global markets," Ithete said.

He said the HyIron Oshivela project was a perfect example of this strategy in action.

ABUNDANT CLEAN ENERGY RESOURCES

"It represents a new wave of industrial development where businesses are investing in Namibia to take leverage on our abundant clean energy resources. By developing industries close to renewable energy sources, we reduce

both production and transportation costs, and most importantly, we cut emissions significantly. This model of industrialisation helps Namibia leapfrog older, carbon-heavy development paths and positions us as a leader in sustainable industry," the Energy Minister said.

Head of the Namibia Green Hydrogen Programme (NGHP), James Mnyupe, explained that the HyIron plant features a 25 megawatt solar plant, with industrial scale battery storage which will power the electrolysers ensuring a consistent production of iron ore. The 12 megawatts of alkaline electrolysers will produce green hydrogen that will be stored in tanks and pumped into the kiln where the iron ore will be introduced and reduced by the hydrogen to produce direct reduced iron (DRI), a key component in steel production.

Mnyupe paid tribute to the Namibian government for supporting the HyIron project and revealed that partners from as far as Japan had already showed willingness to buy the green steel from the Namibian plant and use it in the production of green cars.

European Union Ambassador to Namibia, Ana Beatriz Martins, described the opening of HyIron Oshivela as a "milestone in Namibia's path towards green industrialisation and indeed a milestone in Africa".

"This achievement is fruit of the bold vision of Namibia's political leadership that decided to lead the way on green industrialisation with its rich renewable resources, reaping the benefits for its economic growth and creation of quality jobs. It is also a testament of Namibia's entrepreneurial talent and resolve, which recognises the opportunities of translating policy visions into concrete business actions," said Martins.

EU SUPPORT INSTRUMENTAL

The EU Ambassador said Germany had been instrumental in supporting HyIron with grant money in its experimental phase. The EU and The Netherlands will be joining as partners in Phase Two of the HyIron project with a €12.9 (about N$258 million) grant contribution to Namibia's SDG1 Fund.

She said HyIron's prospective offtake agreements with leading European and Asian manufacturing companies are clear sign that there was a market for green iron.

Martins said there were currently about seven European companies

EUROPEAN CONNECTION: *Heads of EU countries represented in Namibia during their visit to Oshivela.* ***Photos: Tabby Moyo, Nam Presidency & EU***

that were exploring investments in Namibia's Green Hydrogen economy, with a prospected investment pipeline exceeding €20 billion (about N$430 billion). HyIron and Cleanergy are among the first to complete their first pilot phase. Other businesses involving European capital and technology, such as Zhero and Hyphen, are expected to reach Final Investment Decision by the end of next year.

Rainer Baake, the German government Special Envoy to Namibia on Green Hydrogen, said when he was first approached by Michels in June 2022 to introduce the HyIron project, he was skeptical.

"My first question was: 'Where is the water coming from?'. Electrolysers need water, and we were far from the coast'," Baake recalled.

But Michels assured him that they had invented a technology that recycles water and would not need a permanent external supply.

"I thought that was ingenious. Upon returning to Germany, I told the leadership of our Ministry that if our technical experts agree this works, I strongly recommend we support it, because this project has great potential.

Just a few months later, in December 2022, when Minister Habeck visited Namibia, he handed over a cheque of €13.7 million (about N$294.5 million) to HyIron Oshivela to help get this project off the ground," Baake said.

CHEAPER THAN GERMANY

He said it was far cheaper to produce green iron in Namibia than in Germany, as Namibia had exceptional solar irradiation which enabled it to produce cheap clean electricity.

"Just to compare: Phase I of this project already produces green hydrogen at less than €2 per kilogram. In Phase II, HyIron expects to reduce that to below €1 per kilogram. In Germany, we estimate that by 2030, green hydrogen will still cost €5 to €9 per kilogram. So, ask yourself: Where will the world's future green iron be produced?" Baake asked.

Grman Ambassador to Namibia, Thorsten Hutter, said his country's development cooperation with Namibia was focused on climate change mitigation and includes activities across multiple sectors: renewable energy, energy access, energy storage, energy policy, and of course, green hydrogen.

"From now on, Namibia produces direct reduced iron without CO_2 emissions, on an industrial scale. HyIron is a frontrunner in establishing this new standard and technology globally, and importantly, this green direct-reduced iron is globally competitive.

Already by the end of 2023, HyIron had secured its first offtake agreement with the German automotive company Benteler, which aims to purchase 200 000 tons of this material," Ambassador Hutter said.

He said HyIron demonstrates that real value addition in Namibia is achievable, creating jobs, income, and industrial opportunity. Beyond this, green hydrogen presents even more opportunities for Namibia's green industrialisation.

Neville Andre, Governor of the Erongo region, where the Oshivela project is situated, said Green Hydrogen was already reshaping Namibia's economic landscape.

"Our communities are witnessing firsthand how green hydrogen can drive progress, empowering youth, uplifting local enterprises, and positioning Namibia as a global leader in the green energy revolution," Andre said.

InnoVent Diaz Wind Farm:
Construction Enters Assembly Phase

Following the successful delivery of major wind turbine components in February, the InnoVent Diaz Wind Farm, located near Lüderitz, has entered the assembly phase.

The 44 megawatt (MW) wind project will produce around 230 GWh of electricity per year, covering 6% of Namibia's total consumption.

Wind turbines: Ready for tower delivery

All the blades, hubs and generators have been delivered to site. Some of the towers, fabricated separately, are scheduled to be loaded in mid-April and should be delivered to the construction site by the end of May.

Assembly: Starting now and continuing in June

Assembly will begin shortly, with four turbines already fully delivered to site – including their towers. These will be the first to be erected, with the first turbine lift expected in April. The remaining seven turbines, whose towers are scheduled to arrive in the coming weeks, will be assembled from June onwards. Overall, assembly should take approximately three months, depending on weather conditions.

Efficient and low-impact foundations

An anchoring technique using rock bolts allows for a significant reduction in concrete and steel usage compared to traditional gravity-based foundations. Over 190 anchor points will be drilled and fitted, leading to savings of nearly 6,000 m^3 of concrete and 1,100 tonnes of steel — highlighting the project's dual commitment to clean energy generation and minimising its carbon footprint during construction.

Site infrastructure progressing steadily

Most of the internal roads and half of the lifting platforms are now complete. The substation, which will connect the wind farm to the NamPower grid, is under construction. All electrical components have been manufactured and are being stored with suppliers, awaiting installation. Internal electrical works, including poles, cables and fibre optic lines, will start in May.

READY FOR ASSEMBLY: *The Diaz construction site ready for the assembly of the wind turbines.*

FOUNDATION : *The site foundations in which the 190 anchors will be installed.*

PROGRESS : *An aerial view showing how the foundations were constructed.*
Photos : InnoVent

About InnoVent and InnoSun

InnoSun is the Namibian holding of InnoVent, a French renewable energy developer created in 2001 by Grégoire Verhaeghe. InnoSun plays a key role in the development of clean energy projects in Namibia and collaborates with local partners to implement sustainable energy solutions. The company is partially owned by Black Diamond Investment (BDI), ensuring a strong local presence and contribution to Namibia's economic development. InnoSun's achievements, including solar and wind farms across the country, reflect InnoVent's long-term commitment to investing in Namibia's energy transition.

Hyphen Seeks to Unlock Green Hydrogen

Opportunities with Local Content Roadshow

Hyphen Hydrogen Energy (Hyphen), in collaboration with the Namibia Investment Promotion and Development Board (NIPDB) and the Namibia Chamber of Commerce and Industry (NCCI), has embarked on visits to various destinations across the country to meet with businesses as part of efforts to unlock opportunities for local businesses in Namibia's new green hydrogen sector.

