REPORT

Integrated Africa Power

Hydrogen development in Africa presents employment opportunities along the value chain: How can it be leveraged?

Author: Chigozie Nweke-Eze
CEO, Integrated Africa Power (IAP)

November, 2023

Cited as:

Nweke-Eze, C. (2023). Hydrogen development in Africa presents employment opportunities along the value chain. How can it be leveraged? November

Table Of Contents

Hydrogen development in Africa presents employment opportunities along the value chain: How can it be leveraged?

The potential in the green hydrogen sector holds many opportunities for local employees, entrepreneurs, startups and innovators in Africa. Some players are already present along the green hydrogen value chain, while others are upskilling for engagement. But these opportunities are limited due to some identified challenges and blockages. How can these challenges be surmounted and the opportunities for gainful employment and economic activities leveraged?

Opportunities along the value chain for local employees, entrepreneurs, startups and innovators

Stage in H2 value chain	Employment activities
Resources	Renewable energy technologies, control in smart grids, process modelling and integrated engineering and audits
Production & transformatlon	process design, optimization, control and safety coding, and environmental standards, maintena-nce, data analysis, fuel cell technicalities, troubl-eshooting and quality tracking, risk assessment and management.
Storage & Transport	Storage methodologies, Monitoring and safety, innovative transport for LOHC, AI & machine learning
Use and trade	Hydrogen market analysis and measurement, Education and awareness building, disseminati-on and communication, blockchain for verifiable green certification

Hydrogen development in Africa presents employment opportunities along the value chain. How can it be leveraged?

Challenges and blockages to leveraging opportunities.

Insufficient Skills

The African ecosystem still has limited green hydrogen-specific skills programmes and curricula, leading to the tendency that green hydrogen projects hire foreign skilled workers to fulfil the needed roles. This dynamic further limit local graduates and skilled workers and entrepreneurs and excludes the from participating in green hydrogen projects value chain.

Insufficient inter-firm collaboration

The second key dynamic relates to the challenges around is the lack of collaboration between trainers, start-ups and entrepreneurs with large industries players in the green hydrogen sector. This leads to many new emerging players lacking the investment to grow. As the large firms vertical integrate, it becomes even more challenging for these new emerging players to access markets and resources, including capital and skills.

Limited financing

The third and final key dynamic identified for startups in the green hydrogen ecosystem is finance. Financing investments and working capital constitutes a significant hurdle for scaling and employment, especially for startups. Herein lies the paradox: Limited and non-conductive funding available, it is more difficult to scale, be more productive and increase market access, commercialization and more investment, which still keeps local employment and economic engagement limited.

Hydrogen development in Africa presents employment opportunities along the value chain. How can it be leveraged?

Towards leveraging employment opportunities

Skills development

To ensure local graduates, workers and entrepreneurs are better positioned and fit for industry. requires the development of green hydrogen-specific TVET programmes, increase linking networks to help job seekers find jobs in the green hydrogen industry and create a more transparent job market, and set-up government funding for internship- and entry-level employees in the sector, which will allow organizations to train staff in green hydrogen specializations and incentivize students and early players to pursue opportunities in the sector.

Encourage more collaboration.

Solutions could include the creation of a private sector-led marketplace of green hydrogen startups, innovators and entrepreneurs to increase their visibility. Along the same lines, awareness campaigns and readiness courses on improving entrepreneurial and negotiation skills will go a long way to inform and promote startups, entrepreneurs and innovators, thereby improving collaboration between established and local upcoming players in the sector.

Provision of more conducive financial leverage.

Leveraging finance for Different Life Cycle Stages especially for feasibility studies, production costs, technology investment, securing offtake agreements, is important. There is therefore need to establish conducive funds, preferably in an online funding directory, and training of potential applicants on improving pitching skills for accessing funds at earlier stages or in more innovative spaces.

Hydrogen development in Africa presents employment opportunities along the value chain. How can it be leveraged?

The support of the Africa Hydrogen Hub (AHH)

The Africa Hydrogen Hub was established in June 2023, as a platform for co-create a systemic solution enabling sustainability and local participation to leverage opportunities in the green hydrogen sector. \The activities of the hub include organizing interactive cross-sectoral webinars and workshops, producing research and position papers, and organizing collaborative multi-stakeholder ideation and incubation sessions for enabling infrastructure and strategies. All these offering are important for providing the needed knowledge, capacities, and networks for accelerated local and international sustainability results in a successful hydrogen economY

About IAP

Integrated Africa Power (IAP) is a multi-unit enterprise specialized in energy and infrastructure development on the African continent. We seek to solve Africa's energy deficits, through integrated systems solutions, resource pooling and cross-border cooperation. Our approach is based on our philosophies of tailored suitability, cost-effectiveness, sustainability and energy-development linkages.

Author: Chigozie Nweke-Eze
CEO, Integrated Africa Power (IAP)

November, 2023

Integrated
Africa Power