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FACT SHEET

Employment prospects in Namibian renewables sector

Photo: News24

BY SUZIE SHEFENI

Namibia is naturally positioned for a thriving renewables sector due to its location on the southwest coast of Africa, which allows for abundant renewable resources like high-speed winds and sunlight. Namibia has had a long history with renewables as a result of its natural endowments and more recently due to efforts to mitigate the effects and adapt to the requirements of a changing climate,

Renewable energy is derived from natural sources that are replenished at a higher rate than consumed. Renewables contribute to sustainability, reduced greenhouse gas emissions, and long-term energy security.

There have been five key policies and initiatives guiding the trajectory of Namibia's renewables sector since independence in 1990:

- The White Paper on Energy Policy (1998)
- Renewable Energy Feed-In Tariff (REFIT) Programme (2011)
- National Renewable Energy Policy (2017)
- Namibia Green Hydrogen and Derivatives Strategy (2022)

With the burgeoning green economy being pursued through the Namibia Green Hydrogen and Derivatives Strategy, the renewables sector promises to grow and unlock many economic opportunities across the board.

Individuals seeking to start a career in the renewables landscape have a lot of options depending on their area of interest. This fact-sheet explores the profiles of key direct and indirect jobs that are underrepresented in Namibian projects across the wind, PV and green hydrogen sectors. Studies by the International Renewable Energy Agency (IRENA) show that solar and wind projects have the highest hiring potential and job security within the renewables sector [1][2] .

Additionally, Namibia's green hydrogen plans also project the creation of tens of thousands of jobs. Although some of these job projections have been criticised for being unrealistic, it is clear that green hydrogen can be a significant job provider from 2025 onwards.

There are various job opportunities associated with key activities along the life cycle of renewable energy projects:

Stage:	**Key Activities**
Planning and design	• Obtaining land rights, permits and approvals from authorities • Preliminary designs of plants • Undertaking a grid assessment • Negotiations with partners and drawing up contracts • Developing a procurement plan • Develop financial plans for project
Manufacturing and construction	• Transport of components • Prepare the ground, lay foundation, begin construction • Installation of plant components (wind turbines/ solar panels/ electrolysers)
Operation and maintenance	• Monitor and operate the plant • Perform engineering maintenance • Perform plant inspections • Keep site secure
Decommissioning	• Planning activities • Dismantling the project • Recycling equipment and disposing of waste material • Clearing the site

Entrepreneurial prospects also arise with the growth of renewable energy projects in Namibia. To date, distribution, installation and repair of self-consumption PV units has been the most popular form of small business directly arising from the renewables sector. Other accessible and lucrative entrepreneurial prospects include:

- The production of occupational safety wear for technicians and engineers working on power plants including safety glasses, face shields, hard hats, safety shoes, insulating (rubber) gloves with leather protectors, insulating sleeves, and flame-resistant (FR) clothing.
- Energy efficiency consulting for households and businesses also allows individuals educated around energy production and systems to provide consulting services.

1. International Renewable Energy Agency, 2017. Renewable Energy Benefits: Leveraging local capacity for onshore wind (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Jun/IRENA_Leveraging_for_Onshore_Wind_2017.pdf)
2. International Renewable Energy Agency, 2017. Renewable Energy Benefits: Leveraging local capacity for solar PV (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Jun/IRENA_Leveraging_for_Solar_PV_2017.pdf)

- Sustainable agriculture to provide food catering services to canteens and living quarters in major power plants.
- Green tech start-ups to design innovative technologies for renewable energy storage or create software solutions for energy management and monitoring.

The options are unlimited as the growth of renewable energy sectors also means that more people have access to power and the market for power-based products increases. In the next few years as the green hydrogen industry takes off, entrepreneurially minded individuals will also be able to explore local content policies and contracts to ascertain what products and services contracted companies are required to source from local enterprises to develop their business ideas.

Key Jobs Underrepresented In Terms Of Skills In Namibia

This fact sheet presents the key strategic job pathways that young people can pursue and key skills that have been identified to be underrepresented in the renewable energy sector in Namibia.