The Local Content Roadshow (LCR) saw Hyphen, NIPDB and NCCI, visit the towns of Swakopmund, Oshakati, and Lüderitz, between 27 February and 27 March, where over 200 businesses participated in the first series of business sessions. Hyphen showcased procurement and employment opportunities for local businesses, with the company targeting 30% local procurement for goods, services, and materials.

Value Chain Mapping

Hyphen has undertaken a comprehensive value chain mapping study of 13 critical engineering infrastructure components that comprises the majority of the Hyphen project, highlighting exactly where local businesses can get involved in the project and where constraints within the local market exist. These include Wind, Solar, Battery Energy Storage Systems (BESS), Electrolysis, Transmission, Roads, Green Hydrogen (GH2) Pipeline, Water (H2O) Pipeline, Ammonia (NH3) Synthesis, NH3 Storage, NH3 Export, Desalination, and Air Separation.

Hyphen Senior Economic Development Manager (Procurement), Johannes Shipepe, told ***Etango*** that as part of its local content target in the Feasibility and Implementation Agreement (FIA), Hyphen has set a target to spend 30% of its procurement on local companies to provide goods and services during the construction and operations phase.

"The purpose of these engagements is to share more information around what the potential opportunities are that can be provided by local companies. We targeted to engage local companies, suppliers and service providers that are currently involved in or looking to get involved in, the supply chain and construction of the renewable energy or green hydrogen industries. This is also a good opportunity for associations and business chambers to access information that they can share with their members," said Shipepe.

Hyphen Senior Economic Development Manager (Procurement), Johannes Shipepe.

> The purpose of these engagements is to share more information around what the potential opportunities are that can be provided by local companies.

Physical and Virtual Engagements

Hyphen is planning additional physical engagements across Namibia, with details to be released in due course. In addition to the physical engagements, Hyphen will be undertaking a series of virtual, social and print media engagements in order to reach as many potential service providers as possible.

"We will be collaborating with various partners and stakeholders to rollout some of the engagements," said Shipepe.

Baseline Study Early Opportunities Identified

Hyphen has also been using the LCR to share the initial results of a baseline study investigating potential local content opportunities for Namibian businesses to participate in the project. The mapping is needed to identify "local content packages" by assessing i) the value of potential opportunities against ii) the level of specialisation required for each component. Hyphen recognises that "low-hanging opportunities" within this emerging sector typically fall within the low to medium levels of specialisation, which given the scale of the project, can deliver significant value for local businesses.

Shipepe said some of the positive findings of the baseline study are that Namibia has strong existing construction, mining and transport and logistics industries - which industries have resulted in the development of a strong base of suppliers. With this strong base, the general and civil construction, transport and logistics services were some of the early opportunities where local content participation can be optimised. This

includes other associated services such as heavy plant and equipment services, concrete works, electrical and mechanical works, and crane services.

"We also see significant opportunities in the solar industry given Namibia's good experience in construction of solar plants. Given the scale of Hyphen's project, the challenge for local suppliers will be their ability to scale up their capacity to provide services at a massively larger scale than the projects that they have been involved with in the past," Shipepe said.

The Hyphen project, Namibia's first gigawatt-scale green hydrogen project, aims to produce 2 million tonnes of green ammonia annually, utilising 7GW of renewable energy and 3GW of electrolyser capacity.

Hyphen anticipates that due to Namibia's small manufacturing base, most of the construction equipment and technology will most likely be imported, which also presents a good opportunity to explore ways to develop local capacity.

"In our case, we aim to build local capacity through our Enterprise and Supplier Development program where we will be providing support to local companies build their capacity and readiness to supply goods and services," Shipepe said.

More Awareness Needed

"Some of the participants were interested to understand when the process of supplier onboarding will start and what they can do now to ready themselves. They also urged us to ensure that the process of creating awareness on the capacity development and procurement opportunities to be done in an open, fair, and transparent manner. All of which we will take into consideration as we finalise the development of the project," the Hyphen senior manager said.

The NCCI acknowledged the challenges to entry that particularly Micro, Small, and Medium Enterprises (MSMEs) face. In response to these insights, Hyphen shared an initial vision for actively involving MSMEs in the project through its proposed Enterprise and Supplier Development Program, which will see MSMEs working in partnership with larger contractors to execute identified work packages. .

NORTHERN ENGAGEMENT: *NCCI presentation to the audience at the Local Content Session in Oshakati on 14 March 2025.*

STRONGER TOGETHER: *Hyphen Hydrogen Energy presents to the audience at Local Content Session in Lüderitz on 27 March 2025.*

"Hyphen is committed to ongoing communication with the local business community and we look forward to continuing with the LCR. We want to ensure that we have a transformational and positive impact on local businesses, job creation, training, and education across Namibia and so we truly appreciate the participation we have seen so far. We would urge local businesses to keep an eye out for upcoming sessions," said Toni Beukes, Head of ESG at Hyphen.

Claudia Capelao, NIPDB Manager of MSME Ecosystem Optimisation, said: "The green hydrogen industry, like the broader energy sector, requires scale, quality, and innovation. For MSMEs working on large commercial projects, collaboration is not optional, it is imperative. That's why we are out on the road, engaging with businesses to help them understand how to prepare to make the most of the opportunities that green hydrogen presents."

HYDROGEN ENERGY

HYPHEN

Hyphen is a green hydrogen development company working in partnership with the Government of the Republic of Namibia (GRN).

Following a GRN run competitive tender process, Hyphen is developing sub-Saharan Africa's largest and only fully vertically integrated green hydrogen to green ammonia project.

Image: Hyphen kickstarted its meteorological mast programme.

Our Vision

To be Namibia's leading green hydrogen project developer and supplier to international, regional, and local markets

Our Values

- Lead by example
- Act with care and integrity
- Socially responsible upliftment
- Development and empowerment
- Manage resources sustainably and efficiently

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POWER GENERATION BOOST: *Former President Nangolo Mbumba inaugurated the Anixas II Power Station as one of his final tasks as head of state.*

54MW Anixas II Power Station to Provide Firm and Dispatchable Power on the Grid

The new N$1.25 billon 54 megawatt Anixas II Thermal Power Station at Walvis Bay will go a long way in providing dispatchable and reliable generation capacity to the Namibian grid, thereby improving security of supply and self-sufficiency.

The Anixas II Power Station, which was inaugurated on 5 March, is the first thermal power station in NamPower's mix of generation projects.

NamPower Managing Director Kahenge Simson Haulofu said although the utility was investing significantly into renewable energy projects such as solar, biomass, battery energy storage systems (BESS) and the development of future wind projects, there was a big need for firm and dispatchable power on the grid.

"While technologies such as solar and wind will help alleviate some of the future energy requirements of the Namibian grid, they cannot fulfil the dispatchable capacity requirements of the future Namibian grid.

During times when the sun is not shining, when there is cloud cover or wind still days, or when the Kunene River flow is low for the Ruacana Hydro Power Station to generate sufficiently, dispatchable power plants are required to support the grid and to meet the evening peak demand," Haulofu said.

He added that when system emergencies occur, or if a Southern African Power Pool (SAPP) member needs supply of emergency energy, firm and dispatchable power plants were required.

ROOM FOR MORE RENEWABLE PROJECTS

Haulofu said the Anixas II Power Station will also support the SAPP members' ten-minute operating reserve requirements - meaning it can respond in a short timeframe to support the SAPP network – and allows Namibia to integrate more renewable energy projects in the future, by serving as a dispatchable power station to support the grid and energy requirements, in light of the intermittency of renewable energy facilities.

The Anixas II Power Station is built as a dual-fuel power station, ready to receive natural gas (NG) once it becomes available in Namibia at a competitive price. This will allow for greater risk mitigation in terms of fuel diversification, higher capacity factors, reduction in emissions and further reduction of system losses during peak times.

"The power station, in addition to our existing fleet of generators and considering all the new projects in development and execution stages, provides a robust mix of technologies to put NamPower and Namibia in an optimal position for Namibia's future energy requirements," the NamPower MD said.

Construction, testing and commissioning of the power station was completed in September 2024, with final taking-over from the EPC contractor on 20 November 2024. The project was financed from NamPower's balance sheet.

Haulofu said the EPC contract amount started at N$1.259 billion and was now standing slightly lower at N$1.252 billion.

Close to 15% of the EPC contract value (excluding forex hedging cost), which translates to more than N$183 million, was spent on indigenous Namibian companies.

"Constructing a thermal power station and integrating it with an existing power station, as we did with integrating Anixas I next door with Anixas II, is a large and very complex project - compared to PV or many other generation projects - with several civil, mechanical and electrical engineering challenges.

"However, despite the challenges, the inauguration of the Anixas II Power Station is a true demonstration of NamPower's unwavering commitment to powering the Namibian economy and the Nation, by ensuring security of supply and improving self-sufficiency – a milestone achieved in our quest to becoming the leading electricity solutions provider of choice in SADC, a catalyst for economic growth in Namibia and in the region," Haulofu said.

POWER FROM THE SUN: *The Khan solar plant, named after Moses Mague //Garoeb, will produce the cheapest electricity in Namibia at a cost of 49.5 cents per kilowatt-hour (kWh).*

N$360m Khan Solar Plant to Provide Reliable, Cheapest Electricity to Over 18, 500 Households

Namibia took yet another step towards achieving energy sufficiency goals with the recent addition of the 25-megawatt (MW) Khan Solar photovoltaic (PV) Plant in Usakos.

The solar plant, named after Moses Mague //Garoeb, a dedicated freedom fighter who devoted his life to Namibia's struggle for independence, is designed to produce electricity at a cost of 49.5 cents per kilowatt-hour (kWh), making it the cheapest energy cost per kilowatt in the entire Namibian energy generation mix.

The N$360 million project is a result of a partnership between Alpha Namibia Industries Renewable Energy Power (ANIREP) and Aussenkehr Energy Investment, with HopSol Africa as the EPC contractor. NamPower is the off taker of the electricity.

Former President Nangolo Mbumba inaugurated the plant on 6 March, as one of his final engagements before completing late President Hage Geingob's term as head of state on March 21.

CONCRETE STEP

Mbumba said the solar plant was a concrete step in moving Namibia towards energy sufficiency, and the development of new economic sectors and industries, including green hydrogen and green industrialisation, which are geared towards local value addition and job creation. He said it was also a step towards the fulfilment of the noble goal of decarbonisation.

"Namibia has committed itself to energy transition from 100% reliance on fossil fuels towards renewables such as solar, wind and thermal energy. This strategic shift in energy utilisation is part of our contribution to reduce emissions and achieve global carbon neutrality by 2050," said Mbumba.

"To achieve energy sufficiency and efficiency, development of energy storage technologies that can make up for the intermittent nature of solar energy is essential. However, provision of solar energy must not come at high costs to consumers but should be affordable. It is therefore pertinent that we ensure that during the energy transition no one should be left behind. The 18 500 beneficiaries of the Khan Solar Substation are a testament to this commitment," said the former president.

The Khan solar plant is an essential part of Namibia's larger effort to boost its renewable energy generation capacity and reduce reliance on imported energy. It is also a key element of the nation's goal to generate 70% of its electricity from renewable sources, including solar, wind, and hydro power.

ADVANCED TECHNOLOGY

This latest addition to the renewables generation family stands out due to its advanced technology, featuring high-performance bi-facial solar modules and a single-axis tracking system. The plant maximizes energy production by ensuring that the panels track the sun's movement throughout the day, absorbing both direct irradiation and ground reflected irradiation.

The 33,000 ground-mounted solar panels spread across the 60-hectare site generate a total installed DC power capacity of 25.7 MWp, with an export capacity of 20 MW. The plant is expected to produce approximately 67.8 GWh of electricity annually -enough to power nearly 20 000 households.

The solar plant's impact extends beyond energy generation. It created over 200 jobs during its construction, with 117 local hires, giving workers valuable skills and providing a skilled workforce for future renewable energy projects in Namibia. The town of Usakos also benefited from increased demand for services such as retail, hospitality, and security.

HopSol Chief Executive Officer, Silvester Wayiti, said the Khan solar project represents the company's commitment to improving lives by providing affordable energy.

"Every solar project we complete means more affordable energy for families and businesses. It's about

ENERGY SUFFICIENCY: *Inaugurating the Khan Solar Plant, former President Nangolo Mbumba said Namibia has committed itself to energy transition from 100% reliance on fossil fuels towards renewables such as solar, wind and thermal energy.*

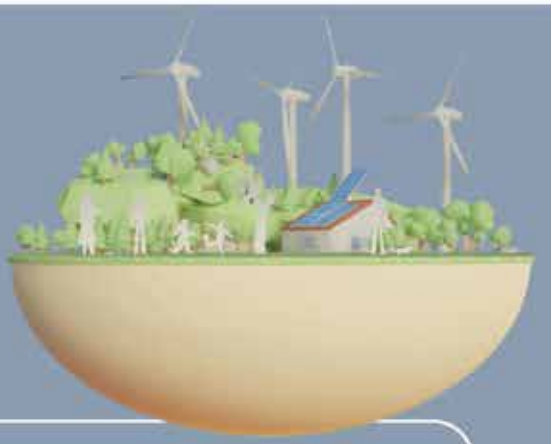
improving lives, one kilowatt at a time. In a country where job creation and local economic development are key priorities, the Khan Solar Plant demonstrates that renewable energy projects can deliver long-lasting benefits that extend far beyond their environmental impact," he said.

"We're putting more power on the grid than a coffee shop can do on Monday morning. Except, our power doesn't need caffeine to keep running," said Wayiti.

Wayiti said with the Khan solar plant now operational, HopSol is now looking to future projects that will further support Namibia's green energy goals.

Namport

Serving as a Critical Energy & Industrial Hub for Green Hydrogen and Ammonia Transportation



Strategic Positioning

Namibian Ports Authority (Namport) is strategically positioned as an important contributor to the growth of Namibia's green hydrogen industry. As the main conduit for the country's imports and exports, Namport is positioned to play a crucial role in enabling the transport of green hydrogen and its derivatives, including green ammonia.

Infrastructure and Investments

Namport is poised to become a major logistical hub, with significant infrastructure upgrades already in progress. Upgrades focus on expanding facilities for specialized cargo linked to green hydrogen projects. Over the next ten years, investments in advanced technologies and green logistics are expected to total hundreds of millions of Namibian dollars, reflecting growth and demand in the sector.

Both the Port of Walvis Bay and Port of Lüderitz will undergo major enhancements to accommodate increased cargo from the green hydrogen industry. Planned improvements include specialized terminals for hydrogen and ammonia, upgraded cargo handling facilities, and the implementation of smart port technologies to boost operational efficiency.

Strategic Partnerships

Namport has proactively established strategic partnerships with local and international leaders in green hydrogen technology. These collaborations with global ports and logistics companies, enable Namport to align with international standards and adopt best practices in green fuel logistics and port modernization.