Key Jobs:

- **Engineers:** Systems engineers, grid connection engineers, electrical engineers
- **Projects developers**
- **Technicians:** Operation and Maintenance personnel, technical assistants
- **Hydrogen Safety Specialists**
- **Hydrogen Fuel Cell Engineers**
- **Investment Promotion and Project Financing Roles**
- **Energy Efficiency Practitioners**
- **Data Analytics for Demand-Side Management in Renewable Energy**
- **Knowledge Management/Research and Development**

Key Educational Pathways:

- Bachelor of Technology in Power Engineering at NUST
- Master of Sustainable Energy Systems at NUST
- Solar Equipment Installation and Maintenance (Level 1-3) at Eenhana Vocational Training Centre
- Electrical General (Level 1-3) at Okakarara Vocational Training Centre
- Welding & Metal Fabrication (Level 2-3) at Okakarara Vocational Training Centre
- Electrical and Mechanical (Fitting & Turning) training at NamPower Vocational Training Centre
- Certificate of Competence in Smart Grid Technology at Stellenbosch University
- Certificate in Big Data Technologies, Certificate in Python Programming Advance Level at NUST
- Bachelor of Technology in Power Engineering at NUST
- Bachelor of Engineering in Chemical Engineering at NUST,
- Information Communication Technology (Level 2-4) at Okakarara Vocational Training Centre
- Certificate in Financial Risk Management, Certificate in Management and Taxation and Diploma in Accounting at UNAM,

Key Skills:

- **Technical Design and Analysis:** Proficiency in using tools like AutoCAD, system simulation software, and interpreting technical documentation for designing and analysing electrical systems and components.
- **Project Management:** Ability to utilise project management and scheduling tools, understand project financials, and manage interactions with stakeholders for successful project execution.
- **Communication and Negotiation:** Effective communication and negotiation skills for engaging with various stakeholders including clients, grid stakeholders, landowners, and local interest groups.
- **Safety and Risk Management:** Understanding and implementation of safety standards and regulations, conducting risk assessments, and developing emergency response plans.
- **Financial Analysis:** Proficiency in financial modelling and analysis, understanding project financing models, and assessing financial risks associated with renewable energy investments.
- **Data Analytics:** Proficiency in data analytics tools such as Python, R, or MATLAB, ability to use predictive modelling to optimise strategies, and familiarity with energy sector data sources.
- **Research and Development:** Designing and conducting research projects related to renewable energy, analysing industry trends and data, and implementing knowledge management systems.
- **Energy Auditing and Management:** Conducting energy audits, analysing energy usage patterns, and implementing energy efficiency measures.
- **Regulatory Knowledge:** Understanding of national and international regulations, grid codes, and safety standards governing renewable energy technologies.
- **Technical Expertise:** Knowledge of electrical, mechanical, and hydraulic components of renewable energy systems, along with a good understanding of renewable energy technologies and integration processes.

About the Author

Suzie Shefeni is a researcher and political analyst. She is currently a research associate at the Institute for Public Policy Research (IPPR) where she has worked on projects related to renewable energy. Her professional and academic work has a strong focus on contemporary security issues relating to energy security and emerging technologies.

About the Namibia Renewable Energy Fellowship

This short briefing paper and associated fact sheet looking at pathways for young people to connect to renewable energy careers are being published as part of Namibia Renewable Energy Fellowship. Through the Fellowship 35 dedicated youth leaders completed a rigorous and impactful eight-month programme running from late 2023 until mid-2024.

The Namibia Renewable Energy Fellowship is more than just a training programme; it is a collaborative effort aimed at equipping young Namibians with the skills, knowledge, and networks necessary to become trailblazers in the renewable energy sector. Sponsored by the US Embassy Namibia and funded by the US Department of State, the fellowship was a testament to the power of international partnerships in addressing global challenges.

The programme was implemented by 10 Billion Strong, in collaboration with Future Africa International Namibia, and the Institute for Public Policy Research (IPPR) in Namibia. This partnership brought together a wealth of expertise, resources, and a shared vision of empowering the next generation of leaders who will drive Namibia's transition to a sustainable energy future.

About the IPPR

The Institute for Public Policy Research (IPPR) is a not-for-profit organisation with a mission to deliver independent, analytical, critical yet constructive research into social, political and economic issues that affect development in Namibia. The IPPR was established in the belief that free and critical debate informed by quality research promotes development.

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