Namport is exploring the use of green hydrogen to fuel its port equipment, aligning with its broader sustainability goals to reduce carbon emissions and promote cleaner energy. Efforts are underway to retrofit equipment to accommodate hydrogen, demonstrating Namport's commitment to embracing advanced, sustainable technologies.

NAMPORT

Africa's Ultimate Ports Experience

Training and Workforce Development

To support the green hydrogen industry effectively, Namport is investing heavily in workforce training and upskilling. In collaboration with training institutions and industry experts. Specialized programs focused on green hydrogen logistics and handling will ensure that staff are well-prepared to manage and support the industry's growth.

Community and Environmental Responsibility

Namport is mindful of the heritage sites near its ports, such as Shark Island at the Port of Lüderitz and therefore is committed to engaging with local communities and stakeholders to ensure that development plans respect and preserve cultural and historical legacies.

Future Developments

The Port of Lüderitz is set to expand its capacity in response to the expected increase in cargo volumes from green hydrogen projects. Planned upgrades include specialized terminals, improved berthing facilities, and advanced logistics technologies, transforming it into a key regional trade hub and a vital node for exporting green hydrogen derivatives.

At the Port of Walvis Bay, a master planning exercise in 2022 outlined a 50-year phased development plan. Initial efforts focus on enhancing liquid bulk handling and establishing a tank farm. Future phases involve land reclamation for multi-purpose dry bulk terminals, ship repair zones, and coal terminals, ultimately positioning the North Port as a hub for long-term port development.

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NAVIGATING FOR TOMORROW

PUBLISHED SEPTEMBER 2024

DECENT, AFFORDABLE: *The stylish Nissan Leaf electric vehicle pictured at the Namibian coast.*

Slow EV Uptake in Namibia: The R.I.P Syndrome

CONRAD ROEDERN

Electric vehicles (EVs) come with so many advantages: much lower cost for maintenance and fuel, no CO2 emissions if driven on green electricity and potentially saving Namibia billions for importing fuel. So, what are the reasons that currently only less than 200 EVs are roaming Namibian roads?

Let us start here: what are the expectations? 5 000, 10 000 or 100 000 EVs by 2030? The number 5 000 would have been a decent "educated guess" but especially politicians like to brag and came up with figures as high as 100 000.

One answer to the slow uptake can be found in *R.I.P.:* in our case this does not stand for "rest in peace" but for *Range-Infrastructure-Price*, the most commonly cited arguments seen as limiting the use of EVs in daily life.

Let us start with ***Range:*** modern EVs typically have a range of 350 to 650km on a fully charged battery which would be sufficient for most driving needs if there would be a sufficient number of fast-chargers distributed throughout the country, able to recharge within less than one hour.

This brings us to the next stumbling stone: ***Infrastructure*** of fast-chargers which is a precondition if we are to see much more EVs in Namibia. In 2023, one premium brand dealership announced plans to roll out a basic charging network, allowing to service most of Namibia's tarred road network within two years.

Unfortunately, this has not yet materialised and one of the reasons can be partly attributed to ***Price:*** for a new SUV-style EV with sufficient range one would have to fork out a sum of between N$1.3 million and N$1.9 million. Who would be willing to spend such an amount if the car can't be charged enroute or at the destination?

To sum it up: the *hen and egg problem,* i. e. no infrastructure of a fast-charging network which means no expensive long-range EVs are sold and thus no demand for a fast-charging network; this is where the cat bites its tail. Therefore, the major brand dealerships did not embrace EVs although they sell their EVs in other parts of the world

Example: One traditional premium brand has two SUV type EVs in their show-room since 2023 but so far has been unable to start selling EVs because of that problem. Since all luxury brands face this problem no competitive drive is spurring any demand for any meaningful sales of new EVs.

But for a starting point: if you are looking at electric *mobility for in-and-around-town-use* the situation looks very differently: there is *no range problem* in many applications while the *lack of infrastructure* is mostly not felt since cars can be (slow) charged at home or at any 3-pin socket-outlet available. The price for a decent sedan-type EV can be brought down by reverting to imported pre-owned EVs with sufficient range for local use.

FULL SERVICE: *Visit the Electric Vehicles Namibia showroom at Hyper Motor City, Shop 37 Windhoek for a test drive of an EV.*

This is the reason why these EVs have become an astonishingly common sight on Windhoek's streets: those who own them like them and they intensively use their EVs.

EVs will not rest in peace much longer. Already now we can see many signs of growth: In Windhoek,

EVs in use as *App-Taxis* are now a common sight and more public charging points are becoming available with a second fast charger at the Grove Mall, a charger at Windhoek's Municipality and the public charger at Arandis. So, even if it takes longer than expected: we're getting there, step by step.

PUBLIC CHARGING: *On 29 January, 2022, EVs Namibia and the Grove Mall pioneered the first public DC (direct current) fast charging station to enhance versatility of the growing Namibian electric vehicle fleet. The charging station is located on Grove Mall's lower-level parking deck.*

Govt Spends N$168m Financing Solar Systems

Government, through the Solar Revolving Fund (SRF), has so far financed a total of 5,628 solar energy systems countrywide amounting to N$167.8 million.

Director of Energy Funds in the Ministry of Industries, Mines and Energy, Anna Libana, said this achievement underscores the power of financial innovation in driving energy transition and empowering communities. She was speaking during the Solar Week in Windhoek on 26 February.

"To ensure economic development and respond to the plight of the people living in rural areas, access to electricity is no longer a luxury service, it has become basic service that ought to be found in every village, every home, and every farm in every part of Namibia. Hence, promotion and increase access to rural electrification through the use of renewable energy technologies is vital for Namibia to achieve national target of energy access," said Libana.

The benefits of solar energy, the Director said, extend far beyond electricity generation.

"It is a catalyst for job creation, economic diversification, and technological advancement. By investing in solar power, we are investing in the future of our youth, empowering entrepreneurs, and strengthening our national economy," Libana said.

She said Namibia stands at the peak of a renewable energy revolution.

"Blessed with one of the highest solar irradiance levels in the world, we have an unprecedented opportunity to lead the way in harnessing the power of the sun," said Libana.

Namibia, through the Harambee Prosperity Plan II, aims to electrify about 6,000 rural and 13,000 peri urban households. In the effort to increase rural electrification, the Ministry of Industries, Mines and Energy, through the Solar Revolving Fund, provides subsidised loans to individuals, farmers and businesses for the purchase of renewable energy technologies (RETs) such as Solar Home Systems (SHS), Photovoltaic Pumps (PvP) and Solar Water Heaters (SWH).

Government has recognised that renewable energy systems, such as those used for decentralised electricity generation and off-grid applications, have the potential to contribute to reaching the goal of universal access of electricity in Namibia.

And this can be achieved through the installation and supply of high-quality systems and a workforce of well-trained installers.

The SRF was established in 1996 as a nationwide credit facility to promote the use of solar energy technologies in rural areas, particularly for off-grid communities.

The SRF operates on an ownership model where applicants can obtain loans to purchase renewable energy products. It is an element of the Off-Grid Energisation Master Plan for Namibia (OGEMP) whose objective is to provide access to suitable renewable energy technologies to off-grid areas.

Under this model, applicants must first obtain a detailed quotation from an accredited energy service provider for the supply and installation of the technology, and then pay an upfront deposit to secure a loan from the Ministry. This is designed to give borrowers a greater sense of ownership of the solar equipment they purchase.

Phone: 083 727 1900 **Website:** eavion.com.na **Mail:** info@eavion.com.na

The Eavion Group of Companies is a proudly Namibian enterprise specializing in solar engineering and installation.With a strong foothold in the local market and ambitions to expand into the SADC region, Eavion is well-positioned as a leader in sustainable energy solutions across Southern Africa.

Eavion operates through several specialized divisions, allowing the group to offer comprehensive and tailored services to meet a wide variety of project needs. At the core of the group is the **Consulting Division**, which delivers professional engineering services including feasibility studies, energy audits, detailed design, construction supervision, project management, and technical advisory services for both owners and lenders. Beyond renewable energy, this division also provides expert mechanical and electrical engineering services in building services and electrical reticulation.

The Consulting division has played a pivotal role in several high-impact projects across Namibia. These include engineering services for the new Cricket Namibia International Stadium, the Rosh Pinah Solar Park (the first modified Single Buyer (MSB) project) the Ministry of Justice Headquarters renovation in Windhoek, and the Schönau Solar Park, a key development that will export power to the wider SADC region.

Eavion's **Energy Division** provides a full Engineering, Procurement, Construction, and Management (EPCM) solution along with innovative financing models for solar installations. Through its "Rent-to-Own" offering, Eavion enables clients to transition to solar power without upfront capital investment. Clients benefit from fixed monthly payments while Eavion handles the operation, monitoring, and maintenance of the systems at no additional cost, delivering long-term savings and energy security.

The **Construction Division** comprises experienced teams that have successfully completed numerous projects, ranging from residential, commercial & industrial sites to utility-scale plants. Eavion's client base includes major retail chains such as Spar and Choppies, industrial and agricultural producers including biochar manufacturers, grape & citrus exporters, and some of Namibia's most prestigious lodges.

Responding to the growing demand for energy independence, Eavion has also developed several large-scale hybrid and off-grid solar projects, including energy storage installations of up to 1MWh.

Eavion's comprehensive service model covers every phase of a project, and what sets Eavion apart is its integrated, end-to-end approach. The company places a strong emphasis on cross-functional training, ensuring team members understand the perspectives and responsibilities of engineers, installers, financiers, and system owners. This integrated approach ensures project delivery that is both technically sound and client-focused.

Eavion prides itself on delivering streamlined, high-quality turnkey solutions. By eliminating inefficiencies common in traditional models and centralizing expertise across consulting, construction, procurement, financing, and project management, Eavion ensures clients receive top-tier results—on time and on budget.

Accelerating Energy Security in Southern Africa:

Highlights from SADC Sustainable Energy Week

The inaugural SADC Sustainable Energy Week (SEW), hosted by the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE), in collaboration with Botswana's Ministry of Minerals and Energy and the SADC Secretariat, took place in Gaborone, Botswana, from 24 to 28 February.

The SADC SEW convened over 800 delegates from across the region and beyond under the theme "Accelerating Sustainable Energy Solutions for an Energy-Secure SADC Region." The five-day event provided a dynamic platform for policymakers, development partners, financiers, and industry leaders to drive the regional energy transition agenda forward.

The event was supported by key partners such as the International Renewable Energy Agency (IRENA), United Nations Industrial Development Organization (UNIDO), Southern African Solar Thermal Training and Demonstration Initiative (SOLTRAIN+), and the Austrian Development Cooperation (ADA). This collaborative effort underscored the importance of partnerships in achieving inclusive, resilient, and sustainable energy systems.

The SEW was approved as an annual event by a meeting of the Joint Committee of SADC Ministers responsible for Energy and Water, in May 2024 in Angola, and Botswana and Zimbabwe committed to hosting the event in 2024 and 2025, respectively.

The 2024 SEW, which was originally scheduled to take place from 2-6 December 2024 but was postponed due to unforeseen circumstances, focused on key objectives to drive the region's transition to a sustainable energy future. These included promoting investments in renewable energy and energy efficiency, addressing energy poverty with scalable off-grid solutions, and advocating for policies that support renewable energy adoption. The event also emphasised the importance of regional cooperation, knowledge sharing, and collaboration among governments, the private sector, and financial institutions.

Highlighting gender and youth inclusion, SEW encouraged the participation of women and young entrepreneurs in shaping the energy landscape.

Ministerial Commitments and Regional Cooperation

Advocate Duma Gideon Boko, the President of Botswana officially opened the inaugural SEW with a call on SADC Member States and stakeholders to act in unity to achieve an energy-secure SADC region.

"The time for talk is over. It's time to act! Let's work together to build a future where every home, business, and industry in SADC has access to clean, affordable, and reliable energy", emphasised President Boko.

The SADC Executive Secretary, Mr Elias Magosi, pointed out that energy security and universal access to energy remain critical catalysts for regional integration and true economic development across all sectors and Member States. He indicated that with approximately

KEYNOTE SPEAKER: *Advocate Duma Gideon Boko, President of the Republic of Botswana*

Mr Elias Magosi

600 million people in the Sub-Saharan Africa who do not have access to electricity, and out of which almost 172 million or 29%, are SADC citizens, there is need for partners in the energy sector to intensify the level of access to electricity by creating and embracing innovative financing mechanisms and alternative access solutions

The Ministerial high-level session emphasised the urgent need to scale up investments in clean energy, enhance cross-border power trading, and mainstream gender and youth participation in the energy sector. Ministers from several SADC Member States echoed the call to align national energy policies with the regional **SADC Renewable Energy and Energy Efficiency Strategy and Action Plan (REEESAP).**

TOP DELEGATES: *(L to R) Mr Pelaelo Khowe, Hon. Noah Salakae, Mr Francesco La Camera, Hon. Winter Mmolotsi, Mr. Kudakwashe Ndhlukula, Hon. Bogolo Joy Kenewendo, President Duma Boko, Hon. July Moyo, Ambassador Romana Konigsbrun, Mr Elias M Magosi, Hon. Mohlomi Moleko, Hon. Makozo Chikote, Hon. Teddy Lwamba Muba, Hon. Ibrahim Matola and Hon. Estevao Tomas Rafael Pale.*

Focus on Financing, Innovation & Off-Grid Renewable Energy

Day 2 sessions explored innovative financing mechanisms to unlock capital for green energy projects, electricity market innovation and grid integration, enabling the environment addressing the challenges and opportunities of transitioning towards smart, flexible, and resilient energy systems in SADC.

The 6th International Off-Grid Renewable Energy Conference and Exhibition (IOREC) was opened by IRENA's Director-General Mr Francesco La Camera. The IOREC sessions discussed enabling policies, financing schemes, innovative business models and technology applications for scaling up off-grid renewable energy.

Solar Thermal Solutions for the Region

The 8th SOLTRAIN+ Conference, a flagship component of the SEW, brought together experts from the solar thermal sector to assess progress, share research, and strategise next steps. The conference showcased innovative applications of solar thermal technologies, including successful implementations in Botswana, Namibia, Zimbabwe, Lesotho, and South Africa, the partner countries.

Sessions explored how these systems are improving energy efficiency, reducing emissions, and supporting local economic development. A special focus was placed on institutional solar water heating, thermal energy storage, and vocational training initiatives supported by the project.

Notably, the SOLTRAIN+ Gender Mainstreaming and Inclusion in Renewable emphasised the importance of gender mainstreaming and inclusion in the renewable energy transition. The Botswana Minister of Youth and Gender Affairs, Hon. Lesego Chombo, emphasized the disproportionate effects of energy poverty on women and girls and the urgency of integrating gender considerations into clean energy efforts policy.

Technical Tour: *Group photo from the Botswana Institute for Technology Research and Innovation (BITRI) Collector Test Centre.* ***Photos: SACREEE***

She noted that women constitute only 20% of the energy workforce and called for vocational training, inclusive leadership, and youth engagement in climate-smart sectors.

Day 4 included the Global Network of Regional Sustainable Energy Centers (GN-SEC) session that featured experts, policymakers, and stakeholders from Africa, the Pacific Islands, and the Caribbean coming together to deliberate on equitable pathways toward energy sustainability. Other sessions included energy efficiency technologies, green hydrogen, energy battery storage and e-mobility.

On the final day, technical site visits were held at the Botswana University of Agriculture and Natural Resources (BUAN), the Botswana Institute for Technology Research and Innovation (BITRI) Solar Collector Test Centre, and the University of Botswana's Solar Thermal Facility.

Strong Outcomes and Recommendations

Over the five days, the event achieved several key outcomes:

- Strengthened commitment among SADC Member States to harmonise policies and regulations for renewable energy and energy efficiency.
- Renewed support for regional projects under the Regional Green Hydrogen Strategy.
- Clear emphasis on gender mainstreaming and youth engagement in sustainable energy development.
- Strategic partnerships formed for capacity building, technology transfer, and innovative financing mechanisms.

Looking Ahead

The 2024 SADC Sustainable Energy Week not only fostered dialogue but also catalysed action. As the region faces the dual challenges of climate change and energy insecurity, the event highlighted that sustainable energy solutions are both viable and essential for inclusive development.

In his closing remarks, Mr Kudakwashe Ndhlukula, SACREEE Executive Director, reiterated the Centre's commitment to serve as a knowledge hub and coordination platform for regional energy initiatives. The next steps include tracking progress on commitments made, deepening collaboration with stakeholders, and preparing for the 2026 SADC SEW in Zimbabwe with renewed ambition.

With the right investments, inclusive policies, and continued regional solidarity, a sustainable and energy-secure future for Southern Africa is within reach. – ***Article compiled by SACREEE***

Hyphen Signs Skills Development and Capacity Building MoU with Hardap Regional Council

SKILLS DEVELOPMENT: *The MoU was signed by Hyphen and the Hardap Regional Council in the presence of the Nama Traditional Leaders Association (NTLA), represented by the Vice-Chairperson, Gaob David Hanse and Penda Ithindi, the former Executive Director of the Ministry of Mines and Energy.* ***Photo: Hyphen***

Hyphen Hydrogen Energy (Hyphen) has entered into Memorandum of Understanding (MoU) with the Hardap Regional Council aimed at boosting local skills development and capacity building.

The MoU was signed on 25 February by the two parties, in the presence of the Nama Traditional Leaders Association (NTLA), represented by the Vice-Chairperson, Gaob David Hanse and Penda Ithindi, the former Executive Director of the Ministry of Mines and Energy.

Hyphen's Green Hydrogen project, which will be developed in the //Kharas region, requires a skilled workforce to make it a reality. The Hardap region, which neighbours //Kharas, is crucial in driving economic growth and expanding education and training opportunities for the local workforce.

The existing skills gaps across Namibia in the GH2 sector must be tackled urgently to ensure Namibians' employability in this project. That is why Hyphen, and the government are partnering to upskill Namibians.

The upskilling of Namibians will specifically focus on the youth by developing and offering specialized training and capacity-building initiatives.

Initially, the focus will be on Hardap, with further capacity building and skill development being extended to the //Kharas region in the near future.

Toni Beukes, Head of Environment and Social Governance at Hyphen, said; "This MoU lays the foundation for our collaboration, with a strong emphasis on technical training at the TVET level. Our goal is to ensure that local talent is well-equipped to seize the opportunities emerging from implementing the Hyphen project."

A Working Group will be established to explore innovative areas of cooperation and develop strategic initiatives to advance skills development and capacity building in Hardap.

By leveraging collective expertise and resources, impactful solutions can be created that directly address local challenges and support the development of a skilled workforce. This will, in turn, drive sustainable growth and employment in the region.

"It marks the beginning of preparing the otherwise demoralized youth of the region to receive education in the form of skills development to allow them to confidently participate in the new fledging economies in the South. This opportunity through the signing of the MoU is long overdue as it inspires the youth to start to dream and anticipate a future for themselves and for the economic prosperity of the Region and the country," he said.

Solomon April, the then Governor of Hardap described the signing of the MoU as a milestone.

Appian Takes Over Rosh Pinah Mine Solar Plant

United Kingdom-based investment firm, Appian Capital Advisory, has acquired a majority stake in Emesco Energy's 5.4 MW photovoltaic plant near the Rosh Pinah Zinc Mine.

The take-over will see the solar plant being tripled in size to 16.3 MW, supplying the Rosh Pinah Zinc Mine with clean and cost-effective energy.

The mine's owner, Canada-based Trevali Mining Corporation, had aimed to meet up to 30% of its total electricity needs for the next 15 years, as well as reducing the mine's environmental impact. Trevali had entered into an agreement with Emerging Markets Energy Services Company (Emesco) to build, finance, and operate the solar plant.

Announcing the takeover of the project by Appian, Emesco Managing Director Rinus Strydom emphasised the importance of the initiative and expanded on the financial and environmental benefits of the plans.

"The expanded solar plant will reduce Rosh Pinah's electricity costs by 8% over the next 15 years while providing 30% of the required energy for the mine's expansion. This investment by Appian is a pivotal step not only in expanding the Rosh Pinah Solar Park renewable energy plant but also expanding Namibia's energy generation in general," he said.

Strydom said Emesco will continue operating and overseeing the expansion of the solar plant and welcomed the investment as a crucial milestone for the country's renewable energy landscape.

The increased capacity is also projected to cut the mine's annual carbon emissions by approximately 14 000 tonnes, marking a significant step toward greener industrial operations.

The Rosh Pinah mine, which is currently undergoing an ambitious expansion, aims to increase ore production from 700 000 tonnes to 1.3 million tonnes per year.

Michael Scherb, the Chief Executive of Appian said that the company's investment in the solar plant aligns with its broader clean energy strategy, which includes the development of 20 solar plants in Brazil.

"This is an important investment that will support Appian's decarbonisation ambitions and provide tangible cost benefits to Rosh Pinah Zinc while offering attractive risk-adjusted returns to our investors," Scherb said.

Scherb said the Namibian government has made increasing renewable energy capacity a priority in recent years, aiming to reduce dependency on electricity imports and fossil fuel-based generation, and therefore investments like the Rosh Pinah expansion are crucial in Namibia's transition to a more sustainable power sector to diversify and strengthen the energy mix.

TerraWatt Secures Landmark Sustainable Energy Agreement

TerraWatt BV, has reached a major milestone in its mission to drive sustainable energy solutions in Namibia, through the finalisation of a **50MW** supply agreement to provide clean, renewable power to a new and soon to be one of Namibia's largest mining corporations **Rare Earth Mineral (Pty) Ltd**

The agreement marks a significant step forward in TerraWatt's ongoing efforts to build a robust solar energy portfolio in Namibia.

The mine, spanning an impressive 98,380 hectares in the north of the country, is a vital source of over 46 elements from the Periodic Table, including **rare earth elements(REE's)** and **critical minerals.**

TerraWatt says by securing this partnership, it is not only supporting the mine's energy needs but also reinforcing its commitment to the sustainable economic growth of Namibia. Rare earth elements are indispensable to modern technology, playing a crucial role in the production of high-tech applications. Critical minerals such as copper, lithium, nickel, and cobalt are essential for the rapidly growing clean energy sector, powering everything from wind turbines and electric grids to electric vehicles.

By integrating large-scale renewable energy into resource extraction, TerraWatt continues to set a benchmark for sustainability in the industry. This partnership underscores the company's dedication to fostering a cleaner, more energy-efficient future for Namibia and beyond.

TerraWatt was also recently granted a generation licence for its 50 MW solar project in the Gobabis district of the Omaheke Region. The achievement followed five years of dedicated local involvement, development efforts and planning, including an application process initiated nearly two years ago.

HISTORIC:** TerraWatt BV has finalised a **50MW** supply agreement to provide clean, renewable power to the soon to be one of Namibia's largest mining corporations, **Rare Earth Mineral (Pty) Ltd. Photo: TerraWatt

The approved generation licence marks a critical step forward in the company's mission to deliver affordable, renewable energy to Namibia and contribute to the country's energy security.

TerraWatt's efforts are aligned with the United Nations Sustainable Development Goals and include its own Land Inclusive Solar Parks (LISP) program: Economy, Technology, Ecology and Community.

As part of this program the company has committed to support one Young Africa Namibia student for each MW it develops and builds. That means for this project 50 underprivileged students will get a futureproof education in solar. Young Africa aims to empower young people through skills training for employability and entrepreneurship.

"We are thrilled to have reached this milestone, and we're grateful for the support of our partners and stakeholders in Namibia and the Ministry of Mines and Energy." said TerraWatt CEO Alex Nelis.

"This project exemplifies our long-term commitment to advancing local renewable energy in Namibia and demonstrates the impact that collaborative, sustainable development can have on a national scale."

Nelis says TerraWatt remains dedicated to progressing the project through its next phases, which include finalizing funding, detailed engineering, procurement, construction and operations & maintenance.

TerraWatt is a pioneering renewable energy company focused on developing sustainable power solutions in Namibia. With a strong portfolio of solar energy projects, TerraWatt is committed to driving the transition to cleaner energy sources while supporting economic growth and environmental sustainability.

Africa's solar sector to grow in 2025

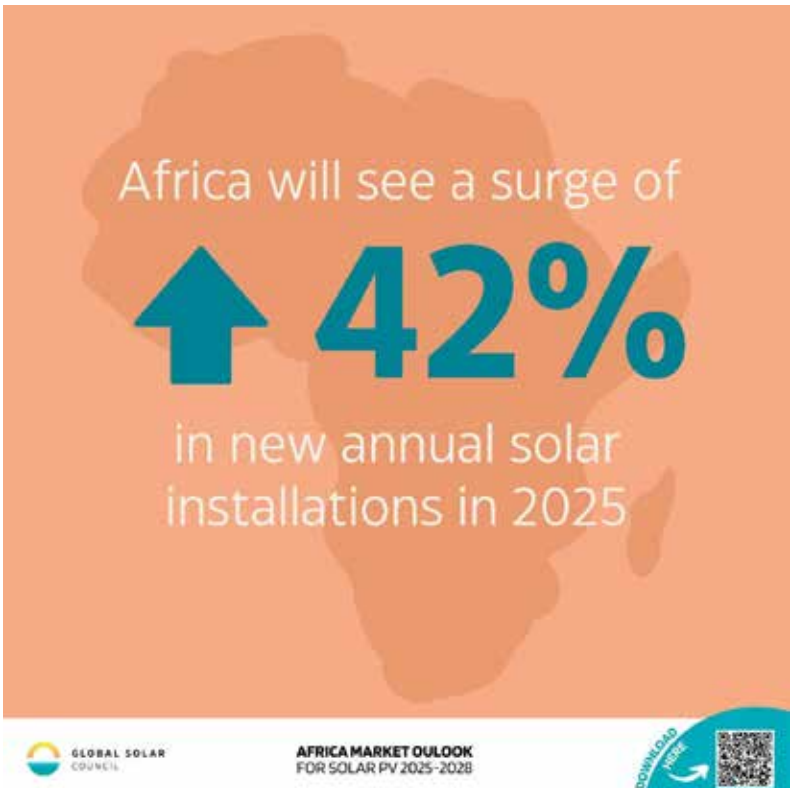
Africa's solar sector is gaining momentum, with annual installations set to grow by 42% in 2025 according to a new report published by the Global Solar Council (GSC).

The ***'Africa Market Outlook for Solar PV 2025-2028'*** reveals the continent is on the verge of a solar breakthrough – but is held back by high capital costs and insufficient financing.

Africa is home to 60% of the best solar resources globally, yet only 3% of its electricity generation was met with solar PV in 2023. The new report provides new analysis on current market status, market outlook and opportunities to tap into this vast solar potential across the continent.

"Africa's solar potential is undeniable, and we're seeing more African countries embrace solar than ever before to power jobs, industries, economic growth, hospitals, schools, and more in both rural communities and urban centers alike. But we are still only scratching the surface," said Sonia Dunlop, CEO of GSC.

"Realising Africa's solar potential is mission critical to meet the global target of tripling renewables by 2030, avoiding the worst impacts of climate change, and ensuring energy access and economic opportunity for all."



A Market on the Rise

In 2024, Africa installed 2,402 MW of new solar capacity. While this marks a decrease from 3,076 MW in 2023, the shift reflects a broader regional market transformation, with emerging markets displaying remarkable growth.

- **South Africa** (1,108 MW) remains the leader, but installations fell 33% compared to 2023, returning to more typical levels after last year's record-breaking boom.
- **Egypt** surged to second place, adding 700 MW in 2024, largely from two massive utility-scale projects.
- West Africa saw rapid growth, with **Ghana** (94 MW), **Burkina Faso** (87 MW), and **Nigeria** (73 MW) emerging as key players. Ghana nearly quadrupled its installations, while Burkina Faso's market grew 129% year-on-year.
- **Zambia** (69 MW) doubled its solar capacity, a critical shift as droughts disrupt the country's hydropower supply.
- **Angola, Ivory Coast**, and **Gambia** all made the top 10 for the first time, marking a clear expansion beyond the region's traditional solar powerhouses.

Looking forward to this year, this market diversification will continue with at least 18 countries projected to install over 100 MW of new solar capacity – up from just two in 2024.

By 2028, Africa is expected to install an additional 23 GW of solar—more than doubling its current capacity. However, this growth depends on securing affordable finance and stronger policy frameworks to attract investors.

Finance: The Make-or-Break Factor for Africa's Solar Future

Africa's solar expansion is being held back by capital costs that are 3 to 7 times higher than in developed countries. While clean energy investment doubled to US$40 billion in 2024, Africa still accounts for just 3% of global energy investment—far from the US$200 billion per year needed to achieve energy access and climate goals.

The report outlines a clear roadmap to accelerate solar deployment across Africa, including:

- **Expanding innovative financing mechanisms, de-risking instruments, and private sector investment** to lower the cost of capital for solar PV
- **Strengthening policy and regulatory frameworks** to attract private sector investment
- **Boosting domestic solar manufacturing** and skills to enhance job creation and energy independence.
- **Reinforcing grid infrastructure** and flexibility, interconnectivity and off-grid solutions to ensure energy access to all.
- **Catalysing demand** through new industries like green hydrogen and e-mobility to lower costs of solar.

OPINION

Namibian Youth for Green Hydrogen Scholarship: A Pathway to Sustainable Energy Leadership

BY DANIEL NDAYAMOHAMBA

As an active member of the Renewable Energy Industry Association of Namibia (REIAoN) and a proud member of the Namibian Youth on Renewable Energy (NAYoRE), I am committed to supporting the growth of Namibia's renewable energy sector.

I have had the privilege of pursuing a career in this transformative industry, beginning with obtaining a National Vocational Trade Diploma in Electrical Engineering for Solar Equipment Installation. Currently, I am furthering my education with an Advanced Diploma in Electrical and Electronic Engineering at Triumphant College, funded by the Namibian Youth for Green Hydrogen Scholarship. This scholarship, generously supported by the German Government through the Ministry of Education, Innovation, Youth, Sport, Arts and Culture, has provided me with a valuable opportunity to deepen my expertise in renewable energy.

The green hydrogen industry is one of the most promising sectors for Namibia's future. As a clean and sustainable energy source, green hydrogen has the potential to revolutionise how we produce, store, and consume energy, offering significant environmental, economic, and employment benefits.

Daniel Ndayamohamba

Through the Namibian Youth for Green Hydrogen Scholarship, many young Namibians—including myself—are receiving specialised training to become pioneers in this innovative field. The scholarship program, coordinated by the Southern African Science Service Centre for Climate Change and Adaptive Land Management (SASSCAL), is an invaluable initiative for aspiring engineers and renewable energy specialists.

It equips Namibian youth with the skills and knowledge necessary to lead the country's transition to sustainable energy.

Namibian youth play a crucial role in shaping the future of the renewable energy sector. By participating in programs like the Namibian Youth for Green Hydrogen Scholarship, we are being prepared to drive Namibia's energy transition forward. The demand for skilled professionals in green energy is rapidly increasing, and this scholarship serves as a vital tool in building a competent workforce capable of tackling the challenges ahead.

As a scholarship recipient, I encourage fellow young Namibians to seize this opportunity and join the green hydrogen revolution. There has never been a better time to pursue a career that not only ensures personal growth but also contributes to national and global sustainability efforts.

In conclusion, the future of Namibia lies in the hands of its youth, particularly in the renewable energy sector. With the support of the Namibian Youth for Green Hydrogen Scholarship and broader initiatives led by organisations such as REIAoN and NAYoRE, we are well-positioned to become global leaders in clean energy.

Let us take full advantage of these incredible opportunities and inspire others to do the same. Together, we can ensure that the next generation of renewable energy professionals is empowered, equipped, and ready to drive meaningful change for Namibia and beyond.

10MW Maxwell Solar Plant Ready to Feed B2Gold

The 10 megawatt Maxwell solar photovoltaic (PV) plant in the Otjozondjupa region is now in full operation, supplying the B2Gold Otjikoto mine.

The solar plant will supply clean energy to the Canadian-owned gold mine through the Modified Single Buyer (MSB) framework. The MSB framework allows private entities to generate and wheel electricity through the national grid to specific end-users, such as mines.

With the Maxwell plant, B2Gold will offset nearly 30% of its annual energy consumption with solar power, reducing its carbon footprint by an estimated 26,000 tons of carbon dioxide annually. The transition not only lowers operational costs but also aligns with Namibia's National Sustainable Development Goals and its commitment to deriving 70% of its energy from renewables by 2030.

CLEAN ENERGY: *The solar plant will supply clean energy to the Canadian-owned gold mine through the Modified Single Buyer (MSB) framework.*

The Otjikoto solar plant has been developed in partnership with NamPower and independent power producers (IPPs). It spans 20 hectares and features over 28,000 solar panels. Its strategic location close to the B2Gold Otjikoto mine ensures efficient energy transmission and minimises losses.

This solar plant is not just about powering a mine - it's about proving that Namibia's abundant renewable resources can drive economic development while preserving the environment. In addition, B2Gold will invest a portion of energy savings into community development programs, including education and healthcare initiatives.

Empowering Africa's Green Transition: Financing Bankable Projects to Accelerate Industrialisation and Sustainability

The African Development Bank (AfDB) and the World Bank have jointly announced a groundbreaking initiative that promises to reshape Africa's energy landscape and accelerate green industrialisation.

With the AfDB committing US$18.2 billion and the World Bank pledging up to $40 billion in financing, this ambitious endeavour is poised to unlock new pathways for growth, investment, and green energy innovation.

These substantial commitments are expected to catalyse further investments from private sector stakeholders, including sovereign wealth funds, private equity firms, and venture capitalists. The goal is to establish a solid financial foundation that enables Africa to harness its renewable energy potential while simultaneously fostering economic growth through sustainable industrialisation.

Central to the objectives of the Global African Hydrogen Summit (GAH2S), taking place in Windhoek from September 9 to 11, is a vision to develop regional synergies among African nations by fostering partnerships and collaboration across borders, to boost economic growth, accelerate infrastructure development, and create robust supply and value chains. This regional integration is essential for overcoming challenges related to energy access, infrastructure gaps, and market inefficiencies.

The dynamic sequel edition of the Summit will continue to drive partnerships for and critical investments and financing into bankable green energy projects across Africa. At the heart of the Summit, mobilising ambition into action, are the project investment roundtables, which will offer a platform for project developers and global financiers to connect and engage in high-level, deal-making discussions. These roundtables will address key challenges related to bankability, risk perception, and regulatory compliance, while presenting a curated pipeline of high-potential projects ready for investment.

As an active participant at the inaugural project investment roundtables in 2024, Benedict Libanda, CEO, Environmental Investment Fund of Namibia (EIF) commented that: "One of the strengths is that the Project Investment Roundtables bring partnerships, and networks, crucial for the development of the Hydrogen sector."

The 2025 project investment roundtables 'Call for Projects' ran until 31 March 2025 and was inviting green energy and industrial project developers from across the continent to submit their projects to assess the feasibility from origination through to bankability to transaction.

For project developers, the roundtables offer access to investors, tailored feedback on business models, and opportunities for collaboration with technical experts, consultancies, and government representatives. For investors, the roundtables present a unique opportunity to gain access to a diverse array of vetted projects and to engage with African governments and industry leaders shaping the continent's green energy future.

Project profiles span sectors including Hydrogen (including Electrolysis, Ammonia, Synth Fuels, Methanol), Renewables (including Wind, Solar, Hydro, Geothermal and Biomass), Power, Infrastructure, Transportation (including Road, Rail, Marine, Aviation), Mining, Agriculture, Heavy Industry, Hard To Abate (including Oil, Gas, Cement, Steel, Iron, Petrochemical), and Mobility.

Investor profiles span Developments Banks, Hedge Funds, Multilaterals Lenders, Pension Funds, Exim Banks, Corporate Finance and Central Banks.

The Global African Hydrogen Summit exemplifies how critical investments in green energy infrastructure can unlock Africa's economic potential, creating a more sustainable, connected, and prosperous future for millions.

REIAoN

Renewable Energy Industry Association of Namibia

www.reiaon.com.na

Who:

- Installers
- Suppliers
- Consultants
- Contractors
- IPPs
- Financiers
- Trainers
- Students

What:

- Solar PV
- Wind
- Biomass
- Electric Mobility
- Green Hydrogen

Mission: To provide a forum for Namibian businesses in the Renewable Energy and Energy Efficiency sector to set technical and ethical standards and to be a voice of the Renewable Energy private sector at large.

Vision: To assist Namibia in becoming an Energy sufficient hub, with an adequate supply of green energy from trustworthy and reliable organizations.

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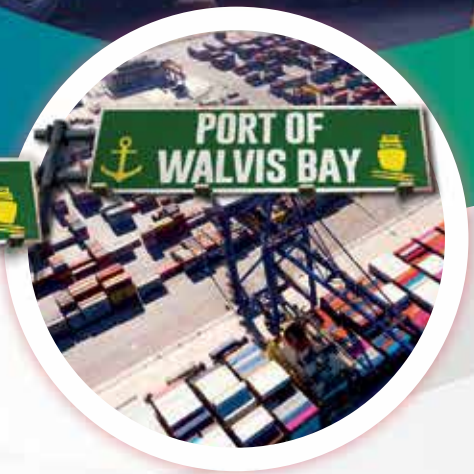

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